IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON DIVISION

* * * * * * * * *

B.P.J., by her next friend and Mother, HEATHER JACKSON, Plaintiff	*	Case No.
vs.	*	2:21-CV-00316
WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official Capacity as State Superintendent, DORA STUTLER in her official Capacity as Harrison County Superintendent, PATRICK MORRISEY In his official capacity as Attorney General, and THE STATE OF WEST VIRGINIA, Defendants	*	VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF HEATHER JACKSON January 19, 2022

VIDEOTAPED VIDEOCONFERENCE DEPOSITION

OF

HEATHER JACKSON, taken on behalf of the Defendant, State of West Virginia herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Nicole Montagano, a Court Reporter and Notary Public in and for the State of West Virginia, on Wednesday, January 19, 2022, beginning at 4:02 p.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

LOREE STARK, ESQUIRE
ACLU of West Virginia
P.O. Box 3952
Charleston, WV 25339
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
JULIE VEROFF, ESQUIRE
ZOE HELSTROM, ESQUIRE
Cooley, LLP
3 Embarcadero Center
20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

SRUTI SWAMINATHAN, ESQUIRE
Lambda Legal
120 Wall Street
19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

DAVID TRYON, ESQUIRE
CURTIS R.A. CAPEHART, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL
ACTIVITIES COMMISSION

A P P E A R A N C E S (cont'd)

SUSAN DENIKER, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and
HARRISON COUNTY SUPERINTENDENT DORA STUTLER

KELLY C. MORGAN, ESQUIRE
KRISTEN V. HAMMOND, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and
SUPERINTENDANT W. CLAYTON BURCH

TIMOTHY D. DUCAR, ESQUIRE
Law Office of Timothy D. Ducar
7430 East Butherus Drive
Suite E
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

I N D E X

EXHIBIT PAGE

EXHIBIT PAGE

NUMBER	DESCRIPTION	PAGE IDENTIFIED
Exhibit 12	UPMC Children's Medical Records	--*
Exhibit 13	UMPC Children's Medical Records	--*
Exhibit 14	WVU Medical Records	--*
Exhibit 15	WVU Medical Records	--*
Exhibit 16	WVU Medical Records	--*
Exhibit 17	Gender Support Plan	--*
Exhibit 18	Preferred Name Request Form	--*
Exhibit 19	Gender Support Plan	--*
Exhibit 20	Student Information	--*
Exhibit 20R	Student Information	--*
Exhibit 21	Screening Results	--*
Exhibit 21R	Screening Results	--*
Exhibit 22	Birth Certificate	--*
Exhibit 22R	Birth Certificate	--*
Exhibit 23	Heart Walk Article	--
Exhibit 23R	Heart Walk Article	--
Exhibit 24	Photo	--
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EXHIBIT PAGE

* CONFIDENTIAL EXHIBITS

OBJECTION PAGE

S T I P U L A T I O N

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not waived.)

P R O C E E D I N G S

VIDEOGRAPHER: We are now on the record. My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is January 19th, 2022. The time on the video monitor currently reads 4:02 p.m. This deposition is being taken remotely by Zoom conference. The caption of this case is in the United States District Court for the Southern District of West Virginia, Charleston Division, BPJ by her Next Friend and Mother, Heather Jackson, versus West Virginia State Board of Education, et al. Civil Action Number 2:21-CV-00316. The name of the witness is Heather Denise Jackson. Will the attorneys present state their names and the parties they represent.

ATTORNEY TRYON: This is David Tryon,

representing the State of West Virginia. And with me is ---.

ATTORNEY CAPEHART: Curtis Capehart also representing the State of West Virginia.

ATTORNEY BLOCK: This is Josh Block. I'm representing Plaintiff BPJ and the witness. And with folks' indulgence, I will have my co-counsel from Cooley announce themselves followed by my co-counsel's from Lambda Legal.

ATTORNEY HARTNETT: Hi. This is Kathleen Hartnett from Cooley for BPJ and the witness.

ATTORNEY BARR: This is Andrew Barr from Cooley for BPJ and the witness.

ATTORNEY VEROFF: This is Julie Veroff from Cooley for BPJ and the witness.

ATTORNEY HELSTROM: This is Zoe Helstrom from Cooley, LLP, for BPJ and the witness.

ATTORNEY SWAMINATHAN: This is Scruti Swaminathan for BPJ and the witness from Lambda Legal.

ATTORNEY GREEN: Roberta Green, Schuman McCuskey, Slicer here on behalf of West Virginia Secondary School.

ATTORNEY DENIKER: Good afternoon. I'm Susan Deniker from Steptoe and Johnson, PLLC,

representing Defendants Harrison County Board of Education and Harrison County Superintendant Dora Stutler.

ATTORNEY MORGAN: This is Kelly Morgan with Bailey and Wyant as well as Kristen Hammond on behalf of the West Virginia Board of Education and Superintendant Burch.

ATTORNEY DUCAR: Good afternoon. Timothy Ducar on behalf of Intervenor, Lainey Armistead.

ATTORNEY TRYON: Go ahead.

VIDEOGRAPHER: I was just going to say, if that's everybody, the court reporter can swear in the witness and we can begin.

ATTORNEY TRYON: Before you do that, the communications are very garbled on our end. Is anyone else experiencing that?

ATTORNEY GREEN: Very what? I'm sorry.

ATTORNEY TRYON: My point. I couldn't understand anything that you just said. I think we're going to log off and log back in. Get somebody to help me do that. So I will be back in just a couple of minutes here okay.

VIDEOGRAPHER: Other counsel, I'm assuming we want to go off the record until he is back.

ATTORNEY GREEN: Yes.

VIDEOGRAPHER: Going off the record. Current time reads 4:05 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 4:09 p.m.

ATTORNEY STARK: My name is Loree Stark, and I'm with the ACLU of West Virginia and I'm here on behalf of Plaintiff.

VIDEOGRAPHER: And if that's everybody, the court reporter can swear in the witness so we can begin.

COURT REPORTER: Ms. Jackson, would you raise your right hand?

HEATHER JACKSON,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS FOLLOWS:

COURT REPORTER: Thank you.

EXAMINATION

BY ATTORNEY TRYON:

Q. Hello, Ms. Jackson, my name is David Tryon. I'm an attorney from the State of West Virginia. Thank you for taking your time to --- for this deposition today.

Can you please state your name for the record?

A. Heather Jackson.

Q. And do you prefer that I call you Mrs. Jackson or Ms. Jackson or something else?

A. Ms. Jackson is fine.

Q. Okay.

So first of all, can you tell me if you are represented by counsel today?

A. I'm represented by counsel, yes.

Q. And can you tell me who your attorneys are?

A. The names or their groups?

Q. Either one.

A. Well, ACLU and the Cooley law, Lambda Legal.

Q. Okay.

And do you have any formal engagement letter or retainer letter with any of those attorneys?

A. I don't understand the question.
Q. Sure. At the time that you retained those attorneys or they became your attorneys, did you have a written document that you signed with them saying you are my attorneys?
A. Yes.
Q. Okay.
And how long ago was that signed?
A. I don't know the date.
Q. Was it before or after this lawsuit was filed?
A. Before.
Q. Was it before or after the Law House Bill 3293 was passed?
A. After.
Q. And who else is on that besides you? Is your child BPJ on that?
A. BPJ.
Q. And is your husband Wesley on that?
A. I believe so.
Q. Okay.
Have you ever been deposed before?
A. No.
Q. Have you ever been sued before?
A. No.

Q. Have you received some guidance on how a deposition works?

A. I've been told how it works.

Q. Okay. Great.

Well, I'm just going to go through some of the rules. And you may have heard them before, but we'll go through anyways. So first of all, the Federal Rules of Civil Procedure apply here. And just so you know how this works with objections, the specific rule involved, which is Rule 30(c)(2) says an objection at the time of the examination, whether to evidence, to a party's conduct, to the officer's qualifications, to the manner of taking the deposition or to any other aspect of the deposition must be noted on the record but the examination still proceeds. The testimony is taken subject to any objection. An objection must be stated concisely in a non-argumentative and non-suggestive manner. That's the rule.

So in other words, if your counsel objects to any of my questions or any of the other lawyers' questions, they can object, they can state the reason why, but they can't --- but you still need to answer the question unless they specifically instruct you to not answer it.

Do you understand that?

A. Yes.

Q. Okay.

And so in the context of this deposition, the deposition is a little odd, which is where we ask you questions about information that you might have about this lawsuit that you filed on behalf of BPJ, and so you will just answer those questions as far as to the best of your ability.

Okay?

A. Okay.

Q. And if you don't understand my question and would like me to clarify it, please ask me to clarify it and I will do my best to do so.

Okay?

A. Okay.

Q. Also, I would like you to answer orally as you have been doing rather than nodding or shaking your head.

Okay?

A. Okay.

Q. And also, if you need a break during this deposition, let me know. This is not designed to be an endurance contest, so let us know if you need to take a

break.

I want to ask you first, during your husband's --- your understanding is that your husband --- his deposition was just taken.

Right?

A. Correct.

Q. Were you able to listen into it or watch it in any fashion?

A. No.

Q. After his deposition, did he tell you about it?

A. No.

Q. And during the course of his deposition or after, did anybody send you texts or emails telling you about it?

A. No.

Q. So before we get actually started with any questions, I just want to let you know that we, as counsel, are not here to try and cause you any heartburn or to judge you or anyone in your family. These are situations which are, you know, obviously a little different than some of us have experienced and they're sometimes challenging, but in this situation your --- BPJ has followed this lawsuit through you to challenge the State's law, and so we have an obligation on behalf

of the State to defend that law. And so, as a result, we have an obligation to then ask you questions about your rationale, about the facts that are involved with this. And so that's the background for this. I just want to tell you that's why we're asking these questions of you. Does that sound fair so far?

ATTORNEY BLOCK: Objection to the extent that you're asking her to agree with your legal interpretation of what the law requires you to do. You can answer it.

THE WITNESS: Yes.

BY ATTORNEY TRYON:

Q. In preparation for your deposition today did you look at any documents?

A. I have documents, yes.

Q. Have you looked at those as you prepared for this deposition today?

A. A while back.

Q. Okay.

In the past week have you looked at any in anticipation of this deposition?

A. No.

Q. Have you had ample time to discuss this --- to prepare for this deposition in consultation with your

attorneys?

A. Yes.

Q. In connection with preparing for this deposition, did you have any discussions with either BPJ or with your husband?

A. Can you repeat that, please?

Q. Yes. In preparation for this deposition, did you talk to either your husband or BPJ?

A. No.

Q. And just so you know, the reason I'm using the initials BPJ is twofold. First of all, because it is the name of the Plaintiff in the deposition --- excuse me, in the Complaint that was filed. And also, because whenever there's a minor involved, we typically in court documents and court proceedings use the initials of the minor. And so I'm not suggesting that you need to use those initials. You can refer to BPJ in any manner that you feel comfortable, but I want you to understand why I'm using those initials.

Okay?

A. Yes.

Q. First of all, let me ask you about the law itself. HB 3293, are you familiar with that law?

A. Yes.

Q. Have you read it?
A. Full on, no.
Q. Okay.
But certain parts you've read?
A. Just to get the extent of the knowledge that it would not allow my daughter to participate in girls sports.
Q. Okay.
And what's your basis for that understanding?
A. The law, as I've read it, from what I've read.
Q. And from what you can remember, what about the law would prevent your --- prevent BPJ from participating in girls sports?
A. Because she is a transgender female, she wouldn't be permitted to play with the female sports teams.
Q. Okay.
You've read part of the law you said but not all.
Is that right?
A. Correct.
Q. Are you aware of any place in that law where it uses the terms transgender?
ATTORNEY BLOCK: Objection to the extent

that you're asking her about the text of the document that she doesn't have in front of her. I would like --- I request you provide her the document unless you're testing her memory.

ATTORNEY TRYON: My question stands.

Can the court reporter please read back my question?

COURT REPORTER: Are you aware of any place in that law where it --- where it uses the term transgender?

THE WITNESS: I don't know.

BY ATTORNEY TYRON:

Q. Well, let's take a look at that.

ATTORNEY TRYON: I'll have the court reporter pull up Exhibit 34, please.

BY ATTORNEY TRYON:

Q. So I would like to briefly go through this so you can see the extent of it. So this is the first page of House Bill 3293. And this is the second page. And I will just go through it quickly. And if you want me to go back and show you any particular page, I'm happy to do that.

Okay.

This is the next page. That's the final page

of the text and then there's a blank page for some reason and then there is the last page, which has signatures --- signature lines for various parties. So let me go back up to the beginning. And what I'd like to ask you is can you tell me what parts of it you have read prior to today, starting at page one?

ATTORNEY BLOCK: Objection. Can you give the witness a chance to read the entire document before answering your question as to parts of it?

BY ATTORNEY TRYON:

Q. Sure. You can tell me when you're ready to move to the next page.

A. Okay. Next page.

Q. Okay.

Going down on this page. That is the remainder of that page. Go ahead.

A. Okay.

Q. This is the top of the second page of the text?

A. Okay.

Q. All right.

That is the bottom half of the first page of the text?

A. Okay.

Q. And this is the top of the next page of the

text?

A. Okay.

Q. And scrolling down to the last half of the full text of the --- on that page of the text.

A. Okay.

Q. Would you agree with me that the term or the word transgender does not appear anywhere in this bill?

A. It does not.

Q. And can you tell me what portions of this bill that you believe prevents BPJ from participating in girl sports?

A. The references to biological sex being male at birth.

Q. So you are referring to line 25 and 26 on the --- what is marked as page two of the bill?

A. Can you go up to the first page?

Q. Well, the first page --- yes, this is the first page.

A. Okay.

There where it is talking about defining biological sex as female and male.

Q. Okay.

You're looking at line four on the first page?

A. Yeah.

Q. On the left side there's lines?
A. I see --- I see the line numbers, okay. Yes.
Q. Okay.
Anything else in here that you saw? Tell me if you want me to scroll down or anything.
A. Just the references to the biological sex of female and male.
Q. Okay.
So you're saying the reference to biological sex of female and male as referenced throughout the bill?
A. Correct.
Q. So under the terminology of this bill would you agree that BPJ has the biological sex of male?
A. Biological sex as male, correct.
Q. Just to be clear we are communicating, so the biological sex of BPJ is male.
Right?
ATTORNEY BLOCK: Objection to the extent --- I'm sorry.
THE WITNESS: She was born a male.
BY ATTORNEY TYRON:
Q. Okay.
And specific to this bill, under this bill BPJ

is defined --- would be defined as a biological male.

Right?

A. Correct.

Q. These are not trick questions. I'm just trying to establish a baseline for us to communicate. But if you think they are trick questions, you just tell me and we'll try to clarify the questions.

So let me scroll down and --- so what parts of this had you, in fact, read?

A. Parts of the first page and then the parts where it says that if the --- it's like down on the third page, I believe.

Q. I'll scroll down and you tell me when to stop.

A. Maybe it's not on the third page. Where it talks about if there's ---.

Q. Well, this is page two right here of the bill.

A. Okay. Line 48.

Q. Line 48. So line 48 says any student aggrieved by a violation of this section may bring an action against a County Board of Education or state institution of higher education alleged to be responsible for the alleged violation. Is that what you're referring to?

A. Yes.

Q. Do you believe that's the provision under which

your lawsuit has been filed?

ATTORNEY BLOCK: Objection, misstates her testimony.

ATTORNEY TRYON: I'm asking the question.

THE WITNESS: I believe that my child is harmed by this bill, which is why we are filing this.

BY ATTORNEY TYRON:

Q. Okay.

In what way is your child harmed by this bill?

A. She cannot participate on female sports.

Q. And how is that harmful? To use your words, how is that a harm to BPJ?

A. She is being denied the opportunity to participate.

Q. The opportunity to participate in what?

A. In female sports.

Q. Under this bill would BPJ be permitted to participate in male sports?

A. She wouldn't participate in male sports.

Q. Okay.

But that's not my question. My question is under this bill would BPJ be permitted to participate in male sports?

ATTORNEY BLOCK: Objection. Calls for a

legal conclusion.

BY ATTORNEY TYRON:

Q. Go ahead.

A. She could participate in male sports.

Q. And --- okay.

I'm now looking at page one as marked at the bottom of the bill. In line one it says the legislature hereby finds and then it lists a number of findings by the legislature. Prior to today have you read those findings?

A. No.

Q. Starting on line two, on page one it says there are inherent differences between biological males and biological females and that these differences are cause for celebration as determined by the Supreme Court of the United States in the United States versus Virginia, 1996. Do you agree with that statement?

ATTORNEY BLOCK: Objection to vagueness of the terms.

THE WITNESS: I don't understand a lot of the lawyer --- the legalese.

BY ATTORNEY TRYON:

Q. What part of that sentence do you not understand?

A. The inherent differences. I mean, there's are differences yes, but it's not telling me what the inherent difference are.

Q. Very good. So do you agree that there are inherent differences between biological males and biological females?

ATTORNEY BLOCK: Objection again to the vagueness of the terms biological males and biological females.

ATTORNEY TRYON: Counsel, I would just appreciate if you just state objection, vagueness, something along those lines, rather than your extended objection.

BY ATTORNEY TYRON:

Q. So ma'am, I'll ask you one more time. Do you agree with the statement there are inherent differences between biological males and biological females?

A. Do you mean physical differences?

Q. I'm reading the bill. I don't mean anything. I'm asking if you agree with that statement that there are inherent differences between biological males and biological females?

A. I don't know what it means by inherent differences, if it's talking about physical differences.

Q. Do you know what the word inherent means?
A. Apparently not.
Q. Do you know what the word differences mean?
A. Yes.
Q. Okay.
Do you believe that there are differences between biological males and biological females?
A. There are physical differences, correct.
Q. Do you believe there are other differences between biological males and biological females other than physical differences?
ATTORNEY BLOCK: Objection, vagueness.
THE WITNESS: I'm not a physician here. I'm just --- I mean, there's differences between males and females.
BY ATTORNEY TRYON:
Q. Correct. And you are suing to have this law overturned, so I'm asking --- I want to understand specifically what parts of the law you agree with and what parts you disagree with because that's very important in a lawsuit where you're challenging the constitutionality of a law. And that's why I'm asking what you understand the differences are between biological males and biological females?

ATTORNEY BLOCK: Objection. Argumentative, vague.

THE WITNESS: There are differences between biological males and biological females.

BY ATTORNEY TRYON:

Q. What's your understanding of what those differences are?

A. Well, males have penises and females have vaginas and ovaries.

Q. Are there any other differences?

A. Those are what I would consider biological markers or what my child was judged at at birth. She was born with a penis, so therefore she was judged as male.

Q. Are there any other differences between biological males and biological females that you are aware of?

A. No.

ATTORNEY BLOCK: Objection. Objection, vagueness.

BY ATTORNEY TRYON:

Q. The next part of that statement says and these --- that these differences are cause for celebration. Do you agree that the differences between biological

males and biological females are cause for celebration?

ATTORNEY BLOCK: Objection, vagueness.

THE WITNESS: Yes.

BY ATTORNEY TRYON:

Q. The next statement at line five says these inherent differences are not a valid justification for sex-based classifications that make overbroad generalizations or perpetuate the legal, social and economic inferiority of either sex.

Do you agree with that sentence?

ATTORNEY BLOCK: Objection, legal conclusion.

THE WITNESS: There's a lot of legal jargon in that sentence.

BY ATTORNEY TRYON:

Q. Do you want me to read it again?

A. No, I can read it. I just don't necessarily understand the whole sentence.

Q. Well, let's break it down. It says these inherent differences are not valid justification for sex-based classification that makes overbroad generalizations.

Do you agree with that much?

ATTORNEY BLOCK: Objection, legal

conclusion.

THE WITNESS: Yes.

BY ATTORNEY TRYON:

Q. The next part says or perpetuates the legal, social and economic inferiority of either sex.

Do you agree with that?

ATTORNEY BLOCK: Objection, legal conclusion.

THE WITNESS: Perpetuate or perpetuate the legal, social? Can you explain that to me?

BY ATTORNEY TRYON:

Q. My understanding of the term perpetuate is that a --- to promote or conclude or to move forward the legal, social and economic inferiority of either sex. In other words, this statement, as I read it, is saying that these inherent differences are not valid participation for legal, social and economic inferiority of either sex.

A. Okay.

Q. Do you agree with that?

A. Okay. Yeah.

ATTORNEY BLOCK: Objection, legal conclusion.

BY ATTORNEY TRYON:

Q. You can answer, but take your time.
A. From what I understand that sentence to mean, yes, but I don't know that I fully understand all the legal jargon in that sentence.
Q. Okay. Fair enough.
The next sentence at line seven says, rather these inherent differences are a valid justification for sex-based classifications when they realistically reflect the fact that the sexes are not similarly situated in certain circumstances as recognized by the Supreme Court. But forgetting about whether or not the Supreme Court recognized it, do you agree with that statement?
ATTORNEY BLOCK: Objection, objection. That doesn't read the complete sentence. It calls for a legal conclusion.
THE WITNESS: I don't feel that it's a valid justification for sex-based classifications, no.
BY ATTORNEY TRYON:
Q. Under any circumstances whatsoever?
ATTORNEY BLOCK: Objection, calls for a legal conclusion.
THE WITNESS: There are valid justifications for sex-based classifications? I'm

unable to imagine all possible situations.
BY ATTORNEY TRYON:
Q. Can you imagine any situation where a sex-based classification is a valid justification?
A. No.
ATTORNEY BLOCK: Objection, calls for a legal conclusion.
BY ATTORNEY TRYON:
Q. So for example, you think that men should always be allowed to use women's bathrooms at any time, no matter what?
ATTORNEY BLOCK: Objection. Argumentative.
THE WITNESS: Can you repeat the question?
BY ATTORNEY TRYON:
Q. Do you believe that any man should be allowed to use any female bathroom at any time for any reason?
ATTORNEY BLOCK: Same objection.
THE WITNESS: I have no problem with people using the restrooms that they want to use.
BY ATTORNEY TRYON:
Q. Okay.
Do you believe that it's appropriate to

require ---?

A. Can you repeat that?

Q. Yes. I'm thinking. I'm sorry.

A. Okay.

I didn't know if it cut out or ---.

Q. No. Your last answer surprised me a little bit, so --- and do you believe that in your child's school that any boy should be allowed to enter a girls' locker room or shower at any time for any reason?

ATTORNEY BLOCK: Objection. Calls for speculation.

THE WITNESS: If there is a bathroom emergency and there's a --- somebody needs to use the restroom, they should be able to use the restroom.

BY ATTORNEY TRYON:

Q. So if there's a bathroom --- bathroom emergency, as you classified it, then a boy should be allowed to go into a girl's bathroom, if necessary.

Is that your testimony?

A. No, I wouldn't say that's accurate. I have no problem with people using whichever restroom they want to use.

Q. How about locker rooms? You have no problems with a boy in high school going in naked into a girls'

shower with naked girls?

ATTORNEY BLOCK: Objection, that calls for speculation.

THE WITNESS: That is a bit extreme.

BY ATTORNEY TRYON:

Q. That is my question, though. Do you have --- do you think that's --- there's a justification to prohibit that?

A. I would think that that should be prohibited, yes, if they're walking in there naked.

Q. Okay.

So at least in one situation there's a valid justification for sex-based classifications.

Right?

ATTORNEY BLOCK: Objection, calls for a legal conclusion.

BY ATTORNEY TRYON:

Q. I'm not asking you, by the way, on any of these questions for a legal conclusion. I'm asking for your viewpoint as a Plaintiff or representing as the parent of the Plaintiff on whose behalf you filed this lawsuit. I'm asking for your opinion on this law on all these questions.

ATTORNEY TRYON: So you don't need to

keep saying calls for a legal conclusion. I'm not asking for a legal conclusion.

ATTORNEY BLOCK: You're citing case law that's quoted in the bill.

BY ATTORNEY TRYON:

Q. So I will ask you again ---.

ATTORNEY TRYON: Well, could the court reporter please read back my question?

COURT REPORTER: Okay. So you at least in one situation there is a valid justification for sex-based classification. Right?

THE WITNESS: I also don't think that they should walk around naked in the hallway either.

ATTORNEY TRYON: Court Reporter?

THE WITNESS: So I don't understand.

ATTORNEY TRYON: Court Reporter, could you please read my question one more time, please?

COURT REPORTER: Okay. So you're --- at least in one situation there is a valid justification for a sex-based classification. Right?

ATTORNEY BLOCK: Objection, asked and answered.

BY ATTORNEY TRYON:

Q. It's a simple yes or no.

ATTORNEY BLOCK: Objection, asked and answered.

THE WITNESS: I don't know how to answer this because I'm picturing the kid walking around naked in the school at this point.

BY ATTORNEY TRYON:

Q. Forget --- don't --- don't picture that. You had said that you believe it's --- as I understand your testimony, is that there is valid justifications for sex-based classification to prohibit a male to --- in from walking into a girls' shower naked when there's other naked girls in there?

ATTORNEY BLOCK: Objection. Are you finished with the question? I didn't mean to cut you off.

THE WITNESS: Yes, I don't think that a male should walk around naked in a female locker room.

BY ATTORNEY TRYON:

Q. So a law or rule saying that would be reasonable.

Right?

A. The school ---?

ATTORNEY BLOCK: Objection, calls for a legal conclusion.

THE WITNESS: Schools have rules for that, yes.

BY ATTORNEY TRYON:

Q. And that would be a validly justified rule. Right?

ATTORNEY BLOCK: Objection, legal conclusion.

THE WITNESS: Yes.

BY ATTORNEY TRYON:

Q. Okay.

Do you think there might be other valid justifications for sex-based classifications ---

A. I don't know.

Q. --- to reflect the fact that the sexes are not similarly situated in certain circumstances? Is that a possibility?

ATTORNEY BLOCK: Objection. Calls for legal conclusion, misstates prior testimony.

THE WITNESS: I don't know. I don't know of all possible situations.

BY ATTORNEY TRYON:

Q. Neither do I but I'm asking if you think there might be other situations?

ATTORNEY BLOCK: Objection asked and

answered.

THE WITNESS: I don't know. You probably have to be on a case by case basis. I'm not sure of all possible situations.

BY ATTORNEY TRYON:

Q. Okay, let's move on, line 12 says in the context of sports involving competitive skill or contact biological males and biological females are not in fact similarly situated. Do you agree with that statement?

ATTORNEY BLOCK: Objection, vague, calls for a legal conclusion.

THE WITNESS: I don't agree with that.

BY ATTORNEY TRYON:

Q. Do you believe that in the context biological males and biological females are always similarly situated?

ATTORNEY BLOCK: Objection, vague, calls for legal conclusion?

THE WITNESS: I believe they are similarly situated.

BY ATTORNEY TRYON:

Q. Under all circumstances?

A. As far as my knowledge goes, yes.

Q. Okay.

So if we are talking about a biological male who is 18 as compared to a biological female who is 18 you believe that they are both similarly situated?

ATTORNEY BLOCK: Objection, mischaracterizes testimony. Vague. Calls for legal conclusions.

THE WITNESS: In regard to competitive skill?

BY ATTORNEY TRYON:

Q. Correct.

A. Then they are similarly situated.

Q. So do you --- is it your position that there was no difference between boys and girls playing high school sports?

ATTORNEY BLOCK: Objection. Mischaracterizes the previous testimony.

ATTORNEY TRYON: I'm not mischaracterizing her testimony I'm asking her a new question, counsel.

THE WITNESS: I believe ---.

ATTORNEY BLOCK: Same objection.

THE WITNESS: I believe a girl can run as fast as a boy can run.

BY ATTORNEY TRYON:

Q. So you believe that a --- in a mile run you believe that an 18-year-old girl would be able to run just as fast as a boy?

ATTORNEY BLOCK: Objection calls for speculation.

THE WITNESS: Yes, I do.

BY ATTORNEY TRYON:

Q. Do you have any statistics to back that up?

A. No, I do not.

Q. Have you ever looked at any statistics?

A. No, I do not.

Q. What is the basis for your belief of what you just expressed?

A. With proper training they both have adequate training they can both run.

Q. So do you believe that in high school sports the differentiation between --- strike that.

Do you believe that in both middle school and high school that there is no difference between males and females in sports?

ATTORNEY BLOCK: Objection mischaracterizes testimony. Argumentative?

THE WITNESS: I believe the girls are as capable as the boys.

BY ATTORNEY TRYON:

Q. So there is no difference between them in either middle school or high school in sports?

A. Agreed.

Q. Is that your testimony?

ATTORNEY BLOCK: Objection vague.

THE WITNESS: I think the males and the females can do just as well.

BY ATTORNEY TRYON:

Q. So do you believe that there should be no difference --- there should be no male teams and female teams but they should all be together in elementary, middle school and high school?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: I believe that she should be able to participate on the team that they identify with.

BY ATTORNEY TRYON:

Q. Well right now, there are different teams. There is a boys team and a girls team in many sports, do you believe that there is any reason at all that there should be a differentiation between boys and girls designation of sports?

A. No, I think ---.

ATTORNEY BLOCK: Objection.

THE WITNESS: I think if a girl wants to wrestle, the girl should be allowed to wrestle.

BY ATTORNEY TRYON:

Q. And if a boy wants to run on a girls team --- well let me back up.

So do you think there is any reason at all that there should be a boys teams and a girls team in any sports?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: I think that they should be able to participate on the team that they identify with.

BY ATTORNEY TRYON:

Q. Okay.

But that is not my question that is a totally different question. The question is are you saying that there should not be a differentiation at all in the middle school or high school sports between men --- between boys and girls?

ATTORNEY BLOCK: Objection. Vague.

THE WITNESS: I don't know the answer to that.

BY ATTORNEY TRYON:

Q. Well you said there is no justification for any

differentiation between biological males and biological females and I'm trying to understand how that applies to the context of sports?

ATTORNEY BLOCK: Objection, misstates prior testimony, argumentative.

ATTORNEY TRYON: You're right I did make a mistake there, I apologize.

BY ATTORNEY TRYON:

Q. In the context ever sports involving competitive sports or contact you told me that biological males and biological females are similarly situated and there is no reason for them to have different designations of sports. Is that consistent with your testimony?

A. I believe they are similarly situated.

Q. And so there is no reason to have a boys team, right?

ATTORNEY BLOCK: Objection, vague, argumentative.

THE WITNESS: I don't know what the reason would be to have a boys team.

BY ATTORNEY TRYON:

Q. So all teams should just be coed, right?

ATTORNEY BLOCK: Objection, vague, argumentative?

THE WITNESS: I don't know the answer to that.

BY ATTORNEY TRYON:

Q. Okay.

So since there is no difference between biological males and females on sports teams than why is it that BPJ can't or won't run on what's designated as the boys cross-country team?

ATTORNEY BLOCK: Objection misstates prior testimony, vague, compound question, argumentative?

THE WITNESS: Because she is a girl.

BY ATTORNEY TRYON:

Q. Okay.

But you just told me there is no difference between boys and girls. So why shouldn't BPJ run on the boys teams if there is no difference between boys and girls?

ATTORNEY BLOCK: Objection, misstates prior testimony, argumentative?

THE WITNESS: The fact is that there are boys and girls teams and she should be able to run on the girls team because she is a girl.

BY ATTORNEY TRYON:

Q. So in this lawsuit are you asking that the Court abolish boys teams because there is no difference?

ATTORNEY BLOCK: Objection. Calls for a legal conclusion, vague, misstates prior testimony.

THE WITNESS: Can you repeat the question?

ATTORNEY TRYON: The court reporter please repeat the question?

COURT REPORTER: So in this lawsuit are you asking that the court abolish boys' teams because there is no difference?

THE WITNESS: No, that is not what.

ATTORNEY BLOCK: My objection stands.

THE WITNESS: No, that is not what I'm saying.

BY ATTORNEY TRYON:

Q. So I will ask a new question so I'm not misstating your prior testimony. Do you believe there is a justification to have a boys cross-country team?

ATTORNEY BLOCK: Objection, legal conclusion.

THE WITNESS: I don't know if there is a justification to that.

BY ATTORNEY TRYON:

Q. Okay.

So help me out here because you told me there is no difference between males and females. What would be the justification for having a different boys teams and girls team in track?

ATTORNEY BLOCK: Objection, misstates her prior testimony. Vague, argumentative.

THE WITNESS: I just know that there are girls teams and boys teams in track.

BY ATTORNEY TRYON:

Q. But you don't agree there's justification for it.

Is that correct?

ATTORNEY BLOCK: Objection misstates prior testimony?

THE WITNESS: I don't know what the justification is.

BY ATTORNEY TRYON:

Q. You don't believe there's a justification, do you?

ATTORNEY BLOCK: Objection, asked and answered misstates prior testimony?

THE WITNESS: I just know that there is male teams and there is female teams in school and in

professional sports.

BY ATTORNEY TRYON:

Q. You mean professional sports, do you believe there is a justification for that?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: I think a girl should be allowed to play football.

BY ATTORNEY TRYON:

Q. How do you think a girl would fare in professional football?

A. I don't know.

Q. Do you watch professional football?

A. I do.

Q. And have you ever seen --- are you aware of any females that compete with males in the professional football?

A. Not in the NFL.

Q. Any other football league?

A. I don't watch any other football league.

Q. Let's go back to line 12 on the second page of the exhibit. It says in the context of sports involving competitive skill or contact biological place and biological females are not in fact similarly situated. Do you agree with that --- I'm sorry we already asked

that my apologies. The next sentence is biological males would displace females to a substantial extent if permitted to be on teams designated for biological females as recognized in the court case. Do you believe that is a correct statement?

A. I don't.

ATTORNEY BLOCK: Objection, calls for a legal conclusion, vague.

THE WITNESS: I don't agree with that statement.

BY ATTORNEY TRYON:

Q. If the boys track team were to suddenly be consolidated with the girls track team do you think that the biological boys would displace the female, the biological females or not?

A. I don't know.

ATTORNEY BLOCK: Objection. Vague, calls for speculation.

BY ATTORNEY TRYON:

Q. You don't know?

A. I wouldn't know it would be completely a guess on my point.

Q. So it is possible that there is a difference then?

ATTORNEY BLOCK: Same objections.

THE WITNESS: There is possible there is not a difference is what I'm saying.

BY ATTORNEY TRYON:

Q. And it's possible that there is a difference?

A. Not a difference.

Q. I'm sorry?

A. I'm saying that they would not displace females.

Q. You are absolutely certain they would not, is that what you are saying?

ATTORNEY BLOCK: Objection, misstates prior testimony, vague, calls for speculation.

THE WITNESS: It's just my opinion.

BY ATTORNEY TRYON:

Q. Okay.

And your opinion --- is your opinion based on any facts?

A. No, it is my opinion.

Q. Is your opinion based on any facts?

ATTORNEY BLOCK: Objection, asked and answered.

THE WITNESS: I don't know of a case where a biological male has displaced females.

ATTORNEY TRYON: Could you read my

question again please, Court Reporter?

COURT REPORTER: Is your opinion based on any facts? Do you want the question before that?

ATTORNEY TRYON: Yes. I might be helpful. Maybe the answer before that and the question.

COURT REPORTER: Okay. And is your opinion based on any facts. And, no, sir, it it my opinion. Question, is your opinion based on any facts?

ATTORNEY BLOCK: Same objections, asked and answered.

THE WITNESS: It's my opinion.

BY ATTORNEY TRYON:

Q. So you're not aware of any --- have you read any books, articles, analysis that would support your opinion?

A. No.

Q. There is a statement on line 17 that says, gender identity is separate and distinct from biological sex to the extent that an individual's biological sex is not determinative or indicative of the individual's gender identity. Do you agree with that statement?

A. I don't understand.

ATTORNEY BLOCK: Objection, calls for a medical opinion.

THE WITNESS: I don't understand that statement.

BY ATTORNEY TRYON:

Q. Great. Let's break it down. Gender identity is separate and distinct from biological sex. Do you agree with that?

ATTORNEY BLOCK: Objection, vague, calls for medical opinion.

BY ATTORNEY TRYON:

Q. I'm not asking for your medical opinion, ma'am, I'm just asking if you agree with that statement, gender identity is separate and distinct from biological sex?

A. Yes.

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: Yes, it's separate.

BY ATTORNEY TRYON:

Q. And on line 19 in the bill it says, classification is based on gender identity, serve no legitimate relationship to the State of West Virginia's interest in promoting equal athletic opportunities for female sex. Do you agree with that statement?

A. I don't ---.

ATTORNEY BLOCK: Objection, calls for a legal conclusion, vague.

THE WITNESS: I don't understand that sentence.

BY ATTORNEY TRYON:

Q. Okay.

Well and I'm not asking for a legal conclusion I'm just asking if you agree with the statement because we're not asking --- because you're not a lawyer and you can't make a legal conclusion so let's break it down. Classifications based on gender identity serve no legitimate relation slip to the State of West Virginia's interest in promoting equal athletic opportunities for the female sex. What about that do you not understand?

ATTORNEY BLOCK: Same objections.

THE WITNESS: I don't than stand the whole sentence. I don't understand the sentence.

BY ATTORNEY TRYON:

Q. On line 25 it says biological sex means that the individuals physical form as a male or female based solely on the individual's reproductive biology and genetics at birth. Is that a reasonable definition of biological sex in your mind?

ATTORNEY BLOCK: Objection, vague, calls for a medical opinion.

THE WITNESS: Biological sex means that

they were born with a penis or a vagina, yes.
BY ATTORNEY TRYON:
Q. Okay.
And number two says, biological sex means an individual's physical form as a male or female based solely on the individual's reproductive biology and genetics at birth. I'm not are asking for a medical opinion, I'm asking if that is a reasonable biological definition of sex?
ATTORNEY BLOCK: Objection, vague.
THE WITNESS: Biological sex means an individual's physical form is male or female based solely on individual's reproductive biology. So it's saying that the biological sex is based on whether they have a penis or a vagina, then yes.
BY ATTORNEY TRYON:
Q. Okay.
And the rest of that sentence says and genetics. Do you understand what genetics are?
A. To a certain extent genetics are your DNA.
Q. Okay.
Do you understand what the different genetic differences between males and --- biological males and biological females?

A. Chromosomes.

ATTORNEY BLOCK: Objection vague calls for medical opinion.

BY ATTORNEY TRYON:

Q. And do you know what those chromosomes are? And I know you're not a doctor so if you don't know that is okay?

ATTORNEY BLOCK: Same objections.

THE WITNESS: The X and Y chromosomes.

BY ATTORNEY TRYON:

Q. Do you know which pertains to which?

A. No.

Q. That's okay.

And the next one of course says, female means an individual whose biological sex is --- sex determined at birth is female as used in this section, women or girls are first biological females. Is that a reasonable definition in your mind?

ATTORNEY BLOCK: Objection, vague, calls for legal conclusion, calls for medical conclusion?

THE WITNESS: In regards to this document females means individual whose biological sex determined at birth is female and in regards to this document?

BY ATTORNEY TRYON:

Q. Yes.
A. If that is what they are referring to in this document?
Q. Yes.
A. Because my daughter is a female but her biological sex determined at birth was not female.
Q. Okay.
And how do you define female so it would include BPJ as a female?
ATTORNEY BLOCK: Objection, calls for a medical opinion.
BY ATTORNEY TRYON:
Q. I'm not asking for medical opinion I'm asking what you would use as a definition?
A. She identifies as female.
Q. Okay.
So the definition you would use for female is and I'm just going to write this down because I want to make sure that I understand this, female means anyone who identifies --- who self identifies as female?
ATTORNEY BLOCK: Objection. Mischaracterizes her testimony.
ATTORNEY TRYON: I didn't ask the question yet.

BY ATTORNEY TRYON:

Q. Is that how you would define female?

ATTORNEY BLOCK: Objection, mischaracterizes her testimony, vague, calls for medical opinion.

THE WITNESS: Female means as individual whose biological sex determined as birth as female or someone who identifies as female.

BY ATTORNEY TRYON:

Q. Okay.

So anyone --- under your definition anyone at all that identifies as female would be a female. Is that right?

ATTORNEY BLOCK: Objection, mischaracterizes her testimony, calls for medical opinion, vague.

BY ATTORNEY TRYON:

Q. Okay.

Let me explain it all over again because I'm not asking you for a medical opinion, a legal opinion and I'm not mischaracterizing your testimony. I'm asking you if you believe that the term female means anyone who self identifies as female?

ATTORNEY BLOCK: Vague.

THE WITNESS: If there is an individual that identifies as female then they are a female.

BY ATTORNEY TRYON:

Q. Okay.

And for someone to identify as a female do they just need to say I identify as a female?

ATTORNEY BLOCK: Objection, vague, calls for medical opinion.

THE WITNESS: If a person identifies as female they're female.

BY ATTORNEY TRYON:

Q. And they simply need to say I identify as a female, no other prerequisites, no other --- nothing they have to do, just say I identify as a female and in your mind that would make them --- under your definition that would be a female person?

ATTORNEY BLOCK: Objection, mischaracterizes her testimony, vague.

THE WITNESS: What prerequisites?

BY ATTORNEY TRYON:

Q. Are there any other requirements in your mind under your definition? Your definition as I understand it is female means anyone who identifies as a female?

A. Or someone who is born as a female and

identifies as female.
Q. Or born as a female?
A. And identifies as female.
Q. And by the same token how would you define male?
ATTORNEY BLOCK: Objection, vague, calls for a medical opinion.
BY ATTORNEY TRYON:
Q. Are you a doctor?
A. No.
Q. So I'm obviously not asking for medical opinion, I'm just asking you for your opinion as the --- representing the Plaintiff in this case as a parent of the Plaintiff. So how would you define male?
ATTORNEY BLOCK: Objection.
THE WITNESS: A male who biological sex determined at birth is a male and they identify as a male.
BY ATTORNEY TRYON:
Q. It has to be both or either one?
ATTORNEY BLOCK: Objection, compound vague?
THE WITNESS: They can be born a male and identify as a male. They have to identify as a male.
BY ATTORNEY TRYON:

Q. Okay.

So if you just identify as a male whatever you are born at under your definition would you be a male?

ATTORNEY BLOCK: Objection, mischaracterizes testimony, vague?

THE WITNESS: You could be born with female genitalia and identify as a male.

BY ATTORNEY TRYON:

Q. Okay.

So tell me if you agree within this definition, male means anyone who identifies as a male or who is born with male genitalia and identifies as a male?

ATTORNEY BLOCK: Objection, vague, calls for a medical opinion.

THE WITNESS: In my opinion that would be a male.

BY ATTORNEY TRYON:

Q. Very good. Great. I just wanted to make sure we had our definitional information.

Let me then ask you if someone identifies as a male today and therefore as a male would they --- that person then be able to identify as a female tomorrow and thereby be a female tomorrow?

ATTORNEY BLOCK: Objection, vague, calls

for a medical opinion, calls for speculation.

THE WITNESS: If they truly --- if they identify as a female is that what you are saying?

BY ATTORNEY TRYON:

Q. If they start out today identifying as a male and tomorrow they change and identify as a female, would they then be a female tomorrow?

ATTORNEY BLOCK: Objection, vague, calls for medical opinion, calls for speculation.

THE WITNESS: Then they would be transgender and female. Is that what you are saying?

BY ATTORNEY TRYON:

Q. I'm not saying anything about transgender. I don't --- we haven't discussed that term. I just want to know if someone says today I am male and then tomorrow says I identify as female, under your definition that person would then be female.

Correct, tomorrow?

ATTORNEY BLOCK: Objection, vague, mischaracterizes testimony, calls for speculation, calls for medical opinion.

THE WITNESS: If they identify as female then they are female.

BY ATTORNEY TRYON:

Q. Okay.

So today they identify as a male, tomorrow they identify as female, then on the third day could they then turn around and identify as a male and then be a male?

ATTORNEY BLOCK: Objection, vague, calls for medical opinion, calls for speculation.

ATTORNEY TRYON: Okay.

Josh, this is ridiculous. I'm not calling for medical opinion and you keep on saying that. It 's ridiculous, it's not an appropriate objection here. And it is very obvious I'm not asking for medical opinion. So I would appreciate that you stop doing that because I think you are interfering with this deposition.

ATTORNEY BLOCK: It's a totally valid --- it's a totally valid objection. You're asking medical terms of, it's a completely valid objection.

ATTORNEY TRYON: And I will give you a standing ongoing objection as to all of those objections as to my questions.

ATTORNEY BLOCK: If you want to preface your question saying you're not calling for a medical opinion, that's fine. But as long as --- I'm entitled

to object.

ATTORNEY TRYON: I'm never asking you for a medical opinion and if I do I will be very clear that I'm asking for medical opinion.

BY ATTORNEY TRYON:

Q. Now if I can go back to my question please. So Ms. Jackson, again, I want to ask you if a person identifies as male today, female tomorrow and then male the following day does that person's identity --- is that person shifting from male to female to male and then on the third day as male again?

A. They're ---.

ATTORNEY BLOCK: Objection, calls for speculation. Vague. Calls for medical opinion.

BY ATTORNEY TRYON:

Q. Okay.

Did you answer my question, ma'am?

A. They are --- they identify --- they are the sex they identify with.

Q. On any given day; is that your testimony?

A. Yes.

Q. Thank you. So in the context of sports do you believe that a person should be able to switch back and forth between boys and girls teams on a daily or weekly

basis?

ATTORNEY BLOCK: Objection, mischaracterizes testimony, vague.

THE WITNESS: I believe they should be able to participate on the team that they identify with.

BY ATTORNEY TRYON:

Q. On any given day; is that right?

ATTORNEY BLOCK: Objection, mischaracterizes testimony, vague.

THE WITNESS: Yes, if they identify as female then they need to run on the female team. If they identify as male then they need to run on the male team.

BY ATTORNEY TRYON:

Q. And they can go back and forth on a weekly basis, right?

A. Whatever they identify as.

Q. On any given --- in any given week, right?

ATTORNEY BLOCK: Objection, asked and answered.

THE WITNESS: Yep.

BY ATTORNEY TRYON:

Q. You have already stated your full name, can you give us your current address and phone number. And

before you give me your phone number I just want it to be clear that the only time in which we would use your phone number as opposed to going to your counsel to reach you if for some reason your client (sic) could not reach you or you were no longer represented by counsel. So on that basis could you give me your current address and phone number?

A. [redacted], Lost Creek, West Virginia 26385.

Q. And your phone number?

A. [redacted].

Q. And is that a landline or is that a cell number?

A. That is a landline.

Q. Not many people still have landlines. I do.

A. Yes, we have to out where we live.

Q. I see. And did you get a high school diploma?

A. A high school diploma, yes.

Q. Where?

A. Seneca East High School.

Q. Where is that?

A. In Ohio.

Q. What part of Ohio? What city?

A. Attica.

Q. Where's Attica?

A. Let's see more towards Toledo.
Q. Okay.
And after high school did you get any further education?
A. Yes.
Q. Can you please tell me what that was?
A. I got an associate of arts degree from the University of Findlay in Findlay, Ohio.
Q. And when was that?
A. 1996.
Q. Anymore education after that?
A. I went to the Nuclear Medicine Institute after that, recertified in Nuclear Medicine Technology.
Q. Is there a degree or certificate that you get from that?
A. It's a certificate.
Q. And when was that?
A. That would have been in 1996 as well.
Q. Any other post-high school education?
A. No.
Q. When did you graduate from high school?
A. 1986.
Q. What did you do between 1986 and 1996?
A. I worked for a rehabilitation center.

Q. Doing what?
A. Bookkeeping.
Q. Were you there for --- how long were you there?
A. I don't remember.
Q. What was the next job that you had after that rehabilitation center?
A. I went back to school after I got laid off.
Q. Is that when you went to University of Findlay?
A. Yes, first I went to Community College. It would have been Terra Community College. And then I went to the University of Findlay and received my degree.
Q. Great. Where is Terra Community College?
A. In Toledo.
Q. Okay.
Did you get any certificates or anything there?
A. No, I just transferred to the University of Findlay.
Q. Do you remember when you started at Terra Community College?
A. No, I don't.
Q. Do you remember when you started at the University of Findlay?
A. No, I don't.

Q. How long did it take you to get your associate's degree at University of Findlay?
A. Two years. And I had to go to the Nuclear Medicine Institute in order to practice nuclear medicine technology.
Q. So took you two years to get your associate's degree and you started somewhere around 1994?
A. Roughly.
Q. Okay.
So it looks like you worked as --- what was it called, rehabilitation ---?
A. It was the Betty Jane Rehabilitation Center.
Q. Okay.
So it looks like that you worked there for about eight years, is that fair?
A. Sounds right.
Q. Okay.
Tell me what nuclear medical --- excuse me, nuclear technologist does?
A. Injects radioactive material into patients in order to determine a malady.
Q. What is an abnormality?
A. It can be anything depending on a heart issue, we could be looking for a bone issue, we could be

looking for a gallbladder issue, we could be looking for a stomach issue.

Q. Okay.

So after you got that certification in 1996 what did you do then?

A. I practiced nuclear medicine technology.

Q. Where was the first place you did that?

A. That would have been in Florida.

Q. Do you remember the name of the place you worked for?

A. Let's see, if I heard it I would know it but I don't remember it off the top of my head.

Q. Okay. Fair enough.

That was starting in 1996 though?

A. Yes.

Q. And then how long were you there?

A. I don't know because I went there to private imaging facility and worked.

Q. I'm sorry, can you repeat that I didn't understand?

A. I don't know how long I was there. I left there and went to a private imaging facility.

Q. What was the name of that?

A. RPA.

Q. RPA. And what did you do there?
A. Nuclear medicine technology.
Q. Okay.
Do you remember when you started there?
A. No, I don't.
Q. Do you remember when you left there?
A. I left there in 2001.
Q. And then what did you do?
A. I'm sorry I moved to Georgia.
Q. And that was in about 2001?
A. Yes.
Q. And what did you do in Georgia?
A. Nuclear medicine technology at Kennestone Hospital.
Q. Can you spell that, please?
A. K-E-N-N-E-S-T-O-N-E. It's a well star facility.
Q. Excuse me one second. All right. I guess I've been talking too much today I needed a cough drop. Sorry. And how long were you there in Georgia?
A. Until 2005.
Q. And where did you go from there?
A. West Virginia.
Q. And what did you do in West Virginia in 2005?
A. Positron emission technology.

Q. Where was that located?
A. First I worked at a mobile unit for Alliance Imaging.
Q. Where was that centered?
A. They're centered out of Charleston, but I was assigned to North Central West Virginia and the western panhandle and the Eastern panhandle in Maryland.
Q. And then you said initially in the mobile unit and then what?
A. Then I took a stationary position with the United Hospital Center.
Q. And where is that?
A. In Bridgeport, West Virginia.
Q. And then after that what?
A. I'm still there.
Q. Okay.
And at your house at [redacted] who lives there with you?
A. My spouse and two of my three children.
Q. You're married, right?
A. Correct.
Q. And when did you get married?
A. We got married in --- oh I'm bad at anniversaries, 2000, 2001.

Q. If I recall your husband told us that your anniversary is coming up in the next several days?
A. It is and I never remember it.
Q. Well, I didn't write down the date but it is coming up so you might want to ---.
A. I'll have to look at the certificate.
ATTORNEY BLOCK: David, we have a 5:30 stop and it is 5:24 so I just want to --- I don't want you to start on a line of questioning that you have to stop short in the middle of.
ATTORNEY TRYON: Right. And yeah, I'm just going to finish up with this background and then we will suspend this until tomorrow.
BY ATTORNEY TRYON:
Q. So is this your only marriage?
A. Correct.
Q. And you have no other children other than the three that you mentioned?
A. Correct.
ATTORNEY TRYON: Okay.
Well now would be a good time to pause until tomorrow and reconvene at 10:00 a.m. if everyone's okay with that.
ATTORNEY BLOCK: That is good with

Plaintiff's Counsel.

THE WITNESS: That's fine.

VIDEOGRAPHER: Then if that is it for today we are going off the record at 5:25 p.m.

ATTORNEY TRYON: Thank you.

* * * * * * * * *

VIDEOTAPED DEPOSITION CONCLUDED AT 5:25 P.M.

* * * * * * * * *

STATE OF WEST VIRGINIA)

CERTIFICATE

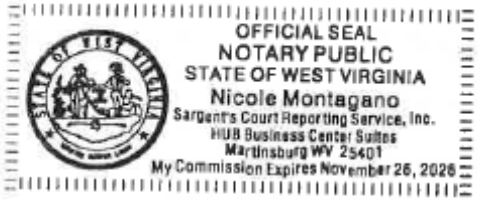
I, Nicole Montagano, a Notary Public in and for the State of West Virginia, do hereby certify:

That the witness whose testimony appears in the foregoing deposition, was duly sworn by me on said date, and that the transcribed deposition of said witness is a true record of the testimony given by said witness;

That the proceeding is herein recorded fully and accurately;

That I am neither attorney nor counsel for, nor related to any of the parties to the action in which these depositions were taken, and further that I am not a relative of any attorney or counsel employed by the parties hereto, or financially interested in this action.

I certify that the attached transcript meets the requirements set forth within article twenty-seven, chapter forty-seven of the West Virginia.



Nicole Montagano,

Court Reporter

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION
* * * * * * * * *

B.P.J., by her next friend and Mother, HEATHER JACKSON, Plaintiff	*	Case No.
vs.	*	2:21-CV-00316
WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official Capacity as State Superintendent, DORA STUTLER in her official Capacity as Harrison County Superintendent, PATRICK MORRISEY In his official capacity as Attorney General, and THE STATE OF WEST VIRGINIA, Defendants	*	VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF HEATHER JACKSON January 20, 2022

VIDEOTAPED VIDEOCONFERENCE DEPOSITION

OF

HEATHER JACKSON, taken on behalf of the Defendant, State of West Virginia herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Nicole Montagano, a Court Reporter and Notary Public in and for the State of West Virginia, on Wednesday, January 20, 2022, beginning at 11:13 a.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

LOREE STARK, ESQUIRE
ACLU of West Virginia
P.O. Box 3952
Charleston, WV 25339
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
JULIE VEROFF, ESQUIRE
ZOE HELSTROM, ESQUIRE
Cooley, LLP
3 Embarcadero Center
20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

SRUTI SWAMINATHAN, ESQUIRE
Lambda Legal
120 Wall Street
19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

DAVID TRYON, ESQUIRE
CURTIS R.A. CAPEHART, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

A P P E A R A N C E S (cont'd)

SUSAN DENIKER, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and
HARRISON COUNTY SUPERINTENDENT DORA STUTLER

KELLY C. MORGAN, ESQUIRE
KRISTEN V. HAMMOND, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and
SUPERINTENDANT W. CLAYTON BURCH

TIMOTHY D. DUCAR, ESQUIRE
Law Office of Timothy D. Ducar
7430 East Butherus Drive
Suite E
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

A P P E A R A N C E S (cont'd)

JOSHUA BROWN, ESQUIRE
CHRISTIANA HOLCOMB, ESQUIRE
RACHEL CSUTOROS, ESQUIRE
Alliance Defending Freedom
15100 North 90th Street
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

I N D E X

EXHIBIT PAGE

EXHIBIT PAGE

NUMBER	DESCRIPTION	PAGE IDENTIFIED
Exhibit 12	UPMC Children's Medical Records	--*
Exhibit 13	UMPC Children's Medical Records	--*
Exhibit 14	WVU Medical Records	--*
Exhibit 15	WVU Medical Records	--*
Exhibit 16	WVU Medical Records	--*
Exhibit 17	Gender Support Plan	--*
Exhibit 18	Preferred Name Request Form	--*
Exhibit 19	Gender Support Plan	--*
Exhibit 20	Student Information	--*
Exhibit 20R	Student Information	--*
Exhibit 21	Screening Results	--*
Exhibit 21R	Screening Results	--*
Exhibit 22	Birth Certificate	--*
Exhibit 22R	Birth Certificate	--*
Exhibit 23	Heart Walk Article	--
Exhibit 23R	Heart Walk Article	--
Exhibit 24	Photo	--
Exhibit 24R	Photo	--

EXHIBIT PAGE

* CONFIDENTIAL EXHIBITS

OBJECTION PAGE

ATTORNEY	PAGE
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S T I P U L A T I O N

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not waived.)

P R O C E E D I N G S

ATTORNEY TRYON: This is David Tryon on behalf of the State of West Virginia conducting this deposition on behalf of the State of West Virginia. We have had off the record some discussions among all the counsel about some various stipulations about how to go forward with the deposition and with objections, and I think the best thing for me to do, since Josh, since you were the one that is making the objections in this case, you give your thoughts about how we can handle those objections and then we can all state how we concur with them. Is that fair enough or do you want me to state them?

ATTORNEY BLOCK: No, I can state them. And I think I'll state each type of objection. The first is that several objections have come up to

questions that in our view seem to call for legal expert or medical opinion. And our understanding from our discussions with Defense Counsel is that they do not intend for any of their questions to seek an answer based on legal/medical or otherwise expert opinion and they will specifically state otherwise if they are seeking a legal/expert or medical opinion. And so based on that understanding, we will just make a standing objection to any question insofar as it calls for a legal expert or medical opinion and won't be making a specific objection to each question as it occurs.

ATTORNEY TRYON: Agreed. And that applies to this deposition. And to the extent that we address it at other depositions, we'll address that separately.

Right?

ATTORNEY BLOCK: Yes. So if each counsel could say that they agree to this way of handling those objections for purposes of this deposition.

ATTORNEY DENIKER: I'm in agreement with that.

ATTORNEY MORGAN: I am as well.

ATTORNEY DUCAR: I am as well.

ATTORNEY BLOCK: The second set of

objections that came up were objections to terminology regarding gender identity, being transgender, the definition of sex, gender transition, that in our view are vague and that we think can lead to confusion about what the terminology means and whether the terminology is even medically appropriate. And so we object to any questions that could be used to imply that the language used in that question actually is medically appropriate language. But we don't want those to unnecessarily interrupt the deposition, but at the same time we think it could be helpful to clarify some of the language so it doesn't cause problems for any counsel down the road. And so we propose that we can handle that issue by --- if terminology that we think is vague and problematic comes up, we will simply say objection to terminology and say we have a standing objection to that terminology without then reiterating objections each subsequent time the terminology is used. And so is that procedure acceptable to Defense Counsel?

ATTORNEY TRYON: Agreed on behalf of the State of West Virginia.

ATTORNEY DENIKER: I'm agreeable to that as well.

ATTORNEY MORGAN: I'm agreeable as well.

ATTORNEY DUCAR: Tim Ducar on behalf of Armistead, yes.

ATTORNEY BLOCK: And the Commission had a chance to put their statement on the record. Roberta?

ATTORNEY GREEN: Yes, I agree. I'm good with that.

ATTORNEY BLOCK: And the final issue is there are several objections on the basis that we thought it mischaracterized the witness's testimony. We of course, you know, do not want the objections to impede the questioning or somehow, you know, unintentionally affect how the witness responds. We discussed that, instead of saying mischaracterizes the testimony, we would say objection MT and that would allow us to preserve the objection without the witness hearing the grounds for it. So is that an acceptable approach for all of Defense Counsel?

ATTORNEY TRYON: Yes.

ATTORNEY DENIKER: I'm also agreeable to that.

ATTORNEY MORGAN: I am as well.

ATTORNEY GREEN: And I agree as well.

ATTORNEY DUCAR: I agree as well.

ATTORNEY BLOCK: Terrific. I think that

resolves everything unless I missed something.

ATTORNEY TRYON: No, I think that's right. I think we are ready to go with the expectation that we are ready to go. I would like to take a real quick bathroom break, to be honest.

ATTORNEY BLOCK: That sounds good. Should we convene at 10:50?

ATTORNEY TRYON: 10:55 is fine with me.

ATTORNEY HARTNETT: Why don't we do 10:55, and that will make sure we get the printed copies?

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

VIDEOGRAPHER: We are on the record. The current time reads 11:13 a.m. This is the continued deposition of Heather Denise Jackson.

HEATHER DENISE JACKSON,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND HAVING BEEN PREVIOUSLY DULY SWORN, TESTIFIED AND SAID AS FOLLOWS:

CONTINUED EXAMINATION

BY ATTORNEY TRYON:

Q. Ms. Jackson, thank you for joining us again today. And I apologize for the delay here. We were trying to accomplish some things amongst the lawyers to streamline the process today, and sorry to keep you waiting for so long.

First of all, I just want to tell you that --- two things. First of all, you're still under oath. So everything you say today, you're still under oath just as yesterday.

Okay?

A. Yes.

Q. And then we also had some discussions off the record about how we're going to handle --- excuse me, certain objections. And some of them we have agreed to standing depositions --- excuse me, standing objections. And we will need to --- I'm sorry. I'm seeing another message. I'm distracted. So we will just explain that to you in a moment, but one of the other counsel suggested that we all ought to identify ourselves for the record since we do have some different people today than yesterday. So just for the record, I'm David Tryon, representing the State of West Virginia.

ATTORNEY BLOCK: I'm Joshua Block, representing the Plaintiff and the witness. And after I finish introducing myself, I'll have co-counsel from Cooley followed by co-counsel from Lambda Legal followed by co-counsel from ACLU of Virginia identify themselves.

ATTORNEY HARTNETT: Good morning. This is Kathleen Hartnett from Cooley for Plaintiff and the witness.

ATTORNEY BARR: Good morning. This is Andrew Barr from Cooley for Plaintiff and the witness.

ATTORNEY VEROFF: Good morning. This is Julie Veroff from Cooley for BPJ and the witness.

ATTORNEY HELSTROM: Good morning. This is Zoe Helstrom from Cooley for Plaintiff and the witness.

ATTORNEY SWAMINATHAN: Good morning. This is Sruti Swaminathan for Plaintiff and the witness from Lambda Legal?

ATTORNEY TRYON: Roberta?

ATTORNEY GREEN: Yes, Roberta Green, West Virginia Secondary School Activities Commission.

ATTORNEY DENIKER: Good morning, everyone. This is Susan Deniker, Counsel for Defendants Harrison County Board of Education and Harrison County

Board of Education Superintendant Dora Stutler.

ATTORNEY DUCAR: Good morning. Timothy Ducar on behalf of Intervenor, Lainey Armistead.

ATTORNEY HOLCOMB: Good morning. Christiana Holcomb on behalf of Intervenor.

ATTORNEY CSUTOROS: Good morning. Rachel Csutoros on behalf of Intervenor.

ATTORNEY BROWN: Joshua Brown on behalf of the Intervenor.

ATTORNEY MORGAN: Kelly Morgan and Kristen Hammond on behalf of the West Virginia Board of Education and Superintendant Burch.

ATTORNEY STARK: Hi. I'm Loree Stark. I'm with the American Civil Liberties Union of West Virginia, and I'm here on behalf of Plaintiff.

ATTORNEY CAPEHART: Curtis Capehart on behalf of the State of West Virginia.

BY ATTORNEY TRYON:

Q. Okay.

Ms. Jackson, I'll come back to you now. So we've have placed a number --- one of the things that we wanted to do is put some hard copies in your office there to facilitate going through the documents more quickly. So when I refer to a document you will be able

to pick it up and look at it in hard copy. I will also probably be putting it up on the screen as well.

ATTORNEY TRYON: But before we actually get started with any questions, Josh, do you want to state what --- you're going to use certain abbreviations?

ATTORNEY BLOCK: Sure. We put on the record that there will be certain objections where I use an abbreviation for it. So if I make an objection that you don't understand, that's because we stipulated that we will use an abbreviation for that objection.

ATTORNEY TRYON: Okay.

BY ATTORNEY TRYON:

Q. So let's get started. First of all, do you have any questions from yesterday, Ms. Jackson, or anything you need to correct from what your testimony was yesterday?

A. Not off the top of my head, no.

Q. Okay.

After your deposition yesterday, did you talk to your husband or anyone else about your deposition?

A. No.

Q. Did you talk to your husband about his deposition?

A. No.
Q. Okay.
So I want to start off talking about BPJ and when BPJ was born. These are things that seem obvious to me, but I just want to make sure I understand. When BPJ was born, BPJ had male body parts.
Right?
A. Correct.
Q. And still has those male body parts.
Right?
A. Correct.
Q. And when BPJ was born you considered BPJ as a male.
Is that true?
A. Yes.
Q. And at that time did you refer to BPJ as your son?
A. Yes.
Q. And did that change at some point?
A. Yes.
Q. And at some point did --- what changed?
A. She started presenting female characteristics around the age of three.
Q. And at some point you started to refer to BPJ as

your daughter?
A. Yes.
Q. When was that?
A. I don't know of an exact date.
Q. Okay.
So you said at about three years old BPJ started presenting with --- I'm sorry, how did you say it?
A. Female characteristics, mannerisms, those type of things.
Q. And at that point did you start referring to BPJ as your daughter or was it later?
A. It was probably around the age of four.
Q. Does BPJ understand or recognize that BPJ was born as a biological male?
ATTORNEY BLOCK: Objection to terminology, and I will make that a standing objection.
THE WITNESS: She was born as a male with a penis.
BY ATTORNEY TRYON:
Q. And my question, though, is does --- sorry, does BPJ currently recognize that BPJ was born as a biological male?
ATTORNEY BLOCK: Objection. Calls for

speculation.

THE WITNESS: Yes, she knows she was born as a male.

BY ATTORNEY TRYON:

Q. Does it cause BPJ distress for someone to refer to BPJ as a biological male?

A. Yes.

Q. Can you describe that for me a little bit, that stress?

A. She gets upset, she cries, she gets angry.

Q. And when did that start?

A. That started at an early age, around three or four.

Q. So at about three or four you said that BPJ started to present as a female.

Did I get that right?

A. Yes.

Q. Can you tell me what specifically that means to present as a female?

A. From an early age she didn't want to wear male clothes. She wanted to wear my clothes as dresses. When she was learning how to go to the bathroom, to urinate, she didn't want to stand to urinate. She wanted to sit down to urinate. She didn't understand

why she had a penis and I didn't.
Q. Anything else?
A. She requested at an early age for, I think it was a birthday present, her own makeup kit.
Q. Anything else?
A. When she would pose for pictures, she would pose with her leg tucked in more of a feminine stance.
Q. I'm afraid I don't understand that.
A. Put your hand on your hip, put your hip out a little bit and cock your leg.
Q. So when you're standing?
A. Yeah, like when she is standing for a photo.
Q. Anything else?
A. Those are what comes to me off the top of my head.
Q. And those were all done at age three or did we condense that timeframe?
A. Like three to four.
Q. Three to four. And when BPJ asked why BPJ had a penis, what was your explanation?
A. Because she was born a boy and boys have penises.
Q. And what was BPJ's reaction?
A. That that wasn't right.

Q. Can you expound on that?
A. She didn't, at that point, identify as a male, so she told me I was incorrect.
Q. That you were incorrect that --- that what?
A. That she was a male because she had a penis.
Q. And so I'm just trying to understand. So BPJ was saying that BPJ was a female in spite of having a penis or that BPJ did not have a penis or what? I honestly don't understand?
ATTORNEY BLOCK: Objection, compound.
THE WITNESS: She's saying that she has a penis, but she's not a male.
BY ATTORNEY TRYON:
Q. That's what BPJ said at three years old?
A. Well, she didn't have quite that language. It was more like I'm a girl.
Q. She did know the word penis at the time?
A. Yes. We've always used correct terms for genitalia.
Q. And forgive me if this is insensitive, but I'm just trying to understand. Why did --- how did she no that you had one and you didn't?
A. Because she would follow me into the bathroom.
Q. Okay.

Did she --- did BPJ recognize that her brothers were males?

A. She recognized that we referred to them as males.

Q. Did BPJ ever ask what the difference was between BPJ and your other sons?

A. No.

Q. Let me ask you to look at Exhibit 30.

ATTORNEY TRYON: And I will ask the court reporter to pull that up as well. I lost some video feed for her, for the witness. There she is.

VIDEOGRAPHER: You have her pinned?

ATTORNEY TRYON: No. There we go. Okay. I pinned Josh. How do I unpin Josh?

VIDEOGRAPHER: The same way you pinned him.

ATTORNEY TRYON: Okay.

Now I got it. Sorry for the delay.

BY ATTORNEY TRYON:

Q. Ms. Jackson, have you seen this document before?

A. Yes.

Q. Have you reviewed it before today?

A. When I originally --- when I originally declared it.

Q. And on the last page, that's your signature. Is that right?
A. I don't have that page.
Q. Okay.
I take it back. So page six is the signature page. Do you have that?
A. I have to page five.
Q. Okay.
I just saw you scroll past it. Right there?
Q. Yeah. So you see that?
A. Yes.
Q. Is that your signature?
A. It is.
Q. And it was signed on 5/25/2021?
A. Yes.
Q. So who prepared this document?
A. Well, the lawyers would have written it up and I reviewed it. They --- I told them what I told them and they typed it.
Q. Okay.
And is your --- at the time you said this is true and accurate. Do you still believe the entire thing is true and accurate to the best of your knowledge and belief?

A. Yes.
Q. Great. Let me ask you, first of all, paragraph four is I'm fiercely protective of BPJ. What do you mean by that?
A. Just as any parent would be fiercely protective of their child.
Q. Then you say, as her mother, I want to see her be able to achieve all her dreams. Can you tell me what her dreams are at this point?
A. Well, in regards to this, she wanted to be able to run on the cross-country team, and that is what she had dreamed of.
Q. Was that all you were referring to at the time you signed this Declaration?
A. Well, I want to see her do well in life. I mean, if she tells me she wants to go to college, I want to see her achieve that. At the age of 11 they don't have a whole lot of dreams.
Q. When you signed this, did BPJ express any other dreams that she had --- that he or she had?
A. Not that comes to mind.
Q. Okay.
And then the next --- in paragraph six it says BPJ from a very young age that she didn't want her boy

parts. Was there anything else about that statement other than what you've already told me?

A. No, that's very accurate.

Q. Before that it says BPJ is also transgender. What does that word, transgender, mean to you, as you signed this?

A. She was designated at birth as a male, but she is a female.

Q. And hopefully I'm not repeating from yesterday, but when you say she is a female that is --- can you tell me why she is a female?

A. She identifies as a female.

Q. And just so I'm clear, that's why you say that BPJ is transgender?

A. Correct, she is a female.

Q. Okay.

Next you say she never wanted to be naked for bathing because she was deeply uncomfortable with and did not want to see certain parts of her body. So how did she bathe?

A. She bathed, but we would keep a wet washcloth over her genitals.

Q. What would happen when she saw her genitals?

A. She would be deeply upset.

Q. Can you explain that to me a little bit? I don't mean to pry, but what did that mean, that BPJ would be upset?

A. She wouldn't like seeing it. She would be upset, she would be frustrated, visibly frustrated.

Q. Did she yell, cry, scream, say don't look at me? What happened?

ATTORNEY BLOCK: Objection. Compound.

THE WITNESS: She would be deeply upset in the form of she would say I don't want that.

BY ATTORNEY TRYON:

Q. Did she just say that or did she yell, raise her voice?

A. She would be very stern.

Q. When BPJ first was reacting this way, as you described it, did you insist that BPJ was, in fact, a male or did you just accept her statement that she was a female?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: When she told me she was a female, I accepted her statement as true.

BY ATTORNEY TRYON:

Q. From the very first time or did it take some time to accept that?

A. No, from the first time that she told me she was a girl I believed that she believed she was a girl.

Q. And then --- but if I remember your earlier testimony, I think you said that it was a little while before you started referring to BPJ as your daughter.

Is that right?

ATTORNEY BLOCK: Objection, MT.

BY ATTORNEY TRYON:

Q. Did you answer?

A. Correct.

Q. So let me see if I understand it. You initially --- you right away accepted her belief that she was a female, but didn't actually refer to BPJ as your daughter until some time later?

A. It took me a while to learn the terminology.

Q. How long did it take you to learn the terminology?

A. I don't know the answer to that, but for three years --- for three years I'd been calling her my son so it took a while.

Q. And what terminology is that?

A. To refer to her as a female.

Q. And where did you learn the terminology, as you've said it?

A. To refer to her as a female?
Q. Yes.
A. She told me that she is a female.
Q. Okay.
Well, then I guess I'm misunderstanding, because you said it took you a while to learn the terminology. What do you mean by that?
A. For three years I had been calling her my son, so I had to learn to call her my daughter.
Q. I get it. You didn't like --- I thought you meant you had to go read some books or something. You're not saying that?
A. No. I know what a daughter is.
Q. Okay. Understood.
And paragraph seven says, as a child BPJ also presented differently from my other children, both of who are boys. Do either one of your other --- let me rephrase that. The boys that you --- you have two other children who are sons.
Right?
A. Correct.
Q. Are either one of them transgender?
A. No, they are not.
Q. And you --- in paragraph seven you say whenever

BPJ was provided with the opportunity to pick out her clothes or toys, she always went straight for the girly items. Can you tell me what those girly items --- what that means?

A. She would want to shop in the girls sections of the stores. She wanted dresses and lacy tutus, sparkly clothes. She wanted the girls clothes.

Q. Anything else?

A. Same thing with shoes. She wanted the girls shoes.

Q. What toys are you referring to as girly items?

A. Toys would be her dolls that she would have growing up.

Q. What kind of dolls?

A. Plush.

Q. So like girl dolls or animal dolls? I'm not sure I understand.

A. Girl dolls that are plush.

Q. And paragraph eight is when BPJ told us that she was a girl and wants to be dressed as a girl, I was not surprised because I spend so much time with her, can you expound on that?

A. Well, when I'm not at work, I'm with her.

Q. So how much time do you spend with her?

A. I am with her other than nine hours a day.
Q. Paragraph nine ---.
ATTORNEY TRYON: Can I ask the court reporter to take control and scroll down? Thank you.
BY ATTORNEY TRYON:
Q. Because BPJ and I have such an open communicative relationship we have --- would have conversations about how she was feeling. Can you tell me about those conversations?
A. Conversations in regards to how she is feeling regarding she didn't want her penis, that she identified as a female.
Q. And then the next sentence, the last part says more, she was able to clearly communicate that she knew she was a girl. What do you mean by more clearly indicates?
A. As she learned language skills as she grew up.
Q. So what language skills --- and what language changed for her to communicate that?
A. As her vocabulary increased.
Q. So for example, what additional words was she using?
A. She would use the word vagina when she learned that term. She would use the term breasts when she

learned that term. She learned the term brassiere.

Q. When BPJ first informed you that BPJ was a girl, did you --- did this cause you any concern or stress or anxiety?

A. I worried about any sort of --- I don't know what the word is I'm looking for --- discrimination she might receive.

Q. Did you at that time --- at that time had you heard of the term transgender?

A. Yes.

Q. And in what context had you already heard the term transgender?

A. I'm sorry. Could you repeat that?

Q. Sure. In what context had you heard the term transgender?

A. Just in referring to people as transgender.

Q. Had you known anybody that was transgender before BPJ told you that BPJ was a girl?

A. I did not.

Q. Were you surprised when BPJ announced that BPJ was a girl?

A. No.

Q. Why is that?

A. She had been presenting as a girl.

Q. I see. So you expected BPJ at some point to tell you that BPJ was a girl?

A. Yes.

ATTORNEY BLOCK: Objection, MT.

BY ATTORNEY TRYON:

Q. Back in --- at the end you say you knew this was not a phase for her and that there was something different happening. How did you know it was not a phase?

A. It never went away. It just became more intense. I had already raised two sons and realized that she was a girl. She was being raised as a daughter. She was telling me that she was a girl.

Q. At what point did you conclude that it was not a phase?

A. I don't know a date for that.

Q. Well, was it before --- I presume it was after BPJ announced that BPJ was a girl.

Is that right?

A. Yes, but I don't know the date of that either.

Q. But you believe it was approximately at age three?

A. Three to four.

Q. At some point did BPJ say that BPJ wanted

breasts?

A. Yes.

Q. Do you remember when that was?

A. I don't remember the date.

Q. Was it in the past two years or do you recall at all?

A. I don't recall.

Q. And why did BPJ want breasts?

A. Because girls have breasts.

Q. Does BPJ understand at that time --- let me start that over. At that time, when BPJ said that BPJ wanted breasts, did BPJ understand the purpose of breasts?

ATTORNEY BLOCK: Objection, calls for speculation.

THE WITNESS: I don't know that she knew the purpose of breasts, no.

BY ATTORNEY TRYON:

Q. Have you ever informed BPJ or had BPJ somehow learned the purpose of breasts?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: She knows she was breastfed as a child, so she knows that milk comes out of them.

BY ATTORNEY TRYON:

Q. Had you ever had any discussions with BPJ about the purpose of breasts?
A. No.
Q. Do you know if BPJ expects that once --- if BPJ has an operation to give --- to put breasts in place, does BPJ expect the ability to lactate?
ATTORNEY BLOCK: Objection. Objection to form and calls for speculation.
THE WITNESS: Yeah, we've never had that discussion.
BY ATTORNEY TRYON:
Q. So you don't know?
A. I would presume that she knows that it doesn't work that way because she knows she can't have children. She can't give birth.
Q. Okay.
And how do you know that?
A. Because we've talked about that.
Q. Tell me about that conversation.
A. That she doesn't have a uterus and that's what you carry a baby in, is a uterus.
Q. Do you recall when you had that discussion?
A. I don't know the date.
Q. Was it within the past year?

A. I don't know when it was.
Q. Was it before or after this lawsuit was filed?
A. I don't know the answer to that.
Q. Did that cause distress to BPJ to know that BPJ would not be able to have children?
A. No.
Q. Does BPJ --- let me rephrase that. Has BPJ told you that BPJ wants a vagina?
A. Yes.
Q. Do you remember when that was?
A. I do not know the date.
Q. And do you know why BPJ wants to have a vagina?
A. Because she's a girl.
Q. And for BPJ that's an indicator that BPJ is a girl?
A. She wants to be a girl. She is a girl. She wants the genitalia to match.
Q. Well, I want to ask this question again. It's important for me to understand the situation. Has BPJ thought about this in the context of sexual relations?
A. No.
ATTORNEY BLOCK: Objection to form and calls for speculation.
BY ATTORNEY TRYON:

Q. And how do you know that BPJ has not ---?
A. We have not talked about sexual relations. She's 11.
Q. Fair enough.
ATTORNEY TRYON: Paragraph ten, if the court reporter can put the document back up on the screen.
BY ATTORNEY TRYON:
Q. By the time BPJ was in the third grade she had chosen her name and was living as herself at home. What name did she choose?
A. She chose the name [redacted].
Q. Do you know why she chose the name [redacted]?
A. She said she liked the name.
Q. Did she talk to you about it before choosing the name?
A. Nope. She told me that that was the name she was picking.
Q. So paragraph ten says third grade. How old was BPJ at that time?
A. I don't know how old someone is in the third grade.
Q. I'm asking how old BPJ was at the time that BPJ went into the third grade.

A. I don't know off the top of my head how old you are when you enter into third grade.
Q. Do you know how old BPJ was when BPJ entered kindergarten?
A. She was five.
Q. So then in the third grade, would that make BPJ eight?
A. Roughly.
Q. So between third grade and eighth grade in the public she presented outwardly as a male?
ATTORNEY BLOCK: Objection.
ATTORNEY TRYON: I don't think I said that right. Let me try that again. Apologize.
BY ATTORNEY TRYON:
Q. Between the age of three and eight do I understand correctly that she presented to the general public as a male?
A. At school.
Q. Okay.
And what about outside school?
A. It would depend on the function. If it was around family, she presented as a female and wore female clothes. If it was a function she didn't feel comfortable in, like a funeral, she would present as she

would in school.

Q. As a boy?

A. She would wear male clothes.

Q. And thank you for that clarification. So --- and then so she would dress as a boy at school and then would she come home and change?

A. Immediately.

Q. And did BPJ --- when you say BPJ was around family, do you mean just your immediate family or extended family?

A. Extended family.

Q. And who would that extended family be just so I understand your term?

A. Aunts, uncles, grandparents.

Q. Did anyone express a surprise at the beginning that BPJ was now dressing as a boy (sic)?

A. Not to me they didn't.

Q. So to this day, no one outside your immediate family has --- let me rephrase it. To this day, no one in your extended family has ever said why is BPJ presenting as a --- or dressed as a boy when BPJ is a girl? No, let me start that all over again.

Let me see if I understand this. When BPJ was between the ages of three and eight when BPJ was around

extended family BPJ would dress as a girl.

Is that right?

A. Correct.

Q. Okay.

I got a little confused. And during all that time none of your extended family ever said to you or anyone else that you were able to hear why is BPJ wearing girl's clothing when BPJ is a boy?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Are you asking if they expressed it to me?

BY ATTORNEY TRYON:

Q. Either to you or someone you heard them say it to?

A. Well, when she was first introduced in female clothes they asked why, and I said she is a girl.

Q. And what was their reaction?

A. Oh.

Q. That was it?

A. That is it.

Q. Okay.

When BPJ would go to school dressed as a boy prior to the third grade, did that cause BPJ any distress?

A. She didn't like dressing as a boy, but she was worried about being made fun of at school if she dressed like a girl.

Q. Can you repeat your answer there?

A. She didn't like dressing as a boy at school.

Q. But she --?

A. But she did because she was afraid that she would be made fun of if she dressed as a girl at school.

Q. Thank you.

When BPJ started wearing a dress at school did BPJ get made fun of?

A. No.

Q. Now, when you say when BPJ came home BPJ would change into girl's clothing, does that mean always a dress or something else?

A. Oh, it could be leggings, it could be her pajamas, not necessarily always a dress.

Q. That's what I'm wondering, because girls many times wear pants. So does BPJ now that BPJ is identifying as a girl wear jeans or pants to school?

A. She does not wear jeans.

Q. Other pants?

A. She wears leggings.

Q. Why not jeans?

A. She doesn't like jeans.
Q. I want to shift gears a little bit here. So BPJ had a different birth name than [redacted].
Correct?
A. Correct.
Q. And does it disturb you to see or hear BPJ's birth name?
A. Disturb? I don't understand what you mean by disturb.
Q. Does it cause you any anxiety to see BPJ's birth name, for example, on the Birth Certificate or other places where it's been written down?
A. Oh, it just seems foreign to me because she's been [redacted] for so long.
Q. Does it cause distress for BPJ to see BPJ's birth name?
A. Yes, it does.
Q. Can you describe that? And forgive me if you've already told me this yesterday, and I may have forgotten, but does it --- tell me about what that distress is.
A. She gets angry and upset and doesn't understand why her dead name is on there.
Q. Where did you learn the term dead name?

A. From [redacted].
Q. How did [redacted] learn the term dead name?
ATTORNEY BLOCK: Speculation.
THE WITNESS: I don't know.
BY ATTORNEY TRYON:
Q. When did [redacted] start using term dead name?
ATTORNEY BLOCK: Objection.
THE WITNESS: I don't know the name.
BY ATTORNEY TRYON:
Q. Was it before or after the lawsuit was filed?
A. Before.
Q. More than a year before that?
A. I don't know.
Q. Can you give me any kind of approximation at all when BPJ started using the term dead name?
A. No, I cannot.
Q. Well, do you know if BPJ initially heard that from lawyers?
ATTORNEY BLOCK: Objection, calls for speculation.
THE WITNESS: I don't know where she heard it from.
BY ATTORNEY TRYON:
Q. When is the first time you heard it? From [redacted]

I think you said, is that right or not?

A. [redacted] told me the name --- the term dead name.

ATTORNEY TRYON: Let's go off the record for just a moment.

VIDEOGRAPHER: Going off the record. The current time reads 12:01 p.m.

OFF VIDEOTAPE

ATTORNEY TRYON: So I'm about to get into a different line of questioning. I want to be respectful about everybody's thoughts about lunch. I'm happy to keep on going for another half-hour or hour, but I just want to make sure that --- I want to be respectful with other people's feelings on that. Well, hearing no objection, I'm going to keep going unless somebody speaks up, including you, ma'am. If you --- you're the star here. You and the court reporter are the most important people here, so if you feel the need to take a break ---.

THE WITNESS: I'm okay.

ATTORNEY TRYON: Okay.

ATTORNEY DUCAR: Can we take five minutes?

ATTORNEY TRYON: Yes.

ATTORNEY DUCAR: Thank you.

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 12:09 p.m.

BY ATTORNEY TRYON:

Q. Okay.

Ms. Jackson, I want to talk to you now about some issues about sports. Now, this may overlap a little bit from your testimony from yesterday. It's a problem --- well, not too much. But to the extent that it does, you know, I will try and ask questions that are consistent with our questions and answers from yesterday. But if you feel like I'm somehow misrepresenting your testimony or anything from yesterday, please let me know and I will try and be respectful of your prior testimony.

Okay?

A. Yes, sir.

Q. So when did BPJ first get interested in sports?

A. She was in elementary school.

Q. Do you remember which grade?

A. Fourth.

Q. And what was the sport she became interested in?
A. Cheerleading.
Q. What was her interest?
A. She liked to cheer.
Q. Since I haven't been a cheerleader, can you tell me what that means that she liked to cheer?
A. So she would go to the games, hers would have been football, and you cheer for your team. You learn the routines and you learn the cheers.
Q. And I believe you told me at that time she was identifying as a female.

Is that right?

A. Correct.
Q. And the team that she was watching, was that a school team or some other type of team?
A. Bridgeport Youth Football League.

COURT REPORTER: I'm sorry, what football league did you say, ma'am.

THE WITNESS: Bridgeport Youth.

BY ATTORNEY TRYON:

Q. Is that a school-sponsored team?
A. It is not sponsored by the school, it's sponsored by the counties.
Q. And is there a sponsor for the cheer team or was

there at the time?

A. All inclusive with the football team, if that's --- I'm guessing. I think that's what you're asking.

Q. Yes. That answers my question.

Were there any boys on that cheer team?

A. There were not.

Q. Did you attend those games with BPJ?

A. Yes.

Q. How often did you go to those games?

A. Every time they had one.

Q. Was that just because you were interested in those football games or did one of your other children play in the football game?

A. One year I had a son who played on the football team. Another year I did not have a son that played on the football team.

Q. And you went anyway?

A. Absolutely.

Q. Is that because you like football or is it because BPJ liked football? Why was that?

A. I like football.

Q. And did BPJ express any interest in playing on the football team?

A. No.

Q. But BPJ was interested in the cheer team, as I recall from some things that I read, at that time just interested but was not part of the team.

Is that right?

A. Correct.

Q. And as I recall from something I read, BPJ then, before getting on the team, learned some of the cheers.

Is that right?

A. Correct.

Q. And was it the very next year when BPJ joined the cheer team or not?

A. Yes.

Q. So in the fifth grade BPJ was on the cheer team?

A. Correct.

Q. Were there tryouts for the cheer team?

A. There were not tryouts.

Q. So just anybody who wanted to be on the cheer team could be on the cheer team?

A. Yes. You had to present the proper documentation. You had to fill out the forms and give a Birth Certificate and a physical.

Q. Was that cheer team open for both boys and girls?

A. I don't know the answer to that.

Q. Did they ask you when you presented your documentation or when BPJ applied in some fashion if BPJ was a boy or a girl?
A. They did not ask me.
Q. Forgive me. I can't find it in my notes. At fourth grade was BPJ already dressing as a female at school?
A. Yes.
Q. Did your husband go to any of those football games with you and BPJ?
A. Yes. Like which year, though?
Q. The first year before BPJ was on the cheer team?
A. Yes.
Q. And what about the year once BPJ was on the cheer team?
A. When work permitted he would go.
Q. Did you encourage BPJ to sign up for the cheer team?
A. She told me she wanted to sign up for the cheer team.
Q. And then did you encourage her to do so or just say whatever you want to do or something like that?
A. I said if she wants to cheer ---.
ATTORNEY BLOCK: Objection to form.

THE WITNESS: I said said if she wanted to cheer --- I said if she wanted to cheer, she could cheer.

BY ATTORNEY TRYON:

Q. It required your parent consent I presume. Is that right?

A. Correct.

Q. Would that be just either your consent or your husband's or both?

A. Either/or.

Q. At that time in the third grade did BPJ express any interest in any other sports?

A. There are no other sports available to her.

Q. Why?

A. They didn't offer anything at her school.

Q. You mean in that grade?

A. Yeah.

Q. And then after that did BPJ want to be involved in any other sports?

A. After that when?

ATTORNEY BLOCK: Objection, vague.

ATTORNEY TRYON: Thank you for the clarification.

BY ATTORNEY TRYON:

Q. After the fourth grade did --- either in or after the fourth grade did BPJ become interested in any other sports?

A. She wanted to run, but there was no running sport available to her at her age.

Q. Okay.

About what grade or age was that when BPJ was interested?

A. In the --- let's see, that would have been the fifth grade.

Q. The fifth grade?

A. The fifth grade, she's interested in running.

Q. So going into the fifth grade or while she was in the fifth grade?

A. I'm not sure of the date.

Q. Okay.

But initially there was no track team --- I'm sorry, you said cross-country.

Right?

A. Right. Correct.

Q. So at that point there was no cross-country available for BPJ because of BPJ's age?

A. Correct.

Q. Were there other track sports that BPJ was

interested in?

A. Just running.

Q. Right. So running encompasses --- and I'm no expert on track, but I thought that track included cross-country and other running events.

Is that right or wrong?

A. Track can do running and other field events.

Q. So was it just cross-country that BPJ was interested in or other running events?

A. That's what we were focusing on at the time because that's what she knew.

Q. Why did she know --- when you say that you are talking about cross-country?

A. Cross-country, yes.

Q. And why was that what she knew?

A. Because her --- her siblings ran cross-country.

Q. So was BPJ interested in any kind of cross-country or specific cross-country events?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: Yeah, I don't understand the question. Cross-country is cross-country.

BY ATTORNEY TRYON:

Q. Okay.

So some places have --- I don't know this. I

will ask this. As far as I know, there is boys cross-country and girls cross-country. And I presume there may also be coed cross-country teams.

Do you know about that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The only one that was available was in the sixth grade, and it was a boys cross-country and a girls cross-country.

BY ATTORNEY TRYON:

Q. And as I understand it, BPJ prefers to try out for the girls cross-country team.

Right?

A. Yes, because she's a girl.

Q. Okay.

I just want to establish first that is what she wanted, she wanted to try out for the girls cross-country team.

Right?

A. Yes.

Q. And did she ever say I don't want to try out for the boys cross-country team?

A. Correct.

Q. And she said that because I'm a girl, I want to be on the girls cross-country team or words to that

effect?

A. She said she wanted to run with the girls on the girls cross-country team.

Q. Did she have any friends who were girls that were on the team already?

A. She knew of some people that were not in her grade that were in cross-country that were friends with her brother.

Q. And those were girls or boys?

A. Girls.

Q. Did she know any boys that were on the boys cross-country team?

A. Her siblings.

Q. Great. Anybody else of her age group?

A. Not that I know of.

Q. From what I've read, I gather that the tryouts for the girls cross-country team are competitive.

Is that your understanding?

A. Correct.

Q. And then once you get on the cross-country team, are the races themselves competitive?

A. Correct.

Q. And did BPJ want to be competitive or just only participate and she didn't care if she won?

A. Oh no, she --- she was competitive.
Q. So she wanted to win?
A. Yeah.
Q. And did she work hard at it?
A. She trained every day.
Q. And how did she do?
A. She ran cross-country.
Q. Okay.
How did she do compared to others?
A. She never finished first. She never finished second.
Q. She wanted to finish first or second, though, I take it?
A. Every kid wants to.
Q. I'm sorry?
A. Every kid wants to finish first.
Q. Including her, right?
A. Yes.
Q. Do the boys and girls cross-country teams ever compete against each other?
A. There are races where they call them one and done, where everybody runs together. And there are races where they are separated out. It just depends on the format of the host school.

Q. So the ones --- they call them won and done.
Is that right?
A. Yes.
Q. That means everybody runs together, all the boys and all the girls?
A. Correct.
Q. Have you ever observed any of those?
A. I believe there was one last year.
Q. Did you go do that?
A. Yeah.
Q. And did BPJ participate in that?
A. Yes.
Q. How did BPJ do?
A. She didn't finish last.
Q. Okay.
Did BPJ finish ahead of any of the boys?
A. Yes.
Q. And did --- how many boys was she faster than?
A. I don't know the answer to that.
Q. Do you know how many kids were in that particular race?
A. No, I don't.
Q. Do you remember what the name of that event was?
A. No, I don't.

Q. Do you remember where it was or what school it was at?
A. No, I don't.
Q. Okay.
When BPJ --- let me back up. BPJ, she made the team obviously.
Right?
A. Correct.
Q. Were any of the other people who tried out for it, did they not get on the team?
A. I don't know the answer to that. I don't know --- I'm not privy to that information, as to who tried out and who made it.
Q. Well, I'm going to ask you this question. I think based on our discussions yesterday I think I know the answer, but I'm going to ask it anyway just to make sure I understand, but do you think that boys on the boys cross-country team should be allowed to compete against the girls on the girls cross-country team?
A. If they identify as female? Is that what you're asking, if they identify as female?
Q. Well, let's start with that. If they identify as female, should they be allowed to compete against the girls on the girls cross-country team?

A. Anybody who identifies as female should be able to run on the girls cross-country team.
Q. And as to boys who do not identify as girls, should they be allowed to run on the girls cross-country?
A. It is not permitted at the school that she's at.
Q. And do you have an opinion if they should be allowed to?
A. If there's a boys team, that they're running on the boys team if they don't identify as female.
Q. So you don't think they should be allowed to run on the girls team unless they identify as a girl.
Is that right?
A. I believe that anybody who identifies as female should be able to run on the female's cross-country team or track team or ---.
Q. Right. But my question is if a boy, not identifying as a girl, just wants to compete against the girls on the cross-country team for girls, do you think that should be allowed or not?
A. Is there a boys team available?
Q. Yes.
A. Then I would think they would run on the boys team.

Q. What if they just want --- what if they just wanted to run on the girls team instead without identifying as a girl, do you think that person should be allowed to?

A. I don't know that I understand the question.

Q. Okay.

We'll move on.

ATTORNEY TRYON: Let me just take a break here and determine if I can skip some of my questions here to speed things up. Give me just a moment.

VIDEOGRAPHER: Do we want to go off the record or just stay on?

ATTORNEY BLOCK: Let's go off the record.

ATTORNEY TRYON: Just a minute. I will be right back. Just a minute.

ATTORNEY BLOCK: So we're off the record.

VIDEOGRAPHER: Yeah, we're off the record at 12:29 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record.

The current time reads 12:33 p.m.

ATTORNEY TRYON: Thank you.

BY ATTORNEY TRYON:

Q. Just to clarify one thing that we were discussing and you used term identify as a female. Can you tell me what you understand that means, to identify as a female?

A. Choose to live your life as a female because you are a female.

Q. So we were talking about boys and girls cross-country teams and other running events. And yesterday we talked about if you were aware of any statistics on how fast boys and girls can run. I want to ask you would it surprise you to know that there are statistics that show on average 11-year-old biological boys are about 20 percent faster than 11-yearold biological girls in the one-mile run.

ATTORNEY BLOCK: Objection to form and terminology. And I will make the terminology a standing objection.

THE WITNESS: I don't know that I'm surprised. I don't know that I'm not surprised.

BY ATTORNEY TRYON:

Q. In the context of cross-country, does BPJ take

showers or change clothing at school?
A. She changes into her uniform at school.
Q. Does she use the locker room to do that?
A. She uses a private bathroom by the counselor's office to do that.
Q. Who may use that private bathroom?
A. I don't know who beside her uses that bathroom.
Q. Is it just a unisex bathroom or what?
A. Again, I don't know who all uses it to be boys or girls or both. I don't know.
Q. Have you been in it?
A. I've seen it.
Q. Okay.
And so can you describe it for me? Does it just have one toilet in there and a sink or more than that?
A. Yes, just one.
Q. So one person can go in there, shut the door, lock it and use the facilities.
Is that right?
A. Correct.
Q. And is BPJ satisfied with that arrangement?
A. She doesn't mind it. She would rather use the female facilities, but she doesn't mind it. She says it

has the good toilet paper.

Q. Well, that's a good reason to use it. Is there a reason that BPJ does not use the female facilities?

A. She was told at the school that that was the bathroom that she is supposed to use.

Q. Have you objected to that arrangement?

A. I have not.

ATTORNEY TRYON: Okay.

It's 12:37. I would propose to change topics and move forward unless you people want to take lunch now. If I keep going forward, I would probably on this next topic go until past 1:00. So we can either go for another half hour or so or we can take a break now. Whatever you prefer. Ma'am, what is your preference?

THE WITNESS: I'm fine to go another half hour.

ATTORNEY TRYON: And Josh, are you okay with that.

ATTORNEY BLOCK: I prefer to keep going, yes.

ATTORNEY TRYON: Very good.

BY ATTORNEY TRYON:

Q. When you first --- let me back up and ask a different question. Are you familiar with the term

gender dysphoria?
A. Yes.
Q. When did you first become aware of that term?
A. When my daughter was diagnosed with gender dysphoria.
Q. So when BPJ was approximately three or four and said I am a girl, you were not aware of that term.
Is that correct?
A. No. When she first told me that she was a girl, I was not aware of that.
Q. And how did your husband react when BPJ said that BPJ was a girl, not a boy?
A. How did he react to me?
Q. To the announcement, whether it came from you or from BPJ?
A. Concerned.
Q. Did he learn about it at approximately the same time that you did?
A. Yeah.
Q. When you say concerned, can you explain that a little better?
A. Concerned about any sort of discrimination that she may have later in life.
Q. Was he at all distressed to learn that the child

who he believed to be his son was now claiming to be a daughter?

ATTORNEY BLOCK: Objection to the form and argumentative.

THE WITNESS: I don't know if he was upset.

ATTORNEY TRYON: Can you look at Exhibit 17 with me, please?

BY ATTORNEY TRYON:

Q. Let me know when you have that in front of you.

A. I do.

Q. This is fairly a short document so take a look through there and let me know when you are able to familiarize yourself with it.

ATTORNEY TRYON: If counsel would like us to scroll through that, let me know and we'll have the court reporter do that.

ATTORNEY BLOCK: I'm fine without the scrolling.

BY ATTORNEY TRYON:

Q. Have you seen this document before?

A. Yes.

Q. When did you first see this?

A. When we filled it out.

Q. Is this your handwriting?
A. No, that's not my handwriting.
Q. Do you know whose handwriting that is?
A. The person that filled it out.
Q. Okay.
Is that somebody at the school?
A. Yes.
Q. And just for the record, this a Gender Support Plan dated 8/23/19. So were you in the meeting where this was filled out?
A. Yes.
Q. And there was some sort of meeting?
A. Yes, it was individuals in a room with paper.
Q. And on the last page it shows what appears to be a signature of [redacted] Would that be BPJ?
A. Yes.
Q. And at the time that this was filled out on August 23, 2019, you reviewed it at that time?
A. Was I what at that time?
Q. Did you --- did you fill --- I'm sorry, did you review it at that time?
A. Yes, yes.
Q. And did BPJ review it at that time?
A. She didn't review the document. She was in the

meeting.

Q. Is there a reason that she did not review it?

A. No reason.

Q. In the first paragraph, under where it says parent/guardian involvement ---

A. Correct.

Q. --- the language there says mom very supportive, dad has struggled but coming around, seeking outside help through church and parental side of families help/support?

ATTORNEY BLOCK: Objection. You misread the document.

ATTORNEY TRYON: Oh, I'm sorry. What did I miss.

ATTORNEY BLOCK: Paternal instead of parental.

BY ATTORNEY TRYON:

Q. Ma'am, can you help me out here? To me it looks like it says paternal?

ATTORNEY BLOCK: Yeah. I think you said parental unless I misheard.

ATTORNEY TRYON: Oh, okay.

BY ATTORNEY TRYON:

Q. So my question then is when it says dad

struggled, what's that referring to?

A. He was concerned, but on page three it says parents are supportive.

Q. I understand. We can get to page three in a minute, but when it says dad had struggled, does that mean that he was uncomfortable with what I'll characterize as the changing of BPJ's gender?

A. He was ---.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: He was worried about any sort of discrimination.

BY ATTORNEY TRYON:

Q. And then but coming around, what does but coming around mean?

A. I don't know.

Q. Well, you gave the information --- let me strike that.

Who gave the information to the person filling this out?

A. I don't know if she paraphrased or what, but it doesn't look like it's a quote.

Q. Who gave the information to the person filling this out?

A. She would have been questioning me.

Q. Not BPJ?
A. BPJ was in the meeting, but I don't believe she was questioned directly in regards to that.
Q. The next part says seeking outside help through church. What outside help was dad seeking through church?
A. Talking to the minister.
Q. About what?
A. Trying to reconcile religion and his daughter.
Q. And what reconciliation was that?
A. I don't know. I wasn't privy to those conversations.
Q. Did you tell the person filling out this form that dad was seeking outside help through the church?
A. Yes.
Q. Which church is that, by the way?
A. He goes to a different church than me.
Q. Do you know what denomination?
A. It's the --- it's the Church of God, whatever denomination that is.
Q. And you don't go to that church?
A. I don't go to that church.
Q. But he told you that he was seeking help from the church?

ATTORNEY BLOCK: Objection. Objection marital communication, privileged.

BY ATTORNEY TRYON:

Q. Well, don't tell me the exact --- just tell me in general if that was the purpose of seeking help.

A. He was trying to reconcile religion versus his daughter.

Q. Do you know what that religion believes with respect to this issue?

A. No, I don't go to that church.

Q. And then it says and paternal side of family's help/support. Can you explain what you meant when you conveyed that information ---?

A. They are also members of that church.

Q. Down further at the bottom of that page it says [redacted] is comfortable with others knowing her gender identity and transition. Can you explain to me what was --- well, let me back up. Does that accurately represent what you told the person filling out this form?

A. Yes.

Q. Can you explain to me a little more about what that means that she's --- that [redacted] is comfortable with others knowing her gender identity and transition?

A. Just that --- it's just that. She is comfortable with others knowing. She'll talk to you about it if you want to.

Q. So she's comfortable talking about the transition from being a boy to a girl?

ATTORNEY BLOCK: Objection to terminology. I'll make that a standing objection.

THE WITNESS: She's comfortable with explaining her transgender identity.

BY ATTORNEY TRYON:

Q. Does that include explaining that I was once a boy and now I'm a girl, however --- you know, I'm not trying to put it in --- those words in anybody's mouth. That's the concept I'm trying to understand.

A. I've never witnessed a conversation where that was said.

Q. Okay.

Then how do you know what BPJ was comfortable with?

A. Because I've witnessed her talking to people about her transgender identity.

Q. Great. And so what have you observed her saying?

A. That she is transgender and that she is living

life as a female.

Q. Anything beyond that?

A. I would have to have a specific question.

Q. Anything else you can remember right now?

A. No.

Q. On the next page ---.

ATTORNEY TRYON: And Counsel, if you need me to bring up the page, please say so. Oh, great, it's being brought up. Okay.

BY ATTORNEY TRYON:

Q. Gender will be male, do you see that part down almost at the bottom?

A. Oh, yeah, I see that.

Q. But [redacted] will be in parentheses next to birth name. So why would the gender be male?

A. I think it has to do with the WEVAS System.

Q. Can you explain that?

A. No, I don't understand WEVAS at all.

Q. Okay.

When this was filled out, you can see on that page, for example, what name and gender marker are listed on the student's identity documents, and there is what we call a redaction, a black mark.

A. Okay.

Q. That covers up some information. Would that information have been BPJ's birth name?
A. Yes.
Q. So remind me, did BPJ read this document before she --- before BPJ signed it?
A. She was in the meeting, but she didn't read it line for line, no.
Q. Okay.
But did sign it?
A. Yes. We were to sign it that we were present.
Q. On the page marked at the lower right-hand corner BPJ 010, I think it's the fourth page --- yeah, it says page four at the top. See at the bottom it says received training, that part there?
A. Oh, okay.
Q. It says Norwood staff received training on tolerance and cultural diversity and LGBTQ --- I think that's plus IA on 8/21.
Do you see that?
A. Yes, I do see that.
Q. Do you know what that's referring to?
A. No, I don't.
Q. Have you ever been provided with any further information on what tolerance or cultural diversity or

similar training that is given to the staff?

A. No.

Q. Next it says and provided protocol and multiple resources --- multiple resource sources. Was that meaning that you were provided with that information or that was information that was provided to the Norwood staff?

A. To the Norwood staff.

Q. Were you provided any resource sources at the time that this was filled out?

A. No.

Q. Going back up to the first page where we talk about your husband seeking outside help through the church, did his views or feelings change in any way after seeking that --- after getting help through the church?

A. He has reconciled his religion with his transgender daughter.

Q. Did he explain to you how?

A. No.

Q. Let me ask you to look at Exhibit 11C. In fact, ma'am, if you could grab 11A, B, C and E. And I apologize let me look at 11D first, D as in David. So take a look at this, and I'll ask you a few questions

about it.

A. Go ahead.

Q. Okay.

And for the record, Exhibit 11D, at the top is --- has the name of Andrew James Spurr, M.D., and it says progress notes and it says encounter date, December 16, 2020. Do you see that at the top, ma'am?

A. Yes.

Q. I want to make sure we are looking at the same thing together. And it says history obtained from mother --- well, let me back up. First of all, have you ever seen this document before?

A. No.

Q. Do you remember --- it says on here, history obtained from mother. [redacted] was not present for this tele-medicine visit.

Do you see that?

A. Yes.

Q. Do you remember this --- that you had --- were involved in this tele-medicine visit, as it says?

A. Yes.

Q. And I want to direct you to the next paragraph that says [redacted] is very happy with stopping puberty. Is that something that you reported to the doctor?

A. Yes.
Q. And it was directed to the doctor not, someone else?
A. To Andrew James Spurr.
Q. Right. How did you come to speak with Andrew James Spurr? How did you find him as a doctor?
A. He was on --- he was just on that call as a resident. I don't know how he got assigned to us. It's the one and only time he was ever assigned to us. I don't know if Dr. Montano was out or what.
Q. So Dr. Spurr is in Dr. Montano's office?
A. I would presume so, yes.
Q. It says she, referring to [redacted], wants to know when she can start hormone therapy. Were you told anything in response to that?
A. I was not told anything in response to that.
Q. Next it says wants to get breasts and get rid of her penis. You reported that to the doctor?
A. Correct.
Q. And did he have any response to that?
A. No.
Q. You next said she is experiencing dysphoria --- strike that.
The document says she is experiencing dysphoria

with leg growth hair. Did you use that terminology with the doctor?

ATTORNEY BLOCK: Objection, misread the text.

BY ATTORNEY TRYON:

Q. Let me try again, she is experiencing dysphoria [redacted]. Did you use the term dysphoria when speaking to the doctor?

A. He used the term dysphoria.

Q. And what terminology did you use when you spoke to the doctor?

[redacted]

[redacted]

A. Correct.

Q. [redacted]. And did you, in fact, tell the doctor that?

A. Yes.

Q. And when --- so this is --- the encounter date is December 16, 2020. [redacted]

A. I don't know the date that he said it. The date --- the encounter date is just the date of the

appointment.

Q. [redacted]

[redacted]

A. I'm guessing yes.

Q. And he said that to BPJ?

A. Correct.

Q. Why did he say that?

A. I don't know.

Q. Did you observe it?

A. I observed the aftereffects.

Q. So you didn't actually hear him say that?

A. No, she came and reported it to me.

Q. She being BPJ?

A. Correct.

Q. What did BPJ say about it?

A. She was crying and was upset.

Q. [redacted]

A. According to her.

Q. What did that mean to BPJ?

ATTORNEY BLOCK: Objection. Calls for speculation.

THE WITNESS: I just know that it upset her, that she was crying and was upset.

BY ATTORNEY TRYON:

Q. [redacted]

A. I don't know what they were doing outside. I know they were outside because she came inside.

Q. Has your husband ever said that to BPJ before that, to your knowledge?

A. To my knowledge, no.

Q. Did BPJ say he said this to me before, or this is the first time, or any other discussion about it?

A. No other discussion about it.

Q. This just seems odd to me, so maybe I'll just ask the question. [redacted]

A. Yeah.

Q. Why would that be reported?

A. [redacted] My guess is he didn't read the case file.

Q. Okay. Okay.

[redacted] Who's that transgender psychologist?

A. There was one locally, but he left after ---

during the COVID session and I never did get to see him.

Q. Who was that?

A. I don't know what his name was.

Q. And has --- have you ever found a transgender psychologist?

A. We have found a psychologist that specializes in transgender care.

Q. Who is that?

A. Doctor Matthew Bunner.

Q. When is the first time that you saw Doctor Matthew Bunner?

A. I don't know. It would be in the medical records, but I don't know the date off the top of my head.

Q. All right.

Well, then we will find it in the medical records in a bit. Was there a reason that [redacted] was not present for this tele-medicine visit?

A. I was out of town. My dad died.

Q. Sorry about that, by the way.

So prior to this appointment you had not --- let me rephrase that. Prior to this appointment --- or this encounter on December 16, 2020, BPJ had not yet met with a psychiatrist or a psychologist.

Is that right?

A. Yeah, correct.

Q. And is Doctor Matthew Bunner, is he a psychiatrist or psychologist?

A. I'm not sure of his credentials.

Q. Prior to this data, [redacted]. Do you believe that to be accurate date, more or less?

A. That's accurate.

Q. Do you know what a [redacted] is?

A. Yes, it's a hormone blocker.

Q. Can you describe for the record how that's implanted?

A. The skin is separated from the tissue below it and it's slid in underneath the skin and secured with a suture.

Q. And where on the body?

A. Where is hers?

Q. Yes.

A. [redacted]

Q. Well, I don't know where [redacted], but it gives me a good idea. Thank you.

And then how long is that supposed to last? Do

you need to replace it at some point?

A. It will have to be replaced at some point.

Q. Do you know how long?

A. It depends on her labs.

Q. Were you given a general time period for whether it's a year, two years, six months?

A. [redacted]

Q. So from what I understand from what you told me, then [redacted] before BPJ met with a psychologist or psychiatrist.

Is that right?

A. Correct.

Q. Is there a reason you didn't wait to talk to a psychologist or psychiatrist before doing this --- taking this action?

A. We couldn't get in anywhere because of COVID.

Q. Is that the only reason?

A. Yes.

Q. Did you feel it was important to actually have BPJ meet with a psychiatrist or psychologist before taking this action?

ATTORNEY BLOCK: Objection to form.

[redacted]

[redacted]

BY ATTORNEY TRYON:

Q. Are you familiar with the Tanner stages?

A. With what? I'm sorry.

Q. The Tanner stages, T-A-N-N-E-R?

A. I'm not sure.

Q. Can you look at Exhibit 11A, please?

A. 11A. Oh, yeah.

Q. Okay.

Take a look at that document and let me know when you're ready. I just have a question or two.

A. Okay.

Q. All right.

[redacted] She has been followed up for gender dysphoria with desire to start hormone blockers, [redacted] Does that refresh your recollection what the Tanner stage one means?

A. Yes.

Q. What's your understanding of that?

A. They take --- it almost looks like a beaded necklace, but it's different size representation of

testicular formation and they compare it to her testes in order to see what stage they are.

Q. What's the purpose of that?

A. To measure the testes.

Q. And is --- why do that?

A. Because it's a sign of puberty.

Q. And is there a particular Tanner stage that you need to be at in order to get the hormone blocker?

A. I do not know the answer to that. I'm not sure which stage you must be at.

Q. Is that indicative --- do they use that in some fashion to determine when you insert a --- or start using the hormone blockers?

A. They use it as a sign for puberty.

Q. And does puberty have something to do with when you --- well, let me just ask it this way. As I understand it, before --- the doctors do not want to use hormone blockers until you start into puberty Tanner Stage 2?

A. Okay.

Q. Do you have any information on --- do you believe that is accurate or not?

A. I don't know.

Q. Okay.

When you --- let me rephrase that. Did both you and BPJ meet with the doctor, a doctor to discuss the pros and cons or any side effects of using hormone blockers?

A. Yes.

Q. So would that have been just you or would BPJ have been involved as well?

A. [redacted] would have been involved as well.

Q. How about your husband?

A. He was working. I would have to relay the information after I got back from the doctor.

Q. And did you relay that information to him?

A. Yes.

Q. Was he okay with using hormone blockers?

A. We read like the package insert information.

Q. Okay.

A. To look at the possible side effects.

Q. And what were the possible side effects, according to that insert?

A. Some of them off the top of my head was decreased size in testes, osteoporosis.

Q. Were you concerned about the side effects?

A. The benefit outweighed the risk.

Q. And what was the risk? Those side effects?

A. The risk would be the side effects.
Q. And what was the benefit?
A. The benefit would be help with her transition.
Q. Explain what you mean by transition.
A. To live her life authentically, to stop the male hormones.
Q. What would the male hormones do as you understand it?
A. Male hormones would cause her penis size to increase, her testicle size to increase, body hair to start forming, Adam's apple would start forming, her voice would change.
Q. And those are all things that you wanted to avoid happening?
A. She wanted to avoid happening.
Q. How about you, did you care one way or the other?
A. I wanted her to live her most authentic life.
Q. What did you mean by that, her most authentic life?
A. I wanted her to be able to live as a female, as she wished to live.
Q. Why does that make it her authentic life?
A. Because she's a girl.

Q. Okay.

So I'm done with this exhibit.

ATTORNEY TRYON: I'm finished with Exhibits 11A, B, C and D, so we can put those aside. It's 1:15. This would be a convenient place to stop if we want to for lunch. Would you like to do that, ma'am, or do you want to keep going?

THE WITNESS: I need a break to use the restroom.

ATTORNEY TRYON: Would you like to take a half an hour for lunch?

THE WITNESS: Sure.

ATTORNEY TRYON: Okay.

Everybody else is good with that?

ATTORNEY DENIKER: That's fine.

ATTORNEY BLOCK: See you at 1:45.

VIDEOGRAPHER: Going off the record. The current time is 1:15 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record.

The current time reads 1:47 p.m.

BY ATTORNEY TRYON:

Q. Let's go to Exhibit 14, if you wouldn't mind, ma'am. This Exhibit 14 is a group of medical records. Take your time and look through there and let me know when you're finished and then we'll come back to the first couple of pages for some questions.

(WHEREUPON, WITNESS REVIEWS DOCUMENT.)

THE WITNESS: I've read the first page.

BY ATTORNEY TRYON:

Q. Are you finished?

A. Yes.

Q. Great. Let me go back and first ask you a question on page two of the document on the bottom that says page three?

A. Okay.

[redacted] Before I ask you a question about that let me just back up. So this appears to be from an office visit with a Jean Someshwar.

Is that right?

A. Yes. That's about as good as I can pronounce it.

Q. Were you in attendance at this meeting?

A. Yes.

Q. Was BPJ in attendance?

A. Yes.

Q. So then going back to my question, what I just read on the second page, where it's marked as page three on the bottom. [redacted] Do you --- did you or BPJ say something that triggered this note?

A. BPJ.

Q. And what did BPJ say that you believe triggered this note?

A. Well, it's in quotes, so I'm saying that she said that.

[redacted]

A. Yeah.

Q. What does that mean?

A. I'm going to guess when they are in fights or spats.

[redacted]

A. Probably have to ask Becky that one.

Q. Did she expound at all during this meeting?

A. Not according to the notes.

Q. I'm asking you from your memory?

A. I don't remember.

[redacted]

A. Yes.

Q. I'm sorry?

A. Yes.

Q. And what does that mean?

A. To me?

Q. Yes.

A. To me I would say that you would use it to lash out at somebody.

[redacted] I don't know.

Q. Did you observe anything like this?

A. No.

[redacted]

A. Not to me.
Q. Are you aware of BPJ saying this to anyone else?
A. No.
Q. Back on page one, starting --- let's go back up on the screen. Let's see. Okay, that's right. [redacted] How did you locate Dr. Montano in Pittsburgh?
A. Doctor Montano came to me through recommendations from friends.
Q. Excuse me, what friends?
A. Friends that we know, one of which has a transgender male child.
Q. And who is that?
A. I only know her first name.
Q. Which is?
A. Carolyn.
Q. Does Carolyn live --- well, where does Carolyn live?
A. Clarksburg.
Q. Just for the record, how far is Clarksburg from where you live?

A. Oh, maybe 30 minutes.
Q. And how do you know Carolyn?
A. I met her through the PFLAG Group in Morgantown.
Q. So what does PFLAG stand for?
A. I don't know.
Q. What is the PFLAG Group?
A. The group that I attend is a group of parents who have transitioning children.
Q. Did BPJ attend meetings with a different PFLAG group?
A. No.
Q. At the bottom of this page, towards the bottom, if you could scroll down. Okay. Right there. It says family was going to PFLAG meetings. But due to COVID, meetings had been virtual [redacted] misses seeing her PFLAG friends in person. So was [redacted] going to the same meetings as you?
A. Yes.
Q. You indicated that the group you went to was for parents?
A. Parents with children who were transitioning. So the parents would meet and the children would play.
Q. So the children would play like what?
A. On the playground.

Q. Okay.

And they are both boys and girls?

A. Yes.

Q. That's kind of a weird question, given the context, so I'm not quite sure. Would it include --- I guess it would be trans boys and trans girls. Is that the proper way to say that?

A. It includes just gender boys and girls and transgender boys and girls.

Q. Very good. So in these meetings what did the parents talk about?

A. The issues that we might have in the community, like in our churches or in finding daycare or in support groups.

Q. And you said something that I didn't understand. You said parents with children that are transitioning, which suggests they are in the process of making a transition. Is that what that means?

A. Yes.

Q. And so what is that process of transitioning?

A. Well, with every parent and child, that's --- that's up to them.

Q. Can you explain in broad terms what that transitioning process is?

A. Identifying as your gender identity and living authentically.

Q. So simply, stating that you are a different gender than your birth gender. Is that all that's required for that transitioning process?

A. That's how it can start.

Q. Okay.

So that's how it starts, but what happens after that?

A. Like I said, with every parent and child it's going to be different. With their cases, it may be different than my case.

Q. And with your case then, tell me about that.

A. Okay.

Well, she presented around age three or four wearing my clothes, wearing my shirts as dresses, not wanting to sit to urinate.

Q. So that's part of the transitioning process?

A. I'm sorry?

Q. You're saying that's part of the transitioning process?

A. That was part of [redacted] transitioning process.

Q. Thank you for that clarification.

Let's see. Back up a little. [redacted]

[redacted]

Do you see that?

A. I'm looking.

Q. It's about the middle of that paragraph.

A. Okay. I see it.

Q. I can point it out on the screen, but you found it.

A. Yeah, I found it.

Q. So tell me about the process for a legal name change to the extent that you know about it.

A. Well, it involves a lot of documents with legalese on it that's very difficult for me to weave my way through. But for the name change process, we have to fill out a form, several forms. They have to be notarized, filed with the Circuit Court, then it goes before a Judge, as I understand it.

Q. And what have you done in that --- you or BPJ have done in that process?

A. We've gotten forms. We've gotten them notarized. Wes has got to get his notarized, which he is supposed to be getting done today. And then we go up to the Courthouse to submit it with $200.

Q. Do you know of anything else beyond that?
A. That's all I know so far.
Q. So why have you waited until now to do that?
A. Because it's been very hard for me to understand and try to figure out what the documents are saying. The first time I filled them out I filled them out incorrectly.
Q. How did you find out you filled them out incorrectly?
A. I took them up to the Circuit Court and they said you did it wrong.
Q. Okay.
And when was that?
A. A couple of weeks ago.
Q. So why did you wait until a few weeks ago to start the name change?
A. I'm been overwhelmed by the forms.
Q. When did you first get the forms?
A. I've had the forms for probably six months.
Q. Okay.
So just to help me out, I'm not trying to insult you or anything, but I'm just trying to understand because you --- because BPJ changed BPJ's name to [redacted] several years ago.

Right?

A. Correct.

Q. And so why didn't you and/or [redacted] move forward at that time?

A. We were deciding on middle names.

Q. Have you decided on any middle name?

A. Yes, we have.

Q. What is that?

A. It will be Maranlynn.

Q. So you spent the past several years just working on a middle name.

Is that right?

A. Yes.

Q. You're laughing about that. Why?

A. Because she didn't want the name Meridan and I wanted the name Maridan, so we came to a compromise that it is Maranlynn. Plus the Lynn comes from her uncle and she wanted to ask her uncle permission to use his middle name as her middle name.

[redacted] [redacted]

[redacted]

[redacted]

[redacted] Can you explain that to me, please?

A. I don't know what [redacted] mean. That would be a doctor term.

[redacted]

What is your understanding of what that hormone therapy is?

A. She can either get implants or injections and get hormones, female hormones, start female hormones. It depends on her labs and if she goes into osteoporosis. If she goes into osteoporosis from the [redacted], she would have to start hormones sooner.

Q. And what would those hormones do?

A. It would help her live authentically as a female.

Q. You need to be more specific. Would those hormones cause physical changes to BPJ's body?

A. Yes.

Q. What would those physical changes be?

A. She could grow breasts.

Q. Just to be clear, you say she could grow breasts. Would it actually trigger breast growth?

A. Isn't that the same thing?

Q. You said could, which is a possibility. I'm

asking if that is, in fact, ---.

A. I'm not a doctor. I'm going to guess that that's, you know, could be.

Q. No, I just want to understand --- make sure we're communicating. And I think we are, so thank you. [redacted] Is that what she said?

A. That's her words.

Q. And we talked about this a little bit before, but [redacted], do you know what that means?

[redacted]

Q. Do you know what age that is or what triggers that?

A. I don't know at what age it's legal in the State of West Virginia.

Q. So is that the only thing that would stop it from happening sooner is just the legal age part?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: And if she was medically able to. If she has reached all of the milestones that she's supposed to reach, being a transgender female on hormone blockers, on hormone replacement therapy.

BY ATTORNEY TRYON:

Q. Do you know how that is accomplished?
A. Well, they take the penis and they split it almost like a banana and they peel back the skin and they take all of that and they put it into a cavity inside the pelvis and create a vagina out of the erectile tissue from the penis.
Q. I guess the answer's yes. Is she aware that that is what the procedure is?
A. Yes.
Q. Was that --- who explained that to BPJ?
A. I did.
Q. And what was BPJ's reaction?
A. Ouch.
Q. That exact word?
A. Yep.
Q. After you explained that did BPJ still want to proceed?
A. Yep.
Q. So I just want to go back to your discussions with Carolyn I think it was who recommended Dr. Montano. Do I remember that correctly?
A. Yes.
Q. And what exactly did Carolyn say about Dr. Montano?

A. That he specialized in transgender care.
Q. Did you receive recommendations for any other doctors that specialized in transgender care?
A. He was the only one that we could find in the area that specialized in transgender care. He is quite good.
Q. When you say he is quite good, what do you mean?
A. He is very good working with [redacted]. He talks to her on her level.
Q. So did you review any other doctors for specializing in transgender care before settling in with Dr. Montano?
A. Nope.
Q. And then you then decided to change doctors. Is that right?
A. Right.
Q. And why is that?
A. Doctor Kidd is practicing closer to home and she's within my healthcare network.
Q. Did you interview with anybody else to see if you wanted to use someone else instead?
A. Nope, she's the only one in my area.
Q. Are you satisfied with Dr. Kidd so far?
A. Yes.

Q. How many meetings have you and/or BPJ had with Dr. Kidd?

A. Two. We were introduced to her in group with a bunch of --- with that Dr. Someshwar. We were introduced in a group there and then one on one with her later on.

Q. Can you turn to --- it's marked at the bottom as page seven? It also has what is called Bates stamp BPJ 152 at the bottom.

ATTORNEY TRYON: And if the court reporter would put that up.

THE WITNESS: Okay.

[redacted]

[redacted] This was something that you reported or BPJ reported?

[redacted]

Q. And that was as of April of 2021?

A. Yeah.

[redacted]

Is that a fair statement or not?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Not. I wouldn't say that.

BY ATTORNEY TRYON:

Q. Okay.

[redacted]

[redacted] Both you and BPJ were in this particular meeting.

Is that right?

A. Correct.

Q. And do you know if this statement came from something that you said or that BPJ said?

A. I don't know.

ATTORNEY BLOCK: Objection to the form.

BY ATTORNEY TRYON:

Q. I'm a little confused as to this form, so it's unclear to me if this is from a discussion with Mr. Bunner or with Dr. Someshwar.

Do you know?

A. This whole note?

Q. This particular paragraph anyways?

A. Oh, well it would be in the same notes as the whole packet from the WVU Healthcare University Town Center.

Q. Right. So maybe I can ask the question a little better perhaps. When you went to this appointment on April 1st, 2021, who did you meet with?

A. I don't know who this note is from. I don't

know. It says progress note continued. I don't know where the first page is.

Q. Okay.

The first page would be the prior page that appears to me, but let me ask you if you met on this occasion with Matthew Bunner?

A. I don't know who this meeting was with.

Q. Do you remember a meeting on --- I mean, this reports a meeting that you've just indicated to me that you attended?

A. Yes.

Q. Okay.

A. Yes.

Q. Okay.

A. I've been to a lot of doctors' appointments and I don't know which doctor this is from.

Q. Okay.

A. It doesn't say.

Q. Well, it has two names throughout the documents. One is --- if you go to the prior page, on page six, I will let the court reporter bring that up. Towards the top it says I saw and examined the patient. I received resident's note. I agree with the findings and plan of care as documented in the resident's note. Any

exceptions/additions are edited/noted. Jean Someshwar.

A. Jean Someshwar (corrects pronunciation).

Q. Thanks.

A. So this note would be from Dr. Someshwar or however you pronounce it.

Q. But then down below it says progress notes by Bunner, Matthew, LPC?

A. Okay.

Q. So let me first ask, do you specifically remember meeting with Jean Someshwar?

A. I remember being in one meeting with him, yes.

Q. Is Jean a man or a woman?

A. I don't know how they identify as.

Q. Okay.

But you said --- all right. And Matthew Bunner, do you know who Matthew Bunner is?

A. Yes, I do.

Q. In the middle of the page here it refers to editor being Matthew Bunner and the author as being Matthew Bunner.

A. Okay.

Q. So it appears --- and correct me if I'm wrong, but it appears that Mr. Bunner also met with you on that date?

A. Yes, there was a group of people there.
Q. Who else was there besides Mr. Bunner and Jean Someshwar?
A. I don't know.
Q. Was there others?
A. Yeah. There was nurses.
Q. Was this all one big meeting or separate meetings?
A. It was a big group. It was [redacted] and I in a room with these people.
Q. How many people?
A. I don't remember.
Q. Can you give me --- more than five?
A. I don't remember.
Q. At the bottom of page seven, under procedure, do you see that?
A. Yes.
[redacted] Do you remember that procedure as represented there?
A. I don't remember that.
Q. Then next it says provided assessment/treating utilizing some or all interventions below from WPATH standards of care version seven.

Do you see that?
A. Yes.
Q. Do you remember that assessment being or treatment being provided to you?
A. I don't know what WPATH Standards of Care version seven is.
Q. Have you ever --- so have you ever heard that term WPATH Standards of Care?
A. No.
Q. And you've never seen the document just titled WPATH Standards of Care?
A. No.
Q. First item under there is one, directly assess gender dysphoria in children and adolescents. Was that discussed with you?
A. It looks like it was an assessment on their part.
Q. And was that assessment when they were discussing it to you and BPJ?
A. I presume that they made their assessment based on their interview.
Q. And do you know what their assessment was?
A. No.
Q. Do you remember what was discussed in that

interview?

A. Well, if I go to the first page I can read what was discussed. But other than that ---.

Q. You don't have any independent recollection?

A. No.

Q. If you could go to the next page marked page eight.

A. Okay.

Q. At the top it's got Item Number 4, it talks about referring adolescents for additional physical interventions. And the second sentence says the referral should include documentation of an assessment of gender dysphoria and mental health, the adolescent's eligibility for physical interventions outlined below, comma, the medical health professional's role and expertise and any other information pertinent to the use, health and referral for specific treatments. Are you aware of any such referral?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: She already had blockers.

BY ATTORNEY TRYON:

Q. Understood. This is not limited to puberty blockers.

[redacted]

[redacted]

Q. Right. Do you anticipate a referral for any other physical interventions?

A. I don't know the answer to that.

Q. Prior to getting the puberty blocker, was there documentation of BPJ's --- strike that.

Let me start that over. Prior to getting the puberty blocker, [redacted] was there, to your knowledge, an assessment of gender dysphoria and mental health of BPJ?

A. The assessment was made by Dr. Montano.

Q. Do you know what documentation there is for that assessment?

A. No, I don't.

Q. Earlier in this deposition I asked you if you have documentation, and you said you have documents. What documents do you have relative to BPJ's gender dysphoria?

ATTORNEY BLOCK: Objection, MT.

THE WITNESS: I have copies of her Gender Care Plans given to me by the schools. Is that what you mean?

BY ATTORNEY TRYON:

Q. I'm just asking a broad question to see what documents you have.
A. Oh, off the top of my head, I don't have them with me.
Q. Okay.
And off the top of your head you mentioned the plan assessments from the schools. Anything else?
A. I have --- I have the Gender Care Assessment --- or Gender Care Plans from Norwood and I got one from Bridgeport. I have those. And I have some copies of partial of her records from UPMC that I gave to Dr. Kidd at WVU.
Q. Have you shared those documents with your counsel?
A. They're here.
Q. Okay.
So the documents --- when you say here you mean in the conference room there?
A. Yes, they're with your exhibits.
Q. Okay.
Any other documents that are not with the exhibits that you've seen so far that you think you have in your possession?
A. No, I don't have anything other than what I

said.

Q. If you go to what's now page nine.

A. Okay.

[redacted]

A. Yes.

Q. Is that what that represents, [redacted]

A. [redacted] It's definitely not mine.

[redacted]

Right?

A. Correct.

Q. And this is measured --- do you see down below, at the bottom of that little chart, it says for boys?

A. Where does it say that at?

Q. So I'll just point with the cursor. It's kind of hard to see on the screen, but right here. On the hard copy that I have it's a little clearer?

A. I don't see the cursor moving on my screen. Oh, now I do.

VIDEOGRAPHER: To move the cursor on your screen you have to click first and then you can move it.

ATTORNEY TRYON: Oh.

VIDEOGRAPHER: There you go.

THE WITNESS: If you say that's what it says then I can't read that, but ---.

BY ATTORNEY TRYON:

Q. Okay?

A. And I have it in this copy, too, and I can't read it there either.

Q. Yeah. You know, I understand because I have a copy under which is probably a copy and you have a ---.

A. A copy of a copy.

Q. But it does say --- in mine it says --- I can't read all of it. [redacted]

A. You would have to ask them.

Q. That was never discussed with you, I take it?

A. No.

Q. I will just note for the record on BP --- within this document there is on Bates stamp BPJ 162 --- you don't need to look at it, but there are some markings on that page that says Dr. Brunner/Dr. Someshwar, and it

says 2021. I belive those are handwritten notes. Those were not on the original. Those are my notes only. My apologies. Those should have been taken off before this started.

VIDEOGRAPHER: I'm sorry. Did you want me to scroll to that one?

ATTORNEY TRYON: No, unless somebody else wants to see it. But that's just for the record, so if people see that in the future, they can say --- they can understand what that is.

VIDEOGRAPHER: Okay.

BY ATTORNEY TRYON:

Q. Let me go back to Exhibit 1. If you could take a quick look through here. I don't have any specific questions. I just have a general question. If you want to take a look through there.

A. Okay.

Q. So these documents came from the local Board of Education as part of this discovery process. I think that's right. Yes. And I apologize, West Virginia 1-R you have got to look at.

A. Let me grab that.

ATTORNEY BLOCK: Do you have a Bates number for that?

ATTORNEY TRYON: HBCBOE 00075.

ATTORNEY BLOCK: Thank you.

BY ATTORNEY TRYON:

Q. So my question on this, first of all, is so these are medical records from the Davis Medical Center. The date of the visit appears to be May 13, 2014. And I believe I saw something in here that indicated that these were given to the school in 2016. And I was interested to know if you recall why these were submitted to the school at that time?

ATTORNEY BLOCK: Objection. Foundation.

THE WITNESS: The school requires their vaccination records and their oral evaluations.

BY ATTORNEY TRYON:

Q. What do you mean by oral evaluations?

A. Their dentist.

Q. Oh, okay. So this has more information than just the vaccinations. Were you just being overinclusive when you sent this to them?

A. I just gave them the well child visit.

Q. Okay.

If you could turn to Exhibit 3, please. Do you know --- never mind. We don't need Exhibit 3. Exhibit 4?

A. Exhibit 4. Okay.
Q. Take a look through there and then I will have a few questions.
A. Okay.
Q. At the top it says that it's from UPMC Children's Hospital of Pittsburgh and it says adolescent medicine evaluation. And the child listed is [redacted]. The first name is blocked out. It references male, age nine years old. And then down below it has a date of July 15, 2019. Do you see that? No, it's at the top of that page.
A. Oh.
Q. Right at the very top of the page.
A. Oh, I see it, next to Montano's name. Okay.
Q. Yes. Do you remember having a visit on or about that date?
A. I don't remember it, but I'm sure there was.
Q. And that was with Dr. Montano or --- yeah, Dr. Montano?
A. Yes.
Q. Without referencing the notes here specifically, do you remember what was discussed at this visit?
A. I don't remember what was discussed at this visit.

Q. Do you remember the purpose of it?
A. I'm guessing just continued care plan.
Q. Do you remember --- tell me from what you know who Dr. Montano is.
A. Doctor Gerald Montano. He specializes in gender dysphoria, in transitional care patients.
Q. And it appears to me from my review of the records, please correct me if I'm wrong, that this is the first time when there was a diagnosis of gender dysphoria by a medical professional?
ATTORNEY BLOCK: Objection to form.
BY ATTORNEY TRYON:
Q. Is that in your memory or not?
A. I don't know.
[redacted]
A. No.
Q. So it says [redacted], legal name [redacted], is a nine-year-old transgender female coming to the clinic for gender dysphoria. So does that suggest that's the purpose of this visit.
Is that right?

A. Okay.

ATTORNEY BLOCK: Objection.

BY ATTORNEY TRYON:

Q. Is that consistent with your memory?

A. I'm just going by what the notes say, and the notes say that we're there for gender dysphoria.

Q. Okay.

[redacted]

Do you see all that?

A. Yes.

Q. And do you remember reporting this information to Dr. Montano or that BPJ reported this information to Dr. Montano on or about July 15, 2019?

[redacted]

Q. Okay.

And just to be clear, BPJ was in attendance for this meeting as well?

A. Yes.

[redacted]

Q. So you don't know what that means then?

A. I would presume it meant [redacted]

[redacted]

Q. Now, on the third page, which is labeled BPJ 036 in the lower right hand corner, do you have that?

A. Under social history?

Q. Yes.

A. Yes.

[redacted]

was?
A. No, I don't.
Q. Do you know how it was conducted?
A. No, I don't.
Q. Do you know of any documentation for it?
A. No, I don't.
Q. Other than what is here before us?
A. Unless it's in one of these exhibits, I don't know.
Q. Okay.
Dr. Montano, did he diagnose BPJ with gender dysphoria?
A. Yes.
Q. Do you know the basis of his diagnosis?
A. No. I presume that went with his medical training to diagnose.
Q. Right. Do you know what factors or anything else that he used to make that diagnosis?
A. That would be a question for him.
Q. It will be a question for him, but I'm asking you if you know.
A. I don't know. I'm not a doctor.
Q. So if you go to page four --- let me know when you are there?

A. Okay.

Q. At the bottom, where it says history suggests that [redacted] suggests --- excuse me, history suggests that [redacted] suffers from gender dysphoria.

Have you seen that note before today?

A. No.

Q. And then it says the World Professional Association for Transgender Health. Are you familiar with that organization?

A. No, sir.

Q. Have you ever heard of that organization before today?

A. No, sir.

[redacted] Do you remember Dr. Montano discussing that with you?

A. Yes.

Q. What else do you remember about what he discussed with you?

A. Just informed --- that just falls under informed consent. Just --- he just told us the benefits and the

risks.

Q. And if I recall correctly, you then discussed these risks with your husband.

Is that right?

A. Correct.

ATTORNEY BLOCK: Objection, MT, vague.

BY ATTORNEY TRYON:

Q. And both --- so [redacted], you and your husband are all comfortable with the risks for infertility?

A. Yes.

Q. Has [redacted] ever expressed an interest in having children?

A. It has not really come up. I mean, she gets mad at her brother, she says stuff like I'm never having children.

Q. Sorry for laughing, but that is kind of funny.

A. Just in --- just in situations like that.

Q. Yeah. Yeah. Were you advised --- let me rephrase that. Did Dr. Montano advise you that the majority of pre-pubescent children with gender dysphoria desist from gender dysphoria if given affirmation therapy?

ATTORNEY BLOCK: Objection.

BY ATTORNEY TRYON:

Q. Sorry. Let me just start that all over again. In fact, you can strike that all.

Let me ask you to take a look at Exhibit 33, please.

A. Thirty-three (33)?

Q. Correct.

A. Okay. I have it.

Q. Ma'am, I will represent to you that this is an excerpt from the Standards of Care of the World Professional Association for Transgender Health. It goes through page 21. And this is the seventh version. And I have a few questions about it. You can either read the entire thing right now or you can just wait for me to ask you a question and then if you want to read other parts of it as well, you can do that.

A. I've never seen this before.

Q. Okay.

So Dr. Montano, as I mentioned earlier in the document that we were looking at before, references the Standards of Care for the World Professional Association of Transgender Health.

Do you recall that?

A. I remember it was mentioned in that other document.

Q. Right.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY TRYON:

Q. Let me ask you to turn to page five.

A. I don't see page numbers.

Q. At the very bottom right it has page numbers. It looks like they may not have printed very well. At the top it says gender non-conformity is not the same as gender dysphoria.

A. The difference between gender non-conformity and gender dysphoria?

Q. At the top it says gender non-conformity is not the same. Yes. Right. On page four it says the difference between gender non-conformity and gender dysphoria and then I have a question for you on page five, at the top of page five. Take a look at that paragraph and then I have a question about it. And then if you want to --- before you answer my question, if you want to look at more you can, but I don't think you will need to.

A. The one that says gender nonconformity refers to the extent, that paragraph?

Q. That paragraph.

ATTORNEY BLOCK: And while she's looking

at this document, I will just refer back to our standing objections.

ATTORNEY TRYON: Thank you.

THE WITNESS: Okay.

BY ATTORNEY TRYON:

Q. So my question is did Dr. Montano explain to you the difference between gender nonconformity and gender dysphoria?

A. No.

Q. Having read that, do you think it would have been useful for him to explain that to you?

A. No.

Q. If you could turn to page 11, please?

A. I have no page numbers.

Q. Well, keep scrolling down on the screen. Do you see --- they're not as faint on the copy that is on the screen, but at the lower right-hand corner it says page 11. So if you count in it would be about 13 pages, but it says differences between children and adolescents with gender dysphoria. That's the topic near the top of the page.

A. Okay.

I found the page.

Q. Okay.

I'm just going to read the first --- the sentence that I'm interested in, couple of sentences. And then I'm going to ask you a question. And if you would like to read more of them --- of this before answering you may. But it says an important difference between gender dysphoric children and adolescents is in the proportion for whom dysphoria persists into childhood --- excuse me, into adulthood. Gender dysphoria during childhood does not inevitably continue into adulthood. Rather follow-up studies of pre-pubetal children, mainly boys, who were referred to clinics for assessment of gender dysphoria, the dysphoria persisted into adulthood for only 6 to 23 percent of children. And my question is did Dr. Montano explain that to you?

A. No.

ATTORNEY BLOCK: Objection to form. First, there's a footnote in that paragraph that I think is illegible on the piece of paper. And second, you didn't read the entire paragraph.

ATTORNEY TRYON: I'll read the footnotes that's not illegible because it's legible on my copy. My apologies for that.

BY ATTORNEY TRYON:

Q. It says gender nonconforming behaviors in

children may continue into adulthood but such behaviors are not necessarily indicative of gender dysphoria and a need for treatment. As described in Section 3, gender dysphoria is not synonymous in gender expression. So when you're finished with your review, let me know. I'm just interested if Dr. Montano did explain that to you.

A. I don't remember.

Q. Would that have been helpful for you to have that information?

A. No.

ATTORNEY TRYON: Off the record for just one moment, please.

VIDEOGRAPHER: Going off the record. The current time reads 2:52 p.m.

OFF VIDEOTAPE

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time reads 2:53 p.m.

THE WITNESS: Yes. And I can't see that footnote either on my copies.

BY ATTORNEY TRYON:

Q. Yes, my apologies. I don't know why that didn't come through on the photocopy, but we'll try and remedy that. Okay. I'm finished with that exhibit.

At what point did you start considering suing the State to have this law declared unconstitutional?

A. When I realized that it was going to affect my child.

Q. And was that before or after the law was actually passed?

A. It was after it was signed by the Governor.

Q. And how did you come to be aware of it?

A. Be aware of the law?

Q. Yes.

A. That it was in consideration or that it was signed?

Q. Well, let's start with consideration. When did you first become aware that it was under consideration?

A. I don't know the date. I remember seeing it on the news, that it was under consideration.

Q. And at that time were you aware that it could affect your child?

A. I was alarmed.

Q. Did you contact any legislators about it?

A. Yes.

Q. Who did you contact?
A. Romano and Patrick. I can't remember his last name.
Q. Are they --- do you remember which house they're in?
A. No, I don't.
Q. And how did you contact them?
A. Via email.
Q. Do you remember the contents of the emails?
A. Asking them to vote against it.
Q. Did they vote against it?
A. I don't know.
Q. Do you have a copy of that email?
A. I have no idea.
Q. Was it the same email to each one of them?
A. Yes.
Q. And you sent it from your computer?
A. Yeah.
Q. Would it still be on your computer?
A. I don't think so. I don't know.
Q. Why do you think so? You said you don't think so. Why would it not be?
A. Because at that point I didn't keep emails.
Q. Can you look on your computer and see if you

still have, them please? Obviously not right now.

A. Okay.

ATTORNEY TRYON: And then if so, we would request copies of those from counsel. And we can make a formal request or we can just have this be the formal request if you prefer?

ATTORNEY BLOCK: I prefer this to be the formal request. We will follow up with you.

ATTORNEY TRYON: Thank you.

BY ATTORNEY TRYON:

Q. Did you ever receive a response from either one of those legislators?

A. No.

Q. Did that bother you?

A. Yes.

Q. Did you do any kind of follow-up?

A. No.

Q. Did you contact any other public officials about that piece of legislation?

A. I called the Governor's Office and asked them not to sign it.

Q. Did you get to talk to the Governor?

A. No.

Q. Do you know who you talked to?

A. A voicemail.
Q. Did you ever hear back?
A. No.
Q. He never saw this?
A. No.
Q. And then once you saw that the law was actually passed, did you do anything else?
A. I contacted the ACLU and asked if they were going to fight against this law.
Q. And how did you contact them?
A. By phone.
Q. Was that your first contact with the ACLU?
A. Correct.
Q. About anything at all?
A. Yep.
Q. And why did you think to call the ACLU?
A. Because they fight for civil liberties.
Q. So you just had that background knowledge about the ACLU, you thought I will call the ACLU or was there anything else that triggered your ---?
A. I felt like my daughter's --- I felt like my daughter's civil liberties were being violated.
Q. And that was after the law was passed?
A. Correct.

Q. On the Complaint it has your name as next friend and mother of BPJ.

Do you recall that?

A. Yes.

Q. And do you know why your name is on there?

A. Because I'm the next friend and mother of BPJ.

Q. Do you know why that is legally --- what the legal impetus behind that is?

A. The next friend part?

Q. Do you know why your name needs to be on that part of the document?

A. Because I'm the adult. I'm the mom.

Q. So it's your understanding simply because BPJ is a minor your name needed to be on there in some capacity?

A. Yes.

Q. Did you review the Complaint before it was filed?

A. I don't remember. I reviewed documents.

Q. Let's take a look at Exhibit 32, which is the Complaint.

ATTORNEY BLOCK: Before we do that I just want to check to see if the witness needs a break at all.

THE WITNESS: I'm good.

ATTORNEY TRYON: I'm nearing the end.

THE WITNESS: Oh, yeah, this.

BY ATTORNEY TRYON:

Q. Before we turn to that, let me ask you real quick, my colleague gave two names. Would the legislators have been Patrick Martin?

A. Pat Morrisey.

Q. Okay.

Well, Morrisey is the Attorney General. Is there another Morrisey? Mike Romano?

A. Mike Romano, yeah.

Q. Okay.

Having this in front of you now, do you recall reviewing this before it was filed?

A. Yes.

Q. On page eight there is a picture of BPJ?

A. Yeah.

Q. Is that a picture that you supplied?

A. Yes.

Q. And so it appears to be to me that BPJ is wearing makeup.

Is that right?

A. Yes, for cheer competition.

Q. And did BPJ apply that makeup or did you?
A. We both did it.
Q. And BPJ is wearing an Indian jersey.
Is that right?
A. Correct.
Q. Is BPJ part American Indian?
A. No, she cheers for the Indians.
Q. Is that the name of the local team?
A. Yes.
Q. Not the Cleveland Indians?
A. No, not that they're known as Cleveland Indians anymore.
Q. I understand.
A. The Cleveland Guardians.
Q. I understand. I'm from Cleveland.
A. Oh, are you a Browns fan?
Q. You know, I think we'll just leave that alone. We can talk about it off the record. How's that?
Were you asked if you agreed with everything in here before it was filed?
A. Yes.
Q. And do you understand the legal issues?
A. Which legal issues?
Q. Well, it talks about on --- you know, I should

just clarify. What I'm showing you is the Amended Complaint. There was a prior Complaint that was filed and then there was a subsequent that was filed for clarification for the record. So on page 20 there's count one?

A. Yes.

ATTORNEY BLOCK: Just objection. I'm just going to refer back to our standing objections.

ATTORNEY TRYON: Okay. I haven't asked the question yet, but that's okay.

BY ATTORNEY TRYON:

Q. Having --- did you review this count one?

A. A while back.

Q. And in your own mind or your own terminology would you be able to explain what you understand count one to ask or claim?

A. Well, I'd say that she is protected under Title IX.

Q. What do you know about Title IX? And if you don't know anything about it, that's okay. I'm just asking for your --- what you know because your lawyers are the ones that really put this aspect of it together. I just want to understand your understanding.

ATTORNEY BLOCK: Objection to the form.

BY ATTORNEY TRYON:

Q. Go ahead.

A. You could be denied based on your sex, meaning your biological sex.

Q. I didn't understand your answer. Could you say that again?

A. You could be denied benefits based on your biological sex, benefits afforded to you under Title IX.

Q. And then Count 2, if you could take a look at that and tell me what your own understanding of what that is about?

A. It's about the equal protection clause of the 14th Amendment.

Q. Do you know anything about that?

ATTORNEY BLOCK: Objection, vague.

BY ATTORNEY TRYON:

Q. Do you know anything about the equal protection, the claim for equal protection --- excuse me, the 14th Amendment, the equal protection clause?

A. It's just equal protection under the law.

Q. Have you looked into what that law is at all on your own?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: No.

BY ATTORNEY TRYON:

Q. I didn't hear you.

A. No.

Q. Let me go back to the title, though. I'm just going to ask you one more question about it. Where it says BPJ, her next friend and mother, Heather Jackson, is there a reason you were selected to be the next friend as opposed to your husband as the next friend and father?

A. I'm the one that reached out for help in the first place.

Q. Did anyone ask if your husband wanted to be named on here as also another next friend and parent?

ATTORNEY BLOCK: Just objection to the extent that this calls for communications with your attorneys. I'm instructing you not to answer.

BY ATTORNEY TRYON:

Q. Without any communication with your attorney, did you have a discussion with your husband about him being named on here?

A. My husband and I have been hand in hand throughout this whole procedure.

Q. I understand. That wasn't my question. My question was did you have any discussion with his name

appearing on here as well?

A. No.

Q. Let me ask you about Exhibit WV 23R.

A. Okay.

Q. So on the third page of this document?

A. Yes.

ATTORNEY TRYON: Can the court reporter put that up?

VIDEOGRAPHER: I'm looking. I don't see a 23R, I just see a 23.

ATTORNEY TRYON: Put up 23, and then it should be --- if you scroll down it should be there.

VIDEOGRAPHER: So I got that article and then it moves into 24.

ATTORNEY TRYON: Well, my apologies. We will use 23 for this deposition. And as we've already indicated, we will not be using this exhibit with BPJ.

BY ATTORNEY TRYON:

Q. So on the --- so can you look at 23?

A. Yes.

Q. So on the --- this is an article from 2016. And in 2016 you were already referring to BPJ as [redacted] and using the pronouns her.

Right?

A. Correct, with family.

Q. So then, yes, my question is on page three, when you're talking to apparently the reporter you say [redacted] looks forward to it. He does this every year because he says he wants to help other babies. Why did you continue to use [redacted] name in public?

ATTORNEY BLOCK: Objection, the document looks like [redacted] is in brackets from the quote you read.

ATTORNEY TRYON: Yes.

BY ATTORNEY TRYON:

Q. So ma'am, let's be ---.

ATTORNEY TRYON: Thank you for that clarification.

BY ATTORNEY TRYON:

Q. Did you, in fact, refer to BPJ as [redacted] when you talked to the reporter for this article?

A. Yes.

Q. And why did you do that?

A. Because it was public, not private.

Q. And when did you go public?

ATTORNEY BLOCK: Objection, vague.

THE WITNESS: I don't know the date.

BY ATTORNEY TRYON:

Q. Okay.

Let's take a look at 25.

VIDEOGRAPHER: There's 23R. It was right after 24R.

ATTORNEY TRYON: Oh, well, my apologies.

BY ATTORNEY TRYON:

Q. Do you have 25 in front of you?

A. Correct.

Q. So on the second page of that exhibit it appears to have a quote from BPJ saying I just want to run. I come up from a family of runners, [redacted] said in a news release. I know how hurtful a law like this is to all kids like me who just want to play sports with their classmates and I'm doing this for them. Trans kids deserve better, closed quote. Now, sometimes newspapers misreport things, so I'm asking you if you know if that's an accurate quote?

A. That is accurate.

Q. Was that an oral statement that BPJ made?

A. Oral.

Q. And did you help her come up with that or did BPJ come up with that all on BPJ's own?

A. BPJ.

Q. So what exactly is BPJ doing for others, for

them?

ATTORNEY BLOCK: Objection, vague, foundation.

THE WITNESS: She wants all kids to be able to run with the teams that they identify with or play with the teams that they identify with.

BY ATTORNEY TRYON:

Q. And trans kids deserve better, do you know what that meant?

ATTORNEY BLOCK: Objection, speculation.

THE WITNESS: They deserve to be treated equally.

BY ATTORNEY TRYON:

Q. On the next page, at the top of that page, the second paragraph says the Complaint complains that House Bill 3293 was prompted by unfounded stereotypes. Do you have an opinion on what those unfounded stereotypes are?

A. Unfounded stereotypes ---.

ATTORNEY BLOCK: Just objection to reading only part of the sentence.

BY ATTORNEY TRYON:

Q. Go ahead.

A. The fear that if she runs on a girls team, that she's going to beat all the other girls because she was

born as a biological sex male. That's an unfounded stereotype.

Q. How about false scientific claims, do you know what that is?

A. Same thing.

Q. Do you know what baseless fear and misunderstandings of girls who are transgender, do you know what that refers to?

A. Same thing.

Q. Well, what's the fear?

A. The fear that they're going to beat out all the other competition and win all the awards and get all the scholarships.

Q. Okay.

And just to be clear that --- I think I understood the prior testimony, you don't have any data or articles or scientific claims to support this data, do you?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't have anything.

BY ATTORNEY TRYON:

Q. Has anything been shown to you?

ATTORNEY BLOCK: Objection to form, vague.

BY ATTORNEY TRYON:

Q. You're shaking your head no. Is that a no?

A. Shown to me in regards to ---?

Q. Thank you for asking for that clarification. Do you have any --- this talks about false scientific claims. Do you have any scientific evidence to show that those claims are false?

A. I don't have anything to show that they're false or true.

Q. And you haven't seen anything, have you?

A. No.

Q. Okay.

Let me ask you to take a look at Exhibit 27. And I'm going to ask you a question about the seventh page in. It's actually the last page of the article itself.

A. Okay.

Q. All right.

So on page [redacted] is quoted as --- [redacted] was devastated. She said, quote, I felt horrible because I knew then I couldn't run with the other girls. So is that her quote or did somebody supply that to her?

A. No, that's her.

Q. And then it says [redacted] immediately started

discussing potential lawsuit with her mom. Can you explain that to me?

A. She wanted to know what we could do to fight it.

Q. Did she raise that before you did or ---

A. Yes.

Q. --- on her own?

A. Yes. She wanted to know how we could fight it.

Q. So it sounds like, and correct me if I'm wrong, it sounds like the lawsuit was initially --- let me rephrase that. Was the lawsuit her idea or just the idea of fighting it?

A. The idea of fighting it.

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: The idea of fighting it.

BY ATTORNEY TRYON:

Q. And then how was the idea of a lawsuit, how did that come to pass?

A. That was the only way we could fight it.

Q. Well, did you come up with that idea or did that idea come after you called the ACLU?

A. I asked for help.

Q. In the form of a lawsuit or was that a suggestion they made to you?

A. No, a suggestion I made.

Q. Okay.

Exhibit 29.

A. Okay.

Q. I'm going to ask you a question about the third paragraph down. That starts with the term --- with the words that I just want to run. Take your time to read through this as much as you want, and I just have a question about that.

A. Okay.

Q. So this appears to be a press release by Lambda Legal. And this appears to be a quote attributed to [redacted]. In the third paragraph it says I just want to run and the State wants to stop me from running as part of a team at my school, said [redacted], an 11-year-old middle school student. I love running and being part of a team. And the State of West Virginia should explain in court why they won't let me, closed quote.

You know, sometimes in the press releases like this the person putting together the press release puts together a quote and then attributes it to --- shows it to the person to whom it's attributed and says is this okay for me to say. And other times it's something that the person quoted actually said. Can you tell me which one of those it is?

A. That's [redacted].

ATTORNEY BLOCK: Objection to the form. Objection to the form.

THE WITNESS: That's [redacted].

BY ATTORNEY TRYON:

Q. So she came up with this quote all on her own?

A. Yes.

Q. And so she wants the State of West Virginia to explain in court why they won't let BPJ run as part of the team.

Right?

A. Yes.

Q. Okay.

When this lawsuit was filed, did she understand that she might be subject to a deposition?

A. We didn't even know what a deposition was.

Q. Okay.

So I'll ask the same question of you, although I think the answer is obvious. At the time that you filed this lawsuit, did you know that you might be subject to a deposition?

A. I didn't even know what a deposition was.

Q. So the answer would be no?

A. That would be a no.

ATTORNEY TRYON: Let me go off the record for just a minute and see if I have any other questions.

VIDEOGRAPHER: Going off the record. The current time reads 3:23 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 3:27 p.m.

BY ATTORNEY TRYON:

Q. I want to go back and just reconfirm something about --- you said you wrote to two legislators. And we just checked to see which legislators are in your district, and one is Patrick Martin and one is Mike Romano.

A. That's who it is. It's Patrick Martin.

Q. Okay.

Very good. And then I'm interested, given there's been a fair amount of publicity in this case, have you received media inquiries about this case?

A. The only inquiries I have had has come to me through my lawyers.

Q. Okay.

Do you have any --- has anyone contacted you about you or BPJ being some sort of representative or advocate for transgender rights?

A. No.

Q. And you said that you have received --- no, let me rephrase that. Have you received any press inquiries about this case through your attorneys?

A. The inquiries I have were the ones that you brought forth as exhibits.

Q. There weren't any others?

A. No.

Q. Well, I should represent to you there are a few others that I have not shown.

A. Okay.

Q. So I'm not trying to trick you. I just want to --- but you don't remember any others right now?

A. No, but I haven't seen all the exhibits either. I don't know if you have them in here as exhibits.

Q. Yeah, and that's fine. If you don't remember any others, that's all right. There are one or two more, but that's okay.

ATTORNEY TRYON: I don't think I have any other questions at this time, subject to any follow-up

after other questions and any other reservation rights we might make at the end of this deposition. Thank you for your time.

ATTORNEY BLOCK: Before other counsel begins, do you need a break, Heather?

THE WITNESS: I would like to use the restroom.

ATTORNEY BLOCK: Okay.

So let's come back at 3:35, everyone.

ATTORNEY TRYON: Okay. Thank you.

VIDEOGRAPHER: Going off the record. The current time reads 3:29 p.m.

OFF VIDEOTAPE

(WHEREUPON, A BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 3:36 p.m.

EXAMINATION

BY ATTORNEY GREEN:

Q. All right. We are back on the record. And I've

just --- the State has signed off officially, and so --- oh, there you are. You just popped her into the screen. It took me a minute to find her.

Ms. Jackson, my name is Roberta Green. I'm an attorney here on behalf of West Virginia Secondary School Activities Commission, also known as WVSSAC.

Do you know the those initials, WVSSAC?

A. Yes, I know the WVSSAC initials. Yes.

Q. Okay. Great. So if I refer to it then --- it as WVSSAC, you'll know who I mean?

A. Yes, yes.

Q. That will save us ten words every time I --- so I just have a few questions for you today. If I understood your testimony correctly, you learned of House Bill 3293 when you heard about it on the news.

Is that accurate?

A. Yes, that's accurate.

Q. Do you recollect whether at any time prior to learning of House Bill 3293 you had notified WVSSAC of BPJ's interest in running on the girls cross-country team?

A. I did not notify them of her desire.

Q. All right.

And at any time prior to filing the lawsuit do

you recall whether you ever notified WVSSAC of BPJ's interest in running on the girls cross-country team?

A. I did not contact the WVSSAC in advance.

Q. All right.

And do you know whether at any time, like up until today, you have contacted WVSSAC to notify them of BPJ's interest in running on the girls cross-country team?

A. I have not.

ATTORNEY GREEN: Okay.

I don't think I have any other questions. So thank you very much. I appreciate it.

EXAMINATION

BY ATTORNEY DENIKER:

Q. Good afternoon, Ms. Jackson. My name is Susan Deniker. I introduced myself earlier today, but I represent the Harrison County Board of Education and superintendant Dora Stutler in this litigation. Thank you for your time today. I know it's been a long day and I appreciate you hanging in there with us.

I do have some additional questions for you. If I ask you anything that you don't understand today

please tell me and I'll be glad to rephrase the question. If you don't do that I will assume that you have understood the question.

Is that fair?

A. Okay.

Q. Thank you.

Ms. Jackson, tell me about BPJ's education. Did she start her education in Harrison County schools?

A. Yes, she started her education in Harrison County schools.

Q. And did she start in pre-K or in kindergarten?

A. Kindergarten.

Q. Did she have any formal education before going to kindergarten? In other words, was she in a pre-school program or a pre-K program anywhere before starting kindergarten?

A. No.

Q. And did she do her entire elementary schooling at Norwood Elementary?

A. Yes, she did.

Q. Tell me the first --- well, in general, how was your experience for --- how was the experience for BPJ at the Norwood Elementary School did she have a positive experience at that elementary school?

A. She had a positive experience.
Q. The current Superintendent of Harrison County schools is Dora Stutler. Was she the principal at Norwood during part of the time period that BPJ would have been enrolled at Norwood Elementary School?
A. Yes, she was.
Q. So you had interactions with Ms. Stutler while she was the principal at Norwood.
Is that true?
A. Interactions, yes.
Q. And were your interactions with her positive?
A. I think I've received a couple phone calls from her in regards to [redacted], that maybe she had concerns over not getting a homework assignment in or that kind of thing, but it was positive criticism.
Q. So your interactions with Ms. Stutler when she was principal at Norwood Elementary School were all professional in nature?
A. Yes.
Q. And you didn't have any concerns with those communications?
A. No concerns.
Q. Did your other --- did your two older children, your sons, did they go through Norwood Elementary School

as well?
A. Yes.
Q. And did you have any issues or concerns when they went through Norwood Elementary School?
A. Correct that. My oldest one transferred from St. Mary's to Bridgeport Middle. My second one was all in Norwood.
Q. Okay.
A. I think his kindergarten year, there was no room at Norwood and he had to go to Johnson.
Q. Very good.
So you transferred your oldest child to St. Mary's?
A. From St. Mary's directly to Bridgeport Middle, so I correct that.
Q. So your middle --- your middle child, that child did go through Norwood Elementary School?
A. Yes, yes.
Q. Any issues or concerns during his time at Norwood Elementary School?
A. No.
Q. When did you first make any employees of Norwood Elementary School or anybody in Harrison County schools aware that BPJ identified as a female and was a

transgender student?

A. I contacted Mr. James Thornton, who was the school counselor, but I don't know the date.

Q. Do you recall what grade BPJ was in at the time?

A. Third.

Q. And Mr. Thornton was the guidance counselor at Norwood Elementary School at that time?

A. Yes.

Q. And can you tell me at about that communication? What was discussed when you contacted Mr. Thornton?

A. That [redacted] is a transgender female and wishes to be --- conduct her life as such and her pronouns were she/her.

Q. What was Mr. Thornton's response to that?

A. He understood and was going to take it to a higher power. I'm guessing it was the principal at the time.

Q. Was there anything else that you can recall that was part of that initial communication with Mr. Thornton about BPJ's transgender status?

A. That she was going to start presenting as a female at school.

Q. And then what was Mr. Thornton's response to that?

A. The same, that he would go ahead and handle what had to be handled on his end.
Q. Did you find him to be supportive of ---?
A. Yes.
Q. Did you say extremely?
A. Extremely supportive of Becky's transition.
Q. Very good. Did Mr. Thornton, in fact, get back to you after he spoke with the principal?
A. I don't recall.
Q. What was --- what was the next communication that you recall having with the school officials with regard to [redacted] transition?
A. I would have had contact with her teacher at that time. I can't remember her name at that time. And realizing that she was going to have questions or that the students would have questions, but I can't remember that teacher's name. I apologize.
Q. That's no problem.
Tell me about the nature of your communications with --- this would have been the third grade teacher.
Is that correct?
A. Right, right. That she was going to start presenting as a female at school.
Q. And was the teacher supportive of that?

A. Yes.
Q. And then BPJ did start presenting as a female at school I think I heard you testify earlier.
Is that correct?
A. That is correct.
Q. Were there any problems or issues with that?
A. The only thing that I know of is that the teacher did get questions as to why [redacted] was dressing the way she was dressing, and her answer was she's [redacted] and that's what makes her happy.
Q. Were you comfortable with that response from the teacher?
A. Yes.
Q. And so in the third grade did you have any concerns with regard to how the school handled [redacted] transition?
A. No, I did not.
Q. And then BPJ also would have been enrolled at Norwood Elementary School in the fourth and fifth grades.
Is that true?
A. That is correct.
Q. And at that point she was --- in those grades she was fully transitioned ---

A. Correct.
Q. --- to being a female student.
Is that correct?
A. Correct.
Q. And did you have any issues or concerns with the way school officials handled that?
A. School officials handled it quite well.
Q. So during BPJ's tenure as a student at Norwood Elementary School did you have any concerns or issues with regard to how school officials handled --- how your daughter wanted to handle her transgender status and how she wanted to present at school?
A. They respected her transition and her transgender status. They used her correct pronouns, which was she/her.
Q. That was something that was important to you and BPJ.
Is that correct?
A. Correct.
Q. So part of that --- my understanding is that part of the communications that you would have had with school officials at Norwood Elementary School included completing a Gender Support Plan for BPJ.
Is that correct?

A. That is correct.

Q. And I'll ask you --- I'm going to ask you about both Gender Support Plans because I know you're having to grab things. I'm going to ask you about Exhibits 17 and 19, if you want to pull them out. We'll look at Exhibit 17 first.

A. I've got 17 in front of me.

Q. Okay. Very good. We'll start there. We can get to 19 when we get there.

And you can take as much time as you want to review this, but my initial question is going to be is this the Gender Support Plan that was in place when BPJ was at Norwood Elementary School?

A. Yes, it is.

Q. And you would agree with me that this document is dated August 23rd, 2019?

A. Correct.

Q. And this was a document that the Harrison County Board of Education had in place, so that there was a process to discuss a combination of a student who's transgender like BPJ.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That's my understanding.

BY ATTORNEY DENIKER:

Q. And in fact, did you meet with school officials from the Harrison County Board of Education to develop this Gender Support Plan to support BPJ?

A. I met with the people that are listed on the last page of the Gender Peer Support Plan.

Q. Was there anybody present in the meeting on August 23rd, 2019, whose name doesn't appear on the signature page on page five, which is Bates number BPJ 011?

A. I don't know. I know that we were all supposed to sign it to say that we were there in attendance. So I presume everyone signed it.

Q. In looking at this signature page, do you recall anybody being there whose name you don't see there?

A. I don't off the top of my head, no.

Q. Is your signature on this document?

A. Yes, ma'am, it is.

Q. And it looks like BPJ's signature is on this document as well.

Is that correct?

A. Correct, because she was in attendance. She had to sign it.

Q. So she was part of this meeting.

Is that right?
A. That's correct.
Q. Did you find the school officials that participated in this process to be respectful of you and of BPJ?
A. Yes, I did.
Q. And did you find that the purpose of this was to help accommodate any needs that BPJ might have as a transgender student?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: That's my understanding that that was the purpose of the document.
BY ATTORNEY DENIKER:
Q. Did you --- were you in agreement with the Gender Support Plan that was put into place through this August 23rd, 2019 document?
A. Yes, I was in agreement with it.
Q. Was BPJ in agreement with it?
A. Yes, as much as she understood. Yes.
Q. And did you believe that the school followed through and accommodated her in accordance with this Gender Support Plan while she was at the Norwood Elementary School?
A. They followed the Gender Support Peer Plan, yes.

Q. So is it fair to say that you didn't have any issues or concerns of BPJ's treatment as a transgender student during the time that she was a student at Norwood Elementary School?

A. I would say correct.

COURT REPORTER: I'm sorry. I'm sorry. Can you state that question one more time? It was a little fast.

ATTORNEY DENIKER: I will try to do that.

BY ATTORNEY DENIKER:

Q. Is it fair to say that you did not have any issues or concerns with BPJ's treatment as a transgender student during the time that she was enrolled as a student at Norwood Elementary School?

A. We had no issues.

Q. Ms. Jackson, to confirm, it is my understanding that Harrison County Schools does not offer school-sponsored athletics for students who are in elementary school. Is that consistent with your understanding?

A. That's my understanding.

Q. And I heard you testify earlier that BPJ participated in cheerleading, which was not a school-related activity, while we was in elementary

school.

Is that correct?

A. That was through the Bridgeport Youth Football.

Q. And that's not affiliated with the Harrison County Board of Education.

Is that correct?

A. That is --- that is correct.

Q. So the first time that BPJ was eligible to participate in school-sponsored sports was when she went to middle school for this coming academic year.

Is that correct?

A. That is correct.

Q. And BPJ, is she currently in the 6th grade?

A. That is correct.

Q. And is she still 11 years old?

A. Yes.

Q. And prior to her --- so she would have transferred from Norwood Elementary School to Bridgeport Middle School for the beginning of this academic year.

Is that correct?

A. Correct.

Q. And it's my understanding that Bridgeport Middle School is a three-year middle school that has grades six, seven and eight.

Is that correct?

A. That is correct.

Q. Your older children, your two sons, have they both gone through Bridgeport Middle School?

A. Yes, they have.

Q. So you're familiar with the school?

A. Yes.

Q. And you were familiar with it before BPJ enrolled there.

Is that correct?

A. Yes.

Q. And did you have --- well, strike that.

Now, I am going to ask you to look at Exhibit Number 19, if you can find it, please.

A. I got to find it. Can they bring it up on the screen rather than me finding it?

Q. Yes. And if you need to see a paper copy, I'll be glad to take a break for you to be able to find it.

A. That's okay. I can look on the screen. I'm familiar with this document.

Q. Great. Would you agree with me that this document we just marked as Exhibit West Virginia 19 is a Gender Support Plan for BPJ, which is dated May 18th, 2021?

A. Correct.
Q. And was this a meeting that you would have had with school officials to create another Gender Support Plan for BPJ?
A. Correct.
Q. May 18th of 2021, at that time am I correct that BPJ would have been finishing her 5th-grade year at Norwood at that time?
A. Yes.
Q. So this meeting was done in preparation for BPJ's transition to Bridgeport Middle School.
Is that correct?
A. Correct, and the meeting was held at Norwood.
Q. And as before, the folks that were in attendance, are their signatures on page five of this document, which is Bates number BPJ 006?
A. Yes, I presume that is everyone that was there. We were all asked to sign in if we attended.
Q. And again, as I asked you before, is there anybody who you recall being present for this meeting whose name or signature doesn't appear on page five of this document?
A. I don't think so.
Q. Is your signature on this document?

A. Yes, it is.
Q. And I also see BPJ's signature on this document.
Is that correct?
A. Yes.
Q. This included --- even though it was held at Norwood Elementary School, this did include school officials from Bridgeport Middle School.
Is that correct?
A. Correct.
Q. And this included a discussion about accommodation for BPJ once she got to the middle school for this current academic year.
Is that correct?
A. Correct.
Q. Was this meeting conducted professionally in your opinion?
A. Yes.
Q. And were you able to discuss wishes, ideas, and concerns you had about accommodations for BPJ as she was starting into the middle school?
A. Yes.
Q. And did you feel like this was a positive meeting?
A. Yes.

Q. Dave Mazza is somebody who's on the signature page. He's the principal at Bridgeport Middle School.

Is that correct?

A. That is correct.

Q. Did you know Mr. Mazza before you had this meeting?

A. Yes.

Q. And again, you would have been a parent of students who have been at Bridgeport Middle School.

Is that correct?

A. That is correct.

Q. Your middle child, Ms. Jackson, I'm trying to figure out the ages, is he a couple of years older than BPJ?

A. Thirteen (13).

Q. He's 13. And what grade is he currently in?

A. Eighth.

Q. So you have two children currently at the middle school.

Is that correct?

A. That is correct.

Q. Okay.

So Mr. Mazza wasn't new to you in this meeting?

A. That is correct.

Q. And did you have a --- prior to this meeting, did you have a positive relationship with Mr. Mazza?
A. That is correct.
Q. He's a nice guy, isn't he?
A. He is.
Q. And my experience with him has been that he's very student centered. Has that been your experience as it relates to your children?
A. He's extremely student oriented.
Q. He really cares about the students, doesn't he?
A. I believe so, yes.
Q. And I see that Tarra Shields was on this document. Is she the counselor at Bridgeport Middle School?
A. She's the principal I believe now, isn't she?
Q. Is she one of the principals there?
A. I think so, at Norwood.
Q. At Norwood?
A. At Norwood.
Q. That's right. That's right, Ms. Jackson. So she was there as the Norwood principal.
Is that correct?
A. Correct, correct.
Q. And it looks like Ms. Merrill was there and she

is a counselor at Bridgeport Middle School.

Is that correct?

A. That is correct.

Q. And how was your experience with her in this meeting?

A. Can you be more specific?

Q. Sure. Was she professional with you?

A. Yes.

Q. And was she helpful in terms of identifying appropriate accommodations for your daughter as she was getting ready to transition to the middle school?

A. Yes.

Q. Did you feel that the Bridgeport Middle School team was committed to making your daughter's transition to the school as a transgender student a positive experience?

A. Yeah. The only concern that was raised was the concern about her participating in cross-country.

Q. And I wanted to talk to you about this, Ms. Jackson. Let me ask you this. Other than conversation as it related to participation on the cross-country team, did you have any concerns at all about what was discussed during this meeting for the Gender Support Plan on May 18th, 2021?

A. No.

Q. So during this meeting it sounds like you did have a discussion with the school officials with regard to BPJ's participation in athletics.

Is that correct?

A. That is correct.

Q. And in fact, that's part of this plan is to discuss --- that is a topic to be discussed.

Is that correct?

A. I'm sorry. Can you repeat that?

Q. Sure. And I probably didn't ask it very well. And let me actually ask you by looking at the document. Let's look at page four of the document. And this is Bates number BPJ 005. And Ms. Jackson, I will ask you to look at the top of that document as we scroll up to it. And there's a specific section on this Gender Support Plan to have a discussion about the student's participation in extracurricular activities.

Would you agree with that?

A. Yeah, there's definitely information there regarding that.

Q. And it specifically also addresses sports, doesn't it?

A. Yes, specifically is cross-country and track.

Q. Okay.

And so I think the question on the form, it says, in what extracurricular programs or activities will the student be participating and then in parentheses it says sports, theater, clubs, et cetera, question mark. Did I read that accurately, Ms. Jackson?

A. Yes.

Q. And then in handwriting under that question it says cross-country and track.

Is that right?

A. That is correct.

Q. And did you fill this document out?

A. No, that is Ms. Merrill's handwriting.

Q. Okay.

And the entries that say cross-country and track, did that --- where did that information come from?

A. From [redacted] and myself, that she wanted to participate in cross-country and track.

Q. Okay.

And that was noted on this form.

Is that correct?

A. Correct.

Q. And was there a discussion about BPJ's

participation in school sports and specifically cross-country and track since BPJ expressed an interest in that participation?

A. Yes. What was discussed is actually on that next line, about the coaches have to be aware of the transition.

Q. Okay.

The next line says what steps will be necessary for supporting the student there. And as you noted, it says coaches would need to be aware of Becky's transition. If teammates have questions, they can approach the coach or administration. Did you have any concern with that?

A. The only concern I had at the time was, was she going to be able to run on the girls cross-country team.

Q. And did you ask that question during the meeting?

A. It came up during the meeting. I don't know if it was in question form or in statement form.

Q. Do you remember who brought it up?

A. I brought it up.

Q. Do you remember what you said during the meeting?

A. Not specifically, just that I was concerned that

she would be able to run on the girls cross-country team.

Q. And did somebody respond to that inquiry from you?

A. David Mazza.

Q. And what did Mr. Mazza say?

A. That it would all depend on how the bill was going to come about, and that if she wanted to run, she wouldn't be able to run on the girls cross-country because of the bill.

Q. And when you say the bill, are you talking about House Bill 3293?

A. Yeah.

Q. And is that the bill that --- is it your understanding that it's House Bill 3293 that your current litigation seeks to overturn and address?

A. Yes.

Q. So were you aware as of the date of this Gender Support Plan, May 18th, 2021, what the status of House Bill 3293 was?

A. I just knew it was in legislature.

Q. And Mr. Mazza was also aware of it, it sounds like from his response to you.

Is that your understanding?

A. Yes.
Q. And so was there any further discussion of BPJ's ability to run on the girls team other than what you have already told me?
A. That was the gist of the conversation, was regarding my concerns whether or not she would be able to run on the girls cross-country team.
Q. And so you were aware of the House Bill --- and were you aware that it was a state law?
A. All I knew was about the bill.
Q. Okay.
And were you aware that that was a bill that was considered and passed by the West Virginia State Legislature?
A. I'm not sure what year it was passed. I know it was signed by the Governor in April.
Q. So you understood that the bill was signed by the Governor.
Correct?
A. Yes.
Q. I'm not trying to quiz you on dates here, Ms. Jackson, but were you aware that at some point the West Virginia Legislature passed that bill?
A. Yes. Yes, it was passed. Yes.

Q. Would you agree with me that there is no Harrison County Schools rule or policy that addresses transgender student participation in sports?

A. I don't know that there is or is not.

Q. Has anybody ever told you that there is a Harrison County policy or rule that would prohibit BPJ from participating in a girls sports team?

A. No one has ever told me that.

Q. And the only discussion that you had with Mr. Mazza with regard to BPJ's participation on a girls sports team related specifically to House Bill 3293.

Is that correct?

A. Can you repeat that question, please?

Q. Sure. The only conversation you had with Mr. Mazza with regard to BPJ's ability to participate in a girls sports team at Bridgeport Middle School related to House Bill 3293.

Is that correct?

A. Yes.

Q. Have you had any communication with any other official of Harrison County Board of Education or Harrison County Schools related to BPJ's ability to participate in girls sports?

A. No, I have not.

Q. So the only communication related to this occurred with Mr. Mazza on May 18th, 2021.

Is that correct?

A. Correct.

Q. And your only discussion about a possible limitation of BPJ's ability to participate in girls sports related to House Bill 3293.

Correct?

A. I'm sorry. I thought I answered that. Can you repeat the question? I'm confused.

Q. Sure. And your only communication then with anybody in Harrison County Schools related to BPJ's ability to participate on a girls sports team was with Mr. Mazza.

Correct?

A. Correct.

Q. And that conversation only related to BPJ's ability to run as it would have been impacted by House Bill 3293.

Is that correct?

A. The conversation was in regards to how --- if she would be able to run on the girls cross-country team and that would have been dictated by that House Bill.

Q. Mr. Mazza didn't tell you that it would be

dictated by anything else, did he?

A. No.

Q. And Mr. Mazza, he did not indicate to you that he wouldn't permit BPJ to participate on the girls team personally.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah. Can you repeat that question?

BY ATTORNEY DENIKER:

Q. Sure. Did Mr. Mazza tell you that he personally had any objection to BPJ participating on a girls sports team?

A. He never said those words, no.

Q. Okay.

And did anybody else in Harrison County Schools affiliated with Harrison County Schools in any way tell you that they wouldn't permit or had a problem with BPJ participating in a girls sports team?

ATTORNEY BLOCK: Objection. Compound question.

THE WITNESS: I didn't contact --- I wasn't in contact with any other individuals.

BY ATTORNEY DENIKER:

Q. So you didn't have any communications with anybody else about that.

Is that correct?

A. That is correct.

Q. Is there any other communication that you had with anybody in Harrison County Schools about BPJ's participation on a girls sports team other than what we just talked about?

A. No.

Q. Were you otherwise comfortable --- well, strike that.

This Gender Support Plan that is dated May 18th, 2021, is that currently in effect for BPJ?

A. Yes.

Q. And were you in agreement with that when you signed it on May 18th, 2021?

A. Correct.

Q. And have you had any issues or concerns or problems with the implementation of this Gender Support Plan during the school year?

A. With the Gender Support Plan I've had no issues.

Q. Did you raise any concerns with anybody within the Harrison County Board of Education or Harrison County Schools about your objections or disagreements

with House Bill 3293?

A. I hadn't had any conversations with those individuals.

Q. And when you say I hadn't I just want to make sure that sitting here today have you had any discussions with anybody affiliated with Harrison County Board of Education other than the communication you had with Mr. Mazza about concerns or problems you had with House Bill 3293?

A. I have not.

Q. Are you aware that there is an elected Board of Education for all of the county Boards of Education in West Virginia?

A. Yes.

Q. And are you aware that there is a specific County Board --- elected County Board of Education for Harrison County Schools?

A. Yes.

Q. Did you have any communications with anybody on the elected Board of Education with regard to BPJ and her ability to participate in girls sports teams?

A. I've had no contact with anybody on the elected board.

Q. Have you had any communication with Dora Stutler

with regard to BPJ's ability to participate in school sports?

A. No.

Q. Was BPJ permitted to participate in summer conditioning with the Bridgeport Middle School cross-country team in the summer of 2021?

A. Yes.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY DENIKER:

Q. And it's my understanding that the Middle School cross-country team at Bridgeport Middle School does the summer conditioning where they run together.

Is that correct?

A. They --- they all condition together, but they separate out into groups, if that makes sense.

Q. How were those groups separated? Do you know?

A. Normally by speed in the conditioning environment.

Q. Are they separated by sex or gender in any way?

A. Only by boys team and girls team.

Q. And was BPJ permitted to run then with the girls teams in the girls groups?

A. Correct.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY DENIKER:

Q. Did you have any issues or concerns with how BPJ was treated concerning conditioning?

A. No. The coaches were very respectful of her pronouns and her transgender identity.

Q. And was that true for the entire cross-country season?

A. The coaches --- yes, the coaches were very much so, yes.

Q. So you had --- did BPJ have a positive experience participating on the girls cross-country team?

A. Yes.

Q. And so I got a little bit ahead of myself because we were talking about summer conditioning and then there were tryouts for cross-country.

Is that correct?

A. That's correct.

Q. And did that take place in August of 2021?

A. Yes.

Q. And BPJ tried out for the girls cross-country team.

Is that correct?

A. That is correct.

Q. And she was permitted to do so by the middle school.

Is that right?

A. That is correct.

Q. And was she selected for membership on the girls cross-country team?

A. That is correct.

Q. And I think I heard you testify earlier that she did compete through the whole season on the girls cross-country team.

Is that right?

A. That is correct.

Q. And she had a good experience doing that?

A. Yes, she did.

Q. Good. I'm glad to hear that. And I had to laugh when Mr. Tryon was asking you questions about where she placed because it's clear to me that he has never been to a middle school cross-country meet because they're just --- even in high school, there are just tons of kids and lots of runners, aren't there?

A. There's tons of them, yes.

Q. And just for the record, my kids never came in first or second either, so I understand that.

Who were the coaches for the cross-country team

this year at the Bridgeport Middle School?

A. Schoonmaker or Shumaker, I'm not sure how to pronounce her name, and I can't remember the names of the other two.

ATTORNEY BLOCK: Sorry. Just can you give me a five-second pause while I move to the other room. My son is about to come home from school.

ATTORNEY DENIKER: Absolutely. No problem.

ATTORNEY BLOCK: Shift over. All set.

ATTORNEY DENIKER: That was fast.

ATTORNEY BLOCK: Small apartment.

BY ATTORNEY DENIKER:

Q. Ms. Jackson, I was asking you about the Bridgeport cross-country coaches. Are the coaches the same for the girls and the boys teams?

A. Yes, they are.

Q. And was the head coach Danielle I think maybe it's Schoonmacher?

A. Yes.

Q. And then you said there were two other coaches. I think one of them may be Natalie McBriar?

A. Yes, that is one of them.

Q. Is that correct?

A. Yes.
Q. And do you who the other one was?
A. I can't remember her name.
Q. But your daughter would have interacted with these coaches throughout the season?
A. Correct.
Q. And didn't have any issue or problem with them. Is that correct?
A. That is correct.
Q. Did she have any issues or problems with other students on the cross-country team?
A. At one point she came home and reported that somebody had told her that she's not a real girl. I asked her at that point if she reported it to the coach and she said that she did.
Q. And do you know whether the situation was addressed by the coaches?
A. I do not know.
Q. Did you follow up with the coaches to discuss this concern?
A. I did not.
Q. Did you feel that BPJ had handled it herself and you were comfortable with that?
A. Oh, quite well, yes.

Q. And were there any issues after that with students, after BPJ raised this concern with the coaches?

A. There was not.

Q. If you thought that there was a further problem would you have gotten involved and either addressed it with either the coaches or school officials?

A. Most definitely.

Q. Is it fair to say you didn't think that was necessary?

A. Correct.

Q. That season is over now.

Is that correct?

A. That is correct.

Q. And is BPJ --- did she try out for any winter sports at the middle school?

A. No, she did not.

Q. Does she intend to try out for any spring sports?

A. Yes, she does.

Q. And what does she intend to try out for?

A. Track.

Q. And has --- have you had any communications with school officials about her ability to try out for track

this spring?

A. We have not.

Q. Is it your understanding that she will be permitted to try out for the girls track team?

A. I don't have an understanding whether she'll be permitted or not.

Q. Because you have not had any discussions.

Is that correct?

A. Correct.

Q. Let me talk more candidly about BPJ's school year. And I'm sorry if I already asked you this, but at the middle school she's I guess almost halfway through her sixth grade year.

Is that correct?

A. That is correct.

Q. And is she having a good school year?

A. She's having an excellent school year. After she learned her locker combination, everything went well.

Q. Right now all of us are having a flashback to middle school and the trauma that was remembering your locker code. I understand that, Ms. Jackson. And do you feel that the school has appropriately implemented the Gender Support Plan that you agreed upon?

A. Yes.
Q. And you don't have any issues or concerns with how school officials have treated BPJ this school year-to-date?
A. No.
Q. I want to follow up on a question that Mr. Tryon asked about cross-country meets this fall. You mentioned that some meets --- I think you called them one and done meets?
A. Yes.
Q. And I think you described that everybody --- they have the girls teams and the boys teams all run at one time.
Is that correct?
A. Correct, correct.
Q. And in those situations the boys teams are still competing against the boys teams and the girls teams are still competing against the girls teams.
Is that correct?
A. Yes. The statistics go towards the appropriate team.
Q. That was what I assumed was the case in those meets, but I just wanted to ask you. I haven't seen one of those, but I figured they still separated the results

by girls teams and boys teams.

Right?

A. Correct.

Q. And in those situations BPJ would have been listed on girls roster and would have been competing against other girls teams.

Correct?

A. That is correct.

Q. I did notice in one of the pictures that was provided through your counsel in discovery there were some pictures of BPJ at various cross-country meets this fall. It looks like she was having a good time.

Was that correct?

A. That is correct.

Q. I saw the one of her in the creek, and I will tell you that I have been there with my daughter and what a muddy mess. Huh?

A. Yes, very much so.

Q. But the middle school kids love it. I don't know if BPJ loved it, but I know that my daughter thought it was great to get muddy.

A. The creek crossing runs are her favorites.

Q. Let me just look at my notes here, Ms. Jackson. I'm almost done.

I want to go back briefly to your communications with Mr. Mazza about House Bill 3293. Mr. Mazza did not tell you that he agreed with that bill, did he?

A. He didn't say he agreed or disagreed.

Q. And did anybody employed by Harrison County Schools or any elected official of Harrison County Schools ever tell you that they agreed with House Bill 3293?

A. I've had no communication with anybody in that genre whether they agreed or disagreed.

Q. And that would include Superintendant Stutler, she also didn't tell you that she agreed with House Bill 3293.

Correct?

A. Yes, there has been no communication between me or her whether she agrees or disagrees.

ATTORNEY DENIKER: Ms. Jackson, thank you. I don't have any further questions at this time.

EXAMINATION

BY ATTORNEY MORGAN:

Q. Ms. Jackson, my name is Kelly Morgan and I

represent the West Virginia Board of Education and Superintendant Burch. Can you hear me okay?

A. Yes.

Q. All right.

I only anticipate a few questions here, so I don't anticipate going very long. But if you don't understand my question, please let me know. Otherwise, I'm going to assume that you understood my question if you answer my question.

Is that fair?

A. Okay. Yes.

Q. All right.

Had you ever had any discussions with anyone from the West Virginia Board of Education?

A. I have not.

Q. And when I say the West Virginia Board of Education, what does that mean to you?

A. I don't know how to answer that. That means the West Virginia Board of Education.

Q. Do you know what the West Virginia Board of Education is?

A. Yeah, the governing body of the board --- of the educational system.

Q. Can you describe that any more for me as to what

your understanding is?

A. No, I cannot.

Q. Do you know like the hierarchy of how that's set up at all?

A. No.

Q. Okay.

Do you know where they are in relation to say Harrison County Board of Education?

A. No.

Q. Fair enough.

A. Do you mean physically where they're located?

Q. No, not physically?

A. Oh, okay.

Q. Like as who might give direction to who?

A. Oh, okay. No.

Q. Or who does what or anything like that?

A. No.

Q. Okay. Fair enough.

I just wondered. Have you ever talked to Superintendant Burch?

A. No.

Q. Have you ever contacted his office?

A. No.

Q. Are you aware of anyone in your family who has

contacted the West Virginia Board of Education or Superintendant Burch?

A. I am not aware.

Q. Do you have any reason to believe that the West Virginia Board of Education had any specific role or involvement in the passage of House Bill 3293?

A. I don't know.

Q. You wouldn't know one way or another?

A. Nope.

Q. Okay.

And so if you never had any contact with the West Virginia Board of Education or Superintendant Burch, is it fair to say that you don't have any complaints of anything that they've done in this case with regard to BPJ?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Can you repeat the question?

BY ATTORNEY MORGAN:

Q. Sure. Let me even rephrase it a different way. Do you have any complaints as to anything that the West Virginia Board of Education has done with regard to BPJ?

A. Up to this point they have let her run on the girls cross-country team, so we're happy with that.

Q. And when you say they, who are you referring to?
A. The Board of Education. They have not --- because of the stay, they didn't tell her she couldn't run.
Q. And are you specifically referring to Harrison County Board of Education?
A. I'm referring to any Board of Education.
Q. You said earlier that you had never been contacted by anyone for BPJ to be, in essence, the spokesperson for transgender rights.
Is that right?
A. That's correct.
Q. Had you ever contemplated her being a spokesperson for transgender rights?
A. Heavens, no.
Q. You said that you had a family friend who also had a transgender, I believe male.
Is that right?
A. That's correct.
Q. What discussions have you had with that friend regarding transgender rights?
ATTORNEY BLOCK: Objection. Vague.
THE WITNESS: Yeah, I'm not sure how to answer that. I mean ---.

BY ATTORNEY MORGAN:

Q. As you sit here today, can you think of anything specific about things you might do to promote transgender rights?

A. What we would do as individuals to promote it?

Q. Yes.

A. Like publicly promote it?

Q. Sure.

A. No.

Q. Have you talked to this friend? And I forget her name.

A. Carolyn.

Q. Carolyn. Have you talked to Carolyn about this case?

A. No.

Q. Do you know whether [redacted] has talked to Carolyn or her transgender son, if I'm using that term correctly, about this case?

A. She has not.

ATTORNEY MORGAN: Ms. Jackson, those are all the questions that I have for you. Thank you.

And before someone questions, I think it was Tim possibly, I may be switching to a different device so just be patient if I drop off this for the

court reporter and all other counsel. I'll be joining on another device. Thank you again.

EXAMINATION

BY ATTORNEY DUCAR:

Q. Good afternoon, Ms. Jackson. I'm Tim Ducar and I represent Lainey Armistead, an intervenor in this case. You previously --- strike that.

Let's go back to this cross-country competition example that we were talking about because I am unfamiliar with it. Is this one and done competition everybody runs all at one time but the rankings are kept track somehow?

A. Correct.

Q. And you said the rankings are done in what manner?

A. Sometimes they have chips, sometimes it's done manually.

Q. So it is separated by gender or sex or is it separated by --- how are those separated?

A. Sorry. There's a huge echo.

ATTORNEY MORGAN: Sorry. That may have been me. I think I fixed it.

THE WITNESS: Okay.

I'm sorry. Mr. Ducar, could you repeat?

BY ATTORNEY DUCAR:

Q. How are the groups that are competing separated in those kinds of events?

A. I'm not sure how the logistics works. I've never worked an event where that happens, so I'm not sure how they do it.

Q. Okay.

But when BPJ ran in an event like that, I guess she only ran in one, would you describe her as not being first, not being second, not being last, but how?

A. I wouldn't know to tell you where she ranked.

Q. Okay.

On the times that she competed against --- on the girls team, she didn't end up first, second or last. Was she in the front of the pack? Was she in the back? How did she end up?

A. She was in the back of the pack.

Q. So the second 50 percent anyway.

Correct?

A. She was not in the top 50 percent.

Q. She still enjoyed herself.

Right?

A. She had a blast.
Q. You previously testified that BPJ was born a male. Can you please explain what you meant when you said BPJ was born a male?
A. She was born as a male in that she was designated male at birth because she had a penis when she was born.
Q. Is there any other characteristics that would conclude you to say BPJ was born a male?
A. No. That is how they're identified when you give birth. They look at the genitalia and tell you it's a boy or a girl.
Q. You previously testified the reason BPJ is female is based upon BPJ's identification as a female. In your view, how does someone know what they identify as?
A. She knows that she's a female just like I know that I'm a female and you know that you're a male.
Q. So it's something somebody knows internally. Correct?
A. Yes. She knows that she's a female.
Q. And the way one identifies whether or not they're male or female is their internal thought about that.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Their internal thought and their outward thought.

BY ATTORNEY DUCAR:

Q. How they act, is that what you're saying?

A. How they express themselves, if they come out and say that I am a female.

Q. Very well.

You testified earlier that someone who identifies as a female should be able to run on girls cross-country teams. Do you think it's true even if the person was born a biological male and has not taken puberty blockers?

A. Yes.

Q. Earlier you testified that BPJ showed female characteristics at about age three. What are female characteristics that she would have --- or that BPJ displayed?

A. Her mannerisms, her choice of clothing, limited vocabulary but able to say that she's a girl, expressing concern over the fact that she had a penis.

Q. I presume you supported her the entire time when she was showing these characteristics?

A. Yes, I nurtured her.
Q. Did you ever dissuade BPJ's from these characteristics?
A. Nope.
Q. Have you ever?
A. Nope.
Q. How do you feel about BPJ's transitioning?
A. I think she's a beautiful little girl.
Q. Do you think her desire to transform is permanent?
A. Yes.
Q. What happens if BPJ changes BPJ's mind and wants to transition back?
ATTORNEY BLOCK: Objection to form.
BY ATTORNEY DUCAR:
Q. Would you support that?
A. I would support her true self, however she chooses live authentically.
Q. So would you support de-transitioning if that is what BPJ wanted to do?
A. If some day she came to me and said she chose to de-transition, yes, I would support her.
Q. Does the fact that BPJ wants to transition or is transitioning causing you any anxiety?

A. Just worried about any sort of discrimination that she may face.
Q. Anything else?
A. No.
Q. Is it causing your husband any anxiety?
A. You would have to ask him.
Q. None that you're aware of?
A. It seems that he's doing just fine.
Q. Is it causing BPJ any anxiety?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: If she gets misgendered, she's upset.
BY ATTORNEY DUCAR:
Q. Is there anything else about the transitioning that causes her anxiety?
A. No. She's happy to transition.
Q. How about this lawsuit, is this lawsuit causing you anxiety?
A. The whole process of it is quite overwhelming.
Q. Is it causing your husband anxiety?
A. You would have to ask him on that one.
Q. Is it causing BPJ anxiety?
A. Not that I know of.
Q. Has your husband told you about how he feels

about BPJ's desire to transition?
A. I know that he supports her.
Q. Do you have any hesitation about BPJ's interest in socially or medically transitioning?
A. Can you repeat that, please?
Q. Do you have any hesitation about BPJ's interest in socially or medically transitioning?
A. No hesitation.
Q. Have you encouraged BPJ's interest in transitioning?
A. I have helped ---.
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I have helped her in her desire to transition.
BY ATTORNEY DUCAR:
Q. So that would be yes.
Correct?
A. I helped her in her desire to transition.
Q. Have you encouraged her?
A. I have helped her.
ATTORNEY BLOCK: Objection to the form.
BY ATTORNEY DUCAR:
Q. So you have not encouraged BPJ?
A. I wouldn't use the word encourage.

Q. Do you think it's important that team sports have fair rules?

ATTORNEY BLOCK: Objection to form.

ATTORNEY DUCAR: Excuse me. What is wrong with the form? That's a simple question.

ATTORNEY BLOCK: I think the fair rules is vague.

ATTORNEY DUCAR: Okay. Thank you.

BY ATTORNEY DUCAR:

Q. So I'll ask it again. Ms. Jackson, do you think it's important that team sports have fair rules?

A. I think rules are necessary in society.

Q. Do you think it's important that team sports have fair rules?

A. What constitutes fair?

Q. Well, that's a good question. Okay. I'll move on then.

Do you have any long-term treatment goals for BPJ?

A. Well, I hope she'll continue her blockers until she's ready for her next step, whatever she and her doctors decide that need be.

Q. You're going to follow the medical advice of the doctors.

Correct?

A. Correct.

Q. Whose idea was it for BPJ to start puberty blockers?

A. She expressed her desire to start the puberty blockers. She was concerned about her body producing male hormones.

Q. Earlier you testified that Dr. Montano talked to you about risks of puberty blockers.

Did you understand what he said?

A. Yes.

Q. Did BPJ understand what he said?

A. Yes.

Q. And do you understand the long-term ramifications of BPJ taking puberty blockers?

A. As I read the package insert.

Q. What do you understand the risks to be of cross sex hormones?

A. I don't understand the question.

Q. You talked about hormone therapy throughout this deposition.

Correct?

A. Correct.

Q. What do you define as hormone therapy?

A. Well, in her particular case she will be receiving female hormones.
Q. Do you understand the risks of her taking female hormones?
A. Yes.
Q. Does [redacted]?
A. Yes.
Q. And you understand the long-term ramifications of BPJ taking these hormones.
Correct?
A. I know there are risks.
Q. And BPJ knows those as well.
Right?
A. There are risks, yes.
Q. What are those risks?
A. Possibility of increased chance of cancer.
Q. Anything else?
A. Non-reversible characteristics.
Q. For example, what would that be?
A. Decreased size in testes.
Q. Anything else?
A. If she would eventually want to go off the hormones, a decreased size in breasts.
Q. Anything else?

A. Those are the biggies.
Q. Earlier I did not hear that Dr. Montano talked about the risks of testosterone. Did Dr. Montano talk to you about the risks of testosterone?
A. She's not taking testosterone.
Q. Did Dr. Montano ever talk to you about that?
A. She won't be taking testosterone.
Q. Does that mean no?
A. No, because she's not taking testosterone.
Q. Has any medical professional talked to you about the risks of taking testosterone?
A. No, because she wouldn't be taking testosterone.
Q. Is BPJ eligible to compete on Bridgeport Middle Schools cross-country team, girls?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: She was permitted to participate this past season.
BY ATTORNEY DUCAR:
Q. Bridgeport Middle School has a boys cross-country team.
Correct
A. Correct.
Q. Is BPJ eligible to compete on Bridgeport Middle School's boys cross-country team?

A. She would not participate.
Q. Do you know if BPJ is eligible to do so?
A. It was irrelevant to the conversation in regards that she would refuse to try out for the boys cross-country team.
Q. So is it fair to say you're not sure?
A. I don't know if she would be eligible.
Q. I believe in your Declaration you said that BPJ's running on a boys cross-country team is not an option. What did you mean by that?
A. She will not be running on a boys cross-country team. She has exhibited absolutely no desire to run on a boys cross-country team.
Q. Are there situations where it would be not fair to allow a male, a biological male, to run on a girls cross-country team?
A. Can you repeat the question?
Q. Are there situations where it would be not fair to allow a biological male to run on a girls cross-country team?
A. If a biological male identifies as a female they should be allowed to run on a girls cross-country team or play girls sports.
Q. Okay.

But my question is, is there a situation where it wouldn't be fair to allow that to happen?

A. I guess I don't understand how the wording of it --- it's almost like you are using a double negative. I'm not understanding the question.

Q. Is it --- can you think of a situation where it would be unfair to allow a biological male to run on a girls cross-country team?

A. No, I can't think of a situation.

ATTORNEY DUCAR: Thank you, Ms. Jackson. I have nothing further for you.

ATTORNEY TRYON: I have two follow-up questions.

RE-EXAMINATION

BY ATTORNEY TRYON:

Q. You indicated that ---.

ATTORNEY DUCAR: I'm sorry. Can I interrupt?

ATTORNEY TRYON: Yes.

ATTORNEY DUCAR: I have like three other questions that I forgot about. I'm sorry to interrupt.

ATTORNEY TRYON: Okay. Go ahead.

ATTORNEY DUCAR: All right. Do you need a break, Heather?

THE WITNESS: I just need to get a little more water. I'm out.

ATTORNEY DUCAR: Okay.

I'm changing my mind. I've already handled these questions, so I'm sorry for interrupting and now I have no further questions.

THE WITNESS: Got it.

BY ATTORNEY TRYON:

Q. Two quick questions. You indicated during some of the other questioning that BPJ intends to or wants to run in track this next year.

Is that right?

A. That is correct.

Q. Do you know which events that BPJ wants to or intends to run in this next year?

A. She's interested in distance running.

Q. Can you be more specific?

A. The mile, two-mile.

Q. Any others?

A. She's not really experienced any of the other events in track because this would be her first year to be exposed to them. So she hasn't really raised any

desire because she hasn't experienced them.

Q. Okay.

So what about cross-country, does BPJ want to do them again?

A. Oh, yes.

Q. Great. Then when running in these meets, these cross-country meets, it's my understanding that BPJ was competing against both sixth, seventh and eighth graders.

Is that right?

A. That is correct.

Q. Ninth graders?

A. No.

Q. That's true for all cross-country that BPJ's grade levels.

Right?

A. That is correct.

ATTORNEY TRYON: Thank you. I have no further questions with the caveat in the event that we need to reopen this upon delivery of additional documents we would want to continue this deposition. Other than that, I have no other questions.

ATTORNEY BLOCK: And Plaintiff would object to any continuation of the deposition.

ATTORNEY GREEN: On behalf of WVSSAC I have no further questions. Thank you, Ms. Jackson.

THE WITNESS: Thank you.

ATTORNEY DENIKER: I have no further questions. Thank you for your time today, Ms. Jackson.

THE WITNESS: Thank you.

ATTORNEY MORGAN: I have no further questions. Thank you so much.

THE WITNESS: Thank you.

ATTORNEY DUCAR: I have nothing further. Thank you so much.

THE WITNESS: Thank you.

ATTORNEY BLOCK: And the witness will review the transcript in accordance with the Rules.

VIDEOGRAPHER: If there are no further questions, then that this concludes the deposition. The time reads 4:49 p.m.

* * * * * * *

VIDEOTAPED VIDEOCONFERENCE DEPOSITION

CONCLUDED AT 4:49 P.M.

* * * * * * *

STATE OF WEST VIRGINIA)

CERTIFICATE

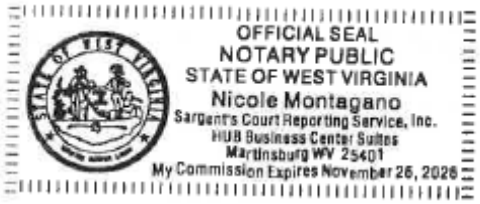
I, Nicole Montagano, a Notary Public in and for the State of West Virginia, do hereby certify:

That the witness whose testimony appears in the foregoing deposition, was duly sworn by me on said date, and that the transcribed deposition of said witness is a true record of the testimony given by said witness;

That the proceeding is herein recorded fully and accurately;

That I am neither attorney nor counsel for, nor related to any of the parties to the action in which these depositions were taken, and further that I am not a relative of any attorney or counsel employed by the parties hereto, or financially interested in this action.

I certify that the attached transcript meets the requirements set forth within article twenty-seven, chapter forty-seven of the West Virginia.



Nicole Montagano,

Court Reporter

Dr. Mark A. Manchin
Superintendent

– Confidential –

Gender Support Plan

The purpose of this document is to create shared understandings about the ways in which the student's authentic gender will be accounted for and supported at school. School staff, caregivers and the student should work together to complete this document.

School/County Norwood Elementary- Harrison Today's Date 8-23-19
Name Student Uses: [redacted] Name on Birth Certificate: [redacted]
Student's Gender Identity female Assigned Sex at Birth Male Student Grade Level 4th
Student's DOB: [redacted]
Parent(s), Guardian(s), or Caregiver(s) /relation to student
Heather Jackson / Wesley Pepper / / /
Meeting participants: Sarah Starkey, Heather Jackson, [redacted]
Tara Shields, Jasmine Louther, Nurse Tina.

PARENT/GUARDIAN INVOLVEMENT

Are guardian(s) of this student aware and supportive of their child's gender status? X Yes ___ No

If not, what considerations must be accounted for in implementing this plan? Mom very supportive, dad has struggled but coming around. Seeking outside help through Church and Paternal side of family's help/support

CONFIDENTIALITY, PRIVACY AND DISCLOSURE Molly Oberfechter-Leggett- WVU

How public or private will information about this student's gender be (check all that apply)?

X County staff will be aware (Superintendent, Student Support Services, District Psychologist, etc.)
Specify the adult staff members: Dr. Manchin, Sarah Starkey

X Site level leadership/administration will know (Principal, counselor, etc.)
Specify the adult staff members: Tara Shields and school counselors

X Teachers and/or other school staff will know
Specify the adult staff members: All teachers

___ Student will not be openly "out," but some students are aware of the student's gender
Specify the students:

X Student is open with others (adults and peers) about gender

___ Other – describe: [redacted] is comfortable with others knowing her Gender Identity and transition. ~~to~~

EXHIBIT tabbies WV-17

If the student has asserted a degree of privacy, what steps will be taken if that privacy is compromised, or is believed to have been compromised?

N/A

[redacted]

How will a teacher/staff member respond to any questions about the student's gender from:

Other students? Be open and honest- she is [redacted] and that makes her happy.

Staff members? Be open and honest- she is [redacted], and that makes her happy.

Parents/community? Be open and honest- She is [redacted] and that makes her happy

STUDENT SAFETY

Who will be the student's "Trusted Adult" at School? feels comfortable with All teachers →

If this person is not available, what should student do? feels comfortable with All teachers.

We showed classrooms with "Safe Space" stickers.

What are expectations in the event the student is feeling unsafe and how will student signal their need for help:

During class Raise hand / Get up and walk to teacher - Yell help

Field Trips - find closest trusted Adult Yell help

In the halls "

Other

Other safety concerns/questions: [redacted] feels safe and comfortable and very much supported.

What should the student's parents do if they are concerned about how others are treating their child at school?

Mom and/or Dad Will Contact Tara Shields.

NAMES, PRONOUNS AND STUDENT RECORDS

What name and gender marker are listed on the student's identity documents? [redacted]

Name/gender marker entered into the Student Information System male male but [redacted] in ( )

Name to be used when referring to the student [redacted] Pronouns her, She, hers

Can the student's name/gender marker be reflected in the SIS? If so, how? If not, why not?

Gender will be male but [redacted] will be in ( ) next to birth name.

If not, what adjustments can be made to protect this student's privacy (see below)?

Who will be the point person at school for ensuring these adjustments are made and communicated as needed?

Tara Shields

How will instances be handled in which the incorrect name or pronoun are used by staff members?

If Intentional- Will be Addressed by Principal and or/CO

By students? [redacted] Will Report to teacher, Mrs. Shields, Counselor if continues to be intentional.

[redacted]

If unable to change the student's profile in the student information system, how will the student's privacy be accounted for and maintained in the following situations or contexts:

During registration _____

Completing enrollment _____

With substitute teachers - Jasmine will leave info in plans for sub teacher.

Standardized tests Populated in Wevis

School photos Name [redacted] will be used

IEPs/Other Services _____

Student cumulative file Populated in Wevis

After-school programs _____

Lunch lines _____

Taking attendance [redacted] will be in ( )

Teacher grade book(s) Live Grades populated from Wevis

Official school-home communication _____

Unofficial school-home communication (PTA/other) _____

Outside district personnel or providers _____

Summons to office Staff will use name [redacted]

Yearbook [redacted]

Student ID/library cards What parents fill out on picture form

Posted lists _____

Distribution of texts or other school supplies _____

Assignment of IT accounts/email address _____

PA announcements _____

If the student's guardians are not aware and/or supportive of the student's gender status, how will school-home communications be handled?

Parents are supportive

What are some other ways the school needs to anticipate the student's privacy being compromised? How will these be handled?

maintain confidentiality and handle as needed.

USE OF FACILITIES

Student will use the following bathroom(s) at school: In teacher lounge. first on on (R)
" "

Student will change clothes in the following place(s) _____

If student/parent have questions/concerns about facilities, who should they contact? Tara Shields

What are the expectations regarding the use of facilities for any class trips? Use family/Gender nutural Bathroom. Go to teacher & teacher make sure Bathroom empty (female) if No Gender nuturel Bathroom.

What are the expectations regarding rooming for any overnight trips? _____

Are there any questions or concerns about the student's access to facilities? _____

No

[redacted]

EXTRA CURRICULAR ACTIVITIES

In what extra-curricular programs or activities will the student be participating (sports, theater, clubs, etc)?
[redacted] is on a Cheerleading team Outside of School. Strings or Choir are optional.

What steps will be necessary for supporting the student there? N/A

Does the student participate in an after-school program? N/A

What steps will be necessary for supporting the student there? N/A

Questions/Notes:

OTHER CONSIDERATIONS

Does the student have any sibling(s) at school? Factors to be considered regarding sibling's needs?
Not at Norwood- brother is in Middle School BMS

Does the school have a dress code? Yes How will this be handled?
Not gender specific- No short shorts, or spaghetti straps common sense.

Are there lessons, units, content or other activities coming up this year to consider (growth and development, swim unit, social justice units, name projects, dance instruction, Pride events, school dances etc.)?

N/A Plan will be Reviewed At least Yearly.
Health Education will be discussed next year.

Are there any specific social dynamics with other students, families or staff members that need to be discussed or accounted for?
No

What training(s) will the school engage in to build capacity for working with gender-expansive students? How will the school work to create more gender inclusive conditions for all students? Norwood Staff Recieved training on tolerence and cultural Diversity and LGBTQ+IA on 8/21 and Provided Protocol and multiple Resource Sources.

Does the student use school- or district-provided transportation services? If so, how will the student's gender be accounted for?
Bus Driver Randy # 234 Will be educated that [redacted] is name to be used and of Chosen Pronouns.

[redacted]

Are there any other questions, concerns or issues to discuss? N/A

SUPPORT PLAN REVIEW AND REVISION

How will this plan be monitored over time? Reviewed At least Yearly but Can be Revisited at anytime within school Year if needed.

What will be the process should the student, family, or school wish to revisit any aspects of the plan (or seek additions to the plan)? Contact Tara Shields or teacher.

What are specific follow-ups or action items emerging from this meeting and who is responsible for them?

Action Item	Who?	When?
N/A		

Date/Time of next meeting or check-in _____ Location _____

Will schedule at End of School Year for next School year.

Sarah Starkey MSW, LGSW

[redacted]

Jane Cullen

Jack Shields

Jasmine Smith

[redacted]

HARDISON COUNTY BOARD OF EDUCATION

Dora L. Stutler
Superintendent

– Confidential –

Gender Support Plan

The purpose of this document is to create shared understandings about the ways in which the student's authentic gender will be accounted for and supported at school. School staff, caregivers and the student should work together to complete this document.

School/County Bridgeport Middle – Harrison Today's Date 5/18/21
Name Student Uses: [redacted] Name on Birth Certificate: [redacted]
Student's Gender Identity female Assigned Sex at Birth male Student Grade Level 6th
Student's DOB: [redacted]
Parent(s), Guardian(s), or Caregiver(s) /relation to student
Heather Jackson / Wesley Pepper / /
Meeting participants: Tarra Shields, Amber Davis, David Mazza, Lauren Merrill, Heather Jackson, [redacted]

PARENT/GUARDIAN INVOLVEMENT

Are guardian(s) of this student aware and supportive of their child's gender status? ✓ Yes ___ No
If not, what considerations must be accounted for in implementing this plan? _____

CONFIDENTIALITY, PRIVACY AND DISCLOSURE

How public or private will information about this student's gender be (check all that apply)?

X County staff will be aware (Superintendent, Student Support Services, District Psychologist, etc.)
Specify the adult staff members: Dora Stutler, Sarah Starkey

X Site level leadership/administration will know (Principal, counselor, etc.)
Specify the adult staff members: Mr. Mazza, Mr. Oldaker, and Laneen Merrill

X Teachers and/or other school staff will know
Specify the adult staff members: All teachers

___ Student will not be openly "out," but some students are aware of the student's gender
Specify the students:

X Student is open with others (adults and peers) about gender

X Other – describe: [redacted] is comfortable with others knowing her Gender Identity and transition.

EXHIBIT tabbies WV-19

If the student has asserted a degree of privacy, what steps will be taken if that privacy is compromised, or is believed to have been compromised?
N/A

[redacted]

How will a teacher/staff member respond to any questions about the student's gender from:

Other students? Be open and honest - she is [redacted] and that makes her happy.

Staff members? Be open and honest - she is [redacted] and that makes her happy

Parents/community? Be open and honest - she is [redacted] and that makes her happy

STUDENT SAFETY

Who will be the student's "Trusted Adult" at School? Mr. Mazza & Mrs. Merrill

If this person is not available, what should student do? find teacher(s) that Becky feels comfortable speaking with.

What are expectations in the event the student is feeling unsafe and how will student signal their need for help:

During class Raise hand / Get up and walk to teacher - yell help

Field Trips find closest trusted adult; yell help

In the halls "

Other "

Other safety concerns/questions [redacted] feels safe and comfortable and very much supported.

What should the student's parents do if they are concerned about how others are treating their child at school?

Mom and/or Dad will contact Mr. Mazza.

NAMES, PRONOUNS AND STUDENT RECORDS

What name and gender marker are listed on the student's identity documents? [redacted]

Name/gender marker entered into the Student Information System male [redacted] in ( )

Name to be used when referring to the student [redacted] Pronouns her, she, hers

Can the student's name/gender marker be reflected in the SIS? If so, how? If not, why not?

Gender will be male but [redacted] will be in ( ) next to birth name

If not, what adjustments can be made to protect this student's privacy (see below)?

Who will be the point person at school for ensuring these adjustments are made and communicated as needed?

David Mazza

How will instances be handled in which the incorrect name or pronoun are used by staff members? If intentional - will be addressed by Principal and/or Counselor

By students? "

[redacted] will report to teacher, Mr. Mazza, counselor if it continues to be intentional.

[redacted]

If unable to change the student's profile in the student information system, how will the student's privacy be accounted for and maintained in the following situations or contexts:

During registration

Completing enrollment

With substitute teachers Teachers will leave info in plans for sub teacher

Standardized tests Populated in MVEIS

School photos Name [redacted] will be used

IEPs/Other Services

Student cumulative file Populated in MVEIS

After-school programs

Lunch lines populated in MVEIS

Taking attendance [redacted] will be in ( )

Teacher grade book(s) LoveGrades populated from MVEIS

Official school-home communication

Unofficial school-home communication (PTA/other)

Outside district personnel or providers

Summons to office Staff will use name [redacted]

Yearbook [redacted]

Student ID/library cards What parents fill out on picture form.

Posted lists

Distribution of texts or other school supplies

Assignment of IT accounts/email address

PA announcements

If the student's guardians are not aware and/or supportive of the student's gender status, how will school-home communications be handled?

Parents are supportive

What are some other ways the school needs to anticipate the student's privacy being compromised? How will these be handled?

maintain confidentiality and handle as needed.

USE OF FACILITIES

Student will use the following bathroom(s) at school: In Counselor's/Nurse's Suite

Student will change clothes in the following place(s) " "

If student/parent have questions/concerns about facilities, who should they contact? David Mazza

What are the expectations regarding the use of facilities for any class trips? Use family/Gender neutral bathroom. Go to teacher & teacher make sure female bathroom is empty if no gender/neutral bathroom option.

What are the expectations regarding rooming for any overnight trips?

Are there any questions or concerns about the student's access to facilities? NO

[redacted]

EXTRA CURRICULAR ACTIVITIES

In what extra-curricular programs or activities will the student be participating (sports, theater, clubs, etc)?
Cross Country and Track

What steps will be necessary for supporting the student there? ~~N/A~~ Coaches would need to be aware of [redacted] transition. If teammates have questions, they could approach the coach or administration.

Does the student participate in an after-school program? ~~N/A~~ Cross Country, Track, Band.

What steps will be necessary for supporting the student there? Teacher would need to be aware of transition and also feel comfortable with answering any student questions. If not, students can ask administration or counselor.

Questions/Notes:

OTHER CONSIDERATIONS

Does the student have any sibling(s) at school? Factors to be considered regarding sibling's needs?
Brother at Bridgeport Middle School.

Does the school have a dress code? Yes How will this be handled?
Not gender specific - No short shorts or spaghetti straps; common sense

Are there lessons, units, content or other activities coming up this year to consider (growth and development, swim unit, social justice units, name projects, dance instruction, Pride events, school dances etc.)? Plan will be reviewed at least yearly.

Are there any specific social dynamics with other students, families or staff members that need to be discussed or accounted for?
NO

What training(s) will the school engage in to build capacity for working with gender-expansive students? How will the school work to create more gender inclusive conditions for all students? BMS will receive training on tolerance and cultural diversity and LGBTQ as arranged by Mr. Mazza during upcoming ~~next~~ school year.

Does the student use school- or district-provided transportation services? If so, how will the student's gender be accounted for? Bus #281 Mr. Hollansworth and #294 Mr. Lantz will be informed of name being [redacted] and preferred pronouns.

[redacted]

Are there any other questions, concerns or issues to discuss? N/A

SUPPORT PLAN REVIEW AND REVISION

How will this plan be monitored over time? Plan will be renewed yearly but can be revisited at any time per request.

What will be the process should the student, family, or school wish to revisit any aspects of the plan (or seek additions to the plan)? Contact Mr. Mazza

What are specific follow-ups or action items emerging from this meeting and who is responsible for them?

Action Item	Who?	When?
N/A		

Date/Time of next meeting or check-in _____ Location _____

Meeting will be scheduled at end of school year for next school year..

Lauren Merrill, BMS Counselor

5-18-2021

[redacted]

D. B. Mazza

[redacted]

Amber Davis

[redacted]

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON DIVISION

* * * * * * * * *

B.P.J., by her next friend and Mother, HEATHER JACKSON, Plaintiff	*	Case No.
vs.	*	2:21-CV-00316
WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official Capacity as State Superintendent, DORA STUTLER in her official Capacity as Harrison County Superintendent, PATRICK MORRISEY In his official capacity as Attorney General, and THE STATE OF WEST VIRGINIA, Defendants	*	VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF ARON JANSSEN, M.D. April 4, 2022

VIDEOTAPED VIDEOCONFERENCE DEPOSITION

OF

ARON JANSSEN, M.D., taken on behalf of the Defendant, State of West Virginia herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Lacey C. Scott, a Court Reporter and Notary Public in and for the State of West Virginia, on Thursday, April 4, 2022, beginning at 9:09 a.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
ELIZABETH REINHARDT, ESQUIRE
VALERIA M. PELE DEL TORO ESQUIRE
Cooley, LLP
3 Embarcadero Center, 20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

SRUTI SWAMINATHAN, ESQUIRE
Lambda Legal
120 Wall Street, 19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

DAVID TRYON, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

SUSAN DENIKER, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and HARRISON COUNTY SUPERINTENDENT DORA STUTLER

A P P E A R A N C E S (cont'd)

KELLY C. MORGAN, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and SUPERINTENDANT W. CLAYTON BURCH

RACHEL CSUTOROS, ESQUIRE
Alliance Defending Freedom
15100 North 90th Street
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

TRAVIS C. BARHAM, ESQUIRE
LAWRENCE WILKINSON, LAW CLERK
1000 Hurricane Shoals Road NE
Suite D 1100
Lawrenceville, GA 30043
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

I N D E X

EXHIBIT PAGE

EXHIBIT PAGE

EXHIBIT PAGE

OBJECTION PAGE

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S T I P U L A T I O N

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not waived.)

P R O C E E D I N G S

ATTORNEY BARHAM: Counsel has stipulated that our court reporter present this morning can swear in the witness, so I will let the court reporter take care of that.

ARON JANSSEN, M.D.,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDINGS, AND HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS FOLLOWS:

VIDEOGRAPHER: My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is April 4th, 2022. The time on the video monitor reads 9:09 a.m. This deposition is being taken remotely by

Zoom conference. The caption is in the United States District Court for the Southern District of West Virginia, Charleston Division, BPJ, et al., versus West Virginia State Board of Education, et al. Civil Action Number 2:21-CV-00316. The name of the witness is Aron Janssen. Will the attorneys present state their names and the parties they represent?

ATTORNEY BARHAM: My name is Travis Barham. I represent the intervenors in this case. And with me is Lawrence Wilkinson.

ATTORNEY CSUTOROS: Rachel Csutoros also for intervenor.

ATTORNEY TRYON: This is David Tryon of the West Virginia Attorney General's Office, representing the State of West Virginia.

ATTORNEY DENIKER: Good morning. Susan Deniker. Counsel for Defendants Harrison County Board of Education and Superintendent Dora Stutler.

ATTORNEY MORGAN: This is Kelly Morgan on behalf of the West Virginia Board of Education and Superintendent Burch.

ATTORNEY GREEN: This is Roberta Green here on behalf of West Virginia Secondary School Activities Commission.

ATTORNEY BLOCK: For Plaintiff BPJ, this is Josh Block from the ACLU.

ATTORNEY SWAMINATHAN: This is Sruti Swaminathan from Lambda Legal on behalf of Plaintiff.

ATTORNEY HARTNETT: Good morning. This is Kathleen Hartnett at Cooley on behalf of Plaintiff.

ATTORNEY BARR: Andrew Barr from Cooley on behalf of Plaintiff.

ATTORNEY PELET DEL TORO: Good morning. This is Valeria Pelet Del Toro from Cooley on behalf of Plaintiff.

ATTORNEY REINHARDT: This is Elizabeth Reinhardt from Cooley on behalf of Plaintiff.

VIDEOGRAPHER: If that's everyone, the witness has already been sworn in and we can begin.

EXAMINATION

BY ATTORNEY BARHAM:

Q. Good morning, Dr. Janssen.

A. Good morning.

Q. Have you ever had a deposition before?

A. No.

Q. All right.

I'm going to ask you a series of questions about this case and your involvement in it. Do your best to answer audibly. Just nodding the head, while it can be captured on video cannot be captured by our court reporter, and so we'll try to make her life as easy as possible.

I'm going to do my best to wait until you finish an answer before starting the next question. And I will ask that you do the same. We'll probably violate that rule a few times, but cross talk doesn't translate well on the record. So if you need to take a break at any time today, please let me know and we will do our best to facilitate that as quickly as possible. I know we need to take a break at two o'clock.

A. I think about 2:30, 2:45, something like that.

Q. Okay.

You just let us know when you need to take it. All right.

ATTORNEY BARHAM: I'm going to show you a document we're going to mark as Exhibit-1. This will be Tab 90 for online purposes.

(Whereupon, Exhibit 1, Expert Report, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is a copy of your expert report in this case.

Is that correct?

A. Yes, that is correct.

Q. If you'll turn to the first page of your CV. It's probably page 21 of this document. Do you have ---?

VIDEOGRAPHER: This is the videographer. Can I ask Counsel to speak up? You are kind of getting cutoff at the end of your sentences.

ATTORNEY BARHAM: Pardon. I will do my best.

BY ATTORNEY BARHAM:

Q. Do you have a degree in adult psychiatry?

A. There is not a degree in psychiatry.

Q. Okay.

So your academic training in psychiatry began with your psychiatry residency? Is that how it works?

A. I did a medical degree, where there is psychiatry training and then a residency in adult psychiatry and a fellowship in child psychiatry.

Q. Do you consider yourself trained and

professionally competent in using the American Psychiatric Association's Diagnostic and Statistical Manual, DSM-V, to make child and adolescent metal illness or psychiatric diagnoses generally beyond just gender dysphoria?

A. Yes.

Q. Do you have any residency or fellowship in pediatrics?

A. No.

Q. Do you have any residency or fellowship in endocrinology?

A. No.

Q. Do you have any training in sports physiology?

A. No.

Q. Do you have any training in sports medicine?

A. No.

Q. Have you published any papers, conducted any research or given any lectures relating to sports physiology?

A. No.

Q. Have you published any papers, conducted any research or given any lectures relating to sports medicine?

A. No.

Q. Have you published any papers, conducted any research or given any lectures relating to male physiological advantages in athletics before, during or after puberty?

A. No.

ATTORNEY BLOCK: Objection to form. You can answer.

BY ATTORNEY BARHAM:

Q. Have you published any papers, conducted any research or given any lectures relating to the impact of any drugs or hormones on athletic performance?

A. No.

Q. Have you published any papers, conducted any research or given any lectures relating to the impact of testosterone suppression on athletic performance?

A. No.

Q. Have you published any papers, conducted any research or given any lectures relating to the effect of transsex surgeries on athletic performance?

A. No.

ATTORNEY BLOCK: Objection. Objection to terminology.

BY ATTORNEY BARHAM:

Q. Have you published any papers, conducted any

research or given any lectures relating to the safety issues and risks to women associated with transgender participation in female athletics by male athletes?

ATTORNEY BLOCK: Objection to form. Sorry, objection to form.

THE WITNESS: Yeah, I think there's a bit of a premise in there that I don't agree with, but I have not given any lectures about transgender participation in sports.

BY ATTORNEY BARHAM:

Q. Do you consider --- do you have any professional expertise related to the concept of fairness?

A. I do not.

Q. Do you have any professional expertise on the definition of fairness?

A. I do not.

Q. Would you agree that fairness is an elusive, subjective concept with malleable boundaries?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I do not have an opinion on the definition of fairness.

BY ATTORNEY BARHAM:

Q. Have you treated or personally examined BPJ?

A. I have not.

Q. You have no direct knowledge as to what Tanner stage BPJ started puberty blockers at the age.

Correct?

A. Correct.

Q. You do not know how BPJ's physiology or athletic capabilities compare with genetic females at the same age?

A. I do not.

ATTORNEY BLOCK: Objection to terminology.

BY ATTORNEY BARHAM:

Q. This report, Exhibit-1 of 20 pages sets out the complete statement of all opinions that you will testify to at trial.

Correct?

A. Which report are you referring to?

Q. The report in front of you, Exhibit-1, Tab 90.

A. And can you repeat the question? Sorry.

Q. This report sets out a complete statement of all opinions that you will testify to at trial.

Correct?

A. I do not know the answer to that. I mean, I would assume so, but I don't know. I've never been in a trial, so I don't know if there will be questions asked

outside of this document.

Q. Does this report identify all facts and data that you considered in forming the opinions that you set forth in your report?

A. I wouldn't say it has all facts because I don't think it is possible to include all facts in an expert report, but the relevant facts, yes.

Q. This includes the facts that you'll rely on in supporting those opinions.

Correct?

A. That's correct.

Q. Does your report set out all the reasons for the opinions that you propose to offer?

A. Yes.

Q. Your footnotes cite to I believe 32 scientific or professional articles and you reference some others in your CV. Are those all the articles that form the basis of the opinions you propose to offer?

A. No.

Q. What other articles form the basis of the opinions you propose to offer?

A. I guess the question is what has formed my professional expertise around gender health, and I've read a lot that aren't necessarily going to be apropos

to this specific report.

Q. But those are the articles that you cited and referenced in this document are those that you relied upon as the basis of opinions that you intend to offer.

Correct?

A. That is correct.

Q. You currently serve as the Clinical Associate Professor of Child and Adolescent Psychiatry.

Correct?

A. Yes.

Q. And what institution is that with?

A. It is with Northwestern University Feinberg School of Medicine, and Ann and Robert H. Lurie Children's Hospital of Chicago.

Q. And how much of your time in this position is related to discussing or treating gender dysphoric children and adolescents?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: It's hard to quantify. Probably about 40 percent of my time is allocated in some way to either clinical care, research or academics around gender health.

BY ATTORNEY BARHAM:

Q. And what is your compensation for this position?
A. It is roughly $265,000 a year in salary.
Q. You also serve as the Vice Chair of the Pritzker Department of Psychology and Behavioral Health at the Ann and Robert H. Lurie Children's Hospital of Chicago.
Correct?
A. That's correct.
Q. And how much of your time in this position is related to discussing or treating gender dysphoric children and adolescents?
ATTORNEY BLOCK: Objection to terminology.
THE WITNESS: Again, it is hard to parse out what specific about my leadership role is around gender health but it is a minority of my day-to-day work in that role.
BY ATTORNEY BARHAM:
Q. Do you have an approximate percentage?
A. No.
Q. Twenty-five (25) percent, more or less?
A. Probably ten percent.
Q. Ten percent. Okay.
And what is your compensation for that

position?

A. I get a stipend of around $30,000.

Q. You currently serve as the Medical Director of Outpatient Psychiatric Services at the Lurie Children's Hospital of Chicago.

Is that correct?

A. That;s correct.

Q. And how much of your time in this position is related to discussing or treating gender dysphoric children and adolescents?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: About 25 percent of my time is probably spent discussing or related to the health of transgender youth or transgender --- gender diverse youth.

BY ATTORNEY BARHAM:

Q. And what is your compensation for that position?

A. There is no compensation.

Q. You currently serve as the Clinical Director of the NYU Gender and Sexuality Services.

Is that correct?

A. That is not correct.

Q. When did you conclude your role in that

position? I'm referencing page one of your CV.

A. That was when I moved to Chicago a few years ago.

Q. Okay.

So where it says 2011 to present Clinical Director, NYU Sexuality Service, that is just a typo?

A. That is a typo, yes.

Q. You currently serve as the Associate Professor of Child and Adolescent Psychology at Northwestern University, and we have already discussed that. Is there a difference between Clinical Associate Professor and Associate Professor of Child and Adolescent Psychiatry?

A. No.

Q. You serve as the Vice Chair of Clinical Affairs at the Pritzker Department of Psychiatry and Behavioral Health at the Lurie Children's Hospital.

Correct?

A. That's correct.

Q. And how much time in this position is related to discussing or treating gender dysphoric children and adolescents?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: I think I answered that one with the guess of about ten percent.

BY ATTORNEY BARHAM:

Q. Okay?

So that's the same as the Vice Chair of the Department of Psychiatry?

A. Correct.

Q. You currently serve as the Associate Editor for Transgender Health.

Correct?

A. That is correct.

Q. And what is your compensation for that position?

A. There is no compensation for that position.

Q. What is that publication's annual income?

A. I do not know.

Q. You serve as a reviewer for LGBT Health.

Correct?

A. Yes.

Q. And how much of your time is related --- in that position is related to treating or discussing transgender children and adolescents?

A. I would say 100 percent of my review time with LGBT health is around gender.

Q. Do you receive any compensation for that

position?

A. I do not.

Q. Do you receive any compensation for your role as a reviewer with the Journal of the Academy of Child and Adolescent Psychiatry?

A. I do not.

Q. You served in various positions with different professional organizations according to paragraphs 11 and 12 of your report. Do any of those positions provide you financial compensation?

A. No.

Q. You founded and directed Gender Variant Youth and Family Network.

Correct?

A. Correct.

Q. What's your compensation for that position?

A. Zero.

Q. What is the entity's annual income or budget?

A. Zero.

Q. You indicate in your report that you have seen approximately 500 transgender patients.

Is that correct?

A. That is correct.

Q. How many patients do you see per year?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'd have to look at my report. I don't have the information in front of me right now.

BY ATTORNEY BARHAM:

Q. Do you have a ballpark of how many patients you see in a year?

A. I don't.

Q. Does this include --- and I'm assuming that your colleagues see additional patients beyond just those that you see.

Correct?

A. Correct.

Q. How frequently do you see each patients?

A. I see --- the frequency with which I see patients is dependent upon their clinical need, so between once or twice a week to once every three months.

Q. And how much are patients charged per appointment?

A. Everything is billed to their insurance, so I'm not sure.

Q. Do you receive any other income related to your work on gender dysphoria?

A. I'm being paid for my expert report for this, so

that's the only other income I receive.

Q. Do you receive any speaking fees?

A. I have received speaking fees for participation and grand rounds as an example.

Q. And how much would those speaking fees run?

A. It is typically about a thousand dollars per event.

Q. Before the last four years had you provided any expert testimony on issues related to gender dysphoria?

A. Can you clarify the difference between testimonies and reports? I've submitted a report but not ---.

Q. Okay.

So you have submitted a report?

A. Correct.

Q. Do you remember what case that involved?

A. That involves Medicaid and top surgery in Arizona.

Q. Okay.

Have you ever provided any testimony in trial or deposition before related to gender dysphoria?

A. I have not.

Q. And how much compensation have you received so far in this case?

A. This case so far, none thus far.
Q. How much are you expecting to receive so far in this case?
A. I haven't added up my invoice yet, but I imagine it's probably around $10,000.
Q. Okay.
Do you have any professional expertise related to the legal definition of relevance?
A. I do not.
Q. Do you have any legal training or education?
A. I do not.
Q. When you were preparing your report did you consult the Federal Rules of Evidence or any other legal sources as to the meaning of relevance?
A. I did not.
Q. Several people in this case have referenced disorders of sexual development. Would you agree that gender dysphoria is not a disorder of sexual development?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Gender dysphoria has not been classified as a disorder of sexual development.
BY ATTORNEY BARHAM:
Q. Of the approximately 500 transgender patients

you had seen how many suffered from disorder of sexual development?

A. A minority of patients, less than ten.

Q. So you would agree that the vast majority of individuals with gender dysphoria or who assert a transgender identity do not suffer from a disorder of sexual development.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The data we have speaks to the majority of people with gender dysphoria do not have a disorder of sex development.

BY ATTORNEY BARHAM:

Q. Do you have any reason to believe that BPJ suffers from a disorder of sexual development?

A. I have not reviewed BPJ's case.

Q. Are you aware of any instance in which an individual with a disorder of sexual development has attempted to play on a girls' or women's sports team in West Virginia?

A. I am not aware.

Q. Is it your opinion that a person's gender identity is durable?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Can you define durable?
BY ATTORNEY BARHAM:
Q. Unchanging.
ATTORNEY BLOCK: Objection to form.
THE WITNESS: It is my testimony that there is a concept of gender identity that remains generally fixed for most people throughout their lives.
BY ATTORNEY BARHAM:
Q. So it's your opinion that a person's gender identity cannot be changed with medical or mental health intervention.
Correct?
COURT REPORTER: Sorry, Counsel, that question one more time.
BY ATTORNEY BARHAM:
Q. So it's your opinion that a person's gender identity cannot be changed with medical or mental health intervention.
Correct?
A. Yes.
ATTORNEY BARHAM: I'm going to hand you what we're going to mark as Exhibit-2. This will be Tab 5.

(Whereupon, Exhibit-2, Endocrine Society's Guidelines, was marked for identification.)

BY ATTORNEY BARHAM:

Q. If you'll turn to page 3873 of this document. This document is the Endocrine Society's Guidelines, Endocrine Treatment of Gender Dysphoric or Gender Incongruent Persons, Endocrine Society Clinical Practice Guideline published in 2017.

Correct?

A. That is correct.

Q. On page 3873 of this document the Endocrine Society indicates that this continuum gender identity ranged from all male through something in between to all female yet such a classification does not take into account that people may have gender identities outside this continuum. For instance, some experience themselves as having both a male and female gender identity whereas others completely renounce any gender classification. There are also reports of individuals experiencing a continuous and rapid involuntary alternation between a male and female identity.

Do you see that?

A. I don't see that.
Q. Second column, towards the bottom of the page.
A. Yes, I see that.
Q. Is this consistent with your understanding of gender identity?
ATTORNEY BLOCK: Can you give him time to read?
ATTORNEY BARHAM: Gladly.
THE WITNESS: I think there is a difference between a gender identity and how people understand and express that gender identity. And in the context of this article the rapid involuntary alteration between male and female identity as an example is a case reported of single individuals subjective experience of their gender according to the reference.
BY ATTORNEY BARHAM:
Q. And by that you're referring to note ten?
A. Correct.
Q. So according to this document, someone can be one sex or the other, both, neither or in between.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I can't speak for the conclusions drawn by the author of this article.

BY ATTORNEY BARHAM:

Q. And according to the Endocrine Society a person's gender identity can change rapidly.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not a part of the Endocrine Society, so I'm not sure how they discuss this.

BY ATTORNEY BARHAM:

Q. According to this document, the Endocrine Society is indicating that there are reports, plural, of individuals, plural, experiencing a continuous and rapid involuntary alternation between male and female gender identity.

Correct?

A. That is documented in the article.

Q. Okay.

A. I'm not sure of the governance of the Endocrine Society.

Q. Do you think the Endocrine Society Guidelines are wrong?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think anything relating to gender identity has to be taken in a broader context

within both the article in and of itself but in broader practice and specifically around children and adolescents.

BY ATTORNEY BARHAM:

Q. So what is your basis for indicating that this statement is potentially inaccurate?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think there is more context that's needed in order to understand the intent of the authors in this particular section.

ATTORNEY BARHAM: I'm going to hand you what we will mark as Exhibit-3. This is the document from the World Health Organization entitled Gender and Health.

(Whereupon, Exhibit-3, World Health Organization, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with the World Health Organization?

A. I've heard of them.

Q. Do you agree with these World Health

Organization statements?

ATTORNEY BLOCK: Objection to form. Can he have time to read the document?

ATTORNEY BARHAM: Of course.

VIDEOGRAPHER: Counsel, is that Tab 10?

LAW CLERK WILKINSON: Tab 10.

ATTORNEY BARHAM: It is.

VIDEOGRAPHER: Okay. Thank you.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. Do you agree with these World Health Organization statements?

A. Not in their entirety.

Q. In what parts do you dispute?

A. The word gender as a concept is much more complicated and I do not agree with their characterization in this page.

Q. So the World Health Organization says that gender itself is a social construct and can change over time.

Correct?

ATTORNEY BLOCK: Objection to form. Does this document have a URL to it?

ATTORNEY BARHAM: It does, but I don't see it printed on the document.

LAW CLERK WILKINSON: We can get it.

ATTORNEY BARHAM: We can supply that.

THE WITNESS: I agree that it says on the document that gender varies from society to society and can change over time.

BY ATTORNEY BARHAM:

Q. And according to the World Health Organization, gender identity refers to a person's experience of gender which is a social construct.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't see in the document where it refers to gender identity or defines gender identity.

BY ATTORNEY BARHAM:

Q. It says gender interacts with different sex, which refers to the different biological and physiological characteristics of males, females, intersex persons such as chromosomes, hormones and reproductive organs.

Correct?

A. That is correctly read. I don't see gender

identity defined in this document.

Q. Gender identity refers to a person's deeply held internal and individual experience of gender.

Correct?

A. That's what it says here, yes.

Q. If an individual asserts an identity of man or both, how can a clinician verify whether that individual is telling the truth?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not sure what exactly that means. The process of an assessment for gender care involves a complex series of interviews, diagnostics.

BY ATTORNEY BARHAM:

Q. So how does the clinician assess whether the patient is accurately relating their experiences?

A. In the typical process, particularly around child and adolescent psychiatry, part of the assessment involves information gathered from multiple contexts.

Q. Such as?

A. Such as parents, schools, caregivers, other providers, history over time, et cetera.

Q. And if --- so how does one assess from those various contexts whether someone who's claiming to be

male or both is accurately relating what's going on?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, I guess I don't understand the question exactly. You know, my job is not necessarily to define what is accurate in someone's own experience. It's to understand how that fits into typical processes and developmental expectations for the broad range of gender diversity over time.

BY ATTORNEY BARHAM:

Q. How do you determine whether someone in that scenario is accurately understanding his own subjective feelings --- his or her subjective feelings?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The context of the treatment is really important. If an individual is seeking specific interventions that require a mental health assessment, there are specific components of that mental health assessment that must be met.

BY ATTORNEY BARHAM:

Q. So what are the treatments that would require a mental health assessment?

A. Puberty blocking medications, hormones or surgery.

Q. And what are the interventions that would not

require mental health evaluations, in your opinion?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It depends upon what guidelines you're talking about and what recommendations that the family is looking for.

BY ATTORNEY BARHAM:

Q. Well, what are some of the inventions? You said there's some interventions that would require a mental health evaluation, so that implies that there are some that would not. What are the interventions that would not require a mental health evaluation?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: You know, parents giving hugs to their kids is not something that a mental health assessment would require. Providing a way of helping families to understand their kids or asking questions is not something that requires a mental health evaluation and some children will socially transition prior to any assessments by any mental health professional.

BY ATTORNEY BARHAM:

Q. How do you determine --- if an individual asserts a gender identity of male or both, how do you determine whether the individual is making a statement based on societal expectations for a particular gender

rather than ---?

ATTORNEY BLOCK: Objection. Travis, I'm sorry, the male or both phrasing, is that a quote from something. I don't have the paper in front of me, so just want to clarify.

ATTORNEY BARHAM: No, that's not a question from something. That's just my question.

ATTORNEY BLOCK: Okay.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. If an individual asserts a gender identity male or both, how can a clinician verify whether the individual is making the statement based on societal expectations for a particular gender rather than his own genuine gender?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I personally never had anybody assert an identity of male or both, but part of the assessment of --- if we are diagnosing gender dysphoria is understanding the cultural and social contexts and ensuring that folks are not presenting with a gender identity that is incongruent with their sex assigned at birth because of actual or perceived

cultural advantages.

BY ATTORNEY BARHAM:

Q. And how does one go about assessing the motivations behind the claimed gender identity or transgender sex?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: For any psychiatric assessment this is through a combination of interviews, gathering history from relevant data sources and sometimes for some people structured interviews or scales.

BY ATTORNEY BARHAM:

Q. And how long does it take to conduct such an assessment?

A. There is no specific timeframe involved in this assessment. It really depends upon contextual factors that are hard to nail down.

Q. So if you were treating a child or teenager, how many relevant data sources would you need to get information from in order to make a complete assessment of the child's motivations?

A. I don't think there's ever going to be a concrete answer in terms of how many. There's not a specific answer of how many sources are necessary. It's

however many sources are necessary to gather the relevant information.

Q. So how do you determine whether you have gathered enough information to make a competent assessment?

A. It's hard to state this in a non-pithy way, but that's kind of what the process of psychiatry and child psychiatry training helps you to learn.

Q. Could you explain to someone who doesn't have the training how you come to the conclusion, okay, I've gathered enough information to make a competent assessment?

A. Sure. I can try. How accurate is the reporter in their description of their history. How much does it align with reports from other informants, how much does it match with or is deviant from expected phenotypic processes with the disorders in question and what is the impression of the evaluator about the accuracy of the statements.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-4, this will be Tab 12.

(Whereupon, Exhibit-4, Harvard Medical School Study, was marked for

identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this study? This is a study from the Harvard Medical School entitled Gender Fluidity: What it Means and Why Support Matters?

ATTORNEY BLOCK: Objection.

THE WITNESS: This looks like a popular website article and not a study.

BY ATTORNEY BARHAM:

Q. Are you familiar with the author, Dr. Sabrina Katz --- Sabra Katz-Wise?

A. Dr. Katz-Wise has published in the world of transgender health. I'm not familiar with them personally, I don't know them.

Q. Do you know Dr. Katz-Wise at least by reputation?

A. I don't. I've only read some studies.

Q. But you would agree that she is highly respected in this area.

Correct?

A. I would not be able to offer an opinion.

Q. But she is widely published in this area.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: From my recollection, yes.

BY ATTORNEY BARHAM:

Q. At the bottom of page two of this document, Dr. Katz-Wise indicates that while some people develop a gender identity early in childhood others may identify with one gender at one time and then another gender later on.

Is that correct?

A. You're reading that accurately, yeah.

Q. So according to this article, on page three a gender fluid person is one whose gender identity changes frequently.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I do not --- I have not read it in here that it is defined in that way and that's not how I would define gender fluidity.

BY ATTORNEY BARHAM:

Q. At least you see the statement at the first full paragraph at the top of page three, ultimately anyone who identifies as gender fluid, is a gender fluid person often the term is used for a person's gender expression or gender identity, essentially their internal sense of

self changes frequently?

ATTORNEY BLOCK: Objection. We're jumping quickly from pages. Can you give him some more time to read before answering the question?

ATTORNEY BARHAM: Certainly.

THE WITNESS: Yes. I'm not seeing where that is here. Can you point that out for me?

BY ATTORNEY BARHAM:

Q. Top of page three, just above that, how is gender fluidity related to health in child and teens?

A. Gender fluidity is a very nonspecific term that means very different things to different people. In the practice of the clinical work with transgender and gender diverse youth, kids who are self identifying as gender fluid, I want to understand what it means to them and what that definition is for that individual. I don't think there is one established definition of gender fluidity that has been agreed upon.

Q. But at least some respected professionals in this arena indicate that the term gender fluidity means that the person's internal sense of self, their gender identity changes frequently.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I can't speak to what Dr. Katz-Wise is using to define it. The way I would describe gender fluidity, again outside the context of how my patients are actually using the term, is that understanding of the expression of gender identity may change over time.

BY ATTORNEY BARHAM:

Q. So you said that their understanding of gender identity can change over time. Dr. Katz-Wise says that their gender identity changes frequently?

Is that correct?

A. That's what it stated in this popular press article.

Q. And Dr. Katz-Wise is an Assistant Professor in Adolescent and Young Adult Medicine at Boston Children's Hospital.

Is that correct?

A. I would have to take your word for that.

Q. Okay.

Are you aware that she co-directs the Harvard Sexual Orientation and Gender Identity Expression Equity Research Collaborative?

A. I do not know the term, no.

ATTORNEY BARHAM: I'm going to show you

what we will mark as Exhibit-5, and this will be Tab 13.

(Whereupon, Exhibit-5, American Psychological Association Guidelines, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This document is the American Psychological Association Guidelines for Psychological Practice with Transgender and Gender Non-Conforming People.

Correct?

A. That is correct.

Q. And on page 836 of this document the APA writes just as some people experience their sexual orientation as being fluid or variable, some people also experience their the gender identity as fluid.

Correct?

A. Can you show me on the page where that is?

Q. The bottom of the first paragraph in the first column of page 836.

A. Yes.

Q. So the APA Guidelines say that gender identity can be fluid or changing.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Well, I think the important piece is some people experience gender identity as fluid or variable.

BY ATTORNEY BARHAM:

Q. So it can be fluid or changing?

Correct?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. For at least some people.

Correct?

THE WITNESS: As I would describe it and understand it, that's the experience of expression of gender identity can be fluid over time, which is different.

BY ATTORNEY BARHAM:

Q. How is that different to say that one's gender identity changes?

A. It's getting a little complicated in terms of the concepts that we're talking about, but the identity that gender identity is something that is inherently fixed, that how people understand, experience it and express it can change over time. That's the difference.

Q. But the American Psychological Association at

least describes gender identity as being fluid.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: In the article that you have put in front of me it describes that people's experience of their gender identity is fluid over time.

BY ATTORNEY BARHAM:

Q. Let's go back to Tab 5, which is Exhibit-2. Are you familiar with the Endocrine Society Guidelines?

A. I am.

Q. Is it your view that these guidelines were developed through rigorous scientific processes?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I agree.

BY ATTORNEY BARHAM:

Q. Would you agree that these guidelines were developed by among the most respected researchers in the field?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I wouldn't disagree with that, no.

BY ATTORNEY BARHAM:

Q. Do you respect Dr. Hembree of Columbia University Medical Center?

A. I do.
Q. Do you respect Dr. Cohen-Kettenis of the University of Amsterdam?
A. I would say I respect all of these clinicians and researchers, although Sabine Hannema I am not familiar personally.
Q. If you will turn to page 3879 of this document. Right under the heading evidence this article reports that the large majority, about 85 percent of prepubertal children with a childhood diagnosis did not remain GD, slash, gender incongruent in adolescence.
Is that correct?
A. That is correctly read, yes.
Q. And footnote 20 of this document cites to Dr. Steensma, de Vries, Cohen-Kettenis article in 2013?
A. That's correct.
Q. These are extensively published original peer reviewed research --- peer reviewed researchers in the field.
Correct?
A. Correct.
Q. So this committee reveals evidence that the large majority of children, about 85 percent, with a childhood diagnosis do not remain gender dysphoric in

gender adolescence.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, in these studies have been published primarily by the Dutch clinic the rates of dissentience of the diagnosis of gender dysphoria has been upwards of 85 percent.

BY ATTORNEY BARHAM:

Q. And at the bottom of the first column of page 3879 the committee indicates that their clinical experience suggests that the persistence of gender dysphoria or gender incongruence can only be reliably assessed after the first signs of puberty.

Is that correct?

A. That is what is written, yes.

Q. You have not offered an opinion in your report as to whether or --- whether or to what transgender identity has a biological basis.

Is that correct?

A. Let me just make sure that I'm reviewing it. I have not offered an opinion.

Q. If you will turn to page 76 of Exhibit-2, Tab 5. The committee with all of its experience and presenting all the evidence said that gender dysphoria in children,

quote, does not invariably persist into adolescence and adulthood.

Is that correct?

A. That is correct.

Q. In fact, this committee concluded that that gender dysphoria, a minority of prepubertal children appears to persist in adolescence.

Is that correct?

A. That is correct.

Q. I'm going to turn your attention to --- this will be Tab 15, Exhibit-6.

(Whereupon, Exhibit-6, Lisa Littman Study, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is a 2021 study by Lisa Littman entitled Individuals Treated for Gender Dysphoria with a Medical and/or Surgical Transition who Subsequently De-transitioned.

Is that correct?

A. That is correct.

Q. Are you familiar with this study?

A. I am.

Q. The study was based on survey responses from a hundred adult individuals who were approved for hormonal and/or surgical transition, underwent such transition, lived in a transgender identity for a period of years and then decided to de-transition or revert to a gender identity associated with their biological sex.

Is that correct?

A. That is my understanding of the study, yes.

Q. And all of the subjects had detransitioned by discontinuing their medications, having surgeries to reverse the effects of transition or both.

Correct?

ATTORNEY BLOCK: Objection to form. Are you reading something?

ATTORNEY BARHAM: I'm referencing page two, column two, at the bottom of the page.

THE WITNESS: My recollection from the study was that this was all self report, so there was no way to verify if that was correct or true.

BY ATTORNEY BARHAM:

Q. But that's at least what the participants reported.

Correct?

A. From my recollection. I'd have to reread the

entire study to say for sure but that is my recollection, yes.

Q. And if you turn to page eight of the second column, under the heading de-transition?

A. I don't have page numbers on mine.

ATTORNEY BLOCK: Do you reference the page number at the top?

ATTORNEY BARHAM: The source contains no page numbers, making it difficult.

BY ATTORNEY BARHAM:

Q. Under the heading detransition it's the page right before table four.

ATTORNEY BLOCK: I'm sorry. Can I see the heading on the document? Just for the record, this doesn't appear to be a paginated version of the article where, you know, when I pull it up I get a publication, date and pages. So I don't know if this is the final version of the article or not, but you can proceed with the questions.

ATTORNEY BARHAM: Counsel, I'll return to your concerns, Mr. Block.

BY ATTORNEY BARHAM:

Q. Do you see the one page before the page that contains Table 4?

A. I do.
Q. Do you see the heading detransition?
A. I do.
Q. And it says there that when participants decided to detransition they were a mean age of 26.4 years old.
Correct?
A. That is correct.
Q. Have you read this study before today?
A. I have.
Q. So doesn't this study at least suggest that patients may think they have a sense of belonging to the opposite sex but can be mistaken?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I think what this study does is hear experiences from a select group of individuals who are motivated to participate in the study about detransition and hear their experiences of their care.
BY ATTORNEY BARHAM:
Q. But the study still indicates that those individuals had a sense of belonging to the opposite sex and later concluded that they were were mistaken.
Is that correct?
A. You will have to forgive my clinician nature

here, but language is important when working with patients who are transitioning. I don't know if that's the language that they would use or if that is the language that was used in this particular survey.

Q. But the effect of detransitioning is that they at one time thought they belonged to the opposite sex and then later concluded that they did not?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Again, I think we would want to know specifically what each individual person, how they described their process. I don't know what detransition means to those who are taking a relatively anonymous survey, so it's hard to draw a conclusion about the specific nature of it. The generally accepted upon definition of detransition is generally aligned with somebody who reverts back to a gender identity or gender expression that is more aligned with their sex assigned at birth.

BY ATTORNEY BARHAM:

Q. This study defines detransition as discontinuing medications, having surgeries to reverse the effect of transition or both.

Is that correct? It is on page two?

A. Show me where on page two.

Q. The second column of page two, at the bottom of the page?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah. I'm not seeing that Dr. Littman is specifically defining detransition but describing the objective of the study for folks who detransitioned by those aspects that you noted.

BY ATTORNEY BARHAM:

Q. Okay.

But she notes in the last paragraph on that page the objective of the current study was to describe the population of individuals, skipping, who then detransitioned by discontinuing medications, having surgery to reverse the effects of transition or both?

A. That's correct.

Q. So she is indicating what she understands detransitioning to mean in this article.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again I'm not sure how she specifically defines detransition. It is not necessarily made clear in that statement.

BY ATTORNEY BARHAM:

Q. Is it true that people may mistake feelings

resulting from trauma, mental illness or homophobia for a genuine sense of transgender identity?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think there are a lot of complicated experiences that people may have that make them question their gender identity.

BY ATTORNEY BARHAM:

Q. So it's at least possible that people could mistake feelings resulting from trauma, mental illness or homophobia for genuine sense of transgender identity.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't disagree with that, no.

BY ATTORNEY BARHAM:

Q. You said it's complicated, so it sounds like it would be hard sometimes for a clinician to tell with certainty what's going on?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: What I would describe is that in anything related to mental health that there are complications and nuances. This is no different.

BY ATTORNEY BARHAM:

Q. Now, I believe you alluded to this a moment ago.

You mentioned that this is a self-reporting study and it obviously concerns an emotionally fraught area of gender identity. So is it your position that this does not produce scientifically meaningful results?

A. I don't know what you mean by scientifically meaningful.

Q. Do you believe that this --- the results of this article are scientifically reliable?

A. It depends upon what question is being asked. As a blanket, any kind of selection bias, particularly for this study based upon where the participants were drawn from makes us not want to draw conclusions about their generalized applicability of this study to other transgender folks, including other folks who may have detransitioned, but the goal of science is not necessarily to draw widely applicable conclusions, but to put us in a position where we can ask more questions and improve our care for our patients.

Q. Now, why do you say --- why do you highlight concerns about where the participants were drawn from?

A. I highlight that because it creates a sense of selection bias, which potentially, as I said, can reduce the why applicability of the conclusions drawn.

Q. And why do you say that there is a potential for

selection bias in this article?

A. Based upon the websites that Dr. Littman has drawn her participants.

Q. And why do you have concerns about those websites?

A. I have concerns about the websites because of the contents of those websites.

Q. And what is contents of those websites that causes you concern?

A. The content of the websites is unscientific. And I guess I'm not sure how to articulate it in a most defined way very specific to answering a set of questions that reenforces the prestudy hypotheses.

Q. So which websites that she drew participants from cause you concern?

A. As an example, Fourth Wave Now is a website that Dr. Littman had used for some of her study recruitment.

Q. And why are you concerned about the use of Fourth Wave now in the recruitment process?

A. What I would say is that when you're designing a study that presupposes the conclusion and the website is designed to attract people who presuppose that conclusion, that limits the applicability of the results. It just have to be taken into account. It

doesn't mean that there isn't data from this kind of snowball recruitment that isn't valuable and I wouldn't say that there isn't value to some of Dr. Littman's work, specifically this study as compared to the last, though you have to take it in the context with which it was developed.

Q. So are you suggesting that Dr. Littman presupposed the conclusion that she wanted to reach in designing this survey?

A. I'm less familiar with the design of this study than previous studies that she has designed, which I would say that was correct.

Q. What other websites did she use in the process to cause you concern?

A. I'm not as familiar with this study, so I don't know if she specifically identified which websites. And I can't recall right now on the others which they were.

Q. If you look at page three she discusses the method and the participants and procedures. Would reviewing that refresh your recollection as to any concerns about participants?

A. It would not because she does not describe the specific fora. She describes a closed Facebook group, Tumbler, Twitter and Reddit, but those are large

websites that have a lot of different kind of content.

Q. So is it your position that it's not possible to know whether anonymous or any results have any relation to true fact in actual case histories?

A. That is not my position.

Q. Do you have any --- you mentioned earlier something about how these were anonymous results. So is it possible to know whether they actually corresponded with true cases?

A. I think anonymous surveys, you have to really dig into the specifics of the survey design in order to draw conclusions. And again, with any study in any survey in particular you just want to make sure you have an understanding of that context how broadly to draw conclusions.

Q. Would you agree that online recruitment does not provide a statistically meaningful sample?

A. I would not agree with that.

Q. Is it your position --- how can an online recruitment produce a statistically meaningful sample?

A. I think I would need to understand the context of what you mean by statistically meaningful. There is a difference between a survey that could be potentially poorly designed and yet reach statistical significance.

You would need to understand the broader context in order to draw conclusions about what that statistical significance means and that means really digging into the specific methodology of this study. There is a vast literature about efficacy of survey data and it really depends on the specifics.

Q. We've previously referenced paragraph eight of your report where you mention you've seen approximately 500 transgender patients.

ATTORNEY BLOCK: Travis, sorry, not to avoid a pending question, but we're almost at one hour, so if this is a good time, if you're moving to a different subject maybe this would be a good time to break.

ATTORNEY BARHAM: Let me wrap up a few more and then we will do that.

ATTORNEY BLOCK: Thanks.

BY ATTORNEY BARHAM:

Q. Your clinical practice for children and adolescents started in 2013, about eight years ago.

Is that correct?

A. No, I finished medical school in 2011 and have been working with adults, children and adolescents since then.

Q. Okay.

A. Actually that's when I finished --- to go back, that's when I finished my residency and fellowship. I finished medical school in 2006. I can't believe it's been long.

Q. And when did you begin your work in child and adolescent psychiatry?

A. I had child and adolescent psychiatry experiences when I was in medical school.

Q. When did you begin practicing child and adolescent psychiatry?

A. That's not a very specific term. I practiced child psychiatry as a medical student in my training.

Q. When were you licensed, when were you first licensed to practice child and adolescent psychiatry?

A. There's no specific license to practice child psychiatry. Anybody who is --- has a medical license can practice any medical specialty. I was Board Certified in Child and Adolescent Psychiatry, which is a different process and I would have to look through to recall the date. I'm assuming that it's 2012 or 2013. 2013 is when I was Board Certified.

Q. So when did you begin --- and you finished your fellowship in child and adolescent psychiatry when?

A. 2011.

Q. 2011. When did you begin treating as a child and adolescent psychiatrist children with gender dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I saw children with gender dysphoria during my residency and in my fellowship.

BY ATTORNEY BARHAM:

Q. And your fellowship?

A. Between 2006 and 2009.

Q. And what proportion of those patients socially transitioned?

A. Of all of the patients that I saw in my training or in all of the patients that I've seen over my time as a physician?

Q. Let's go first with the training.

A. It was a much smaller number, so probably if I were to guess, and I'm going back, probably close to 95 percent.

Q. Ninety-five (95) percent socially transitioned when you were in training?

A. Yes.

Q. And how many of your patients overall have socially transitioned?

A. I'm not sure how to answer that question. Over the course of our time working together, before I started seeing them or --- I'm not sure how to accurately answer that question.

Q. Over the --- just in general how many of your patients socially transitioned, not just while they were being treated under your care?

A. And these are patients who are seeing me specifically through the context of gender or of those 500 transgender patients?

Q. Of the 500 transgender patients.

A. Probably --- I mean, it's a guess but probably in the order of 85 percent.

Q. And what proportion of the 500 patients used puberty blockers?

A. Probably a minority of those patients. If I had to guess, probably 20 percent or less.

Q. And what percent of those 500 transgender patients used cross sex hormones?

A. I don't have my records in front of me, so it would really just be a guess, but probably close to the same percentage that socially transitioned, probably a little bit less than that.

Q. If I recall correctly that's about 85 percent?

A. Probably somewhere on the order of that.

ATTORNEY BLOCK: Would now be a good time for that break?

ATTORNEY BARHAM: One last question.

BY ATTORNEY BARHAM:

Q. What systems do you have in place to track these patients five years after they have been in your care?

A. I have the same systems as most psychiatrists. We see the patients within our care. Folks will reach out to us after time has passed and it's one of the great pleasures of being a child psychiatrist, we get to see folks longitudinally. So there is not a specific system apart from mutual care.

Q. So you rely on them to reach out to you.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It depends on context.

BY ATTORNEY BARHAM:

Q. But do you have any systematic way of tracking all patients five years after they leave your care?

A. There is no systematic way of tracking all patients.

ATTORNEY BARHAM: All right. Let's take a break. How long would you all like?

ATTORNEY BLOCK: Five minutes.

ATTORNEY BLOCK: Should we go off the record?

VIDEOGRAPHER: Going off, 10:14 a.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The time is 10:27 am.

BY ATTORNEY BARHAM:

Q. Moments ago we were discussing Dr. Littman's 2021 study, that was Tab 15, Exhibit 6. Are you aware of any studies that contradict Dr. Littman's data?

A. Can you be more specific?

Q. Are you aware of any studies that contradict Dr. Littman's work survey in this article in Exhibit-6 that find fault with her data?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Yeah. I'm sorry. I don't think I understand the question. There are other articles that have been written about detransition and clinical experiences of patients that have

detransitioned who have described those experiences. There has not been a specific survey designed of detransitioners outside of this one that I'm aware of.

BY ATTORNEY BARHAM:

Q. Has anyone written an article finding fault with the way Dr. Littman interpreted the data that ---?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: For this specific data set or for previous?

BY ATTORNEY BARHAM:

Q. For this specific data set?

A. For this specific data set, from my recollection, this was studied --- or published just recently so I'm not aware of any. It doesn't mean that there aren't.

Q. Are you aware of any studies that contradict Dr. Littman's conclusions in this 2021 article?

A. If you give me a moment I will read the conclusion.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Insomuch as Dr. Littman's conclusion is that there's no single narrative to explain the experiences of all individuals who detransitioned and we should take care to avoid painting

the population with a broad brush, I agree with that conclusion.

BY ATTORNEY BARHAM:

Q. Are you aware of any studies that contradict her conclusions not just in the conclusion section but her description of the detransitioners?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: I think it's hard to provide a specific answer to that question. We have to look at each study and judge each individual study based upon the merits. The conclusions she draws are from a subset of patients with a very specific viewpoint, and I agree with her and her conclusion that there needs to be more research to better understand the broader implications of this care.

BY ATTORNEY BARHAM:

Q. You're not aware of any article that has been published specifically critiquing this 2021 study by Dr. Littman.

Is that correct?

A. Not that I'm aware of.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. A few moments ago we were also talking about the

patients that you have treated, the 500 transgender patients you referenced in your report, and you mentioned that about 20 percent or less of those had used puberty blockers. I'm wondering why that percentage is so low.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't know. Low compared to what? I think it's important to understand the context that in 2011, when I first started my gender program, that puberty blocking medications were not widely available, cost upwards of $3,000 a month and were not covered by most insurance. So puberty blockers were not something that were available in the same way they are now. And I also saw a fair number of adults and older adolescents for whom puberty blockers are not indicated.

BY ATTORNEY BARHAM:

Q. So of the 500 patients that you reference in paragraph eight of your report, what percentage of those are adults?

A. I would really have to go back and look. I mean, in my current practice, I see adolescents and young adults, so kind of parsing out artificially who is 18 and up, it would take some time to do that. Probably

in the order of 75 percent are children in adolescence, 25 percent adults. But of course, over 2011 to now, a lot of those folks are now adults.

Q. And when I'm asking about these percentages I mean when you were treating them. What percentage of the patients you were treating were children?

A. That's my best guess.

Q. Seventy-five (75) percent?

A. Yes.

Q. And are you distinguishing between prepubertal children and adolescents in that 75 percent or both?

A. That's both.

Q. Of that 75 --- of all the patients you've seen, at the time you saw them, how many were prepubertal children?

A. Probably --- and again, I have to give this a major caveat. I would have to go back and look through everything, but I would say probably 25 percent of that 75 percent were prepubertal at the time of initial assessment.

Q. And so then the remaining 75 percent of 75 would be adolescents.

Is that correct?

A. Correct.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. How many of your patients of those 500 patients have detransitioned in a year?

A. It's kind of a hard question to answer. The one patient who self identifies as having detransitioned started seeing me after she had detransitioned.

Q. Have any of your patients detransitioned while under your care?

A. Not that I'm aware of.

Q. And is the one patient who detransitioned before starting to see you, is that the only patient you're aware of of the 500 that has detransitioned?

A. That is the only one that I'm aware of, yes. But can I clarify that of those 500 patients there are certainly those who did not choose to transition.

Q. And how many of the 500 chose not to transition?

A. If I had to guess, probably about 10 to 20, probably ten percent.

Q. And did they make that decision before puberty began?

A. It was a mix.

Q. Of those who chose not to transition, how many were children when they made that decision?

A. I couldn't tell you at that point, but significantly more were the prepubertal youth than adolescents.

Q. This is a sensitive question. I mean no offense by it, but how many of the 500 patients have made the sad decision to commit suicide?

ATTORNEY BLOCK: I'm sorry. I couldn't heat that. Can you speak up?

BY ATTORNEY BARHAM:

Q. How many of the 500 patients have made the sad decision to commit suicide?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Is your question how many have completed suicide?

BY ATTORNEY BARHAM:

Q. Correct.

A. Of those 500 patients, zero.

Q. How many of those 500 patients have been hospitalized for a psychiatric illness?

A. I do not have that information in front of me.

Q. Do you have any general idea?

A. I don't.

Q. After five or more years what percentage of your patients would be characterized as lost to follow-up?

A. Lost to follow-up is a specific term used in studies, so it's not something that I would use to describe my patients.

Q. How many patients do you lose contact with after five years?

A. Again, I don't know how to answer that question. I've been at my current role for three, so I haven't lost touch with any significant number of patients.

Q. What about patients that you saw before you were in your current position?

A. I'm not in contact with patients from my previous role.

ATTORNEY BARHAM: All right. Let's go to Tab 110. This is Exhibit-7 I believe.

(Whereupon, Exhibit-7, Study, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this study?

A. I am not.

Q. Have you seen it before today?

A. I have not.

Q. On page one this again has been --- it's

paginated in the top right corner or top inside corner. On page one the first sentence of the last paragraph says gender transition is as scientifically fascinating as it is socially controversial for it poses significant professional and bioethical challenges for those clinicians working in the field of gender dysphoria.

Do you agree that gender detransition poses significant professional and bioethical challenges for professionals treating gender dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't necessarily agree with the language. And certainly don't agree with the author to use something that's scientifically fascinating. What I think is that every decision that we make in child psychiatry in particular is fraught with ethical challenges. This is not any different from the ethical challenges that we face with a lot of other interventions.

BY ATTORNEY BARHAM:

Q. What challenges does detransition pose to your profession in your view?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't see how it poses any challenges to my work.

BY ATTORNEY BARHAM:

Q. Page three of this article, the authors identify several things that may prompt a person's decision to detransition including understanding how past trauma, internalized sexism and other psychological difficulties influence the experience of gender dysphoria.

Correct?

ATTORNEY BLOCK: Objection. Can you give him a chance to read?

ATTORNEY BARHAM: Of course.

THE WITNESS: And can you repeat what you said?

BY ATTORNEY BARHAM:

Q. On page three the authors identify several things that may prompt a person's decision to detransition including, quote, understanding how past trauma, internalized sexism and other psychological difficulties influence the experience of gender dysphoria.

Correct?

A. Sorry. Just give me a second to look at the context here.

Q. Sure.

A. I agree that's how it is written and there

appears to be no basis from which the author has built that assertion. There is no methods described in this whatsoever.

Q. I believe the author in that instance is citing Dodsworth 2020, Gonzalez 2019, Herzog 2017, and one, two, three, four other studies.

Do you see that?

A. I see those studies. I'd have to look at the specific studies in order to understand the implications and the context.

Q. But the authors obviously seem to have a basis or at least a citation basis for what they're saying.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, without knowing the specifics of those studies it's hard for me to say.

BY ATTORNEY BARHAM:

Q. The authors also indicate that solving previous psychological or slash emotional problems that contributed to gender dysphoria may prompt the decision to detransition.

Is that correct?

A. Where is that?

Q. They are citing Butler and Hutchinson, 2020,

Stella 2016. It is the same paragraph.

A. Got it. Yeah I don't know what solving a psychological or emotional problem means in this context.

Q. But these authors are at least indicating that solving these problems, however they mean the term, may prompt a decision to detransition.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think I've answered how I can answer that.

BY ATTORNEY BARHAM:

Q. Okay.

Let's go back to Tab 15, which is Exhibit-6. This was the Littman study that we were discussing a moment ago. On page three --- excuse me, according to Table 5, on page nine, 60 percent of the participants in this survey reported that they became more comfortable identifying as their natal sex.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I see 65 percent of those assigned female at birth and 48 of those assigned male at birth reported that.

BY ATTORNEY BARHAM:

Q. So 45 and 15 is 60, so that would be 60 percent of the 100 participants in the study.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I believe.

BY ATTORNEY BARHAM:

Q. I'm sorry. I didn't hear your answer.

A. I trust your math, yes.

Q. Okay.

And on page 12, under the heading discussion, this survey indicates that only a small percentage of detransitioners, 24 percent, informed the clinicians and clinics that facilitated their transfer that they --- their transition that they had detransitioned.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes, the participants in the study, that is correct.

BY ATTORNEY BARHAM:

Q. And you testified a moment ago, if I recall correctly, please correct me if I'm wrong, that you are aware of only one patient in your career that has detransitioned.

Is that correct?

A. That I'm aware of, yes.

Q. Let's go to Tab 116, which is Exhibit-8.

(Whereupon, Exhibit-8, Article by Vandenbussche, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this article?

A. I have not read this article.

Q. And this is a 2021 article by I believe a gentleman named --- or an individual named Vandenbussche, Detransitioned Related Needs in Sports.

Is that correct?

A. That is correct.

Q. Did you review this article when preparing your report?

A. I did not.

Q. If you look at page four this article examined a sample survey of 237 detransitioners.

Is that correct?

ATTORNEY BLOCK: Objection. Can you give him time to read the document he has never seen before.

ATTORNEY BARHAM: Certainly.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. This article highlights the results of a survey of 237 detransitioners.

Correct?

A. Yes, as they are defining detransitioning, yes.

Q. And on page five these authors --- these researchers report that 70 percent of participants detransitioned because they realized that their gender dysphoria was related to other issues.

Correct?

A. Correct.

Q. And that was the most common reported reason for detransitioning.

Correct?

A. As they stated, yes.

Q. In paragraph 43 of your report you cite Lisa Littman's 2018 study. Paragraph 43. And you highlight what you describe as serious methodological flaws that render the study meaningless.

Is that correct?

A. Correct.

ATTORNEY BARHAM: I want to show you Tab 117, and this will be Exhibit 9. It will be an article by Lily Durwood entitled Mental Health and Self Worth in Socially Transitioned Transgender People.

(Whereupon, Exhibit-9, Article by Lily Durwood, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this article?

A. I am.

Q. You cited this in footnote nine of your report as demonstrating the treatment associated with social transitions.

Correct?

A. I have to look at the specific footnote. I know I cited it, but I don't know if it was citing to that specific conclusion.

Q. By all means take a look.

A. Can you point me to where my footnote is?

Q. Footnote nine is --- let me find it myself.

ATTORNEY SWAMINATHAN: It's page 11.

THE WITNESS: Yes.

BY ATTORNEY BARHAM:

Q. The Durwood article in 2017 is a survey of children and their parents about the children's mental health.

Is that correct?

A. Correct.

Q. The children in the Durwood article were not surveyed or assessed by clinicians.

Is that correct?

A. I don't know the answer to that. I'd have to look at the specific ---.

Q. Well, if this is a self report it would be reporting what the children themselves said.

Correct?

ATTORNEY BLOCK: Objection. Let him have time to read the article.

THE WITNESS: The trans youth project was directed by Dr. Ulson involved clinicians in the assessment of the children and their families. So I'm not sure specifically. I would have to go through the methods of this one particularly for me to recall.

As you will see from the procedure on page 117 whenever possible parents and children completed the measurements in separate rooms or far enough in the same room to be out of ear shot. And so

they were researchers who were boarded who were participating in these interviews with the kids and their families.

BY ATTORNEY BARHAM:

Q. But those researchers were just recording what the students said out loud?

A. Correct.

Q. So there's no clinical assessment of the children as part of this survey.

Is that correct?

ATTORNEY BLOCK: Object to form.

THE WITNESS: I wouldn't be able to answer that question. It depends upon how it's used. In a research context you might be using the same instruments that we would use for clinical assessments, but for the sake of research purposes it's not used in that way.

BY ATTORNEY BARHAM:

Q. But the purpose of this article was just to record what the children said as a self report.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As far as I understand the point of this article, they utilized child self report

which is what is typically used in children mental health studies.

BY ATTORNEY BARHAM:

Q. According to page --- the second page of this article, which is page 117, the participants were recruited through word of mouth, national and local support groups, summer camps and online forums for families of transgender and gender nonconforming youth. Correct?

A. That is correct.

Q. Frequently in your report you refer to gender-affirming care. What in your view are the components of gender-affirming care?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think that there is no one agreed upon use of that term and it is used by different people in different context to mean whatever they want it to mean, depending upon who is asking the questions. The way that I define it, for my own practice, is that it's important for children to be heard and listened to, that any particular gender identity outcome is not better than any other and that the child and families should be directing the process with appropriate assessments and interventions.

BY ATTORNEY BARHAM:

Q. How do you handle a situation where parental desires may be differ than the child's desires?

A. That is almost a universal phenomenon of parenthood, so there's not an atypical process. When there is disagreement about specific issues in the treatment plan those interventions are going to be tailored to the individual families based upon their need.

Q. So when you use gender-affirming care what do you view as the different components or different aspects of gender-affirming care in your practice?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think that is also going to be highly context dependent. I'm a psychiatrist and I see a lot of children with complex psychiatric needs, so my process for gender-affirming care is going to be different than what somebody else might describe as gender-affirming care, but I think I highlighted what I see as the components of it for myself.

BY ATTORNEY BARHAM:

Q. I've missed in your list of the different components, so could you explain again what do you see as the components of gender-affirming care?

A. That it should be child and family led, that listening to and understanding the child is an important aspect of the process and that there is no gender identity outcome that is privileged over another. I'm sure I said it slightly differently than the last time around but the concepts are the same.

Q. Do you consider social transition to be a component of gender-affirming care?

A. I think that understanding the risks, benefits and alternatives of social transition is a part of gender-affirming care. In that way, sometimes recommending not socially transitioning is a part of gender-affirming care.

Q. But gender-affirming care can be an approach used as part of gender-affirming care.

Is that correct?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. Social transitioning can be a method used as part of gender-affirming care.

Correct?

A. It is an option.

Q. An available tool.
Correct?
A. Yes.
Q. Is it your belief that social transition is a type of medical or mental health treatment for gender dysphoria?
A. It's a hard question to answer. Social transition is a pretty diverse concept that's hard to get as a categorical variable to study, but the implication is that there's a lot of things that are often helpful for mental health that aren't specifically mental health treatments, right, like exercise, regular sleep. These aren't specific mental health interventions but nevertheless have impacts on mental health outcomes.
Q. Well, in paragraph 90 --- I mean paragraph 36 of your report you say that social transition is a treatment for gender dysphoria?
A. Yeah I would agree with that.
Q. So what kind of treatment is it?
A. It's a psychosocial intervention.
Q. Psychosocial. What does social transitioning include in your view?
A. I have to recall if I provided an operational

definition for it in my report. Essentially what we're talking about is an alignment of gender role and gender identity. So that's transition of name, pronouns, hair, participation in sex-segregated activities, et cetera.

Q. And so social transition in your view means the participation in girls or boys athletic teams in competitions consistent with ones gender identity.

Is that correct?

A. Again, it's going to be context dependent. It is not a yes or no question around social transition. What we're going to be doing in the context of an assessment is understanding the risks and benefits of all the various options that we have.

Q. I understand that it can differ from person to person, but participation in girls or boys athletic teams in competition consistent with one's gender identity is an aspect, a possible aspect, of social transitioning.

Correct?

A. It may be an option for some students, yes.

Q. Do you consider the use of puberty blockers to be an available tool as part of gender-affirming care?

A. I do.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. Do you consider the use of cross sex hormones to be an available tool as part of gender-affirming care?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Gender-affirming care can include hormones.

BY ATTORNEY BARHAM:

Q. Are there any other available tools that you use as part of gender-affirming care?

A. Yes, there is a lot of tools that I use that are involved in gender-affirming care. Work with the family is one big piece of it. Work with the school is another. Referrals for surgery when indicated, recommendations for assessment and treatment of any co-occurring mental health disorder is a part of it.

Q. What is your role in the prescribing of puberty blockers?

A. I'm occasionally in the role of doing a mental health assessment prior to initiation of those medications.

Q. And are you the individual who would prescribe the puberty blockers?

A. I am not.

Q. What type of professional would be responsible

for the prescribing?

A. In the clinics that I have worked these are either adolescent medicine specialists or pediatric endocrinologists.

Q. And is the same true with cross sex hormones?

A. Yes.

Q. In your report you describe gender-affirming care as the prevailing model of care for transgender youth.

Is that correct? And I'm referencing paragraph 15 of your report.

A. Yes.

Q. Later on in your report you refer to prevailing standards of care, paragraph 18, paragraph 26, for example. By that are you referring to gender-affirming care?

A. Which paragraph?

Q. Eighteen (18) and 26.

A. I would say that it is a part of what I'm referring to but not the entirety of what I'm referring to.

Q. What else are you referring to in paragraph 18 and 26 when you say prevailing standards of car?

A. This would include a lot of components,

including both the Endocrine Society Guidelines, the World Professional Association for Transgender Health Guidelines as well as recommendations and ethical guiding principles of the various governing bodies that we all work with.

Q. And you would describe those various documents that you just referenced as reflecting gender-affirming care.

Correct?

A. I would have to go through, for example, the Endocrine Society Guidelines to know whether or not they use that specific term. Again, I think I just want to make sure that I'm emphasizing that gender-affirming care does not have an agreed upon definition so it's controversial and I wouldn't know how to answer that question.

Q. As you use the term and as you define the term in your practice, would you consider the WPATH standards to fall under the umbrella of gender-affirming care?

A. I would yes.

Q. And would you consider the Endocrine Society Guidelines to fall under the umbrella of gender-affirming care?

A. I would, yes.

Q. In paragraph 15 of your report you claim that gender-affirming care is endorsed by at least five professional associations.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. And you reference others. What other organizations are you alluding to in paragraph 15 of your report?

A. I don't want to get the name of the organization incorrect, but National Association of Social Workers and the National Association of Marital and Family Therapists have released statements about it, but I don't have specific recollection of those sitting here today.

Q. Okay.

Are there any other organizations besides those and those listed in paragraph 15?

A. There likely are but none that are coming to mind today.

Q. When you were preparing your report did you consult the standards of care articulated by any international professional organizations?

A. Yes.

Q. Which ones?

A. Both the Endocrine Society Guidelines as well as the WPATH standards of care.

Q. Any other international or professional organizations?

A. Not that I can recall, no.

Q. Are you aware that international and professional organizations have been moving away from using puberty blockers and cross sex hormones on children and adolescents under the age of 16?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't see that that is necessarily accurate. I'm going to have to take a break in five minutes if that is okay.

ATTORNEY BARHAM: This would be the perfect time.

THE WITNESS: I will be quick.

VIDEOGRAPHER: Going off the record. The current reads 11:01.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The

current time is 11:06 a.m.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit 10, this will be Tab 91.

(Whereupon, Exhibit-10, Statement by Royal Australian and New Zealand College of Psychiatrists, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is a statement from the Royal Australian and New Zealand College of Psychiatrists.

Correct?

ATTORNEY BLOCK: Objection. Can you give him a chance to look at the document?

THE WITNESS: It's what it says. I don't know what the government structure of this organization is or how they release their statements or how they are developed.

BY ATTORNEY BARHAM:

Q. This is Position Statement 103, according to the document.

Correct?

A. I will take your word for it if that's what it

says.

Q. Right below the title. And it was published in August of 2021.

Is that correct?

A. I don't know where it says that.

Q. Right below the tab.

A. Got it.

Q. The Royal Australian and New Zealand College of Psychiatrists is the professional body of psychiatrists for those two countries.

Is that correct?

ATTORNEY BLOCK: Objection.

THE WITNESS: I do not know that.

BY ATTORNEY BARHAM:

Q. I'm sorry. I didn't catch your answer.

A. I do not know.

Q. According to page three of this document, the Royal College has concluded that there are, quote, polarized views and mixed evidence regarding treatment options for people presenting with gender identity concerns, especially children and young people.

Do you see that?

A. I see that.

Q. Do you agree with their assessment?

A. Yes.

Q. So this means that professionals can disagree with each other as to how to treat children and young people with gender dysphoria.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah. I think any treatment decision, you're going to have professionals disagreeing with you about the best course of action. This isn't any different than that.

BY ATTORNEY BARHAM:

Q. And on page four of the document the Royal College says that psychiatric assessment and treatment should be both --- should be both based on available evidence and allow for full exploration of a person's gender identity. And it emphasizes the importance of the psychiatrist's role to undertake for assessment in evidence-based treatment ideally as part of a multidisciplinary team, especially highlighting distinguishing issues which may need addressing and treating. Do you agree with the Royal College's emphasis on psychiatrists' role and how it's important to ensure appropriate care for gender dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Psychiatrists are often a useful adjunct to the team, but isn't a necessary requirement. There are many other mental health professionals who have expertise and can fill this role.

BY ATTORNEY BARHAM:

Q. And what other professionals do you think could fill this role?

A. This would be licensed clinical mental health professionals.

Q. And those would include?

A. Psychologists, social workers, marital and family therapists and there are probably other titles that are governed by their regulatory boards that I don't recall right now.

BY ATTORNEY BARHAM:

Q. And on what are you basing your disagreement with the Royal College's emphasis on the importance of the psychiatrist's role

ATTORNEY BLOCK: Objection to form and characterization of the document.

THE WITNESS: The WPATH standards of care as an example does not dictate necessary involvement of a psychiatrist. And I would have to review the Endocrine Society, but I don't believe that they

specifically --- from my guild either.

BY ATTORNEY BARHAM:

Q. Is it true that psychiatrists have training and skills that psychologists and marital therapists and social workers do not have?

A. That is correct.

ATTORNEY BARHAM: I'm going to hand you what we will mark as Exhibit-11. And this will be Tab 92 for those watching online.

(Whereupon, Exhibit-11, Policy Change Regarding Hormonal Treatment of Minors, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This document is an announcement of a policy change regarding hormonal treatment of minors with gender dysphoria at Astrid Lidgren Children's Hospital. Are you aware that this is the main gender clinic in Sweden?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't see any specific information about this document that reports where it's from.

BY ATTORNEY BARHAM:

Q. Are you aware of Astrid Lindgren Hospital by reputation?

A. I don't know if that's the name of it. No, I don't recall the specific name of the Swedish Children's Hospital.

Q. Are you aware that the Swedish Agency for Health Technology Assessment and Assessment of Social Services published an overview of the knowledge base which showed a lack of evidence of both long-term consequences of the treatments of gender dysphoria?

A. I have heard ---.

ATTORNEY BLOCK: Objection to form and where are you quoting from?

ATTORNEY BARHAM: Halfway through the first paragraph of the background section on page one.

ATTORNEY BLOCK: I'm sorry. Where was this document obtained from?

ATTORNEY BARHAM: I can supply that information, but this is an announcement of a policy change from a Children's Hospital in Sweden.

ATTORNEY BLOCK: Just for the record, this doesn't seem to have a walk --- like --- it just looks like words on a page without other sourcing on it.

ATTORNEY BARHAM: Your objection is noted.

THE WITNESS: I mean without speaking to the providence of the document, I have heard that there was a change within the Swedish establishment in regards to prepubertal youth or prepubertal youth.

BY ATTORNEY BARHAM:

Q. And what was your understanding of that change?

A. I would have to look through the specifics to know for sure.

Q. What is your general understanding of the nature of that change?

A. My general understanding was there was a pause on some of the treatments, medical treatments available for children with gender dysphoria.

Q. And by pause, at least according to this document, it means that they had decided hormonal treatments, i.e. puberty blocking and cross sex hormones, will not be initiated in gender-dysphoric patients under the age of 16.

Correct? First bullet point in executive decisions.

A. Again, not knowing the providence of this document, that's what this document says, yes.

Q. Are you aware that the United Kingdom's National Health Service put an end to initiating hormone treatment in new cases of individuals under 16?

ATTORNEY BLOCK: Objection to form and foundation.

THE WITNESS: My understanding is that it's under litigation right now and a final decision has not been reached, but I could be wrong about that.

BY ATTORNEY BARHAM:

Q. Are you aware that that's at least a current practice to put an end to initiating hormonal treatment in new patients --- in new cases of individuals under 16?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. Are you aware that the United Kingdom's National Services' current practice is to put an end to initiating hormonal treatments in new cases of individuals under 16?

ATTORNEY BLOCK: Objection to form and foundation.

THE WITNESS: I do not have the NHS

policies in front of me, so I cannot speak to that.

ATTORNEY BARHAM: The document Exhibit --- what number are on, 11.

LAW CLERK WILKINSON: 11, yes

BY ATTORNEY BARHAM:

Q. Exhibit 11 indicates, quote, the United Kingdom's National Health Service put an end to initiating hormonal treatment in new cases of individuals under 16. Do you have any reason to believe that that statement is inaccurate?

ATTORNEY BLOCK: Just objection that this document came out at a certain time and so it's just not clear what timeframe, you know, this question is referring to. And just another objection to this document. This appears to be a translation ---.

ATTORNEY BARHAM: Your objection is noted. And we've already agreed that there are the three objections, so I will ask you to cease the speaking objections.

THE WITNESS: I have reason to doubt it. Yes.

BY ATTORNEY BARHAM:

Q. What is your reason to doubt it?

A. My understanding is that there were legal

processes involved that have changed the landscape of this care in the U.K.

Q. Are you aware of the National Health Service reinitiating hormonal treatments in new cases of individuals under 16?

A. I am unsure. That's where my doubt is.

Q. But you're aware that at one time they put an end to those treatments for individuals under the age of 16?

A. Yes.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-12. This is a document --- an article by Lisa Nainggolan. I'm probably butchering the last name.

LAW CLERK WILKINSON: Tab 93.

ATTORNEY BARHAM: Tab 93, entitled Hormonal Treatment of Youth with Gender Dysphoria Stops in Sweden.

(Whereupon, Exhibit-12, Article by Lisa Nainggolan, was marked for identification.)

BY ATTORNEY BARHAM:

Q. In the fourth paragraph it indicates that other centers in Sweden that treat gender dysphoria youth in Loom and Licopene will follow the lead of the ALB. Are you aware that those two clinics had made the same decision as the Astrid Lindgren Children's Hospital?

A. I am not.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-4 --- I mean, I'm sorry Tab 94, Exhibit 13.

(Whereupon, Exhibit-13, Study, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you aware that Finland has similarly reversed its course issuing new guidelines that allow puberty blockers only on a case by case basis after extensive psychiatric assessment?

ATTORNEY BLOCK: Objection to form. And can you give the witness and me a chance to see this document? Can the document be scrolled down?

THE WITNESS: What I can say about this

document is that I don't --- I've not heard of what Cohere Finland is and how their recommendations impact policies on the ground in Finland.

BY ATTORNEY BARHAM:

Q. So are you not familiar with Cohere as an entity?

A. Correct.

Q. And that was a question. Are you?

A. I am not.

Q. Have you seen this document before today?

A. I have not.

ATTORNEY BARHAM: I'm going to show you what we'll mark as Exhibit 14, and this will be Tab 95 for those watching at a distance.

(Whereupon, Exhibit-14, Article Published on Medscape.com, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Betsy McCall published on Medscape.com on October 7th, 2021.

Is that correct?

A. Yes.

Q. If you look at the third paragraph from the bottom. Ms. McCall reports that Scandinavian countries, most notably Finland, once eager advocates for the gender-affirmative approach, have pulled back and issued new treatment guidelines in 2020, stating that psychotherapy rather than gender reassignment should be the first line of treatment for gender dysphoric youth. Do you see that?

A. I see that.

Q. Do you agree with that approach?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Medscape is a popular press forum for discussing issues and the language that is used by this author implies to me that this is not somebody who has a great deal of expertise or understanding in this field.

BY ATTORNEY BARHAM:

Q. Do you agree with using psychotherapy rather than gender reassignment as the first line of treatment for gender dysphoric youth?

A. The term gender reassignment in and of itself is not a meaningful term in this context, and so it's unclear what this particular author is trying to get across. And it's a false dichotomy that is being

positive that doesn't actually happen.

Q. Are you aware that Finland had issued new treatment guidelines in 2020?

A. I don't recall the specifics of when guidelines were recommended. But based upon the document that you placed in front of me it seems to be yes. But I think the description of those guidelines and what you put in front of me as the Cohere guidelines, which again I'm not sure what they actually represent in terms of their policies, there are contradictions there.

ATTORNEY BLOCK: I'm sorry. I want to put on the record this document about Finland also appears to be a translation from the original by the Society for Evidence Based Gender Medicine whose website describes it as an unofficial translation. So I just want to note that for the record.

ATTORNEY BARHAM: So noted. I'm going to show you what we will mark as Exhibit 15, Tab 96.

(Whereupon, Exhibit-15, Article in National Health Service, was marked for identification.)

BY ATTORNEY BARHAM:

Q. And I will direct your attention to page 13. This is a --- to identify the document for the record. This is an Evidence Reviewed Gonadotrophin Releasing Hormone Analogs for Children and Adolescents with Gender Dysphoria, from the National Health Service in 2021 --- or in 2020. On page 13, right at the beginning of the conclusions section the authors indicate that the results of studies that reported impact on the critical outcomes of gender dysphoria and mental health and the important outcomes of body image and psychosocial impact in children and adolescents with gender dysphoria are a very low certainty using modified grade. They suggest little change with GnRH analogs from baseline to follow-up. Do you see that?

A. I do not.

Q. First paragraph, under the conclusion.

A. Yes, I see that.

Q. Do you have any scientific basis for disputing this conclusion?

ATTORNEY BLOCK: Objection. Let him read the document.

THE WITNESS: I mean, without having seen this before, I'm not sure what the scoping was for how they defined which studies to include, which ones were

excluded, which would be required in a validated metaanalysis type approach. So without a very specific description of the methodology it's going to be hard for me to make an educated statement.

BY ATTORNEY BARHAM:

Q. If you look at page three of the document, under executive summary it highlights the nine observational studies that were included in the evidence review.

A. Yeah, in a metaanalysis or even a systematic review one of the processes that occurs is you define as the authors what you are searching for, what are the exclusionary and inclusionary criteria for each individual study and a list of every single study that was reviewed and why or why not it was included. That is missing here, so it's --- I don't know how the authors decided which ones to include or which ones not to include, which makes it hard to draw a conclusion from the report as it stands.

Q. Have you seen any other reports that suggest that the evidence being discussed on page 13 under the conclusions heading isn't anything higher than a very low certainty using modified grade?

A. I'm not 100 percent familiar with modified grade as a methodology, so I can't speak to how that would

apply to other studies.

Q. And the next paragraph the authors indicate that studies found differences in outcome could represent changes that are either a questionable clinical value or the studies themselves are not reliable and changes could be due to confounding bias or chance. Do you agree that that is possible?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Well, I agree that all things are possible, that scientific literature is not always 100 percent drawing any conclusions. But again, without knowing specifically how they included what they included or why they included what they included and why they opt to remove others, it's not possible for me to draw a specific conclusion from this.

BY ATTORNEY BARHAM:

Q. In paragraph 34 of your report you distinguish Dr. Levine's approach to treating gender dysphoria as --- or you describe it as gender identity conversion model. Do you recall that?

A. Yes.

Q. In your view are there two approaches to treating gender dysphoria in children and adolescents, the gender-affirming model and the conversion therapy

model?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would not agree with that characterization.

BY ATTORNEY BARHAM:

Q. How many other approaches do you see? How do you categorize the different approaches for treating gender dysphoria in children and adolescents?

A. I don't agree with the premise, but there specific defined treatment paradigms that are used. I think there are --- there are elements of conversion therapy as I referred to in my report. There are elements of gender-affirming care and there is a spectrum in between that.

Q. What are the elements --- what are the elements of identity --- gender identity conversion model in your mind?

A. I think the primary element as I understand it in conversion therapy is a presupposition that a transgender outcome is an inherently negative outcome and that engagement or interventions should be put into place in order to make that outcome the least likely as possible.

Q. And in your mind gender-affirming care is care

that affirms that child's gender identity.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As I described earlier, there are multiple components to how I would define gender-affirming therapy.

ATTORNEY BARHAM: Let's go to Exhibit 16, this will be Tab 97.

(Whereupon, Exhibit-16, Article by Roberto D'Angelo, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Roberto D'Angelo published in 2020, entitled One Science Does Not Fit All. Are you familiar with these authors?

A. Not personally, no.

Q. Are you familiar with them by reputation?

A. Looking at Dr. D'Angelo's footnotes, given that he works for the Society for Evidence Based Gender Medicine, then I might draw some conclusions from that.

Q. And what conclusions would you draw from that?

A. That there is a presupposition that transgender

identity is a negative outcome.

Q. And why would you draw that conclusion from that association?

A. Based upon the description of the care on the website. But that would be an assumption. I would never do that on any individual basis for any of these authors without knowing them.

Q. Beyond the association, do you have any reason to doubt the scholarly integrity of the authors here?

A. I think you can't really talk about scholarly integrity when it's a letter to the editor. It's not the same --- same level of evidence as another study would be.

Q. It's a letter to the editor that cites 37 different sources.

Is that correct? I'm looking at the last page.

A. The sources aren't numbered, so I don't know how many sources it has, but ---.

ATTORNEY BLOCK: Let him look at it.

BY ATTORNEY BARHAM:

Q. The references at the end are numbered. Excuse me. I apologize. I was looking at the wrong document.

A. There are 37 footnotes. I would assume that you are correct on that.

Q. We are talking about this letter to the editor --- let me clarify for the record because I was looking at the wrong document prior to questioning for which I apologize. This letter to the editor contains approximately two pages of typed materials listing the references that it uses.

Correct?

A. Yes, correct.

Q. Did you review this article when preparing your report?

A. I did not.

Q. Did you review this article before today?

A. I have not.

Q. The article reviews the document published by Turban, et al., in 2020, a study by Turban, et al, in 2020.

Is that correct?

A. It does.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. If you look at the last page, that article is the same article that you cited in paragraph 34 of your report.

Is that correct?

A. That's correct.

Q. This D'Angelo, et al. criticized Turban on page one for his simplistic affirmation versus conversion binary --- or I should state permeates his narrative and establishes a foundation for their analysis and conclusions. Do you see that on the first page?

A. What page?

Q. The first page, second column, middle paragraph.

A. I see that, yes.

Q. These authors state the notion that all therapy interventions for gender dysphoria can be categorically classified into this simplistic binary betrays a misunderstanding of the complexity of psychotherapy. Would you agree with that statement?

ATTORNEY BLOCK: Objection to form and asking him questions about an article he hasn't read.

THE WITNESS: The premise of that statement implies a cognition on behalf of the authors of that study that I don't think is necessarily accurate. I don't think that the authors of the Turban study would suggest that there is a simple binary of therapy interventions.

BY ATTORNEY BARHAM:

Q. And you would also say there's not a simplistic binary.

Is that correct?

A. That is correct.

Q. So in paragraph 34 of your report you're not trying to draw a --- you're not trying to draw some sort of dichotomy between Dr. Levine's approach and yours?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It is less helpful for me to describe it as identifying a dichotomy but really more focused on the goals of treatment approach. And if the goal of the treatment approach is a conversion type goal, then I think there is a draw between that and the standard of care of the affirmative model.

BY ATTORNEY BARHAM:

Q. So that in your view are there two different treatment goals when treating gender dysphoria? We can categorize treatment approaches by the goals, conversion therapy versus the gender-affirming model that you have outlined?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The way I would describe the goal of the gender-affirming model is to have a healthy, resilient child whatever the gender identity

ends up being, whether that is a cisgender identity or transgender identity. The difference between that and a conversion therapy is again a presupposition that a transgender identity is an inherently worse outcome which is not focused on the overall mental health and wellbeing of the child.

BY ATTORNEY BARHAM:

Q. I understand the distinction that you're making. I'm trying to understand are there --- as we assess different people's approaches to this area, can we characterize them by the goals of their approach into a gender-affirming model and a conversion therapy model and those are basically two different camps.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: We cannot.

BY ATTORNEY BARHAM:

Q. And in saying that I'm not trying to say that therapeutic techniques belong in one or the other. I'm just trying to say can we categorize treatment approaches by the goals?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. Because that seems to be what you are doing in

paragraph 34 of your report.

A. There's a process versus an outcome question that I'm just not understanding the distinction between for as I'm defining conversion therapy here, it is a specific goal that a transgender outcome is a negative outcome. For gender-affirming therapy or interventions there is no presupposed outcome that is better than another other than building the mental health and well-being of the child.

Q. Okay.

A. And there is many different ways of approaching that question and intervening that are going to be outside of the scope of a goal-based approach.

Q. It still sounds and again I'm just trying to explore and understand what you're saying here. It still sounds like there is one approach that has a goal in your view of having the child return to comfort with the child's natal sex and then there is another approach that has a goal that says I don't care where you end up. Is that fair to say?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I think it really narrows down what's a highly complex question, so it's really hard to give an answer to that. But if we define

conversion as approach one and everything else outside of that, I can work with that if that is helpful for having further discussion or asking more questions.

BY ATTORNEY BARHAM:

Q. Is that the way you would describe this situation in the field at present?

A. It is not the way I would describe the situation in the field.

Q. On page five of this article ---.

ATTORNEY BLOCK: I'm sorry, which article?

ATTORNEY BARHAM: On Tab 97 of Exhibit 16. Dr. D'Angelo's article.

BY ATTORNEY BARHAM:

Q. It sounds to me like you are rejecting what these authors describe as a conflation of ethical non-affirming psychotherapy and conversion therapy, next to the last paragraph on the page.

ATTORNEY BLOCK: Objection. Please give him time to read the page.

THE WITNESS: I've never seen of or heard a definition for ethical non-affirmative psychotherapy, so I don't know what that means.

BY ATTORNEY BARHAM:

Q. Is it your position that there is no such thing?
A. I have never heard of such a thing.
Q. On page six, in the first column, the authors write, in fact, some homophobic societies and indeed families that reject homosexuality among their children have embraced the affirmative biomedical pathway, which poses questions as to whether, quote, affirmative care in some cases in some instances serve the role of gay conversion therapy. Do you believe that that's a legitimate concern?
A. I do not.
Q. Why not?
A. As I mentioned before, affirmative care is not presupposed any one specific outcome.
Q. Do you think that someone can have a concern that affirmative care could serve the role regardless of its dole, serve the role of gay conversion therapy?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Well, the authors appear to have that concern. It is not a concern that has been borne out by the literature in my clinical experience.

BY ATTORNEY BARHAM:

Q. Do you believe that the authors are reasonable in having that concern?

A. I can't speak to what the authors' motivations are for writing this. I do not know.

Q. Based on your knowledge of the field, do you believe that that's a reasonable concern?

A. I do not.

Q. Why not?

A. Because understanding the overlap and the interaction between gender identity and sexuality and sexual orientation is a part of the assessment process in affirming care.

Q. At the bottom of page one the authors write, if anything other than affirmation is viewed as GICE ---.

A. What page is that?

Q. On page six, I'm sorry. Same page you were on with the gay affirmative therapy or gay conversion therapy. The last paragraph in column one of page six. If anything other than affirmation is viewed as GICE, it follows that the provision of psychotherapy in these clinical scenarios can be seen as harmful conversion efforts. If these therapeutic efforts do not aim to convert or consolidate an identity but instead aim to help individuals gain a deeper understanding of their discomfort with themselves, the factors that have contributed to their distress and their motivations for

seeking transition. Is it your position that there are no therapeutic interventions that do not aim to convert or consolidate an identity?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: What I would say is that helping individuals gain a deeper understanding of their discomfort with themselves, the factors contributing to their distress and their motivations for seeking transition is a vital and inherent part of gender-affirming care.

BY ATTORNEY BARHAM:

Q. But a moment ago you indicated that you were not aware of any ethical non-affirmative psychotherapy?

A. That is not a phrase that I have heard or have heard described. What the passage that you are referring to describes is a very typical process involved in any kind of standard of care around anything really is understanding motivations and understanding distress. There is nothing --- there is nothing novel about that description of care that is not already under the umbrella of affirming care.

Q. And a little bit later in that paragraph, I believe at the top of column two of page six, the authors right both conversion and affirmative therapy

efforts carry the risk of undue influence potentially compromising patient autonomy. Do you agree that that is a possibility?

A. Again, I'm not sure what the authors are referring to when they say affirmation therapy efforts because what they're describing as ethical, non-affirmative interventions falls to me under the clear rubric of affirming care, so I don't know what they mean by this.

Q. Okay.

In paragraph 35 of your report you indicate --- you stated research indicates that social transitioning significantly improves the mental health of transgender young people.

Is that correct?

A. Yes.

ATTORNEY BARHAM: And I'm going to show you what we will mark as Exhibit 17. This is Tab 118 for those following from a distance. This is a study by Gibson, et al. published in 2021.

(Whereupon, Exhibit 17, Study by Gibson, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. You've cited this article in footnote nine of your report.

Is that correct?

A. Let me just double check. I believe so. Yes.

Q. Under methods on page one of Exhibit-17 it indicates this a cross-sectional study.

Is that correct?

A. That is correct.

Q. Can cross-sectional studies be used to demonstrate causation?

A. Not on their own, no.

Q. So this study does not show that social transitions caused any improvement in mental health.

Correct?

A. This study demonstrated that there was a correlation between improved mental health and social transition.

Q. So it did not show causation.

Is that correct?

A. It did not show causation.

Q. I'm going to show you Exhibit 9. Let's go back to Exhibit 9.

LAW CLERK WILKINSON: Tab 117.

BY ATTORNEY BARHAM:

Q. Tab 117. This is the article by Lily Durwood, et al. published in 2017. You cited this article also in footnote nine of your report.

Is that correct?

A. That is correct.

Q. And we have previously discussed how this article reports what children and parents said about the children's mental health.

Is that correct?

A. That is correct.

Q. Really a self report.

Correct?

A. I think we went through that earlier. It was not just a self report. These were interview led evaluations.

Q. But an interview led self report.

Correct?

A. There were also parent reports that were ---.

Q. And so self reports of children, parental reports about their children.

Correct?

A. Correct.

Q. Okay.

And then in footnote nine you also cite a study by Olson, et al. in 2016, footnote nine of your report.

Correct?

A. That is correct.

Q. And in footnote nine you indicate that alleged statistical errors in that article have already been corrected in 2018.

Correct?

A. Correct.

Q. And for that assertion you cite a study by Olson, et al. in 2018.

Is that correct?

A. I don't see that.

ATTORNEY BLOCK: Objection. Where are you at?

THE WITNESS: I don't see it. If you can point to me where that is.

BY ATTORNEY BARHAM:

Q. Footnote nine, on page 11, small statistical errors in Olson 2016 had already been corrected in 2018, see Olson, et al., 2018, mental health of transgender student who are supported in their identity throughout.

A. Yes.

Q. Is that correct?

A. Yes.

ATTORNEY BARHAM: I'm going to show you what we are going to mark as Exhibit 18. This will be tab 119.

(Whereupon, Exhibit-18, Errata Sheet, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is the errata sheet that you cited in footnote nine of your report.

Is that correct?

A. That is correct.

Q. The only change in this 2018 article is the highlight and missing common from the 2016 article.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes.

BY ATTORNEY BARHAM:

Q. In paragraph 40 of your report you say that studies have repeatedly documented puberty blocking medication and gender-affirming hormone therapy are associated with mental health benefits in both the short and long term.

Is that correct?

A. That is correct.

Q. And the studies that you're citing for that assertion are those listed in footnote 14 of your report.

Correct?

A. That is correct.

Q. Are there any others that you are referencing?

A. Those are the only that I'm referencing.

Q. In paragraph 41 of your report you claim that Dr. Cantor fails to discuss many of the studies documenting the benefits of puberty blocking medication. Which of the studies in footnote 14 did he fail to discuss?

A. I would need to review Dr. Cantor's report to know specifically.

Q. Do you recall now which ones he failed to discuss?

A. I do not.

ATTORNEY BARHAM: All right. I'm going to show you what we will mark as Exhibit-19, and this is Tab 98.

(Whereupon, Exhibit-19, Article by

Tordoff, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Tordoff, et al, published in 2022, entitled Mental Health Outcomes in Transgender and Non-Binary Youth Receiving Gender-Affirming Care. This is one of the studies that you cited in footnote 14 of your report?

A. That is correct.

Q. According to table one on page five of this report 65 percent of the participants were also receiving mental health therapy.

Is that correct?

A. That is correct.

Q. So it's not possible to determine how much of the improvement was due to puberty blocking medication and gender-affirming hormone therapy and how much was due to the mental health therapy.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: There is a lot of questions in that one singular question about study design and what we know about the history of transgender health

outcomes prior to the existence of gender-affirming care. As this study is designed, it is not designed in such a way to be able to specifically keep that apart.

ATTORNEY BARHAM: All right.

I'm going to show you what we will mark as Exhibit-20, and this will be Tab 99.

(Whereupon, Exhibit-20, Article by Amy Green, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is the second article. This is an article by Amy Green entitled ---- it says et al. entitled Association of Gender Affirming Hormone Therapy with Depression, Thoughts of Suicide and Attempted Suicide Among Transgender and Nonbinary Youth published in 2021. This is the second article that you cited in footnote 14 of your report.

Is that correct?

A. That is correct.

Q. On page six of this report, column two, the authors indicate that causation cannot be inferred due to this study's cross-sectional design.

Correct?

A. That is correct.

Q. This study also does not prove that puberty blocking medication and gender-affirming hormone therapy caused any improvements.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: This study was not designed to show a causal outcome, no.

ATTORNEY BARHAM: Let's go to Exhibit 21, this will be Tab 100.

(Whereupon, Exhibit-21, Article by Turban, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Turban, et al. published in 2020 entitled Pubertal Risks for Transgender Youth and Risks of Suicide Ideation --- Suicidal Ideation?

ATTORNEY BLOCK: Objection to misreading the name of the study.

BY ATTORNEY BARHAM:

Q. This is the third article that you cited in

footnote 13 of your report.

Is that correct?

A. That is correct.

Q. And on page seven of this article the authors also indicate that limitations include the cross-sectional --- the study's cross-sectional design, which does not allow for determination of causation.

Is that correct?

A. That is correct.

Q. So this study does not prove that puberty blocking medication and gender affirming hormone therapy caused any improvements.

Correct?

A. This study was not designed to demonstrate causation.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-22. This is an article by Achille, et al. entitled Longitudinal Impact of Gender Affirming Endocrine Intervention on Mental Health and Well-being of Transgender Youths, Preliminary Results published in 2020.

(Whereupon, Exhibit-22, Article by Achille, et al., was marked for

identification.)

BY ATTORNEY BARHAM:

Q. You also cited this article in footnote 14 of your report.

Is that correct?

A. Yes, I did.

Q. And on page two of this report, the bottom of the first column, the authors write that most subjects --- quote, most subjects were followed by mental health professionals, closed quote, and quote, those that were not were encouraged to see a mental health professional.

Correct?

A. That is correct.

Q. And on page three, the first column, the authors say that after statistically adjusting for psychiatric medication and engagement in counseling, quote, most predictors did not reach statistical significance.

Is that correct?

A. Where are you?

Q. Page three, column one, under regression analysis.

A. Correct.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-23, this is Tab 102.

(Whereupon, Exhibit-23, Article by Kuper, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Kuper, et al. published in 2020, entitled Body Dissatisfaction and Mental Health Outcomes of Youth on Gender Affirming Hormone Therapy. On page six --- let me rephrase that for the record. You cited this article in footnote 14 of your report.

Is that correct?

A. That is correct.

Q. According to Table 2 on page six none of the results for those receiving puberty suppression were statistically significant.

Correct?

A. I need a few minutes.

Q. Take your time.

A. As I read the bottom of that table, there are a number of analyses that reached statistical significance.

Q. But if you look at the lines for each one under

each of the scores, body dissatisfaction, depressive symptoms, depressive symptoms QIDS, anxiety symptoms, panic symptoms, generalized anxiety symptoms, social anxiety symptoms, separation anxiety symptoms, school avoidance symptoms, the lines marked puberty suppression have no superscript on them.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That is correct.

BY ATTORNEY BARHAM:

Q. So none of those --- none of the specific findings regarding individuals on puberty suppression only were statistically significant.

Is that correct?

A. None of them were statistically significant as measured by their reports.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-24. This will be Tab 103.

(Whereupon, Exhibit-24, Article by van der Miesen, et al., marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by van der Miesen, et al., published in 2020 entitled Psychological Functioning in Transgender Adolescents Before and After Gender Affirmative Care Compared with Cisgender General Population of Peers. You cited this article in footnote 14 of your report.

Is that correct?

A. That is correct.

Q. The authors on page five, in column two, the authors of this study ---.

A. What page?

Q. Page five.

A. I have that in the 700s.

Q. Oh 703, sorry. 703. The fifth page, but it's paginated 703. The authors of this study indicate that, quote, due to its cross-sectional design, the present study cannot provide evidence about the direct benefits of puberty suppression over time and long-term mental health outcomes?

Correct?

A. I don't see where that is.

Q. Next to the last paragraph in the second column. The third and most important --- skipping the cross-sectional design of this study different

participants in the groups before and after puberty suppression may potentially limit the results?

A. Yes, I see that.

Q. The present study can therefore not provide evidence about the direct benefits of puberty suppression over time and the long-term mental health outcomes.

Is that correct?

A. That is correct.

Q. So the authors of this study indicate that conclusions about the long-term benefits of puberty suppression should thus be made with extreme caution, meaning prospective long-term follow-up studies with repeated measured design of individuals being followed over time to confirm.

Is that correct?

A. That is correct.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-25. This will be Tab 104.

(Whereupon, Exhibit-25, Article by de Vries, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by van der Miesen --- or I mean De Vries, et al --- excuse me, De Vries, et al., 2014, Young Adult Psychosocial Outcome After Puberty Suppression and Gender Reassignment. This is the last article you cite in footnote 14 of your report.

Is that correct?

A. That is correct.

Q. At the Dutch clinic patients who receive puberty blockers also receive psychotherapy.

Is that correct?

A. That is correct.

Q. So again, there is no way to determine how much of the improvement reflected in this study is due to the puberty blockers and how much is due to the psychotherapy.

Correct?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Let me restate my response to the previous question. The Dutch clinic always recommends participation in therapy. I'm not a 100 percent certain that every participant participated in the therapy as directed.

BY ATTORNEY BARHAM:

Q. For the most part, the Dutch model combined

psychotherapy with puberty blockers.

Correct?

ATTORNEY BLOCK: Objection.

THE WITNESS: That is correct. And may I state that I think that is part of the reason that the van der Miesen study is quite important because it does start to look at the impact of being on the wait list and the impacts of just getting psychotherapy alone versus access to puberty suppression and/or hormones.

ATTORNEY BARHAM: I'm going to show you what we're going to mark as Exhibit-26. Tab 105.

(Whereupon, Exhibit-26, Article, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Michael Biggs published in 2020, Gender Dysphoria and Psychological Functioning in Adolescents Treated with GnRHa. Are you familiar with this study?

ATTORNEY BLOCK: Objection, mischaracterizes the document.

BY ATTORNEY BARHAM:

Q. Are you familiar with this letter to the editor?

A. I have not read this letter to the editor.
Q. If you look at bottom of page one continuing onto page two, the author writes an additional complication with this treatment is that the Dutch model combines GnRHa with psychological support so the two effects are inevitably conflated. Do agree with that statement?
A. I do not.
Q. Why?
A. Use of GnRH logs for this kind of intervention were first used in 1999. So every --- every transgender person prior to 1999 had no access to this kind of treatment. Between 1999 and probably about 2014 these medications were not widely available and so unavailable for use for most people. So we have the clinical experience of adults, talking retrospectively, about their experiences as well as the patients that we have treated that did versus did not have access to these interventions. So we have both clinical experience and some retrospective data that looks at this question specifically.
Q. Can retrospective data demonstrate causation?
A. In some cases it can.
Q. But retrospective data is subject to recall by

us in other drawbacks that undermind its reliability.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It depends upon the type of data that is being calculated.

BY ATTORNEY BARHAM:

Q. Why do you mean by that?

A. If it is qualitative interview data, yes, there is retrospective data that reviews contemporary documentation and charts, lab results, imaging results, et cetera. That is less confounded by that kind of bias.

Q. When we are talking about people recalling their experiences before hormone therapy was available that would be the qualitative type of data.

Correct?

A. Correct. And when analyzing that data you have to take that into account.

Q. So that still doesn't help me understand why you disagree with that statement because the Dutch model combines hormones with psychosocial --- psychological support, the two effects are inevitably conflated?

A. We have a long history of people receiving psychological support alone. And with the addition of

these interventions and this model of care, outcomes improve with specific measures around gender dysphoria.

Q. Over that time the psychological support would have evolved as more understanding was gained.

Correct?

A. One would hope, yes.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARNHAM:

Q. But for the individuals who receive treatment under the Dutch model, receiving both the hormones and the psychological support, it's impossible to determine how much improvement was due to the psychological support and how much was due to the hormones.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: There has not been a study that has sought to identify the specific percentage of impact of those two.

ATTORNEY BARHAM: All right.

I'm going to show you what we will mark as Exhibit 27.

(Whereupon, Exhibit 27, Article, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Tab 106. This is an article by Costa, et al. In 2015 Psychological Support, Puberty Expression and Psychosocial Functioning in Adolescents with Gender Dysphoria.

Is that correct?

A. That is correct.

Q. You cite this article in footnote 14 of your report.

Is that correct?

A. That's correct.

Q. Now, in this study there were two groups of adolescents, those who receive both puberty --- I mean, both therapy and puberty blockers at the outset and those who received just therapy at the outset.

Correct?

A. I'll need a minute to refresh myself.

Q. Sure. And I'm referencing pages 228, the second column over to 229, the top of the first column.

A. That's correct.

Q. And on page 2211 going over to 2212, the author's note that the difference between the immediately eligible group and the delayed eligible

group failed to reach significance.

Correct?

A. So as I read this, immediately eligible group who had a higher in psychosocial functioning did not show any significant improvement after 12 months, but after 12 months there was a statistical difference.

Q. Then it says finally, even if the end or follow-up study, plan three, immediately eligible group had a five point higher CGAS score than the delayed eligible group, this difference failed to reach significance.

Correct?

A. That's correct. What I have to point out there, is CGAS is the children's global assessment scale, and not a measure of gender dysphoria or quality of life or distress in body.

Q. Is it a measure of a child's mental health?

ATTORNEY BLOCK: Objection.

THE WITNESS: It is a rough and very precise measure of general functioning.

BY ATTORNEY BARHAM:

Q. But it is the scale that this study was using.

Correct?

A. That is correct.

ATTORNEY BARHAM: Let's go to tab 28.

(Whereupon, Exhibit 28, Article by Edwards-Leeper, was marked for identification.)

THE WITNESS:

And to clarify the CGAS is something that is clinician rated of remedy objective criteria.

BY ATTORNEY BARHAM:

Q. Do you want to take a break?

A. In a few minutes if that's okay.

Q. Are you aware of Dr. Edwards-Leeper's reputation in the field?

A. I am.

Q. Are you personally acquainted with Dr. Edwards-Leeper?

A. I am.

Q. Have the two of you worked together in the American Psychiatric Academics Association?

A. We have not worked together through the American Psychiatric Association. Dr. Edwards-Leeper is a psychologist.

Q. She served as a member of the task force to

develop practice guidelines for working with transgender individuals? Have you served in a similar capacity with the American Psychiatric Association?

A. I have. And we both worked together on the WPATH standards of care provision.

Q. You anticipated my next question. So you would agree that Dr. Edwards-Leeper is considered an international expert in this area.

Correct?

A. Yes. Dr. Edwards-Leeper is a complicated figure right now, but yes, she has a lot of expertise.

ATTORNEY BARHAM: I want to show you what we will mark as Exhibit 29. This is Tab 29.

--

(Whereupon, Exhibit 29, Article by Edwards-Leeper, was marked for identification.)

ATTORNEY BLOCK: I imagine you have a lot of questions about this next document, and I just want to make sure the witness has a chance to have a bathroom break if it's going to go on for ten minutes or more.

ATTORNEY BARHAM: I have no objection to that.

THE WITNESS: Five minutes.

ATTORNEY BARHAM: We will take five minutes.

VIDEOGRAPHER: Going off the record. The time is 12:12 p.m.

OFF VIDEO

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEO

VIDEOGRAPHER: We are back on the record the current time reads 12:21 p.m.

BY ATTORNEY BARHAM:

Q. A moment ago we were discussing Dr. Edwards-Leeper and you commented that she is a complicated individual.

What did you mean by that?

A. What I mean is that she has published some things in popular press that have led me to be talking about her here.

Q. And would one of those be the document before you Exhibit 29?

A. That is correct.

Q. This is an article published in the Washington

Post by Dr. Edwards-Leeper and Dr. Anderson.

Is that correct?

A. That is correct.

Q. What is it --- are there any other publications that Dr. Edwards-Leeper has written recently that caused you to describe her as a complicated figure?

A. No, no.

Q. So just this one article.

Is that correct?

A. Yes.

Q. Are you familiar with Dr. Anderson?

A. I am.

Q. She is a clinical psychiatrist?

A. She is a psychologist.

Q. A psychologist. And Dr. Anderson has been working with transgender youth for a long time.

Is that correct?

A. I'm not a hundred percent familiar with Dr. Anderson's history, I don't know.

Q. Was she in the field before you?

A. I don't know.

Q. Dr. Anderson is also a transgender.

Is that correct?

A. That is correct.

Q. Dr. Anderson is a member of the American Psychological Association Committee tasked with writing guidelines and working with transgender individuals.

Is that correct?

A. I do not know.

Q. Dr. Anderson is a former president of the U.S. Professional Association for Transgender Health.

Is that correct?

A. That is correct.

Q. Dr. Anderson is a former board member for the World Professional Association for Transgender Health.

Correct?

A. I'm not sure.

Q. Beyond the committee assignments listed on page two of your CV have you held any committee assignments for the USPATH or WPATH Organizations?

A. Not additional committee assignments than WPATH or USPATH, no.

Q. In this copy published in the Washington Post Dr. Edwards-Leeper and Dr. Anderson summarizes a situation of a 13-year old natal girl with no prior history of gender dysphoria. Some issues of sexual assault and depression and then an abrupt announcement of this child of transgender identity.

Does that summarize the scenario they outline?

A. That is the scenario they outlined.

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARNHAM:

Q. What percent of your patients first present as a team without a prior gender dysphoria diagnosis?

A. Well, first I just want to address the scenario with Patricia, this is a popular press article, so I have no idea if Patricia is a real person or an amalgam.

Q. Understood.

A. I hope it's an amalgam, because it would be unethical to not have consent to publish this story. Whether or not a child has a diagnosis of gender dysphoria before they come to see me is dependent upon if they've had previous evaluations, so it's dependent. I don't have a specific number for you.

Q. In general, how many of your patients first present as a team versus first presenting as a child?

A. That is very different, depending upon which cite that I was practicing at. So in New York I saw more prepubertal youth than I do in Chicago.

Q. So in New York, what percent of your patients first presented as adolescents versus children?

A. I think I answered that question earlier. If I

remember it was 25 percent of the 75 percent.

Q. And in Chicago how many --- what percentage of your patients present as adolescents versus as teen?

A. Probably 90 percent during adolescence.

Q. And are those all adolescents who first presented as adolescents or did they first present with gender dysphoria as a child?

A. It's a combination of both.

Q. So of your adolescent patients how many presented first as an adolescent, and how many presented as a child?

A. I don't have that information in front of me.

Q. Do you have a general ballpark idea?

A. No, I mean, the question --- I guess what I'm struggling with is that there are a lot of adolescents who I see who presented the first as adolescent, but have clear symptoms of gender dysphoria going back to childhood. So I'm not sure how to characterize those children in your question.

Q. What percent of the patients that present themselves to you first as an adolescent are natal female?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: I would say in the clinic where I'm practicing, currently certainly over half of the children presenting in adolescence for the first time are assigned female at birth.

BY ATTORNEY BARHAM:

Q. And in New York, what percent of the patients that presented to you first as an adolescent or natal female?

A. In New York it was more even split between those assigned female and those assigned male at birth.

Q. And here when you say it's more than 50 percent are we talking 75 percent, we're talking 80 percent, 90 percent?

A. I don't have that information in front of me, so I couldn't tell you specifically. It would be a guess.

Q. Do you have a range?

A. I don't. I don't. More than 50 is the closest that I can get right now.

Q. More than 75 percent?

A. Probably not, no.

Q. So somewhere between 50 and 75?

A. That's a good guess.

Q. What proportion of teen girls presenting at your clinic have suffered sexual assault or abuse of any

sort?

A. So if we're talking assigned females at birth, is that what you mean?

Q. Yes. Natal females.

A. Between one out four and one out of eight assigned females at birth who do not identify as transgender have exposure to sexual assault and trauma f some kind. What we know from the literature is that rates of sexual assault and sexual abuse of transgender youth is higher than that and my patients are relatively similar to that, so probably in the order of 25 to 30 percent.

Q. What policies do you have in place to ensure adequate counseling and therapy for that trauma before making any decisions regarding hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Assessing co-occurring psychiatric disorders or stressors or traumas is an inherent part of any assessment.

BY ATTORNEY BARHAM:

Q. Beyond just it being an inherent part of any assessment, do you have any other policies or standards that you use to ensure that the trauma is addressed before making decisions regarding hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I mean, I don't have a written down policy. Incorporating understanding of trauma is always going to be an important part of any informed assessment prior to moving forward with an intervention.

BY ATTORNEY BARHAM:

Q. Do you agree or disagree that before prescribing hormones to a teen girl who has suffered sexual abuse or depression, medical professionals have a responsibility to confirm that the patient has received a thorough mental health assessment, including investigating how other mental health issues and any other changes in her life might be contributing to her desire are perceived transgender identification?

ATTORNEY BLOCK: Objection to form and terminology.

THE WITNESS: So for any child regardless of gender, who we are recommending a medical or surgical intervention, we are assessing for the presence of gender dysphoria, the presence of co-occurring psychiatric disorders and their impact on that diagnosis or the capacity to consent to treatment, and a clear understanding of the risks, benefits and alternatives of

whatever that intervention may be.

BY ATTORNEY BARHAM:

Q. So then --- and that would include investigating how other mental health issues and other changes in her life might be contributing to her desire or perceived transgender identification?

A. That is correct.

ATTORNEY BLOCK: Objection to terminology and pronouns.

BY ATTORNEY BARHAM:

Q. Do you agree or disagree that the standards of care recommend mental support and comprehensive assessment for all dysphoric youth before starting medical interventions?

A. I would agree that the current recommendations, which are in the process of being updated recommend that a mental health assessment be in place. And it's not a mandate that psychotherapy is a requirement prior to initiation of medical care for gender dysphoria, and it is not indicated for every patient.

Q. And that's partly because the standards of care are guidelines not mandates.

Correct?

A. It's mostly because of the indications for the

patient's best interest that psychotherapy is not a requirement for folks who are otherwise doing well.

Q. But it's also true that the standards of care are guidelines not mandates.

Correct?

A. That is correct. They are guidelines.

Q. On page two of this article the author is --- and by this article I'm referring to tab 29. The author has indicated that a study of ten pediatric gender clinics in Canada found that half do not require psychological assessment before initiating puberty blockers or hormones.

Is that your policy?

A. Where is this in the article? I don't see it.

Q. The bottom of page two?

A. What I want to emphasize is this is an opt ed and a popular press outlet and not a study. So I have no idea where they gathered their information about this or the accuracy of the statement, nor do I know what the authors meant by a psychological assessment.

Q. I understand. I did not mean to imply that this article Exhibit --- tap 29 is a study. I was merely quoting the authors, that a study of ten pediatric gender clinics found that half do not require

psychological assessment before initiating puberty blockers or hormones. My question to you is, is that your policy?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I can't speak to the accuracy of Dr. Edwards-Leeper and Dr. Anderson's description of a study that I haven't seen.

BY ATTORNEY BARHAM:

Q. I'm not asking you to. I'm asking do you have --- is it your policy at your clinic that you do not require psychological assessments before initiating puberty blockers for hormones?

A. We require psychological assessments prior to initiation, yes.

ATTORNEY TRYON: Travis, it's Dave Tryon. You referred to this as Tab 29, I believe you mean Exhibit 29. Is that right?

ATTORNEY BARHAM: It's both Exhibit 29 and Tab 29.

BY ATTORNEY BARHAM:

Q. When patients come to you referred by a pediatrician or counselor with no expertise in gender dysphoria assessment or diagnosis, what policies do you have to ensure that the patients receive full and

adequate course of mental healthcare before prescribing life altering hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As a mental health professional I'm not the person who is prescribing those treatments.

BY ATTORNEY BARHAM:

Q. Before you recommend someone for eligibility for life-altering hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Prior to making a recommendation of hormone initiation I'm doing my own assessment and ensuring that those standards are met.

BY ATTORNEY BARHAM:

Q. So beyond your own assessments do you have any policies that guide that process?

A. Our clinic has its own policies dependent upon clinical practice or whether or not patients are enrolled in a particular trial, but it is the standard of care as laid out by both Endocrine Society and WPATH that adolescent patients have a psychological assessment. There's a lot of latitude for what that actually means.

Q. And on page three of this document, Exhibit 29,

the bottom of the first paragraph the authors write as a result we may be harming some of the young people we strive to support, people who may not be prepared for the gender transitions they are being rushed into.

Do you share the concern of these authors?

A. I don't have numbers on my end. Which --- where is it?

Q. (Indicating).

A. Got it. Can you repeat the question? Sorry.

Q. The authors express concern that we may be --- quote, we may be harming some of the young people we strive to support, people who may not be prepared for the gender transitions they are being rushed into.

Do you share the author's concern?

A. I do not. These are tested hypotheses that can be researched, and this is not what this is.

Q. You said you have no concern that people are being rushed into gender transitions?

A. This is a supposition by these two authors that people are being rushed into gender transition. I'm not sure what that means, and that has not been the clinical experience that I've had nor what the guidelines recommend.

Q. So you were not aware of people being rushed

into transitions that they are not ready for?

A. That has not been my experience, no.

Q. On page four towards the bottom of the page, the authors reference a recent study of 100 detransitioners, 38 percent of whom reported that they believe their original dysphoria had been caused by something specific such as trauma, abuse or mental health condition. Fifty-five (55) percent of whom said they did not receive adequate evaluation from a Dr. Or mental health professional before starting transition.

Are you aware of that study that authors reference here?

ATTORNEY BLOCK: Object to form.

THE WITNESS: I am --- I'm assuming because I think they have a footnote in here somewhere, but it is not in this particular article, but they are receiving to the recent 2021 Littman study detransitioners.

BY ATTORNEY BARHAM:

Q. Do you share the concern that some have been misdiagnosed as transgender when their gender dysphoria was, in fact, not innate, but cause by something specific, such as trauma, abuse or mental health condition?

A. I really don't mean to parse this, but I don't know what Dr. Edwards-Leeper or Dr. Anderson's concerns are, but the evidence that we have from the literature and from our clinical experience is that this is not a broad experience of most children.

Q. And what literature, are you referencing when you say we referenced the literature?

A. I'm referencing the literature that I cited in my report.

Q. And which specific portions of your report are you referencing?

A. Let me just take a moment. What I'm referencing is the longitudinal studies in particular that have followed these kids over time.

Q. And which ones would those be in your report?

A. Really anything from the Dutch clinic is going to have a longitudinal focus to them, but I think what's more important is that in all of these studies, which include some of the Dutch studies both in childhood and adults that have looked at regret rates or detransition have shown that this is a very infrequent occurrence, and there has been nothing I've read within the scientific literature that in, any way, tries to operationalize this idea of children being forced into

or pressured into transition.

Q. What steps do you take to ensure that gender dysphoria, the child's --- the child's or teen's gender dysphoria was not caused by something specific such as trauma, abuse or mental health condition before recommending someone for puberty blocking or cross sex hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I perform a thorough evaluation.

BY ATTORNEY BARHAM:

Q. Anything beyond the thorough evaluation?

A. A very thorough evaluation. It involves multiple steps as I described earlier.

Q. So this comprehensive --- the authors actually talk about a comprehensive assessment on page three of their article. And they indicate that comprehensive assessment and gender exploratory therapy helps --- quote, helps a young person peel back the layers of their developing adolescent identity and examines factors that contribute to their dysphoria. And those include --- so what steps did you take to identify the factors that may contribute to a child's or teen's sense of dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It is a thorough assessment and there are multiple factors within that assessment that speak to those concerns specifically.

BY ATTORNEY BARHAM:

Q. And what are those multiple factors?

A. Understanding developmental history, getting multiple performance, doing the diagnostic assessment of any co-occurring mental health conditions and ensuring that those are adequately explored and understood.

Q. What factors in a transgender identity do you identify as most often contributing to gender dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think it's complicated to answer that in a short way, because not every child who identifies as transgender would meet diagnostic criteria for gender dysphoria. And specifically, if we agreed with the premise that the gender dysphoria is being caused by trauma that's specifically a rule out of the diagnosis of gender dysphoria. So that is part of what we're doing in an assessment is to understand the role of other potential factors in helping a kid explore and understand their identity.

BY ATTORNEY BARHAM:

Q. Then allow me to clarify the question. What factors other than an innate transgender identity do you identify as most often contributing to a child's transgender identification?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The children that I have treated over my years of doing this work that describe a gender identity that is inconsistent who don't ultimately meet the criteria for gender dysphoria are often children who have been subjected to multiple types of trauma. That would be one of the factors.

BY ATTORNEY BARHAM:

Q. What other ones would you identify?

A. The other factors are around parental conflicts. That's probably the other large cohort of kids when exploration is the full come around which parents, particularly divorcing parents, are acting in conflict.

Q. So by that you mean, for example one parent supporting an affirmation approach and the other raising concerns about proceeding in that direction?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That's not an infrequent occurrence and this is a very rare outcome to that, but in that cohort of patients who desist, I would say in

their identities that is a shared characteristic of some of the patients that I have seen.

BY ATTORNEY BARHAM:

Q. So you have not only two factors that could contribute to a child's transgender identification, other than ---?

A. Can I stop you, sir? I'm not identifying that as a cause or a causal factor in a core gender identity. It is the understanding and expression of that identity that often changes.

Q. Okay.

And that is why I was trying to talk about transgender identification more broadly. But you've identified two factors that contribute to that not necessarily causal but contribute. Are there any others that you have identified as most often contributing as ---?

A. Not that I have seen.

Q. The authors on page three express a concern about other influences that patients can be subjected to, so as in these assessments patients reflect on the duration of the dysphoria they feel they continue a gender --- the intersection of sexual orientation, et cetera, social media, internet and peer influences.

Do you share concerns that teens maybe misled by TikTok or other social media to self diagnose as transgender when, in fact, other factors have driven their gender dysphoria or their transgender identification?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: To clarify transgender isn't a diagnosis, so I'm not concerned about that specifically. And I think that's the study of all phenomenon, whether or not this is occurring, but again, as a part of a comprehensive gender assessment, we are looking at multiple factors beyond a child's self-report.

BY ATTORNEY BARHAM:

Q. So do you share concerns that teens may be misled by social media to self declare as transgender when, in fact, other factors have driven their gender dysphoria?

ATTORNEY BLOCK: Objection.

THE WITNESS: I would not characterize it in that way.

BY ATTORNEY BARHAM:

Q. How would you characterize it?

A. I would characterize it by taking exploration of

an identity via TikTok for what it is, as a normal process of adolescent development and having a child who self identifies as transgender as a result of seeing a video on TikTok is not going to be the child who meets the typical phenomenology that we would see with gender dysphoria. That is part of the assessment that we are evaluating.

Q. Okay.

So then in general, you don't agree with the concerns that the authors raise regarding the influence of social media, internet and peer influences.

Correct?

A. I would say it's a matter of degree. I don't think social media has been a particularly healthy thing for kids in general, and understanding how it impacts kids is something that we all need to be learning more about.

Q. In the last paragraph on page three, the authors talk about how the WPATH recommends collaborative approach that involves parents and take into account the complexities of adolescents.

Do you see that?

A. Yes.

Q. Do you understand the WPATH standards of care

for adolescents to call for a collaborative approach that involves both parents whenever possible?

A. There is not a specific call out within the standards of care for my recollection that say both parents need be involved, but that's certainly implied and is the general practice to include all parents or all family members who are involved in the child's life whomever is going to need to be in the room in order to both get a clear understanding of what's going on as well as make sure the child gets the adequate support to be able to thrive.

Q. So is it your understanding that the WPATH standards of care would allow treatment to proceed based on the consent of one parent?

A. As we talked about earlier, these are guidelines and not mandates. In practice within the United States almost all consent processes for puberty suppression and hormones go through a two parent consent process whenever possible, even though that is not a requirement of the law.

Q. What I'm trying to get to is what is the requirements of the guidelines, recognizing that the guidelines are not mandatory, but do the guidelines allow for treatment based on the consent of one parent?

A. I think one of the limitations of an international document is that there is not going to be that level of specificity because consent laws are going to be different from state to state, not to mention country to country.

Q. Okay.

On page two --- I'm sorry, on page three --- let me clarify again. I'm sorry I confused myself. On page two the authors write that after exploring who she was --- after a year of exploring who she was, Patricia no longer felt she was a boy, she decided to stop binding her breasts and wearing boys clothes.

What proportion of those who present at your clinic change their minds and decided to remain with or return to the gender identity of their natal sex before undergoing any hormonal treatments?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm one practitioner in my clinic, so I don't have the data on everybody. And I think a lot of that is going to depend upon the population that you are seeing.

BY ATTORNEY BARHAM:

Q. What proportion of your patients then changed their mind and decide to remain or return to the gender

identity of their natal sex before undergoing any hormonal treatments?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say a minority of patients.

BY ATTORNEY BARHAM:

Q. Do you have a range?

A. I don't. I think when you were asking those questions at the beginning about my 500 transgender patients in that cohort, and I think 75 percent pursued some things, but being that 25 percent that didn't. Somewhere in there.

Q. On page five of this document, the last page the authors report a rising a number of detransitioners that clinicians report seeing. Are you aware of this rising number of detransitioners?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm aware that these two authors are raising that it's a possibility. It is not something that I've seen published in the literature.

BY ATTORNEY BARHAM:

Q. Have you seen a rising number of detransitioners at your clinic?

A. I think the question is whether or not the

percentage is changing and that's not an answer we know. I think by definition the more people you see the more folks --- the detransition you're going to see. And the difference of children who had access to gender care now compared to a decade ago is just orders of magnitude different. But I don't know or there has not been any evidence that I've seen that the percentage of kids who detransition is any different now than it was a decade ago.

Q. A few paragraphs above what we were just looking at, it says only a quarter of these individuals told their doctors they had reversed their transitions making this population especially hard to track. Would you agree that this population is difficult to track?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, this is not a study and so it's hard to kind of make a pronouncement about a population without a defined understanding of what that population actually is. Our folks who don't talk to their medical professionals about dissatisfaction in their care, a difficult population to treat, I think, probably by definition that is true.

BY ATTORNEY BARHAM:

Q. And to be clear, I wasn't asking if they're

difficult to treat, I was just asking would you agree they're difficult to track?

A. I think by definition, yes, if they are not reaching out to their providers or dropping out of studies, yes.

Q. The next to last paragraph of this article begins by saying the pressure by activists, medical and mental health providers along with a national LGBT organizations to silence the voices of detransitioners and sabotage the discussion around what is occurring in the field is unconscionable. Do you agree that it is concerning that certain organizations are seeking to silence the voice of detransitioners?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It is not my experience that organizations are seeking to silence the voices of folks who identify as detransitioners, no.

BY ATTORNEY BARHAM:

Q. If they were would you agree that that is unconscionable?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: My job as a psychiatrist and a child psychiatrist in particular is to understand the kid who is sitting in front of me in that very

moment. I want to understand how to best meet their needs. So anything that is going to interfere with me being able to understand that is going to be a problem for me.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-30. This is also Tab 30.

(Whereupon, Exhibit-30, Interview by Lisa Selin Davis, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an interview written up by Lisa Selin Davis of Quillette entitled Trans Pioneer Explains her Resignation from the U.S. Professional Association for Transgender Health, published at the beginning of 2022. Are you familiar with this article?

A. I am not.

Q. I'm going to direct your attention to page three. This is an interview with Dr. Anderson, the same individual who is a co-author of the Washington Post article we were just discussing.

Correct?

A. That is correct.

Q. On page three Dr. Anderson states, the data are very clear that adolescent girls are coming to gender clinics in greater proportion than adolescent boys and this is a change in the last couple of years and it's an open question, what do we make of that. We really don't know what's going on and we should be concerned about it. Does her experience match your experience?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think it's consistent in the literature that we've seen more assigned females at birth presenting for care than in the past.

BY ATTORNEY BARHAM:

Q. And have you seen this change in balance since approximately 2015?

A. I don't know if I would say --- I could point to one specific year, but with each year it seems like that's --- I think probably that's when the data came out that that demonstrated it.

Q. When do you recall beginning to see this trend develop?

A. I think one of the challenges is that the scope of the literature is limited to a few very specific subsets of where clinical care is practiced, and so we have to just be careful not to completely generalize.

So in these specific clinics what we have seen is a preponderance and an increase of assigned females at birth. I can't speak to this being a national phenomenon, but the literature probably certainly all points in that direction. I think personally for me I just started to see more assigned females at birth presenting in adolescence I think in the mid 2010s is not unreasonable.

Q. Is there any test in scientific understanding as to why this trend in the literature is developing?

A. There is not.

Q. Do you agree that this is something that practitioners should be very concerned about before agreeing to administer sterilizing cross sex hormones to teen girls?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The thing that's important is what are the specific factors of the child in the family that is sitting in front of you and how to ensure that that child has gotten appropriate care and that we're making a recommendation based upon the best interest of that individual child that is irrespective of population-based changes that are happening.

BY ATTORNEY BARHAM:

Q. Don't you need to assess though whether the individual in front of you is exemplar of that national --- of that trend in the literature?

A. That's where --- that's where an assessment comes in.

Q. So you would agree then that practitioners should be concerned about this trend before deciding to administer hormones.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: What I'm stating is that the guidelines for what's involved in assessment have been relatively clear and that we want to make the decisions based upon what's in the best interest and understanding of the patient and family that we are seeing. We should always be concerned. We should always be building up our understanding of the field, as well as some of the epidemiology of the field. But that doesn't change the individual experiences of the patient and the family that we're meeting with.

BY ATTORNEY BARHAM:

Q. Okay.

At the bottom of page four Dr. Anderson says that she is, quote, worried that there is a new group of

adolescents who have preexisting mental health problems and are looking for an explanation about who they are. And there's a bit of I would say fantasy about seeking to form an identity that may then explain their distress. You would agree that the adolescent years can be distressing for many teens, whether they are transgender or not.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would wholly agree with that, yes.

BY ATTORNEY BARHAM:

Q. Do you share the concern that some teens who present at clinics are indulging in a fantasy about what a transgender identity will do for them and their distress?

A. I would not put it in that way, no.

Q. As part of your assessment do you have to --- as part of your thorough assessment do you have to assess whether the teen is incorrectly assessing what a transgender identity would do for them and their distress?

A. A part of any formed --- informed consent process is assessing the understanding of the child and

the family's understanding of the risks, benefits and alternatives of that specific intervention. That would include an unrealistic belief about what the potential benefits may be.

Q. All right.

I want to go to page five of this document. Dr. Anderson indicates earlier today I talked to some parents who brought their child to a health professional. The child is seen three times by a therapist and then recommended for hormones. The therapist never talked to the parents. Do you share her concern that three sessions with a mental health providers is far less than required before a competent diagnosis of a durable transgender identity can be made?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: I would not. The objection as I read it in this article that you've put in front of me with the interview with Dr. Anderson, her concern seems to be more about not having spoken to the parents prior to the recommendation. And I can't take her word for it that this was true. We hear a lot of things from parents who express frustration with care that is ultimately found not to be accurate.

BY ATTORNEY BARHAM:

Q. Would you share the concern that prescribing hormones if one parent is strongly opposed to it is creating a likelihood of family conflict that is going to likely be destabilizing and harmful to the child?

ATTORNEY BLOCK: Objection to the form. Are you referencing something in the article or is this your own question?

ATTORNEY BARHAM: I am referencing page six, where Dr. Anderson says you don't want to rush ahead with a kid, giving them encouragement that they're going to get hormones until we bring their parents along. Battling the parents is a no win proposition.

BY ATTORNEY BARHAM:

Q. So just to be clear about the question do you share the concern that prescribing hormones if one parent is strongly opposed is likely creating the likelihood of family conflict that may be separately destabilizing and harmful to the child?

ATTORNEY BLOCK: Objection to the form and foundation.

THE WITNESS: What I hear Dr. Anderson's concern from this is that battling with parents is a no-win proposition. I think that's different from recommending a treatment that not all parents agree to.

I think it's about the work of psychotherapy, which involves understanding and hearing parents' experiences and objections.

BY ATTORNEY BARHAM:

Q. Do you think that prescribing hormones if one parent is strongly opposed is likely creating family conflict that may be separately destabilizing and harmful to the child?

A. I can't answer that question without a specific family scenario in front of me. I have seen the opposite be the case where the conflict is the creation of the lack of consensus as opposed to the other way around. And I've seen kids in my experience treating kids who had parents who have opted out of any decisional capacity and the kid's medical care but nevertheless do much better when given access to this care.

Q. But it is also possible that prescribing hormones over the objection of one parent can create conflict within the family.

Correct?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Understanding the impact of any intervention is a part of that consent process.

BY ATTORNEY BARHAM:

Q. I'm just asking if that's a possible outcome?

A. Yes.

Q. All right.

Is it your opinion that it's unreasonable to exclude from female teams biological males, and by that I mean people with XY chromosomes, who have gained a physiological advantage as a result of undergoing male puberty?

A. This is outside of the scope of what I was providing my testimony on.

Q. Well, in paragraph 52 of your report you say no reasonable mental health professional could think the act in question is anything but harmful to the mental health of transgender youth and that preventing transgender youth from participating in the same activities as their peers undermines their ability to socially transition and prevents transgender youth from accessing important educational and social benefits.

So I'm asking you is it your opinion that it's unreasonable to exclude from female teams biological males who have gained a physiological advantage as a result of undergoing male puberty?

ATTORNEY BLOCK: Objection to form and

scope.

THE WITNESS: Again, I can testify to the mental health aspects of exclusion. I can't testify to the endocrinologic changes of the physiologic changes in sports specifically.

BY ATTORNEY BARHAM:

Q. I'm not asking you to testify to the endocrinology aspects of this. I'm just asking is it your opinion that if we assume that an individual has gained physiological advantage as a result of undergoing male puberty that it is still unfair to --- or unreasonable to exclude them from competing on a women's team?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: That is not an assumption I feel comfortable making.

BY ATTORNEY BARHAM:

Q. Well, if you say that it is no reasonable mental health professional can say that this Act is anything but harmful to the mental health of transgender youth that doesn't depend upon whether the child has undergone male puberty or not.

Is that correct?

A. That is correct.

Q. So even if the child --- even if the individual has undergone male puberty you're saying that no reasonable mental health professional could think that the Act is anything but harmful, barring them from competing on the women's team is anything but harmful.

Is that correct?

A. I would say exclusion and isolation from access to same aged peer activities is likely to be harmful from a mental health perspective.

Q. To what extent can puberty blockers started late, such as age 14, unring the bell by reversing physical changes in male puberty?

ATTORNEY BLOCK: Sorry, I can't hear the questions.

BY ATTORNEY BARHAM:

Q. To what extent do puberty blockers started late, for example age 14, unring the bell by reversing the physical changes of male puberty?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: It is a complicated question that is best left to an endocrinologist to answer.

BY ATTORNEY BARHAM:

Q. Can puberty blockers reverse the physical changes of male puberty to the genitals?

ATTORNEY BLOCK: Objection to form and scope?

THE WITNESS: It's the same answer. I would defer to an endocrinologist on that response.

BY ATTORNEY BARHAM:

Q. Can puberty blockers reverse the physical changes to the hair?

ATTORNEY BLOCK: Same objections.

THE WITNESS: Again, I would defer to an endocrinologist.

BY ATTORNEY BARHAM:

Q. Can they reverse the physical changes to the voice or the muscles?

ATTORNEY BLOCK: Same objections.

THE WITNESS: Same answer.

BY ATTORNEY BARHAM:

Q. Can they reverse the effect --- the physical changes of male puberty to the heart or lung size?

ATTORNEY BLOCK: Same objection.

THE WITNESS: Same answer.

BY ATTORNEY BARNHAM:

Q. Isn't it true that puberty blockers just stop further typical male development?

ATTORNEY BLOCK: Same objections.

THE WITNESS: I would --- I would give two responses. One, I would want an endocrinologist to weigh in on the specifics, but clearly puberty blockers are also prescribed to folks assigned females at birth as well. There's more than just impacts on testosterone as a result of these medications.

BY ATTORNEY BARHAM:

Q. I understand, but you make recommendations for whether people are eligible to receive puberty blocking hormones.

Is that correct?

A. That is correct.

Q. So you have to have some understanding of the effects of these medications.

Is that correct?

A. That is correct.

Q. So isn't it true that puberty blockers administered to natal males should stop further typical male development?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I'd have the same answer, and they do more than that.

BY ATTORNEY BARNHAM:

Q. What else do they do?

A. Again, I would defer to the endocrinologist for the specific pathophysiology of how GnRH analogs affect a complicated physiology of the body.

Q. But what is your understanding of how they affect because you said they also do other things?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I think I answered it. In the GnRH analogs are given an anatomic manner compared to the pulsatile way in which GnRH is released during the puberty, which is what causes the suppression of other hormones more than just testosterone and estrogen.

BY ATTORNEY BARNHAM:

Q. If puberty blocking hormones are administered to a natal male, do they cause that individual to undergo typically female pubertal development?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: They do not.

BY ATTORNEY BARHAM:

Q. So they just stop further male development. Correct?

ATTORNEY BLOCK: Same objections.

THE WITNESS: As kind of a Gestalt pithy response, yes, they cause puberty for assigned females at birth and assigned males at birth who are given these medications.

BY ATTORNEY BARNHAM:

Q. When does puberty typically begin in biological males?

ATTORNEY BLOCK: Same objections.

THE WITNESS: Those are very known data that an endocrinologist could tell you.

BY ATTORNEY BARHAM:

Q. I'm sure, though, that as a psychiatrist you have a general understanding of what ages puberty typically begins in biological males?

ATTORNEY BLOCK: Same objections.

THE WITNESS: I do, however, I am assessing individuals who come through my office. And regardless of what the population says about when puberty is typical, it's going to depend upon who that individual child is and when they develop puberty.

BY ATTORNEY BARHAM:

Q. I understand, but my question isn't about an individual. My question is when does it typically begin in biological males.

ATTORNEY BLOCK: Same objections.

THE WITNESS: Again, this is a very knowable fact-based answer in a population level. It's not information I have in front of me.

BY ATTORNEY BARHAM:

Q. So you have no --- is it your testimony that you have no information as to when puberty typically begins in biological females?

ATTORNEY BLOCK: Can I just give a standing objection to questions asking the witness about the effects --- the endocrinology effects of blockers and hormones, so I don't have to make an objection each time?

ATTORNEY BARHAM: Yes.

THE WITNESS: My testimony is I don't want to give an imprecise answer for a question that there is a specific answer to.

BY ATTORNEY BARHAM:

Q. What is your understanding, as you sit here today, as to when puberty typically begins in males?

A. The range for typical puberty in males tends to

be around the 12ish mark. But there is a broad variability. And again, there is an answer that exists for this question that I don't have in front of me.

Q. Are you familiar with Tanner stages of puberty?

A. I am.

Q. What are the different Tanner stages of puberty?

A. Tanner stages one through five are the different Tanner stages.

Q. So what is Tanner stage one in biological males?

A. It depends upon if we're talking about genitalia or chest development, but it's no pubertal changes, so ---.

Q. And what is two?

A. Two is at the initial stages of pubertal changes that you start to see. The specifics of the Tanner staging is something that you need to be trained on. I would not claim myself as an expert in being able to accurately access the Tanner stage of a child.

Q. Do you know when --- at what ages Tanner Stage 2 typically initiates in biological males?

A. Again, it's going to be an individualized experience and that's why we do assessments.

Q. Do you have a range, an age range as to when it typically begins?

A. When we talk about the onset of puberty, we're talking about Tanner stage two typically.
Q. And at what age do those typically arise?
A. For assigned males at birth or assigned females?
Q. For biological males.
ATTORNEY BLOCK: Objection to terminology.
THE WITNESS: So for folks assigned male at birth, again, we're going to see it in that 12-ish range.
BY ATTORNEY BARHAM:
Q. And Tanner Stage 3, what is that?
A. Further development. There's tables and charts you would have to look at. I'm not going to be able to use language to describe it in an accurate way.
Q. And when --- approximately when, what age range does Tanner Stage 3 begin in biological males?
A. That's not an answer that I can give you.
Q. And what is Tanner Stage 4?
A. The same answer is further progression of pubertal changes.
Q. And do you know what age range that typically begins in biological males?
A. Same answer as before. That's not an answer I

have here.

Q. And would the same answers hold true for Tanner Stage 5? Is that a yes?

A. That's a yes. I forgot that nodding ---.

Q. Yes. You've been pretty good today. I've been impressed.

Doesn't the position that allowing biological males to play on a girls team if they blocked puberty before it begins create pressure for parents and children to make puberty blocking decision at a young age?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. Sort of put them in a now or never situation?

A. Of those 500 patients that I have seen, that has never come up as a concern.

Q. The athletic issue has never come up as a concern?

A. It has not.

Q. Do you think it would --- as a practitioner in the field do you think it would even be ethical for the State of West Virginia to structure its law in a way that puts now or never pressure on parents and children who are dealing with gender dysphoria to decide at an

early age whether to stop the natural development of puberty?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As a child psychiatrist in this field we're doing individual-based assessments with the children and families that are in front of us. And what that means in the context of this question is that we are assessing all of their different activities, interests and working with all the systems that we can to ensure a safe and appropriate set of decisions that are going to lead to the best outcomes for this individual child and not a medical emphasis that is outside of the scope that I can answer.

BY ATTORNEY BARHAM:

Q. But you're familiar with the ethical standards of your field.

Is that correct?

A. I am, yes.

Q. Under those ethical standards would it be ethical for the State to structure its law in a way that puts this kind of now or never pressure on parents and children?

ATTORNEY BLOCK: Objection to form. Also the witness is in shadow. I can't really see him for

the camera.

THE WITNESS: Is that better?

ATTORNEY BLOCK: Yes.

THE WITNESS: Can you repeat the question? I'm sorry.

BY ATTORNEY BARHAM:

Q. As someone familiar with the ethical standards of psychiatry, do you think it would be ethical for the State of West Virginia to structure its law in a way that puts now or never pressure on parents and children who are dealing with gender dysphoria to decide at an early age whether to stop the natural development of puberty?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I mean that's a question that has a testable hypothesis. Does X intervention lead to this kind of pressure? That's not a study that I've ever seen nor has it been my clinical experience that it's been the case.

BY ATTORNEY BARHAM:

Q. Would it be ethical to put that kind of pressure on someone under the ethical standards of the field of psychiatry?

ATTORNEY BLOCK: Objection to form and

foundation?

THE WITNESS: It is a very theoretical question that really doesn't enter into it when we are one on one with these kids and their families.

BY ATTORNEY BARHAM:

Q. I'm not asking about one on one interactions with kids and families. I'm asking in general in theory is it ethical to put that kind of pressure on someone?

ATTORNEY BLOCK: Objection to form and foundation.

THE WITNESS: I'm sorry I can't give a better answer, but ensuring that a child is making a decision without coercion is a part of the informed consent process.

BY ATTORNEY BARHAM:

Q. Is it your opinion that it is unreasonable to exclude from female teams biological males who begin undergoing male puberty but are now on puberty blockers?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Can you repeat the question?

BY ATTORNEY BARHAM:

Q. Is it your opinion that it is unreasonable to

exclude from female teams biological males who begin undergoing male puberty but are now on puberty blockers?

A. Is it unethical is the question?

Q. Unreasonable.

A. Unreasonable. I would defer to kind of our physiology and endocrinology experts and our medical ethics experts in rendering an opinion on that specifically.

Q. Is it your opinion that it is harmful to youth's mental health to be excluded from female teams biological males who begin undergoing male puberty but are now on puberty blockers?

A. What I would say is that exclusion as well as specific legal exclusion from activities of same-aged peers is likely to be harmful for a kid's mental health.

Q. Now, the Act in question does not prevent a biological male who has gender dysphoria from competing on the boys team.

Is that correct?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I'd need to know specifics. I don't know what you're referring to. I think lots of people have different policies around how this actually

works.

BY ATTORNEY BARHAM:

Q. I'm asking your understanding of the statute upon which you're opining.

A. Can you repeat the question, please?

Q. The Act in question does not prevent a biological male who is experiencing gender dysphoria from competing on the boys team.

Correct?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: So one, I don't know what biological male necessarily means.

BY ATTORNEY BARHAM:

Q. An individual with XY chromosomes, natal male?

A. So assigned male at birth can have a number of reasons why they might not be able to play on the boys team, including intensity of gender dysphoria.

Q. But the law does not prevent them from playing on the boys team.

Correct?

A. From my read of the law it does not prevent them from playing on the boys team. Again, from a mental health perspective, their gender dysphoria may.

Q. So is it harmful to the mental health of a biological male who is experiencing gender dysphoria to be excluded from the women's team even if he is on puberty blockers?

ATTORNEY BLOCK: Objection to form and terminology.

THE WITNESS: Any potential exclusions from a peer-appropriate activity has the potential to have negative consequences on the mental health of that girl. And again, that's going to be something that on an individual basis we are assessing.

BY ATTORNEY BARHAM:

Q. And that would be irrespective of whether the individual is on puberty blockers, begins to undergo male puberty or not.

Correct?

A. An individual assessment is going to be inherently tailored to wherever an individual is.

ATTORNEY BARHAM: Why don't we pause for lunch?

ATTORNEY BLOCK: Let's go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 1:24 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time reads 1:53 p.m.

BY ATTORNEY BROOKS:

Q. What does puberty suppression or puberty blockers do?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I think I answered that question before. So they suppress the endogenous release of testosterone and estrogen as well as some other hormones.

BY ATTORNEY BARHAM:

Q. How does puberty suppression differ from cross sex hormones?

ATTORNEY BLOCK: Same objection.

THE WITNESS: Totally different medication. One suppress hormones and the other is a direct hormone itself.

BY ATTORNEY BARHAM:

Q. So cross sex hormones are given with the

intention of causing development typical to the other sex.

Correct?

A. It depends upon the context in which hormones are used. And again, I would defer for my endocrinology colleagues on the specifics.

Q. So if cross sex hormones are given to a natal male as part of treatment for gender dysphoria, what is the intention?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As I understand it, if an assigned male at birth is given cross sex hormones that is estrogen in order to provide the effects of estrogen on the body.

BY ATTORNEY BARHAM:

Q. And the effects of estrogen on the body are what natal females would naturally experience as a result of puberty.

Correct

A. I mean, that is correct, yes.

Q. And so if a natal female is given cross sex hormones, she's being given testosterone to create the effects that natal males would naturally experience through puberty.

Correct?

A. Typically speaking, an assigned female at birth is going to be receiving testosterone and will have the subsequent effects as a result of having testosterone in the bloodstream.

Q. Maybe I was confused, a natal male who is given cross sex hormones?

A. You were right.

Q. I was right, okay. At what Tanner stage do you recommend that a patient begin puberty blocker hormones?

A. Again, that's going to depend upon an individualized assessment with the family, but never before Tanner Stage 2 of puberty.

Q. And in what age does Tanner Stage 2 begin again?

ATTORNEY BLOCK: Asked and answered.

THE WITNESS: I think I answered that question. It really depends upon the person.

BY ATTORNEY BARHAM:

Q. And typically ---.

A. And for an assigned male at birth we're talking 12-ish, but again I would refer to my endocrinology colleagues on the specific dates.

Q. And through what Tanner stage do you recommend that a patient remain on puberty blockers?

A. That's not a question I can speak to. That's a question for the physician or provider who's prescribing that specific medication.

Q. So after you recommend that a patient receive puberty blocking hormones, what is your continuing involvement in the puberty blocking process?

A. My continuing involvement really depends upon the individual child and family for the sake of a mental health assessment. For the initiation of puberty suppression it's an assessment for the initiation of puberty suppression. The involvement thereafter is really dependent upon what the individual needs of that child are.

Q. Do you play any role in continuing to advise whether the patient can continue to receive puberty blocking hormones or come off of them?

A. It really depends upon the context. If the child is seeking to come off of puberty suppression because of a shift in their understanding of their identity, certainly that's a conversation that I would be involved in. If they are coming off of puberty suppression because they have a sufficient amount of testosterone or estrogen in their system that they are no longer requiring that from a medical purpose, that's

not a discussion that I'm privy to.

Q. When you are discussing puberty blockers with patients and their parents do you describe them as placing a pause on puberty?

A. That's not specific language that I use.

Q. Do you describe them as being reversible?

A. Again, that's not a language that I use. I'm much more specific in my discussions.

Q. So on the issue of whether puberty blocking hormones are reversible, what do you tell parents and patients?

A. I would say, by and large, most of the effects of puberty suppression are reversible.

Q. And when you say by and large what effects are you referencing?

A. What I'm referencing is that the literature is still an open book and we are constantly seeking and learning new information. We want to understand what those potential new data tell us about the efficacy, safety, et cetera, of these interventions.

Q. So when you say they are by and large the effects are reversible, which effects are you referencing are the by and large?

A. When I say by and large, it's really a caveat to

allow for the things that we don't yet know.

Q. So which effects are reversible?

A. Virtually all of the effects that we're aware of are reversible.

Q. When you're discussing puberty blockers with patients and their parents do you describe them as safe?

A. Safe isn't a binary concept in my world. There is no such thing as anything that is completely safe or unsafe. So we talk about gradations of risk with any intervention.

Q. So for puberty blockers what are the --- what's the gradation of risk?

A. It is individualized to the specific needs of the child and the family.

Q. In general, what is your understanding of the gradations of risk across the board?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't have a better answer for you because that's the whole process of doing an informed consent process, is understanding what are the specific risks and benefits and alternatives for that individual child.

BY ATTORNEY BARHAM:

Q. Are you aware of the literature regarding any

testing of puberty blocking hormones and the gradations of risks presented in those tests?

A. I'm not sure what you mean by tests.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not sure what you mean by testing.

BY ATTORNEY BARHAM:

Q. Don't medications undergo testing before they can be used?

A. There's a wide variety of processes by which medications are approved or not approved for certain indications.

ATTORNEY BARHAM: Let's go to Tab 5. I believe that's Exhibit-2.

LAW CLERK WILKINSON: Exhibit-2.

BY ATTORNEY BARHAM:

Q. It's the Endocrine Society Guidelines from 2017.

THE WITNESS: Yes.

BY ATTORNEY BARHAM:

Q. On page 3880 the Endocrine Society states we suggest that clinicians begin pubertal hormone suppression therapy --- pubertal hormone suppression after girls and boys first exhibit physical changes of puberty, Tanner stages G-2/B-2. Is that consistent with

your practice?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: This is --- the document, as I read it, is a set of guidelines for the practice of care that should be individually applied to each child and family. My practice takes these recommendations and individually applies them to the specific risks, benefits and alternatives for the child sitting in front of me.

BY ATTORNEY BARHAM:

Q. On the prior page in number 1.4 the Endocrine Society recommends against puberty blocking and gender affirming hormone treatment in prepubertal children. Do you approve the use of puberty blockers before puberty?

A. I do not.

Q. You didn't recommend or prescribe any puberty blockers for BPJ.

Is that correct?

A. I have not.

Q. You did not evaluate BPJ before he started taking puberty blockers.

Is that correct?

A. I have not evaluated her or seen her, these materials.

Q. Is it your opinion that no responsible clinics begin puberty blocking before puberty begins?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: There's no indication to start puberty blocking agents until Tanner Stage 2.

BY ATTORNEY BARHAM:

Q. Isn't it true that there have been no Phase I clinical trials to test the safety of GnRH inhibitors for this age group?

A. That is my understanding, but I would have to specifically review the literature with that question in mind. I'm not familiar --- completely familiar with the phased nomenclature in this context.

Q. Isn't it true that there have been no Phase I clinical trials to test the safety of GnRH inhibitors for this duration?

A. Again I would need to find a definition of what you are referring to by Phase I specifically.

Q. Isn't it true there have been no clinical trials per FDA rules for this use of puberty blockers?

A. I don't know what is meant by per FDA rules.

Q. Food and Drug Administration rules?

A. Yeah. I'm not familiar with what their rules

are. There have been clinical trials of these medications for this purpose.

Q. Which clinical trials are you referencing?

A. There are clinical trials through the Dutch clinic. There is also an ongoing clinical trial here in the U.S., a multi-phase study.

Q. That study is still ongoing.

Correct.

A. That is correct.

Q. So there are no completed clinical trials in the United States under FDA rules.

Correct?

A. I am not ---.

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: I can't say that I'm familiar with all clinical trials that have ever happened, so that's not a statement I can answer.

BY ATTORNEY BARHAM:

Q. You're not aware of any, though?

A. I don't know what is meant by Phase I and what specifically is registered with the FDA for their purposes versus the copious numbers of clinical trials that have happened.

Q. Are you aware of any clinical trials in the

United States that have been completed regarding the safety of using puberty blockers for gender dysphoria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, I'm not sure how I can answer that because I'm not aware of all of the trials that have occurred.

ATTORNEY BLOCK: Counsel, can we have a discussion about the scope of this deposition? I'm happy to have it off the record. I don't want it to influence the witness at all, but this is a rebuttal witness addressing specific issues and it seems that, you know, there are a lot of questions that are just really far outside the scope. So I'd love to have a discussion.

ATTORNEY BARHAM: I'm happy to go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 2:07 p.m.

OFF VIDEOTAPE

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The

current time reads 2:17 p.m.

BY ATTORNEY BARHAM:

Q. We were looking at Tab 5, which is Exhibit-2, page 3874. About three-quarters down the first column the Endocrine Society indicates, quote, in the future we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols and specifically highlight the need to include a careful assessment of the effect of prolonged delay of puberty in adolescence on bone health, gonadal function and the brain.

Do you see that?

A. I see that, yes.

Q. Do you agree that more rigorous evaluations of the safety of endocrine and surgical protocols are needed?

A. I would agree that that's an important goal for all treatments, yes.

Q. Do you agree that because, as the Endocrine Society indicated here, that these evaluations are needed in the future, that this --- that they have not been done yet?

A. Well, this is published in 2017. There are ongoing trials that are happening now, and some that

have had at least preliminary data presented at various meetings that have looked at some of these.

Q. So the issue here is the prolong delay of puberty. You would agree that it's quite different from treating individuals with precocious puberty.

Correct?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: As a non-endocrinologist I wouldn't hazard an opinion on that.

BY ATTORNEY BARHAM:

Q. Do you treat individuals for precocious puberty?

A. I do not.

Q. Do you agree with the Endocrine Society that there have not yet been a study of how the prolonged delay of puberty affects bone health?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I don't know if I can answer that in the most accurate way. I know I've seen preliminary data presented at various meetings about impacts on bone health, but I'm not as familiar with the endocrine literature as I am with the mental health literature.

BY ATTORNEY BARHAM:

Q. Do you agree that there has not yet been a study on the prolonged effect of --- the prolonged delay of puberty affecting gonadal function?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Same answer as to the last one.

BY ATTORNEY BARNHAM:

Q. And that is the same as fertility?

Correct?

A. There has been more study fertility in those populations.

Q. Do you agree there has not yet been a study on how the prolonged delay of puberty affects the brain?

A. There are ongoing studies.

Q. None complete yet?

A. None that have published thus far that I'm aware of again.

Q. And when you say there are ongoing studies of bone health, none have published so far that you're aware of.

Correct?

A. I know I have seen data published at various

national and international meetings, so I could not answer that question accurately. I think things have been published on bone health, but I'm not familiar with --- I'm not as familiar with the endocrinologic literature as I am the mental health literature.

Q. Are you aware of any studies that have been completed regarding the prolonged delay of puberty affecting the cognitive, emotional, social and sexual development?

A. Can you repeat the question?

Q. Are you aware of any studies that have been completed regarding the prolonged delay --- of how the prolonged delay of puberty affects the cognitive, emotional, social and sexual development?

A. There have been a number of studies including studies that we have referenced here that have looked at long-term psychosocial outcomes for these kids. So certainly some of those items have been looked at quite extensively. Some have not yet or have studies that are ongoing.

Q. If the Endocrine Society is indicating that all of this is needed research, why are you --- what do you tell parents about the relative safety of puberty blocking hormones?

A. What I would say this was published in 2017, and so we would want to update since then about any literature since then on these potential risks. What I want to do is make sure that the endocrinologist or the adolescent medicine specialist, whoever it is that is prescribing the specific treatment knows how to have those discussions based on the psychiatric needs of the patients that I'm seeing.

Q. Let's turn to 3872 in this document. The Endocrine Society indicates that the task force followed the approach recommended by the grading of recommendations and assessments, development and evaluation group. The international group with expertise in the development and implementation of evidence based guidelines. Do you see that in the second column?

A. Yes.

Q. And in this document they indicate that the use of the phrase we recommend and the number one are strong recommendations --- use the phrase we recommend --- recommendations use the phrase of we suggest in number two.

Is that correct?

A. Correct.

Q. So the recommendations regarding the use of puberty blockers are based on low quality evidence.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: What I can state is how this particular working group within the Endocrine Society characterized it using the assessment tool and using this assessment tool that is how it was graded for the sake of this set of guidelines.

BY ATTORNEY BARHAM:

Q. Were you aware of this when you drafted your report?

A. Yes.

Q. Do you agree or disagree with this assessment of the quality of the evidence?

A. Based upon how they did it, I would agree. In the world of child psychiatry this is very common. There is very little that we have in terms of very mainstream standard of care treatments that has anything other than poor quality of evidence based upon using these standards.

ATTORNEY BARHAM: I'm going to hand you what we will mark as Exhibit 31, and that will be Tab 76?

THE WITNESS: Thanks.

LAW CLERK WILKINSON: You're welcome.

(Whereupon, Exhibit 31, Label of Lupron, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is the label of Lupron, pharmaceutical label for Lupron. Right at the top of page one, this label indicates that Lupron is approved for puberty blocking or delay for precocious puberty.

Correct?

A. That is correct.

Q. And precocious puberty is a hormonal imbalance.

Correct?

A. I think there's a precise terminology for precocious puberty that involves more than just a hormonal imbalance.

Q. But it's a malfunction of hormonal controls in the brain?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: My understanding as a non-endocrinologist is that's initiation of puberty much earlier than anticipated or expected based upon the

history of the family.

BY ATTORNEY BARHAM:

Q. So Lupron is inspected and approved by the FDA for safety and efficacy for precocious puberty not for all other possible uses.

Correct?

A. Correct.

Q. And Lupron was tested only for delaying puberty up until the normal age of puberty.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not familiar with the literature that was used for gaining the FDA approval for this indication.

BY ATTORNEY BARHAM:

Q. If you turn to section 14.1, 14.1 you'll see that it says that this --- Lupron was tested for monthly administration on 6 males and 49 females.

Is that correct?

A. That is correct.

Q. And on the next page you'll see it was tested for three months administration on 8 males and 76 females.

Is that correct?

A. I do not see where it says that.
Q. 14.2?
A. Yes.
Q. Do you know why the test was weighted towards girls?
ATTORNEY BLOCK: Objection to form and scope and foundation.
THE WITNESS: It would be a mere supposition on my end.
BY ATTORNEY BARHAM:
Q. Is it because precocious puberty is more common in girls?
A. I would defer to an endocrinologist on this epidemiology of that.
Q. But the goal of using Lupron in this context is to help steer the body into healthy and normal development.
Correct?
ATTORNEY BLOCK: Objection to form, scope.
THE WITNESS: Generally speaking I would agree with that.
BY ATTORNEY BARHAM:
Q. Prescribing Lupron or other GnRH for gender

dysphoria disrupts hormones and developments at an early stage.

Correct?

ATTORNEY BLOCK: Objection to the form and scope.

THE WITNESS: Again, as a mental health professional, this would be outside of my area of expertise to comment on that.

BY ATTORNEY BARHAM:

Q. Would you agree that normal pubertal development includes bone growth, such as height?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Yes, I would.

BY ATTORNEY BARHAM:

Q. Would you agree that normal pubertal development can include bone strengthening?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Specifics of that question are really outside of my scope of understanding in the practice that I have.

BY ATTORNEY BARHAM:

Q. But in general, you would agree that bones get

stronger during puberty, especially for men?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: My understanding is that the process of bone health is a quite dynamic, not static nor binary process, so it's more complicated than I feel that I can answer that question to.

BY ATTORNEY BARHAM:

Q. But do bones generally get stronger as puberty progresses?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Again, I think it's a more complicated answer than a yes or a no but I'm not ---.

BY ATTORNEY BARHAM:

Q. Would you agree that normal pubertal development includes brain development?

A. Yes.

Q. Each of these things have stopped or decreased by the administration of puberty blockers.

Correct?

A. I don't think we can say that it's been stopped or decreased. There's not a term decreasing brain development that has been studied or referred to in the

literature as I'm aware of it.

Q. Slower brain development?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Slower isn't a word that I've used, seen in the literature either.

ATTORNEY TRYON: Travis, can you speak up just a little bit more, please?

ATTORNEY BARHAM: Certainly.

BY ATTORNEY BARHAM:

Q. Would you agree that normal pubertal development also includes psychosocial development of an adult identity as a sexual being contemporaneous with ones peers?

A. I would say I would agree with that as an adolescent developmental process, not necessarily as a pubertal developmental process.

Q. What's the --- what's your distinction between an adolescent pubertal development --- excuse me, an adolescent developmental process and a pubertal developmental process?

A. As an example, folks who have delayed puberty, so 16-year olds who I have seen that have yet to undergo all stages of puberty nevertheless develop a sense of identity independent of the fact that their puberty has

been delayed.

Q. But their development in that regard is not contemporaneous with their peers.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: In my specific hypothetical some of their development is going to be contemporaneous with their peers. Some of it will not be.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit 32. This will be Tab 73.

(Whereupon, Exhibit 32, Puberty Blockers Document, marked for identification.)

THE WITNESS: Can I ask a clarifying question, it is 2:32 east coast time, not central.

ATTORNEY SWAMINATHAN: Yes.

LAW CLERK WILKINSON: Tab 73.

BY ATTORNEY BARHAM:

Q. This document is a hand out --- or it's from the --- I'm going to butcher the name, Doernbecher Children's Hospital at OHSU from their gender clinic and about puberty blockers document. At the bottom of page three, this document indicates that researchers have not

finished studying how safe puberty blockers are in the long-term.

Do you agree with that?

A. Yeah, I would agree with that.

Q. On the next page this document says that because puberty block --- because blocking puberty hormones can weaken your bones, it is best to just take them for just two or three years.

Do you agree or disagree?

A. That is outside of my scope of expertise.

Again, this is a public facing the most like website. I can't be quite certain what the context of this is, but the individualized discussions you're having with patients and families is always going to be more complex than one or two sentences.

Q. Do you expect to offer any opinion in this case that puberty blockers administered according to your guidelines are safe and reversible?

A. I don't --- I guess I don't understand the question. I provided my expert testimony and my testimony is focused on the mental health effects of various interventions.

Q. Okay.

Do you anticipate saying anything about the

reversibility of puberty blockers?

A. Other than what I have already discussed, I don't think so.

Q. Let's go to tab 5, I think that's Exhibit 2. And on page 3874, again, about two-thirds down the first column, the Endocrine Society says we still need to study the effects of puberty blocking hormones on gonadal function.

Correct?

A. Yes.

Q. That refers to hormone secretion.

Correct?

A. Hormone secretion?

Q. Uh-huh (yes).

A. I'm not sure what you mean by that.

Q. Gonadal function refers to the achievement of the production by the gonads of fertile ova or sperm.

Correct?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I can't speak to the author's intent for how they used that language. It's broader in scope from my perspective than that.

BY ATTORNEY BARHAM:

Q. Does it include the achievement of production of fertile ova or sperm?

A. That is a component, yes.

Q. What other components do you have in mind for that term?

A. For gonadal development includes size, shape, sexual functioning.

Q. On page 31, I want to go to --- have we done Tab 6 yet?

ATTORNEY BARHAM: I want to introduce what will be marked as Exhibit 33, this will be Tab 6. These are Endocrine Society guidelines from 2009.

LAW CLERK WILKINSON: I don't think I have that.

ATTORNEY BARHAM: Maybe we do.

LAW CLERK WILKINSON: Six?

ATTORNEY BARHAM: Uh-huh (yes).

LAW CLERK WILKINSON: Uh-uh (no).

BY ATTORNEY BARHAM:

Q. We will go back to Tab 5 then, Exhibit 2. Would you agree that if the administration for puberty blockers for gender dysphoria has irreversible effects on brain development, that would be a serious safety problem?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: All risks are graded risk an benefits as well as alternatives for each individual child.

BY ATTORNEY BARHAM:

Q. But if it had an irreversible affect on brain development that would still be a serious concern, regardless of the gradations that we would have to consider and address it?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: There are a number of interventions that lead to irreversible changes that are beneficial and are not of concern to safety.

ATTORNEY BARHAM: All right.

Do we have Tab 32?

LAW CLERK WILKINSON: That one I have.

ATTORNEY BARHAM: This will be Exhibit 33, Tab 32 just to make it conducive.

(Whereupon, Exhibit 33, Endocrine Society's Guidelines, was marked for identification.)

BY ATTORNEY BARHAM:

Q. And if you look on --- at the end of the document where it says for more information, it stated this is a document from the National Institute of Mental Health.

Correct?

ATTORNEY BLOCK: Objection to form, foundation.

THE WITNESS: I have no idea of what the context of this website is or what this is from.

BY ATTORNEY BARHAM:

Q. But it gives the National Institute of Mental Health's website.

Is that correct?

A. It does.

Q. And it says for more information you can e-mail the National Institute of Mental Health e-mail address.

Correct?

A. That is correct.

Q. And that's a part of the National Institute.

Right?

A. It is.

Q. And the citations it's drawing from articles in 1999 and 2000.

Correct?

A. That is correct.
Q. On page one in the middle column, the article describes gray matter at the thinking part of the brain.
Do you agree with that description?
A. I would describe it as a gross mischaracterization of the complexity of the brain.
Q. What is your understanding of the function of the gray matter?
A. That is one element of it. I think it is a lot of nuance, I guess is the word that I'm looking for. It's not characterized by that much of a pithy phrase, not of a neuropathologist.
Q. The article talks about a second wave of production in gray matter that peaks around age 11 in girls and 12 in boys. And the article refers to that as just prior to puberty. In terms of Tanner stages that would be around Tanner 2 for most boys and girls, would it not?
A. That would be Tanner Stage 1.
Q. That would be Tanner Stage 1. But by 11 or 12 you have already --- by age 12-ish in boys, it's typical for puberty blockers to have been administered.
Correct?
A. To use the language of this article, the

differences in Tanner stages is caused by the, quote, surging sex hormones not the other way around. So it's not about age, but it's the exposure to hormones that causes the Tanner stages to develop.

Q. Have you made a study yourself about the timing of brain gray matter development and the puberty hormones in causing that development?

A. I have not.

Q. Do you have any reason to doubt the timing and nature of development as set out in this National Institute of Health publication?

ATTORNEY BLOCK: Objection to form and foundation.

THE WITNESS: I only have the context of this article that you've put in front of me for the first time and in this article they describe the brain changes just happening prior to puberty, which is prior to when we would be initiating any interventions medically.

BY ATTORNEY BARHAM:

Q. And it says though that it is possibly the thickening peaks around 11 or 12, depending on girls and boys and that's possibly related to the influence of surging sex hormones.

Correct?

A. If that's what it says, yes.

Q. Do you know --- have you conducted any studies to determine the effect of administering puberty blockers during the ordinary years of puberty and how that would impact the ordinary development of brain matter in the brain of a child?

A. I have not, but it kind of sounds like that is conflating this as a study, which is definitely not.

Q. No, I'm just asking if you had conducted any such studies?

A. I have not.

Q. Are you aware of any such studies?

A. There are studies that are ongoing now.

Q. That are ongoing.

ATTORNEY BARHAM: Okay.

I'm going to show you what we marked as Exhibit 34, this will be Tab 33.

(Whereupon, Exhibit 34, Article by Blakemore, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Blakemore, et al., published in 2010, The Role of Puberty in the Developing Adolescent Brain. On page 929, the article states the ages at which these peaks in gray matter volume were observed correspond to the sexually dimorphic ages gonadarche, I'm mispronouncing that, onset which suggests possible interactions between puberty hormones and gray matter development.

Do you agree or disagree with that statement?

A. I'm not seeing where you're referring to this.

Q. On page 929, first column right above the role of puberty in gray matter development?

A. As stated in this study, the changes were observed to correspond to the ages which suggest possible interactions. I have no objection to the idea that there are possible interactions between puberty hormones and gray matter development, but again, outside the field of my expertise.

Q. Okay.

It also refers to other MRI studies showing a gradual emergence of sexual dimorphisms across puberty. Do you know what sexual dimorphism of the brain means?

A. I do.

Q. What does it mean?

A. Differences that are measurable between folks assigned female and folks assigned male at birth is typically how that is described.

Q. On the first page of this document it says throughout adolescence there are changes in the structure and function of the brain, sexual dimorphism in many of these changes suggest possible relationships to puberty.

This article is saying that the available evidence suggests sex links puberty hormones to play a role in stimulating brain development; do you agree?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Certainly I agree that exposure to sex hormone is a part of brain development for all people. We know less about the developing brain for transgender youth.

BY ATTORNEY BARHAM:

Q. Do you agree this includes a aspects of brain development that differ between healthy males and healthy females?

ATTORNEY BLOCK: Objection as to form.

THE WITNESS: I don't. I haven't seen any literature that speaks to that specific question.

BY ATTORNEY BARHAM:

Q. Okay.

Let's go back to Exhibit 2, page 3882?

ATTORNEY BLOCK: What page was that, Counsel?

ATTORNEY BARHAM: 3882.

BY ATTORNEY BARHAM:

Q. Under the heading side effects, the article indicates that the primary risk of pubertal suppression in GD, gender incongruent adolescents may include, ellipses, unknown effects on brain development, do you see that?

A. I see that.

Q. And in the first column of 3883 indicates that animal data suggests there may be effects of GnRH analogs on cognitive function.

Do you see that?

A. I see that.

Q. Cognitive function means the ability to think.

Correct?

A. That is one aspect of cognitive functioning.

Q. Do you tell parents and patients that the Endocrine Society has indicated that there are unknown effects on brain development related to the use of puberty blocking hormones?

A. I typically use language that is more similar to how they actually described it in this article which is to say that it may have unknown effects on brain development.

Q. Okay.

ATTORNEY BARHAM: Let's go to Tab 32, which we have already looked at and that is Exhibit.

LAW CLERK WILKINSON: Exhibit 33.

BY ATTORNEY BARHAM:

Q. Exhibit 33?

ATTORNEY GREEN: Travis, this is Roberta Green. I'm sorry to interrupt. I wondered if you wouldn't mind keeping your voice up I'm just having trouble hearing. No doubt it's me but it'd be great. Thank you.

ATTORNEY BARHAM: It may also be where I'm located in the room, but I'm getting it from enough people, so I appreciate the reminder.

VIDEOGRAPHER: Counsel, did you say Exhibit 33.

ATTORNEY BARHAM: Exhibit 33.

BY ATTORNEY BARHAM:

Q. Page two at the top refers to the gray matter --- or the white matter and how research purports a wave

of white matter growth that begins at the front of the brain in early childhood, moves to the side after puberty, striking growth spurts can be seen from age 6 to 13 in areas connecting brain regions specialized for language and understanding special relationships. Ages 11, 12 and 13 are sort of the heart and center of puberty.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It depends upon the child.

BY ATTORNEY BARHAM:

Q. In general?

ATTORNEY BLOCK: Same objection.

THE WITNESS: I don't want it to be like I'm parsing this out, but it's really important. We can't apply population based data onto an individual and make conclusions about it.

BY ATTORNEY BARHAM:

Q. But we can assess population-based data as to when puberty is generally occurring and generally it's occurring around the ages of 11 to 13?

A. I would agree with the statement that puberty is generally occurring within those age ranges, yes.

Q. And that is also approximately when puberty

blocking hormones are being prescribed.

Is that true?

A. It depends upon the individual.

Q. But generally around age 12 is what you indicated earlier.

Correct?

A. It really depends upon the individual. To clarify, it's based upon Tanner stage as one element, age has one element, psychosocial functioning has another, family choices. It's a calculus of the risks, benefits and alternatives that guide when we decide to intervene if we decide to intervene.

Q. So you would agree that a teenage brain and cognitive development across puberty is a very complicated area and one that's not easily understood.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes, adolescent brain development is a complicated phenomenon for sure. I have no objection to that.

BY ATTORNEY BARHAM:

Q. Is that an area of your professional research and investigation?

A. Specifically on neuroscience with regard to

adolescent development, no, it is not.

ATTORNEY BARHAM: Let's go to Tab 8.

THE WITNESS: I need to take another bathroom break.

ATTORNEY BARHAM: Let's just take a break now. Let's go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 2:53 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time reads 3:00 p.m.

BY ATTORNEY BARHAM:

Q. Are you an expert on suicide and suicidality?

A. I guess I don't know exactly how to qualify that response. I know more than most people about suicide and suicidality, yes.

Q. Have you made any systematic study of suicide among the thousands treated at the NYU Gender and Sexuality Service?

A. I have not.

Q. Have you made any systematic studies of suicide among the thousands treated at the Lurie Children's Hospital here in Chicago?

A. I have a study ongoing.

Q. Has that study generated any preliminary results yet?

A. It has not.

Q. Have you made any systemic studies of suicide among the thousands you've treated at the Gender Variant Youth and Family Network?

A. That is not a clinical service.

Q. Are you aware that suicide for any reason is extremely rare among children younger than 15?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would disagree with that as a statement. It's among one of the top causes of death for children of ages 10 to 15.

BY ATTORNEY BARHAM:

Q. And what's your basis for saying that?

A. The CDC data.

Q. Did you cite that data in your report?

A. I did not.

Q. You're not offering an opinion that BPJ faced a high suicide risk unless put on puberty blockers.

Correct?

A. I am not.

Q. Has any responsible health authority or organization made a claim that the use of puberty blockers relate to suicide?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I mean, that's a big list. I don't think any that I'm aware of have made the claim, especially when it comes to causation.

BY ATTORNEY BARHAM:

Q. In paragraph 19 of your report you refer to gender-affirming hormone therapy and you make similar statements in paragraphs 39, 40, 41 and 42. What do you mean by gender affirming hormone therapy?

A. Typically speaking when I'm referring to gender-affirming hormone therapy, these are hormones that are aligned with the gender identity.

Q. So that means the administration of cross sex hormones.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah. I mean, I think I would call them gender-affirming hormones. That is how typically they are referred to in the literature.

BY ATTORNEY BARHAM:

Q. So this means that you would administer testosterone to natal females.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I personally would not, but ---.

BY ATTORNEY BARHAM:

Q. Cross sex hormones or gender-affirming hormones refers to the administration of testosterone to natal females.

Correct?

A. Or assigned females at birth, yes, that's correct.

Q. And it means the administration of testosterone suppression of estrogen for natal males.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Assigned male at birth, yes.

BY ATTORNEY BARHAM:

Q. You mean assigned males at birth?

A. Yes. Is that what I not said? Sorry.

Q. What is your role in the administration of cross

sex hormones?

A. It depends on the child and the family, but my role is most often as a mental health professional who is either doing the assessment or providing care for the co-occurring psychiatric disorders that are present in that individual child.

Q. Cross sex hormones prevent rather than enable an adolescent from becoming capable of reproducing sexually.

Correct?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: That's not something that I can answer. That's out of the scope of my expertise.

BY ATTORNEY BARHAM:

Q. You lack an understanding of the effects of administering cross sex hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would disagree with that statement.

BY ATTORNEY BARHAM:

Q. So my question is what is the effect of administering cross sex hormones on an adolescent's ability to develop and become capable of reproducing sexually?

A. It's a highly complicated question that depends upon a lot of factors that are above the scope of my testimony here. As an example, there are many adult transgender men who become pregnant despite being on testosterone for many years.

Q. And what studies are you referencing that support that statement?

A. I'm not referencing any studies to this. I'm referencing personal experiences.

Q. Okay.

Cross sex hormones cannot cause an adolescent to develop the genitalia associated with his or her --- his or her desired transgender identity.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That's correct.

BY ATTORNEY BARHAM:

Q. Cross sex hormones also cannot achieve male height in a natal female.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would defer to my endocrine colleagues on that answer.

BY ATTORNEY BARHAM:

Q. Can cross sex hormones change the hip and leg configuration in a natal male to match that of a natal female?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would defer to my endocrine colleagues on that question.

ATTORNEY BARHAM: Let's go to Tab 77. This is probably new.

LAW CLERK WILKINSON: Yes.

ATTORNEY BARHAM: This is an article by Guss, et al. in 2015, entitled Transgender and Gender Non-Conforming Adolescent Care. This will be Exhibit 35.

(Whereupon, Exhibit-35, Article by Guss, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with the authors?

LAW CLERK WILKINSON: I'm sorry. I gave you the wrong one. Here is the right one.

THE WITNESS: I know Dr. Shumer. And we read something by Katz-Wise earlier. I don't know Carly Guss.

BY ATTORNEY BARHAM:

Q. Page four of this document indicates that if a patient is on cross sex hormones it's important to remind them that the side effects may be infertility.

Is that correct?

A. Where are you pointing to?

Q. The top of page four.

A. Yes.

Q. Do you agree with that statement?

A. I agree.

Q. Do you know of any long-term studies that will change to what extent infertility caused by taking cross sex hormones can be reversed later in life?

A. There are ongoing studies now, but I'm not aware of any that have published anything.

Q. Have you studied the literature regarding mental health problems in adults resulting from sterility?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't know what you mean by studied. I don't think probably more than any cursory manner.

BY ATTORNEY BARHAM:

Q. The use of cross sex hormones to affirm a transgender identity is an off-label use.

Correct?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: If by off label you mean off label for the FDA?

BY ATTORNEY BARHAM:

Q. Yes.

A. Yeah, as far as I know. Again, I'm not prescribing these medications as a psychiatrist.

Q. Earlier you mentioned that some of your patients, some trans --- some women --- natal females who identify as male have been able to become pregnant. Do you recall that testimony?

A. I did not say anything about my patients, I said those were personal experiences.

Q. Personal experiences. I'm sorry. I assumed it was patients, so thank you for that correction. I would like to show you Tab 81. This is going to be an article by Moseson, et al. in 2020, entitled Pregnancy Intentions and Outcomes, tab 81 for those at home and Exhibit 36 for the record.

--

(Whereupon, Exhibit-36, Article by Moseson, et al., was marked for

identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this study?

A. Certainly not the details of it. This is the first time I'm recalling looking at it.

Q. Are you aware of any other studies regarding the ability of individuals taking cross sex hormones to become pregnant?

A. There are a number of ongoing studies that are looking into those questions, yes.

Q. If you look at Table 3 on page number 36, this table indicates there were 79 pregnancies among the respondents who have ever used testosterone.

Do you see that?

A. Yes.

Q. And there were 342 among those who have never used testosterone.

Do you see that?

A. I see that.

Q. But only 15 of these pregnancies occurred after initiating testosterone. Is that correct? And I'm referencing page 33 when I say that, at the bottom of page 33.

ATTORNEY BLOCK: Where is this on page 33?

ATTORNEY BARHAM: The very last line on page 33 extending over onto page 35.

THE WITNESS: I see on Table 2 the number of pregnancies after initiating testosterone was 15.

BY ATTORNEY BARHAM:

Q. So the other 337 of the pregnancies tell us nothing about the impact of testosterone on female fertility and the possible impact of birth defects.

Correct?

A. Well, the question about fertility certainly doesn't speak to us being able to understand it more based upon the data points. And without reading the article I don't know if the author said anything about birth defects.

Q. On page 35 it indicates that 2 of the 15 --- or 4 of the 15 pregnancies that started while taking testosterone half of them ended in miscarriage.

Correct?

A. Yes.

Q. One ended in abortion and one was not reported.

Correct?

A. I don't see where that is.

Q. It's the same line. Two of these four pregnancies ended in miscarriage, parentheses, one ended in abortion in the outcome and testosterone duration for the other four were not reported?

A. Yes.

Q. Okay.

And there is no data given on the other outcome of the other 11 pregnancies. So this article does not document a single live birth to a natal female at any time after taking testosterone.

Correct?

ATTORNEY BLOCK: Objection to form. And give him a chance to read, please.

THE WITNESS: I would really have to read the article quite closely to agree with that. I'm not seeing the text in this article to support that. In the Pregnancy Intentions and Outcomes, as I'm reading it, it discusses what the potential outcomes are, but it didn't parse those into who had testosterone before or after, so I'm not sure.

BY ATTORNEY BARHAM:

Q. Okay.

Let me shift gears and turn to paragraph 37 of your report. There you indicate --- you state that

there is no evidence supporting Dr. Levine's speculation that allowing prepubertal children to sexually transition puts children on a conveyor belt to becoming transgender adolescents and adults. And you say evidence shows that prepubertal children who are likely to have a stable transgender identity into adolescence are the children who are most likely to articulate a strong and consistent need to socially transition.

Do you see that?

A. I see that.

Q. And in footnote 11 you cite an article by Steensma published in 2013.

Is that correct?

A. That's correct.

ATTORNEY BARHAM: I will show you what we're going to mark as Exhibit 37, Tab 120, and I will also show you Tab 121, which is Exhibit 38.

(Whereupon, Exhibit-37, Article by Steensma, was marked for identification.)

(Whereupon, Exhibit-38, Analysis, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Tab 120, Exhibit 37, is the Steensma article that you cited in footnote 11 of your report.

Is that correct?

A. That is correct.

Q. Let's look at Table 1 on page 584. And it gives --- in the first four columns it gives numbers on persistence and desistance among the study subjects. And about halfway down it delineates how many of the persisting boys and girls and desisting boys and girls had a childhood diagnosis of gender identity disorder.

Correct?

A. Correct.

Q. And it also breaks down how many were subthreshold. I'm presuming that means for gender identity disorder.

Correct?

A. That is correct.

Q. So according to Table 1, 91.3 of the 23 persisting boys had gender identity disorder.

Correct?

A. Correct.

Q. So that means about 21 of the 23 persisting boys had that condition.

Correct.

A. Correct.

Q. And according to Table 1, 95.8 of the 24 persisting girls had the same diagnosis or 23 of the 24.

Correct?

A. That's correct.

Q. And according to the same Table, 39.3 of the 56 desisting boys had that diagnosis.

Correct?

A. That is correct.

Q. So that's 22 of the 56.

Correct?

A. I'll take your word for the math.

Q. Well, you can see it on Exhibit-121 (sic). On Table 1, 58.3 of the 24 desisting girls had gender identity disorder or 14 of the 24.

Correct?

A. Correct.

Q. Do you see any reason to dispute the figures set forth on Exhibit --- on Tab 121, Exhibit 39 --- Exhibit 38?

A. No, I have no reason to ---.

ATTORNEY SWAMINATHAN: I think he is looking at the wrong document.

BY ATTORNEY BARHAM:

Q. I'm talking about this.

A. Got it. So this is a transposition from Table 1?

Q. Correct.

A. I mean, I'm going to have ---.

ATTORNEY BLOCK: Just objection. I'm sorry, can we put on the record what this document is? Is it a reprint of what's in the Steensma or is it new analysis that ---?

ATTORNEY BARHAM: Exhibit 38 is an analysis of the Steensma 2013 article that is Exhibit 37.

ATTORNEY BLOCK: Thank you. And is there an author of the analysis?

ATTORNEY BARHAM: I'm sorry. Say that again.

ATTORNEY BLOCK: Is there an author of this analysis?

ATTORNEY BARHAM: Yes, it was me.

BY ATTORNEY BARHAM:

Q. So according to the figures that have been calculated from table one of the Steensma article, 80 children --- of the 80 children who had gender identity

disorder, 44 persisted and 36 desisted.

Is that correct?

ATTORNEY BLOCK: Objection to give the witness a chance to see it on his own what the figures are.

THE WITNESS: I'm not sure I understand what your question is.

BY ATTORNEY BARHAM:

Q. Of the children with the --- the 80 children who had a diagnosis of gender identity disorder, 44 persisted and 36 desisted.

Is that correct?

A. I would have to do the math myself for me to say yes to that, but it's about right.

Q. So according to Steensma figures, of the children with the strongest transgender identity as children 55 percent persisted and 45 percent desisted.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I would have to run those numbers myself in order to --- unless it's referred to already in the article, but that sounds about right.

BY ATTORNEY BARHAM:

Q. In footnote 12 of your report, paragraph 37, you cite an article by Rae saying for the proposition that socially transitioning before puberty did not increase children's cross gender identification and deferring transgender did not decrease cross gender identification.

Is that correct?

A. That is correct.

ATTORNEY BARHAM: All right.

Let's turn to Tab 108. This will be Exhibit 39, and it will be an article by Rae, et al. published in 2019, Predicting Early Childhood Gender Transitions.

ATTORNEY BLOCK: It's 2:22 central time. So the witness has to take a break at 2:30?

THE WITNESS: I can do 2:45.

(Whereupon, Exhibit 39, Article by Rae, et al., marked for identification.)

BY ATTORNEY BARHAM:

Q. Exhibit 39 is the article that you cited in footnote 12 of your report.

Is that correct?

A. That's correct.

Q. On page 679 the author indicates that replication of this affect is muted preferably from longitudinal study comparing a single group of children before and after transition.

Correct?

A. That's correct.

Q. And the authors also indicate that they tested a sample skewed by race, class, parental that education and political affiliation that may or may not affect the children that are socially transitioning now or in the future.

Correct?

A. That is correct.

Q. And they also indicate that follow-up occurred only two years after testing and some of the children who had not transitioned could transition in the future and some who had transitioned could not revert in the future.

Correct?

A. Correct.

Q. And they indicated that there sample is likely an over estimate of how many gender conforming children in the general population will socially transition.

Correct?

A. Where is that in the article?

Q. Second column of page 679.

A. Yes.

Q. Same column they also indicate that they relied on a convenient sample of individuals recruited through lists and events serving transgender children and gender non-conforming children.

Correct?

A. That is correct.

Q. Let's go back to Tab 5, which is Exhibit 2. Page 3879, the Endocrine Society indicates that if children have completely socially transitioned they have my greater difficulty returning to the original gender on entering puberty.

Is that correct?

A. That's correct. It says it there, but that's based on supposition.

Q. Footnote 40 --- reference number 40 supposition --- reference number 40 is an article by Steensma, et al., published in 2011.

Are you saying that that's a supposition?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, I'm saying that the

part of that article that refers to the theoretical risk is based not on any data that was collected by the researchers in that study.

BY ATTORNEY BARHAM:

Q. The Endocrine Society also indicates that the social transition has been found to contribute to the likelihood of persistence.

Is that correct?

A. That is a misstating of Dr. Steensma.

Q. That is what the Endocrine Society has concluded.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That is what they have written here in the article you presented, yes.

ATTORNEY BARHAM: Let's go to Tab 97 number ---.

LAW CLERK WILKINSON: Exhibit 16.

BY ATTORNEY BARHAM:

Q. Exhibit Number 16, and we are going to be looking at the sixth page of this document. And Dr. D'Angelo, et al. article indicates that since almost all the children treated with puberty blockers proceeded to cross sex hormones concerns have been raised that

puberty blockers may consolidate gender dysphoria in young people putting them on a lifelong path of biomedical invention.

Is that correct?

ATTORNEY BLOCK: Object is to form.

THE WITNESS: Can you show me where that is on this page?

BY ATTORNEY BARHAM:

Q. The first column on the second paragraph. The second column.

ATTORNEY TRYON: Jake, can you scroll down a bit?

THE WITNESS: I would not agree with how you asked that question, I guess. Can you repeat it or clarify?

BY ATTORNEY BARHAM:

Q. I just was reading what it said. They indicate in this section additionally since almost all of the children treated with puberty blockers proceed to cross sex hormones citing de Vries 2014, concerns have been raised at puberty blockers may consolidate gender dysphoria in young people, putting them on a lifelong path of biomedical interventions?

A. It's bit of a logical leap and also just

incorrect. The de Vries study specifically was looking at the children in the Amsterdam clinic, which is not broadly applicable to other gender clinics across the rest of the world.

Q. But you relied upon de Vries 2014 article in your report as well, didn't you?

A. I agree. Yeah.

Q. So there are professionals who have raised these concerns and hold the concerns that social transitioning cannot change the outcome for a child.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think there's two different questions. The first question is, do I agree with this statement that almost all children treated with puberty blockers proceed to cross sex hormones? That is not data that we have nor does this article point to data other than the Dutch clinic that has a very specific protocol.

The question about whether social transition changes a child's trajectory is a different question. It is a question that the Dutch have raised as a possibility, but has not, I have not seen any literature that provides evidence for that.

BY ATTORNEY BARHAM:

Q. But you will recognize that there are some researchers in the field who have raised these concerns and do hold these concerns.

Correct?

A. There are researchers in the field who ask these questions, yes.

ATTORNEY BARHAM: Let's go to Tab 38.

ATTORNEY TRYON: How late are we going in this session; until 2:30 or 2:45?

ATTORNEY BARHAM: The witness has indicated he can go to 2:45.

ATTORNEY TRYON: Okay.

ATTORNEY BARHAM: Exhibit 40 is an article by Carmichael, et al. 2021, Short-term Outcomes of Pubertal Suppression in a Selected Cohort of 12 to 15 year old Young People. If you'll turn to page 12.

(Whereupon, Exhibit 40, Article by Carmichael, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. Are you familiar with this paper?

A. I have not read through this paper, yet.
Q. The lead authors are associated with the Tavistock?
A. That is correct.
Q. And that's part of the National Health Services of the UK.
Is that correct?
A. That is correct?
Q. And it's the leading and most respected clinic in the UK.
Correct?
A. That I can't answer.
Q. If you'll look at page 12, the authors indicate that one young person decided to stop GnRHa and did not start cross sex hormones due to continued uncertainty and concerns about the side effects of cross sex hormones, the remaining 43 or 98 percent elected to start cross sex hormones.
Is that correct?
A. Correct.
Q. So the vast majority of these children who received puberty blockers went onto take cross sex hormones.
Correct?

A. That is correct.

Q. Would you agree that the majority of children who receive puberty blockers go on and take cross sex hormones?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That is not a question that we have an answer to based upon the literature. A majority of patients with gender dysphoria that are prescribe puberty blockers are not involved in clinical care at either the Tavistock clinic or the Amsterdam clinic.

BY ATTORNEY BARHAM:

Q. Is it --- in your practice, do the majority of children who receive puberty blockers for gender dysphoria go on to take cross sex hormones?

A. Based upon the demographic of the patients that I'm seeing, particularly in Chicago, yes, but I'm not seeing the younger kids as much as I did in New York.

Q. So as a practical and ethical matter the decision to put a child on puberty blockers must be considered as equivalent of a decision to put the children on cross sex hormones with all of the considerations and full consent obligations listed in that decision.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No.

BY ATTORNEY BARHAM:

Q. Why do you say --- why do you disagree?

A. Inherent in the informed consent process is a specific discussion of the risk benefits and alternatives of a specific intervention. Hormones are not puberty blockers, it's a separate discussion.

Q. Even though the vast majority according to the research and according to your testimony go onto take cross sex hormones?

ATTORNEY BLOCK: Objection to form and mischaracterizes testimony.

THE WITNESS: A description of the potential trajectories of development is a part of the discussion in an informed consent process for the engagement with puberty suppression agents. It's not the same as informed consent process discussion around the use of hormones at that time.

BY ATTORNEY BARHAM:

Q. So when you're having an informed consent discussion surrounding the decision to start puberty blockers, do you discuss with parents and patients the

dangers associated with cross sex hormones?

A. This is going to be very individualized discussions that we have with families. It's a very momentous decision to make this kind of treatment choice. The potential trajectories are all discussed and there's risk to everything. I don't think it is useful to use the term dangers in the context of medical care but it's about weighing risks of interventions but also weighing the risks of non-intervening. And it's appropriate to have those discussions about what those potential outcomes may be with each individual kid.

Q. How do you get informed consent from a child?

A. You get assent from a child, but you get informed consent from a parent.

Q. How do you get --- how can a child even begin to understand the implications of starting puberty blockers and then potentially going to cross sex hormones, the effects that that may have on the fertility when the child is 12-ish?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Well, I have a skewed perspective here because of the work that I do, but there are 12-year-olds who are often much more capable of having that kind of informed decision than many

adults that I have encountered, which is to say it's an individualized assessment based upon multiple things, including the cognitive status of the child, their capacity to engage back and forth and have an open discussion and a realistic discussion about the potential benefits, risks and alternatives in specific intervention.

BY ATTORNEY BARHAM:

Q. Is it your position that most 12-year-olds have a better understanding or a better capability of making decisions about their long-term fertility than adults?

A. It is not my position and I will reflect that that was a statement meant in jest, but it does reflect some sense of reality in terms of the maturity level of 12-year-olds, not speaking to the maturity level of most 20-somethings in the world.

ATTORNEY BARHAM: I think this would be a good time to pause for your appointment and give you a few moments before that starts, so we'll go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 3:37 p.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record the current time reads 4:31 p.m.

ATTORNEY BARHAM: All right. Let's go to Tab 16, which will be Exhibit Number 41.

(Whereupon Exhibit 41, Washington Post Article, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is will be a Washington Post article from January 10, 2022. Are you aware of the 2021/2022 season swimming events surrounding the University of Pennsylvania's swimmer Lia Thomas?

ATTORNEY BLOCK: Objection to scope.

THE WITNESS: I have not been following closely, but I've heard about it.

BY ATTORNEY BARHAM:

Q. Okay.

On page three of Exhibit 41, the article references that Lia Thomas in her first year in the Women's Division after more than a year of testosterone

suppression set the Women's Division record in two events.

Do you see that?

A. I see that, yes.

Q. And Lia Thomas beat the best time of women's Olympian Torri Huske in the 200 freestyle.

Do you see that?

A. I see that.

ATTORNEY BLOCK: I just want to note an objection to foundation, that there's no URL. This appears to be cut and pasted. So I'm just noting that for the record.

ATTORNEY BARHAM: And I would note For the record that there is an URL at the bottom of page --- at the bottom of each page.

ATTORNEY BLOCK: Thanks. It's not visible from what's on the screen.

ATTORNEY BARHAM: Okay.

Just trying to be clear.

BY ATTORNEY BARHAM:

Q. Is it your position that it is fair for Lia Thomas to compete in the Women's Division of swimming?

ATTORNEY BLOCK: Objection to scope.

THE WITNESS: I don't have an opinion on

the fairness.

BY ATTORNEY BARHAM:

Q. Do you believe that it's beneficial to Lia Thomas' mental health to compete in the Women's Division?

A. I couldn't tell you that unless I had evaluated Lia Thomas herself.

Q. But it's your opinion as expressed in paragraph 52 of your report that no reasonable mental health professional could conclude that the Act is anything but harmful to the mental health of transgender youth.

Is that correct?

A. I would say youth as a class, yes, that is correct, but the specific details of that impact are not going to be known and I wouldn't care to surmise on it for a specific individual that is not under my care.

Q. Okay.

But it's your position that allowing a transgender --- or allowing natal males to compete in the Women's Division if they are gender dysphoric is beneficial to their mental health, in general.

Correct?

ATTORNEY BLOCK: Objection to terminology

and form.

THE WITNESS: In my report, excluding transgender youth can be harmful to their mental health.

BY ATTORNEY BARHAM:

Q. And when you say excluding them you mean excluding them from competition consistent with their gender identity.

Is that correct?

A. That is correct.

ATTORNEY BARHAM: All right.

I want to show you Tab 17 now. This will be Exhibit-42.

(Whereupon, Exhibit 42, Out Sports Article, was marked for identification.)

BY ATTORNEY BARHAM:

Q. Have you read about Iszac Henig before today?

A. I have not.

Q. This is an article from Out Sports published on January 9th, 2022, by Karleigh Webb entitled Trans swimmers Lia Thomas and Iszac Henig went head-to-head in the pool, each getting wins. Are you aware that Iszac Henig is a biological female who identifies as male?

A. I have not heard of Iszac Henig until today at least by name.

Q. Do you see on the first page of this article the article reads Henig, a trans man competing on the women's swimming team at Yale?

A. I see that, yes.

Q. So in this event a biological male identifies as female, Lia Thomas, competed against a biological female who identifies as male, Iszac Henig, in the women's competition?

ATTORNEY BLOCK: Objection can you give him a chance to read the article. He's never seen or heard of this before?

THE WITNESS: It seems that is what stipulated in the article.

BY ATTORNEY BARHAM:

Q. Okay.

According to the terminology you prefer, do you consider Henig to be anything other than a man?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I will typically ask the individuals that I'm working with or engaging with how they choose to define their own sense of labels. Not knowing Iszac I can't speak for him.

BY ATTORNEY BARHAM:

Q. Okay.

But according to the terminology that you've been using Iszac would be an individual assigned female sex at birth and identifying as male.

Correct?

A. Again, I don't see ---

Q. Henig a trans man?

A. --- a description of his words to describe his identity, so I can't say how he identifies himself, but it appears through that that's how --- that is the implication of the article at least.

Q. In the article it uses masculine pronouns to refer to Henig.

Correct?

A. Yes.

Q. Do you think it'd beneficial to Henig's mental health to compete on the women's team?

A. Again, I can't answer that unless I had evaluated Henig myself.

Q. In general, if you have a transgender individual who wants to compete on the team consistent his or her biological sex, do you think it's beneficial to his or her mental health to be allowed to do so?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, this is an individualized discussion that you have with patients. With the patients that I've had I have had patients who would be harmed by having to compete with the cohort of kids who were aligned with their sex assigned at birth.

BY ATTORNEY BARHAM:

Q. I understand your position about kids who are forced to do something, what about kids who want to compete with that same cohort, do you think it's beneficial to allow them to compete as they see fit?

A. As a mental health professional working with kids and families, it really is an individualized discussion. There is not going to be a specific answer that's universal for all kids.

Q. Do you believe that if Henig were prevented from competing with the women's team as desired, that it could be harmful to Henig's mental health ---

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BARHAM:

Q. --- possibly?

A. I can't speak to the specifics about a person that I've never evaluated.

Q. If it is harmful to someone's mental health to

be prevented from participating in athletics on a team consistent with their gender identity, could it be harmful to their mental health to be prevented from competing on a team consistent with their biological sex if they so wanted to?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think there's a whole host of hypotheticals that could potentially be possible.

BY ATTORNEY BARHAM:

Q. And that is one of them?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That's possible.

ATTORNEY BARHAM: Okay.

BY ATTORNEY BARHAM:

Q. In paragraph 34 of your report you write a recent study found people who reported experiencing those conversion efforts were more likely to report an attempted suicide, especially those who reported receiving such therapy in childhood.

Do you see that?

A. I see that.

Q. And there we are talking about conversion therapy.

Is that correct?

A. We're talking specifically about the study participants on perceptive perceptions of conversion therapy.

Q. But that's what's meant by those conversion efforts.

Correct?

A. Correct.

Q. In footnote six you cite an article by Turban published in 2020.

Is that correct?

A. That is correct.

ATTORNEY BARHAM: All right.

I'm going to show you Tab 113, which will be Exhibit 43.

(Whereupon, Exhibit 43, Article by Turban, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article published by Turban, et al. published in 2020, it's entitled Association Between Recalled Exposure to Gender Identity Conversion Efforts

and Psychological Distress and Suicide Attempts Among Transgender Adults. This is the article that you cited in your report.

Is that correct?

A. That is correct.

Q. And this is the article cited in footnote six as support for the proposition that studies that found that people who reported conversion efforts are more likely to have reported suicide.

Correct?

A. That's correct.

Q. On page two of this article the authors --- and by this article I'm referring to Exhibit 43. The authors note that they rely upon data from the National Center for Transgender Quality and its 2015 transgender survey.

Correct?

A. That is correct.

Q. On page eight of this document, the authors admit that it is cross sectional study designed precludes determination of causation.

Correct?

A. I don't have page numbers. Which one is that?

Q. It's the one with strengths and limitations at

the heading at the bottom.

A. Can you repeat the question?

Q. On page eight, the authors admit that the studies cross-sectional study design precludes determination of causation.

Correct?

A. That is correct.

Q. The authors also admit that those with worse mental health or internalized transphobia may have been more likely to seek out conversion therapy rather than non GICE therapy suggesting conversion efforts itself were not causative of these poor mental health outcomes.

Correct?

A. That is what is written, correct.

Q. Okay.

So this study does not establish a causal link between conversion therapy and suicidality.

Correct?

A. That is correct.

Q. The authors also admit that they lack data regarding the degree to which GICE occurred.

Correct?

A. That is correct.

Q. And they also admit that they lacked information

as to what specific modalities were used.

Correct?

A. That is correct.

Q. Turban et al., in 2020 also admits that participants were not recruited via random sampling and thus the sample may not be nationally representative.

Is that correct?

A. That is correct.

Q. In paragraph 37 you go on to say that conclusions further supported by extensive evidence that rejection of a young person's gender identity by family and peers is the strongest predictor for adverse mental health outcomes.

Is that correct?

A. That is correct.

Q. And you cite in that article --- you cite in footnote seven an article by Ryan, et al. published in 2010.

Is that correct?

A. I'm not seeing that.

Q. In footnote seven?

A. Oh, in footnote seven, yes.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit-44, which is Tab 114, an

article by Ryan, et al. published in 2010 entitled Family Acceptance in Adolescence and the Health of LGBT Young Adults.

(Whereupon, Exhibit-44, Article by Ryan, et al., was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is the article that you cited in footnote seven of your report.

Correct?

A. That is correct.

Q. On page 206, in the second column, the authors note that they relied on a sample of 245 people.

Is that correct?

A. That is correct.

Q. Of that sample, only nine percent identified as transgender.

Correct? That's on page 208.

A. Correct.

Q. That means we're talking about nine people.

Correct? 245 times nine percent is 22.05.

A. I'll take your math.

Q. On page 210 the authors admit that they cannot

claim that this sample is representative of the general population of LGBT individuals.

Is that correct?

A. That is correct.

Q. On page 210 to 211 the authors recognize that this is a retrospective study, which, quote, allows for the potential of recall bias in describing specific family reactions to their LGBT identity.

Correct?

A. That is correct.

Q. And then in footnote seven of your report you also cite an article by Klein and Golub published in 2016.

Correct?

A. That is correct.

Q. All right.

ATTORNEY BARHAM: I'm going to show you what we will mark as Exhibit 45, which is Tab 15.

(Whereupon, Exhibit-45, Article by Klein and Golub, was marked for identification.)

BY ATTORNEY BARHAM:

Q. This is an article by Klein and Golub entitled Family Rejection as a Predictor of Suicide Attempts. This article simply says that family rejection is a predictor of suicide attempts and substance abuse among transgender and gender non-conforming adults.

Correct?

ATTORNEY BLOCK: Objection. Can you point to where you are reading from?

ATTORNEY BARHAM: The title.

THE WITNESS: They identify as a predictor, yes.

BY ATTORNEY BARHAM:

Q. In fact, the word strongest does not even appear in this article.

Is that correct?

ATTORNEY BLOCK: Objection.

THE WITNESS: I would have to read the whole article.

ATTORNEY BLOCK: Let him read it.

THE WITNESS: The authors note on page 195 on a multi-variant model moderate levels of family rejection were associated with almost twice the odds of attempted suicide and high levels of family rejection were associated with almost three and a half

times the odds of attempted suicide. While there is not any use of the word stronger, I don't see any additional risks that were highlighted in this specific study.

BY ATTORNEY BARHAM:

Q. Okay.

On page 197 stemming over on to 198 the authors admit that they relied on data NTDS that use sampling techniques that were not random and included a homogenous study population that was largely white, educated and employed.

Correct?

A. That is correct.

Q. Do you agree with them that this limits the generalizability of the article's findings?

A. I do.

Q. The authors also admit that the cross sectional nature of the data did not allow us to determine any causal relationship between family rejection and the negative health-related outcomes.

Correct?

A. Correct.

Q. The authors also indicate that they did not have any information about the timeframe within which family rejection occurred, including what precipitated the

event, the severity of the rejection or whether this changed over time.

Correct?

A. Correct.

Q. Do you agree with them that these factors might have influenced their results?

A. Sure.

Q. All right.

Let's go to Tab 97, which is Exhibit 16. This article we discussed before, but this reviews the Turban article that you cited in footnote seven of your report.

Is that correct?

A. That is correct.

Q. Or footnote six of your report. Okay.

And in your report you are using the Turban 2020 article to critique the use of what you describe as conversion therapy.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm just pulling this up where I have it. As I stated in my report, the Turban article found that people who reported experiencing those conversion efforts were more likely to have reported attempting suicide.

BY ATTORNEY BARHAM:

Q. So you're using it to critique what you described as conversion therapy.

Is that fair?

A. I think that's fair.

Q. On page two of Dr. D'Angelo's letter to the editor he notes at the top of the first --- towards the top of the first column that Turban's analysis used data from the 2015 USTS survey of transgender identifying individuals, this survey is convenient sampling methodology which generates lower quality data.

Would you agree that convenient sampling generates low quality data?

A. Convenient sampling generates lower quality data. And then some other statistical method of study design. One of the ways that you want to counteract that potential for low quality of data is to have increased number of participants. The difference of 27,000 participants in this particular survey analysis versus say 100 in another, 40 in another does add a little bit more context to the applicability of these findings.

Q. Right below that Dr. D'Angelo, et al. notes that the participants were recruited through transgender

advocacy organizations and subjects were asked to pledge to promote survey among friends and family. This recruiting method yielded a large but highly skewed sample. Would you agree that the sample for this survey was highly skewed?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think we'd have to understand what specifically you mean by skewed and skewed in what way. It's hard to know.

BY ATTORNEY BARHAM:

Q. The authors go on in Table 1 to demonstrate what they mean by skewing of the data. Upon reviewing their information, would you agree that the sample was skewed?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I'm not sure skewed in comparative --- comparison to what?

BY ATTORNEY BARHAM:

Q. The authors continue on page two by saying that a number of additional data irregularities in the USTS raise further questions about the quality of the data captured by the survey. They talk about how high number of survey participants had not transitioned medically or socially, significant number reported no intention to transition in the future. The information about

treatments does not appear to be accurate as a number of respondents reported the initiation of puberty blockers after the age 18, which is highly improbable. Further, the survey has developed special waiting due to unexpected high proportion of respondents who reported that they were exactly 18 years old. Do you agree that these irregularities raise serious questions about the reliability of the data?

A. I think these are all elements that you want to take into context as you're establishing validity of the data and the conclusions that could be drawn.

Q. The second column of page two, the authors note that the emphasis on the survey's goals to highlight the injustices suffered by transgender people during the recruitment stage in the introduction of the survey instrument itself made it eligible for reporting adverse experiences due to demand bias.

Do you agree that this demand bias likely skewed the responses?

A. I wouldn't agree that it likely, but that implies that we have data that we don't have. It's a possibility that these authors are raising.

Q. Now, the authors also note that the experience of detransitioners and the sisters were not included, as

they were disqualified from completing the survey. They note that this failure is a serious oversight.

Do you agree with them that that's a serious oversight?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would need to look at the specific survey instructions for the survey in question to understand the validity of that. I don't see how in the context of this that folks who detransitioned were specifically excluded, but ---.

BY ATTORNEY BARHAM:

Q. Did you review ---?

A. Can you point to where that --- where in the original article or the study that those folks are excluded specifically. I may have missed it.

Q. I don't have the original survey on hand at the moment. If it proved that they were excluded, would you agree that that would be a serious oversight?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It would really depend on how that was done and what the language was used. Without seeing it I can't make a comment otherwise.

BY ATTORNEY BARHAM:

Q. What if there was no language involved, it was

just those who indicated that they were either desisting or detransitioning or not included in the data set?

A. I would need to see the context of it in order to make a judgment on the validity of that structure.

Q. On page four of this document. The authors note that Turban's hypothesis is further weakened by a significant flaw in their data analysis failure to control for individuals pre-GICE exposure mental health exposure status, noting that this is a potential compound and may mask reverse causation.

Do you have any scientific basis for disputing that concern?

A. Let me review this part of the paper, please.

ATTORNEY BLOCK: Just objection. I don't think he read the full the sentence.

THE WITNESS: I have not seen any literature on specific risks or predictors for individuals who would be exposed to gender identity conversion efforts, and so the supposition inherent in this paragraph that the authors are making that an individual's underlying poor mental health led to their experience of gender identity conversion efforts is not supported by my understanding of the literature.

BY ATTORNEY BARHAM:

Q. Do you have any reason to dispute a potential for a confound or the potential for masking reversed causation that the authors identify here?

A. As I described, I haven't seen any literature that speaks to this nor has that been my clinical experience.

Q. On page two of this document the authors note that Turban's conclusions rest on the assumption that they have a valid way of determining whether or not the respondent was exposed to the unethical practice of conversion therapy. Do you agree that this lack of context in detail renders the question incapable of differentiating between ethical non-affirming --- non-affirmative neutral and counters unethical conversion therapy?

A. I do not.

ATTORNEY BLOCK: Sorry, objection to form.

BY ATTORNEY BARHAM:

Q. Back on page four the authors note that the failure to control for the subjects' baseline mental health makes it impossible to determine whether the mental health or suicidality of a subject person stayed the same or potentially even improved after the

non-affirming encounter. Do you have any scientific basis for disputing this observation?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, if we wanted to go back to the Turban study itself and look more specifically at their methodology and their description that would be a more accurate way of getting a potential ups and downs side of this study other than this letter to the editor.

BY ATTORNEY BARHAM:

Q. But do you have any basis for -- any scientific basis for disputing that observation?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: This question gets to a very specific type of study designed methodology. That is something that typically is done by a data scientist, which is not where my level of expertise is. There are nuances in it. What I would say is in a population as large of a survey that having a denominator as high as they had helps to reduce the chances of confounders like the authors in this letter to the editor are describing as problematic.

BY ATTORNEY BARHAM:

Q. A little bit later on page five the authors

highlight the cross sectional design of the USTS and indicate that presenting a highly confounded association of causation is a serious error.

Do you agree that presenting a confounded association as causation is a serious error?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I have not claimed nor do I understand my reading of the Turban, et al. article to claim causation when an association has been found, and in fact, they specifically called out that it was not causative or at least the analysis could not prove it was causative with a cross-sectional design.

BY ATTORNEY BARHAM:

Q. So when you wrote paragraph 34 of your report and said that a study found that people who reported experiencing these conversion efforts were more likely to have reported attempting suicide, especially those who reported receiving such therapy in childhood, were you suggesting that the conversion efforts caused the suicide attempts?

A. I believe in my testimony I am saying that there is a relationship between those who are exposed to conversion efforts and those who have described reporting attempting suicide.

Q. And how would you describe that relationship?
A. As an association.
Q. Is association a synonym for correlation?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: It depends on the context, but generally in plain English association and correlation are relative synonyms for one another.
BY ATTORNEY BARHAM:
Q. In this specific context of your report, when you say that you are reporting an association, were you using association in correlation to synonyms?
A. As far as I know I was, yeah.
Q. Have you had patients impacted by not being allowed to play sports consistent with their gender identity?
A. On occasion, yes.
Q. Approximately how many such patients?
A. On the order of less than two or three.
Q. What sports were those patients participating in?
A. I do not recall the specific. These were --- the two or three that I had were all in the order of between five, six and seven-year-olds.
Q. What was your follow-up with each patient?

A. With those particular kids?
Q. Yes.
A. Without having their charts in front of me, it's hard to expound. My typical process would be understanding why it's happening, what they need and how to coordinate with whatever program to help make sure that the kid gets the support that is going to be most beneficial to them.
Q. Are you offering an opinion that the State of West Virginia does not have a strong interest in ensuring safe competition for women?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: My testimony is about the mental health impacts. I don't have an opinion on the state interests of West Virginia in this regard.
BY ATTORNEY BARHAM:
Q. Are you offering an opinion that the State of West Virginia does not have a strong interest in ensuring fair competition?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Same answer.
BY ATTORNEY BARHAM:
Q. Would you agree that ensuring fairness and safety is an important state interest.

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Same answer.

ATTORNEY BARHAM: All right. I believe those are all my questions for today. I will turn the floor over to Mr. Tryon.

ATTORNEY TYRON: Okay.

Here I am.

EXAMINATION

BY ATTORNEY TRYON:

Q. My name's David Tryon. I am with the West Virginia Attorney General's Office and represent the State of West Virginia. So we've got about an hour left. Do you want to just keep on going and finish up or would you like to take a break for five minutes before we finish up?

A. I think let's keep going. If I have to take a break, I'll let you know. I appreciate it.

Q. Okay.

You bet. Happy to help you out that way again. I just want to follow up, first of all, on a couple of questions about the Turban study, if I may, that we were

just discussing. And Exhibit 16 I believe was the document that addressed that Turban study.

A. I see Exhibit 16 as the letter to the editor from D'Angelo, et al.

Q. And that's the one that we were just looking at addressing the Turban study.

Right?

A. Correct.

Q. So let me just ask you, you did cite the Turban study in your report.

Right?

A. Yes.

Q. Yeah, and that was to support your opinion.

Right?

A. That is to support my opinion, yes.

Q. Now, before you used it did you do something to cite check it to see if there were any articles that either challenged it or critiqued it or criticized it?

A. I would say that a routine review of the literature is a part of my day-to-day practice. This particular article did not come up in that review.

Q. Okay.

Is there a way to specifically search for it to see if --- to look at it and then do a search and see

what other articles are quoted or cited?

A. My guess is there probably is, I'm not aware of it.

Q. But I think you said you were not aware of the letter which is Exhibit 16 prior to issuing your expert report.

Is that right?

A. That is correct.

Q. Would it have been helpful to have seen that ahead of time?

A. I think it would have been helpful for me to feel more prepared in this deposition. I don't think it would have changed any of my report.

Q. If you had that, would you have investigated those criticisms to see if they were failed criticisms?

A. The authors of the Turban study had raised most of those criticisms themselves in the context of their report.

Q. And did you independently look at it and determine if they were --- if that caused you some concerns?

A. Concerns wouldn't be the right word. It's about weighing the evidence and making sure that we understand context and applicability. There's nothing in this

letter to the editor that changes those demands from my reading of the Turban article.

Q. So you are saying that this letter in the Turban article --- I'm sorry, you're saying this letter to the editor does not raise any new issues at all than what the Turban study itself raised.

Is that right?

A. I would have to read through this in a more detailed manner to say for certain that no single issue has been addressed. None of which we discussed today are elements that hadn't been addressed, either by myself reading the Turban article or by the Turban, et al. in the article itself.

Q. But you do not raise any of those concerns in your report, do you?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No. No, not specifically.

BY ATTORNEY TRYON:

Q. Okay. Fair enough.

If you can follow your report now, which I'm forgetting which exhibit that is, Exhibit 1. Thank you.

So first of all, you said you were retained by Counsel for the Plaintiffs as an expert. Can you tell me when you were retained, please?

A. I would have to pull up my invoice to give you the specific date, and I'm guessing Mr. Block might have that information at the ready.

Q. Unfortunately, I can't depose him. I would love to, but I don't think he would agree to that. So as best you can recall --- first of all, was it this year or last year?

A. It was this year to the best of my recollection.

Q. Okay.

Was it after the other expert reports came out or before?

A. I believe I was hired or retained. I don't know what the correct terminology is so forgive me, after the development of the additional expert reports. It was the rebuttal to those reports that led to my being retained to my recollection.

Q. I'm sorry?

A. From my recollection. And I'm terrible with dates, so I apologize for that.

Q. In paragraph four, you say --- you explain what you viewed and you mention the reports of Dr. Safer. Does that refer to Dr. Safer's original report that was filed with the Court and his rebuttal report --- strike that.

Does that --- so he filed something with the Court originally. Did you review that one?

A. It was the original report that I had reviewed.

Q. Okay.

So let me just be clear. So he filed an original report back in --- last year and then issued a new report in February of this year and then issued a rebuttal report. So a total of three. Did you see all three of those?

A. I would have to see them ---.

ATTORNEY BLOCK: Object to form.

THE WITNESS: I would have to see them in front of me to know if it was something that I had read. I don't know the terminology well enough to know if I was reading the original report or rebuttal report or the third type.

BY ATTORNEY TRYON:

Q. So one of them was expert report which was issued I believe in February of this year. I believe you saw that one.

A. Again, I would have to see the report in front of me to know if it was the one I saw.

Q. Okay.

There was another one which was labeled as

rebuttal. Do you remember if you saw that one?

A. I would have to go back through my notes. I don't have it in front of me, so I apologize for not recalling.

Q. Well, let me ask you this question. Do you remember how many reports you saw from Dr. Safer?

A. All I can say is I remember seeing at least two.

Q. Very good. And Dr. Adkins, how many of her reports did you see?

A. I can't be certain, but I think I also saw two of hers.

Q. And I'll represent to you that each of them issued a rebuttal report. And did you read their rebuttal reports prior to preparing your rebuttal report?

A. I don't have the documentation in front of me in terms of when I was spending time on what piece of this process. That's a part of my notes that are not here today.

Q. Do you know why you were asked to issue a rebuttal report if Dr. Safer and Dr. Adkins were both issuing rebuttal reports?

ATTORNEY BLOCK: Objection. Just don't discuss any of the contents of your communications with

the attorneys.

ATTORNEY TRYON: Correct.

THE WITNESS: My understanding was to rebut the reports of Dr. Levine and Dr. Cantor.

BY ATTORNEY TRYON:

Q. Is your rebuttal different than the rebuttals of Dr. Adkins and Dr. Safer?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes.

BY ATTORNEY TRYON:

Q. Pardon me?

A. Yes.

Q. Does your rebuttal report have any opinions which are different from Dr. Safer and Dr. Adkins' reports?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think it's hard without the specific reports in front of me. I know they were long documents and I was specifically rebutting the reports of Dr. Levine and Cantor.

BY ATTORNEY TRYON:

Q. Do you have any specific reports that are not rebutting Dr. Levine and Dr. Cantor?

A. The process of developing this rebuttal report

was for that specific intent.

Q. So you don't believe you have any original opinions to report; would that be a fair statement?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not --- I guess I'm not sure what you mean by original opinions.

BY ATTORNEY TRYON:

Q. So let's move on. Do you recall the Costa study?

A. Yes, we had reviewed one Costa study earlier. Can you remind me of the exhibit number?

Q. I believe it's Exhibit 27?

A. All right. Okay.

Q. I believe that during that discussion you referred to the standards in there as being rough or imprecise measure and --- let me get this right, and not objective criteria.

Do you remember that?

A. I had described the CGAS, the Children's Global Assessment Scale, as an imprecise measure of children's functioning.

Q. And you said not having any objective criteria; can you help with that?

A. Yes, it's a scale from zero to a hundred that is

very gestalt that the clinician uses to rate a child. It's not an instrument that I find clinically useful.

Q. Is it not clinically useful because it doesn't have objective criteria?

A. I wouldn't say it's fair to say that there are no objective criteria, but there are at times contradictory objective criteria within the CGAS. And again I would he have to see the CGAS in front of me to point out those specifics, but there are other functions, or other ways of measuring outcomes than the CGAS.

Q. What is an objective criteria? What does that term mean in other words?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I guess what would say is we would want a psychometrically valid approach for answering a question, ideally that is of clinical relevance.

BY ATTORNEY TRYON:

Q. Can you just repeat your answer for me? I didn't quite understand it.

A. Probably not the same language. A psychometrically valid tool that in an ideal world provides some kind of clinical relevance.

Q. Okay.
You said psychometrically valid tool.
Did I get that right?
A. Psychometrically validated tool, yes.
Q. Validated?
A. Yes.
Q. What is that?
A. Essentially you want to understand that the measure you're using is measuring what it says to measure and is reliable across multiple domains. The CGAS has been widely used in research, it's just not my favorite tool because I don't find it to have that second domain of having that clinical utility.
Q. Let me ask you to take a look at paragraph 19 of your opinion?
A. I'm looking at it now.
Q. You say at one point it says contrary to the portrayal. Do you see that sentence?
A. I see that, yes.
Q. Contrary to the portrayal in Dr. Levine and Dr. Cantor's reports, gender-affirming treatment also requires a careful and thorough assessment of a patient's mental health, including co-occurring conditions, history of trauma, and substance abuse among

many other factors. My question for you is with respect to your language, a careful and thorough assessment, and I'd like to then know are there psychometrically validated tools used to do that?

A. There are on occasion, and particularly when we're looking at research outcomes for transgender youth there are a number of psychometrically validated screenings or outcome measures that are used.

Q. What are those?

A. These include most importantly the Utrecht Gender Dysphoria Scale, the Body Image Scale, historically what's in the Dutch data, the Toronto data, and the Costa data and The Tavistock Clinic, all of them were participatory in kind of the informal research group that agreed to collect the same measures, so these included the Achenbach, CBCL, and they use self report.

Q. I'm sorry. What was the first one you said before Body Image Scale?

A. Utrecht Gender Dysphoria Scale.

Q. Utrecht Gender Dysphoria Scale?

A. Correct.

Q. What is that?

A. It's a measure of the degree and intensity of gender dysphoria.

Q. How is it --- what does it look like? Does it have a series of scale one to ten on different issues or what is it?

A. It's a series of questions that I'd have to have in front of me to give a better job of describing, but it provides a rating of --- I can't remember what the range is, from zero to somewhere in the low dozens, that correlates with the intensity of gender dysphoria.

Q. Is that something that you use in your practice to diagnose gender dysphoria?

A. It is an element that I have used.

Q. Do you use that with every patient?

A. It is not something that I use with every patient. The contents of the Utrecht Gender Dysphoria Scale are generally pieces that I'm getting or gathering from every clinical encounter without necessarily utilizing the specific tool.

Q. This statement, a careful and thorough assessment, does that have a --- is there a source for that particular standard?

A. There are a number of sources for this particular standard. The general practice of children's mental health from my guild in child adolescence psychiatry, there are years of training and

certification in order for you to have demonstrated a careful and thorough assessment. In order to get Board Certified I had to do a careful and thorough assessment in front of a board of examiners, so this is inherent to the practice of mental health.

Q. Is there --- but there is no requirement that these various standardized tools that you mentioned to me, these psychometrically valid tools have to be used, is there?

A. There isn't, and there is not a clinical verification that they be used in every instance. For the sake of these kind of studies, it's important to have these validated tools so we're all speaking the same language and that outcomes can be tracked over time, but not necessarily in every clinical event is it going to be warranted.

Q. If you don't use them in every clinical event, then how can how can you adequately track something across patients if you wanted to do a study?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As an example there are a number of psychometrically validated tools that cannot be administered at every clinical encounter, otherwise they would be rendered invalid. So there's a lot of

nuance in these specific tools and I think that level of nuance is really a clinical judgment based upon professional and prevailing standards.

BY ATTORNEY TRYON:

Q. Okay.

So there's no objective measure of someone other than --- well, let me back up. So different psychiatrists would come up with different conclusions.

Is that right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't think that's related to what I was speaking about. I think different psychiatrists would utilize different instruments to provide an assessment, and that's going to change from person to person. I can't speak to diagnostic reliability for a psychiatrist that I haven't met or trained.

BY ATTORNEY TRYON:

Q. Let me ask you how long you would normally spend with a child before --- or adolescent before prescribing puberty blockers?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: There is not going to be a single answer to that question. It really is dependent

on the requirements of the assessment, as well as the individual factors of that child and that family.

BY ATTORNEY TRYON:

Q. Could ten minutes be long enough?

A. Not in my opinion.

Q. What about 30 minutes?

A. Likely not.

Q. How about an hour?

A. It would be very atypical in my practice to spend that little time prior to making a recommendation for puberty suppression. I do a much more thorough assessment than an hour.

Q. So how long would a thorough assessment normally take?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY TRYON:

Q. You said more than an hour I think?

A. Correct. I would say more than an hour. I think maybe there's a ceiling, but not a roof. What I mean by that that is there are certain criteria required in order to make a recommendation for a treatment for gender dysphoria to be offered. Those include a diagnosis of gender dysphoria, a recognition of any co-occurring mental health issues and whether or not

they are adequately well controlled enough to be able to proceed with care. And a clear understanding of the risks, benefits and alternatives of that treatment. There's no specific timeframe on that as an assessment.

Q. How many visits would you expect to be adequate for a careful and thorough assessment?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: And I apologize, it's --- I'm not trying to be evasive. It really is going to depend upon each individual child.

BY ATTORNEY TRYON:

Q. What about is one enough? Have you ever done it --- given a recommendation for puberty blocker after only one visit for an hour?

ATTORNEY BLOCK: Compound question.

THE WITNESS: I have never given a recommendation for puberty suppression after a one hour visit personally.

BY ATTORNEY TRYON:

Q. What's the minimum time that you think is adequate?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As I said, I don't think it's based on time. It's based about the content.

There are circumstances in which patients have been followed for several years by therapists, that can provide a tremendous amount of collateral information including information provided by parents, family members, community providers, et cetera, that can allow more abbreviated assessment for some people.

BY ATTORNEY TRYON:

Q. Is someone as consistently spending only an hour with one patient, with each patient for recommending puberty blockers, that would look kind of like a rubber stamp recommendation wouldn't it?

ATTORNEY BLOCK: Objection.

BY ATTORNEY TRYON:

Q. Assuming that it's happening?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would have to see the specifics in order to make any kind of comment.

BY ATTORNEY TRYON:

Q. Isn't it fair for Dr. Levine or Cantor to express concern that in actual practice that may be happening?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I have not seen anywhere in Dr. Cantor or Dr. Levine's report or within the

literature that this is a pervasive thing that is happening.

BY ATTORNEY TRYON:

Q. Well, it's not tracked at all so we wouldn't know, would we, one way or the other?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It is a question that could be asked. I don't think it's for me to make suppositions, nor do I think it is for Dr. Cantor and Dr. Levine to make suppositions about the critical care of transgender youth in this context.

BY ATTORNEY TRYON:

Q. Is there any --- is there any place where you report any central location where you or your clinic report how much time and effort and what your thorough examination is so that it can be tracked?

A. The site where I'm at now is part of a four-site NIH trial that has published on the specific assessment processes that the kids who are involved in the study engage in.

Q. How many kids are in that trial?

A. I'm not a specific participant in the organization of that trial, so I don't have that information in front of me.

Q. Does your clinic report to that trial?
A. My gender clinic, the gender clinic within the hospital that I work in, there are many patients who are enrolled in that trial, yes.
Q. But it's certainly not mandated, right?
A. No.
Q. When these careful and thorough assessments are done, what type of documentation should be used for that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That's a very contextual question. We have prevailing standards in terms of what should and shouldn't be documented through various professional organizations, but that's going to change from state to state, country to country.

BY ATTORNEY TRYON:

Q. And what about in the State of West Virginia?
A. I have no knowledge of documentation requirements in the State of West Virginia.
Q. How about in the United States in general?
A. As far as I'm aware, there are no universal recommendations in terms of specifics of how things are documented.
Q. Are there any organizations like the WPATH or

any other organizations that do give recommendations on what documentation to use in America?

A. WPATH has certainly provided some educational events in terms of best practices in documenting, but these aren't specific guidelines or recommendations. I think it is notable to say that the Dutch clinic in particular has been quite vigorous in their production of research and is quite well respected in the world in terms of how things are structured, and they actually don't even have a letter that their clinicians write and/or see initiation of puberty suppression for gender-affirming hormones.

ATTORNEY TRYON: Jake, if you could bring up the exhibit entitled Adolescent Medicine, Confidential Patient Questionnaire, which has been redacted?

VIDEOGRAPHER: Do you want that marked?

ATTORNEY TYRON: Yes, please, wherever we are at in the next number.

VIDEOGRAPHER: I believe we're at 44.

LAW CLERK WILKINSON: 46.

ATTORNEY SWAMINATHAN: 46.

(Whereupon, Exhibit-46, Form, was marked

for identification.)

ATTORNEY TRYON: If you could bring that up, Jake.

VIDEOGRAPHER: Yes. Give me one second. I'm just marking that right now. We might have to mark this one physically. The program won't mark it because it's a redacted document.

ATTORNEY TRYON: Okay. Then we'll do that to bring that up. And then, if you could, Jake, just scroll down in this. I just have a couple questions about this form.

THE WITNESS: Okay.

ATTORNEY TRYON: Go onto the next page down.

BY ATTORNEY TRYON:

Q. Have you ever seen a form like this?

ATTORNEY BLOCK: Objection to form. No pun intended.

THE WITNESS: Could you be a little more specific? I mean, I've seen --- this is kind of very typical for a lot of intake-type documents in mental health clinics or in medical clinics.

BY ATTORNEY TRYON:

Q. So you would characterize this as a typical intake form?

ATTORNEY BLOCK: Objection.

THE WITNESS: I wouldn't characterize it in that way. I have seen typical intake forms that resemble this in some ways.

BY ATTORNEY TRYON:

Q. Would this be something that you would consider adequate to document a careful and thorough assessment?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, without knowing the context of the individual's practice, it's impossible for me to say.

BY ATTORNEY TRYON:

Q. Is this a form that you would use for careful and thorough assessment of a patient's mental health?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't use this form. I can't say whether or not I was in the context this provider was practicing that I wouldn't use this form as part of my assessment.

BY ATTORNEY TRYON:

Q. Fair enough. Do you use it as a part of your careful thought thorough assessment of the patient's

mental health, are there any other forms that you expect to see in the caregiver's file about that patient's mental health?

A. Not specifically.

Q. This would be adequate?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I can't speak to the adequacy of it without understanding the context of the rest of the treatment.

BY ATTORNEY TRYON:

Q. Is there any certification that you think is necessary or appropriate for someone to diagnose gender dysphoria?

A. There is no universal certification process. What we have are guidelines and recommendations for ensuring that folks for the mental health prospective, again, medical professionals are able to diagnose gender dysphoria, but from the mental health prospective, it's recommended that we are licensed clinical professionals that have some, if not an expert level of understanding of gender identity issues and having continuing education in the field. These are ongoing recommendations. I wouldn't say it was the expertise, but knowledge about standard of care that's congruent

with how other disorders are also treated.

Q. Let me ask you about paragraph 16 of your report.

Do you see the last sentence there?

A. Yes.

Q. It says HB-3293 does not affect elementary students --- elementary school students who are transgender boys?

A. Yes.

Q. So you previously testified that puberty is --- starts on the average about age 12 for males.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I would defer to our --- that's an answerable question based upon national data that I don't have in front of me, but 12-ish is, yes.

BY ATTORNEY TRYON:

Q. And the range would be --- from what I read, the range is generally between 8 and 14 years old.

Right?

A. Again, I would defer to my endocrine colleagues, but yes, that's --- that's pretty typical.

Q. And you're aware that boys go into Middle School

as early as 11 years old or sometimes even earlier.

Right?

A. I can't say that I'm familiar with how each state organizes their primary and secondary education systems. I'm familiar with how it was in New York and Illinois, and that was occasionally the case.

Q. So if an 11-year-old who has not gone through puberty is in Middle School, then this would definitely apply to some pre-pubescent children.

Right?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY TRYON:

Q. I'm sorry, I didn't make that clear. So if there are prepubescent boys that are in middle school, then HB-3293 would affect them.

Right?

A. I would have to put HB-3293 in front of me to --- to know specifically. I'd have to refamiliarize myself with it, the specifics of it.

Q. I'm sorry to interrupt you.

A. Yeah, I wouldn't want to comment on something I don't have in front of me right now.

Q. Okay.

So just so you know I had to relocate from my

office to my home, and there's a poodle in here that you may hear. So forgive if you hear the interruption.

ATTORNEY BLOCK: Objection to the poodle.

ATTORNEY TRYON: Let me take one second. I will be right back.

THE WITNESS: Maybe now is a good time for bathroom break.

ATTORNEY BLOCK: Let's go off the record.

VIDEOGRAPHER: Going off the record the time reads 5:46 p.m.

OFF VIDEO

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEO

ATTORNEY TYRON: Okay let's go back on the record.

VIDEOGRAPHER: Back on the record the current time reads 5:50 p.m.

BY ATTORNEY TRYON:

Q. Let me direct you to paragraph 26 of your report?

A. Yep.

Q. So there's the --- let's see, starting with the word prepubertal children who he insists are children with non-conforming gender expression who realize at the onset of puberty that their gender identity is consistent with their sex assigned at birth. Their understanding of their gender identity changes at the onset of puberty, but their gender identity does not. So that's really a circular argument unless there's some objective external way of proving what that child's gender identity actually is, wouldn't you agree?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think that the research that we have on inherent gender identity is relatively recent and needs a little bit more robust follow-up. What we have are studies of cognition as well as some very limited brain imaging studies that point to some element of gender identity that has an objective criteria to it. These are not studies that are significant enough or have enough participants for us to draw any kind of significant conclusions, but it does speak when paired with clinical experiences of kids who have desisted that the way that they describe their identity is that it is not a fix or a change in their sense of self but more about the expression of their

behaviors and their understanding of how they fit into the world that has changed.

Q. So as you say it's too early to really know for sure which of these things it is, right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: What I would say is it's a preponderance of clinical experience and the studies that we do have point to this being much more likely.

BY ATTORNEY TRYON:

Q. Much more likely, is that your testimony?

A. Based on my clinical experiences, yes.

Q. But there's no way that anyone outside of --- there's no objective measurement to make that determination, right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The way that I would describe it is that gender dysphoria as a diagnosis includes both identity-based criteria that are objective and are measured through the course of the scales that we talked about earlier, as well as measures of role and behavior and congruence with your body. These are things that are tracked over time in the studies that we have, and when a child desists from that diagnosis of gender dysphoria it is clear at that point that it was

primarily the gender role based behaviors that were leading to this diagnosis as opposed to a change in identity.

BY ATTORNEY TRYON:

Q. You were freezing up on me, so let me just see if I can understand this by looking at the transcription. If a child explains the reasons why he or she has a different gender identity, that his or her natal sex, the natal sex designation then later says the opposite, there is really no way of telling whether or not it's just the person's gender identity or the understanding of the identity has changed based on that child's or person's statements.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say to complicate matters even further, a number of the studies that are used to describe this desistance phenomenon were first carried out under the DSM-IV. On the DSM-IV the diagnosis was gender disorder in childhood. And in that nomenclature, an identity that is incongruent with sex assigned at birth was not one of the required elements. And so there are children who are described in the common parlance as transgender because they met criteria

for what was then gender identity disorder, who nevertheless discussed any identity incongruent with their sex at birth. So that makes it hard to draw firm conclusions about data captured under the DSM-IV.

BY ATTORNEY TRYON:

Q. And you are familiar with that diagnostic and statistical manual of mental disorders.

Right?

A. I am.

Q. And you cited it in your reports.

Right?

A. Correct.

Q. That is a manual to assist in the diagnosis of mental disorders.

Right?

A. That is correct.

Q. Is there a value of to classifying a condition as a mental disorders?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't know if I can offer an expert opinion on that. I have a biased --- talk about a selection bias as a psychiatrist and a mental health professional. I think it's important for us to destigmatize mental illness as much as possible, so

whatever is going to allow folks access to care, I'm relatively neutral on placing a value on whether or not something is a diagnosis or not.

BY ATTORNEY TRYON:

Q. A manual does not recommend any treatments, only tools for diagnosis.

Is that right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The main goal of DSM for classifying diagnoses and ensuring stability or reliability of those diagnoses across practice locations.

BY ATTORNEY TRYON:

Q. That does not recommend or even provide any treatments.

Right?

A. The text of the DSM often recommends or describes treatments.

Q. Does it describe treatments for gender dysphoria?

A. The text was recently revised for gender dysphoria, and so I really want to see the text in front of me for me to talk about it.

Q. So in the DSM-V you don't know if it has any

recommendations for treatments in it for gender dysphoria?

A. I don't know in the revised text how much was changed without familiarizing myself with it. And I'm happy to look at it. It's a quick read, but primarily the DSM-V as it comes to gender dysphoria is a description of the phenomenology not a recommendation for treatments.

Q. And when was it revised?

A. It was just released about a week ago, maybe two.

Q. Let me ask you to take a look at your report, paragraph 51. You say to the contrary, as noted previously, stigma and discrimination have been shown to have a profoundly harmful impact on the mental health of transgender people and other minority groups. Now, when you say stigma and discrimination, you're not referring specifically to not allowing, as using your term, a transgender girl to participate on a girls sports team to be that type of stigma or discrimination, are you?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: The reference that I referred to in my report I would want to look at, because they had an operational term for stigma and

discrimination. However, there has been literature, I can't remember the names of the authors or the date of the study, that look at specific laws that are enacted to discriminate against LGBT people and impact on both mental health and medical health, and so those kind of discrimination laws certainly do have real felt impact for transgender folks.

BY ATTORNEY TRYON:

Q. So are you saying that this sentence is referring to a law such as HB-3293 or not?

A. I think, as I stated, for the sake of this expert report, the Yhuto reference from 2015 is what I'm using to craft that statement.

Q. I'm sorry, the what from 2015?

A. Footnote number 21.

Q. What are those profound impacts of mental health that you are referring to?

A. Well, as I mentioned earlier in my report are correlation between many exposures that transgender individuals have and increased rates of suicide, self harm, substance use, exposure to trauma that have certainly profound negative impacts for the folks who are experiencing them.

Q. And of those harms that you have just mentioned

are you aware of any of them caused by --- to a child or person who was not --- who was a transgender female not allowed to participate on a girls or woman's athletic team?

A. As I had testified to earlier, I think I said I've had two or three patients who are excluded from sports teams, one of which was a child who was assigned male at birth, who at age six was not allowed to participate in the sport. I can't remember what support it was. This was a child who was heckled and kicked out of the group of friends that were participating in that sport which led to negative mental health consequences for that individual child.

Q. What specific --- I presume that's thoughts of suicidality.

Right?

A. Thankfully at that age they were not.

Q. How did that child adapt to the situation?

A. Well, we worked with the child, the family and the sports team, to understand what this child may need and ended up --- I think it was T ball, I think ended up joining the T ball team.

Q. So how much --- how much of a delay was there between wanting to join the T ball team and being

allowed to join the T ball team?

A. This was years ago, so I don't recall the specifics.

Q. Would it be your testimony that any delay at all between the time of identifying for a natal male identifying as a female and participating on a female team would be profoundly harmful?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I have not seen any studies that have asked that question or could speak to the duration of time between exclusion from an activity and the mental health impacts.

BY ATTORNEY TRYON:

Q. Is it your position that as soon as the child or person who is a natal male determines or identifies as a female, that that person should be immediately allowed to play on female teams?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: I'm not able to answer that question. I think that's out of the scope of my expertise.

BY ATTORNEY TRYON:

Q. Let me ask it differently because I didn't ask

it quite as artfully as I could have. You indicated profoundly harmful or have a profoundly harmful impact. So if a child or adolescent or adult, adult meaning anyone through collegiate age, were to be a natal male and identify as a female and is not allowed to immediately participate on female teams, would that be profoundly harmful, would it have a profoundly harmful impact on their mental health?

A. That would require an individualized assessment of that child or young adult in order to understand the potential impacts specific to that individual.

Q. What if they were required to wait a full year, would that be profoundly --- have a profoundly harmful impact on the mental health of that person?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Same answer.

BY BY ATTORNEY TRYON:

Q. Well as a general rule, do you have any opinion as a general rule?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: General rule of what? I'm not understanding the question.

BY ATTORNEY TRYON:

Q. Let me try again. So is there --- do you have a

general --- I mean you made a generalized statement here in the last sentence of paragraph 51. So my question is, as it pertains to this generalized statement, is there any delay that would not cause a profoundly harmful impact on the mental health of transgender people if they are denied the opportunity to immediately participate in the sports team of their gender identity?

ATTORNEY BLOCK: Objection to form and characterization.

THE WITNESS: It's a long sentence with a lot of clauses. I'm trying to --- I'm trying to parse them all out to make sure that I'm answering this accurately. As I testified to in my report, there's evidence of discrimination, stigma and bias leading to individual harms. The specific manifestation of those harms are highly individualized and require individual assessment of each child and family in order to know. Which is why you can't speak to the specific impacts for each individual child, but what we know are population-based data.

Q. Is it your view that if after a psychiatrist or psychologist or appropriate healthcare individual determines that there would be a profoundly harmful impact that healthcare professional should be the one to

determine whether or not the child should be allowed to participate on a girl's team?

A. I don't have a specific opinion about how sports administration vary from state to state. I know it's very different from state to state. What I would say is from a mental health perspective my goal is to help our kids access spaces that are going to be health promoting and build resilience. I think it's important for health professionals to be involved in the decisions that are made, but I can't speak to the legislative process within the scope of my expertise.

Q. Is the mental health of the cisgender females who might be at a disadvantage of the participation of a transgender female on the team, is their mental health important?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say first that the mental health of cisgender children who have participated in sports is certainly attestable hypothesis to explore and it's not research that I have seen, nor that I'm aware that it exists. Beyond that, you know, my expertise does not extend to this population as you have asked this question.

BY ATTORNEY TRYON:

Q. So then let me ask that specifically, have you treated any cisgender females that have been upset about transgender females participating on the girls team?

A. I have treated cisgender girls who have had transgender teammates. I have not treated anybody who has expressed any concern or harm from that.

Q. Do you acknowledge that there are those cisgender girls who are suffering from psychological harm from that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would not acknowledge that. That is not data that I have seen nor has been my personal experience with patients that I have seen or other colleagues who have described this.

BY ATTORNEY TRYON:

Q. Are you aware that some of Lia Thomas' cisgender teammates are very upset about Lia Thomas participating on the female swimming team?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I haven't read much about Lia Thomas or her teammates prior to today, so I'm not aware of any specifics to that.

BY ATTORNEY TRYON:

Q. Have you read anything about that incident ---

excuse me, that situation?

A. Well, I've read something today.

Q. Prior to today?

A. Which did not mention about teammates being upset. I've heard about it, but I have not read it.

Q. So you're aware of it?

A. I'm vaguely aware of it, yes. I've not done any primary research into it.

ATTORNEY BLOCK: Could we get a time check?

VIDEOGRAPHER: It looks like I got about three minutes left.

ATTORNEY TRYON: I speak really fast.

BY ATTORNEY TRYON:

Q. Well, is there benefits in --- for example, you said that HB --- you've read HB-3293 and you're aware that it does require --- well, first of all, are you aware that HB-3293 does not use the word transgender at all or trans woman or trans girl at all?

A. I would want to look at it specifically to double check that that's correct, but I would take your word for it.

Q. And so in HB-3293, it does require that all biological males must --- let me rephrase that, that

biological males may not compete on girls teams.

Do you understand that?

A. I don't, because biological male as a term is certainly up for debate.

Q. Which word would you like to use?

A. I don't know if there's going to be an answer for that in the context of this particular bill. I think ---.

Q. How about natal male, does that work?

A. Sure. We can use that. I would typically use assigned male at birth, but yes.

Q. Okay.

So natal males under this Bill are not allowed to participate on girls sports teams.

Do you understand that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah. And I apologize I really don't mean to be parsing, if the text of the Bill is biological males, what that just means is that that is a complex term that doesn't have a universal acceptance. But I understand that the goal of the Bill is for folks assigned male at birth, not to participate in women's sports teams, yes.

BY ATTORNEY TRYON:

Q. If a --- to use your term, a person assigned male at birth is told that that person may not participate on girls sports, and as in so many other things in life, you are told that's the rule and you have to live with it, is there value in learning coping skills to deal with rules that you don't agree with and abide by them?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I guess the way I would approach it is that if we look at the data, clinical experiences and from the testimonies of transgender individuals that they face enough on a daily basis stigma discrimination exclusion, that they all would benefit from a healthy development of coping skills. Nowhere in the field of psychiatry is it recommended that we expose people to traumatic events for them to develop coping skills to manage through.

BY ATTORNEY TRYON:

Q. Well, not to intentionally do so, but there's laws and rules that you made that said you have to live with those rules then it's your position that the rules need to be changed to comply with the wishes of that person?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again my expert testimony is rebutting the testimony of Dr. Levine and Cantor. I can't speak to the specific legislative processes in terms of the best way for states to approach a complex issue such as this.

ATTORNEY TRYON: I have no further questions. Thank you for your time I appreciate it.

THE WITNESS: Thank you. What is your poodle's name? Can I ask that off the record?

ATTORNEY BLOCK: We don't have any Redirect questions. Dr. Janssen will review the transcript.

ATTORNEY GREEN: This is Roberta Green on behalf of WVSSAC. No questions.

ATTORNEY MORGAN: This is Kelly Morgan on behalf of the West Virginia Board of Education and Superintendant Burch. I don't have any questions. Thank you.

ATTORNEY DENIKER: Dr. Janssen, thank you for your time today, this is Susan Deniker. I have no questions.

THE WITNESS: Thank you, guys.

VIDEOGRAPHER: Going off the record. The current time reads 6:18 p.m.

* * * * * * * * *

VIDEOTAPED DEPOSITION CONCLUDED AT 6:18 P.M.

* * * * * * * * *

STATE OF WEST VIRGINIA)

CERTIFICATE

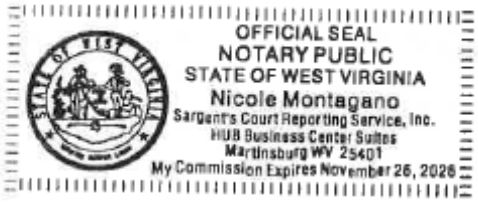
I, Nicole Montagano, a Notary Public in and for the State of West Virginia, do hereby certify:

That the witness whose testimony appears in the foregoing deposition, was duly sworn by me on said date, and that the transcribed deposition of said witness is a true record of the testimony given by said witness;

That the proceeding is herein recorded fully and accurately;

That I am neither attorney nor counsel for, nor related to any of the parties to the action in which these depositions were taken, and further that I am not a relative of any attorney or counsel employed by the parties hereto, or financially interested in this action.

I certify that the attached transcript meets the requirements set forth within article twenty-seven, chapter forty-seven of the West Virginia.



Nicole Montagano,

Court Reporter

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

* * * * * *

B.P.J., by her next friend and mother, HEATHER JACKSON,

Plaintiffs

vs.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, and DORA STUTLER in her official capacity as Harrison County Superintendent, PATRICK MORRISEY in

* Case No. 2:21-CV-00316

VIDEOTAPED DEPOSITION OF

DEANNA ADKINS, M.D.

March 16, 2022

his official capacity as Attorney * General, and THE STATE OF WEST VIRGINIA, *
Defendants *
* * * * * *

VIDEOTAPED DEPOSITION OF
DEANNA ADKINS, M.D.
March 16, 2022

DEPOSITION
OF

DEANNA ADKINS, M.D., taken on behalf of the Intervenor herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Lacey C. Scott a Court Reporter and Notary Public in and for the Commonwealth of Pennsylvania, taken via videoconference, on Wednesday, March 16, 2022 at 9:06 a.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
JULIE VEROFF, ESQUIRE
ZOE HELSTROM, ESQUIRE
KATELYN KANG, ESQUIRE
ELIZABETH REINHARDT, ESQUIRE
Cooley, LLP
3 Embarcadero Center
20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

SRUTI SWAMINATHAN, ESQUIRE
TARA BORELLI, ESQUIRE
Lambda Legal
120 Wall Street
19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

DAVID TRYON, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

A P P E A R A N C E S (cont'd)

SUSAN DENIKER, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and HARRISON COUNTY SUPERINTENDENT DORA STUTLER

KELLY C. MORGAN, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and SUPERINTENDANT W. CLAYTON BURCH

TIMOTHY D. DUCAR, ESQUIRE
Law Office of Timothy D. Ducar
7430 East Butherus Drive
Suite E
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

A P P E A R A N C E S (cont'd)

ROGER BROOKS, ESQUIRE
LAURENCE WILKINSON, ESQUIRE
HAL FAMPTON, ESQUIRE
CHRISTIANA HOLCOMB, ESQUIRE
JOHNATHAN SCRUGGS, ESQUIRE
RACHEL CSUTOROS, ESQUIRE
Alliance Defending Freedom
15100 North 90th Street
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

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STIPULATION

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not not waived.)

PROCEEDINGS

VIDEOGRAPHER: Good morning. We're now on the record. My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. Today's date is March 16th, 2022 and the current time is 9:06 a.m. Eastern Standard Time. This video is being taken place remotely by video conference. The caption of this case is in the United States District Court for the Southern District of West Virginia, Charleston Division, B.P.J., et al. V. West Virginia State Board of Education, et al. Civil Action Number 2:21-CV-00316. The name of the witness is Deanna Adkins. Will the attorney present state their names and the parties they represent for the record?

ATTORNEY BROOKS: Roger Brooks taking the deposition with Alliance Defending Freedom and

representing the intervenor.

ATTORNEY HOLCUMB: Christina Holcumb for intervenor.

ATTORNEY DUCAR: Timothy Ducar for intervenor.

ATTORNEY CSUTOROS: Rachel Csutoros for intervenor.

ATTORNEY TRYON: David Tryon at the Attorney General's Office in West Virginia, and I represent the State of West Virginia.

ATTORNEY MORGAN: Kelly Morgan with Bailey and Wyant on behalf of West Virginia Board of Education and Superintendent Burch.

ATTORNEY DENIKER: Good morning, everyone. Susan Deniker representing Defendant Harrison County Board of Education and Superintendent Doris Stutler.

ATTORNEY GREEN: Roberta Green, Shuman McCuskey Slicer. I'm here on behalf of West Virginia Secondary School Activities Commission.

ATTORNEY BORELLI: And this is Tara Borelli with Lambda Legal on behalf of the Plaintiff, B.P.J..

ATTORNEY SWAMINATHAN: This is Sruti

Swaminathan also from Lambda Legal also on behalf of Plaintiff.

ATTORNEY HARTNETT: And this is Kathleen Hartnett from Cooley on behalf of the Plaintiff.

ATTORNEY BARR: Andrew Barr, also from Cooley on behalf of the Plaintiff.

ATTORNEY REINHARDT: This is Elizabeth Reinhardt, also with Cooley, also for Plaintiff.

ATTORNEY BLOCK: Josh Block from ACLU on behalf of Plaintiff.

VIDEOGRAPHER: If that is everybody, then can I ask the notary to swear in the witness?

DEANNA ADKINS, M.D.,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS FOLLOWS:

VIDEOGRAPHER: And at this time the notary may be dismissed and we can begin.

ATTORNEY BROOKS: Thank you, ma'am.

NOTARY:

Thank you. Have a good day everybody.

EXAMINATION

BY ATTORNEY BROOKS:

Q. For convenience --- good morning, Dr. Adkins, ---

A. Good morning.

Q. --- and thank you for your time here today.

ATTORNEY BROOKS: For convenience, let me start out by marking three exhibits. As Adkins Exhibit Number 1, I would like to mark the Declaration and expert report of Deanna Adkins, which in the file will be made available to the court reporter is tab two. And I have copies for the witness and for counsel. I would also like to mark as Adkins Exhibit 2 what we have provided as tab three, which is the CV of the witness, Deanna Adkins.

(Whereupon, Adkins Exhibit 1, Report of Deanna Adkins, M.D., was marked for identification.)

(Whereupon, Adkins Exhibit 2, Curriculum Vitae, was marked for identification.)

THE WITNESS: If you don't mind, it's

Deanna (corrects pronunciation).
ATTORNEY BROOKS: Deanna. I certainly don't mind. I want to get that right. Sorry about that.
THE WITNESS: Thank you.
ATTORNEY BROOKS: And I would like to admit as Exhibit 3 the rebuttal report submitted by Dr. Adkins. I will provide copies of that to the witness. Just write the number on it.
THE WITNESS: Thank you.
ATTORNEY BROOKS: We'll have occasion to come back to those.

(Whereupon, Adkins Exhibit 3, Rebuttal Report, was marked for identification.)

BY ATTORNEY BROOKS:
Q. Dr. Adkins, let me ask you to find amongst the three documents I have given you Exhibit 2, which is your Curriculum Vitae.
VIDEOGRAPHER: Counsel, do you want that pulled up on the shared screen?
ATTORNEY BROOKS: That's up to the remote. You should certainly make it available.

Obviously, everybody here in the deposition room has it.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, let me ask you to turn to page two of Exhibit 2, your Curriculum Vitae. And you have there a list headed professional training and academic career. Do you see that?
A. Yes.
Q. Am I right that you have done either residencies or fellowships in the field of pediatrics and endocrinology?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I've done both, yes, residency and fellowship in pediatrics followed by endocrinology, yes.
BY ATTORNEY BROOKS:
Q. And you have not done either a residency nor a fellowship in psychiatry. Have you?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: No.
BY ATTORNEY BROOKS:
Q. And you don't have any degree in child or adolescent developmental psychology, do you?
A. No.
Q. Do you consider yourself trained and

professionally competent in using the American Psychiatric Association Diagnostic and Statistical Manual to make child and adolescent mental illness or psychiatric diagnoses generally outside the scope of gender dysphoria?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: In pediatrics, we're trained to make some of the diagnoses that are appropriate for a pediatrics provider to treat.
BY ATTORNEY BROOKS:
Q. So is that a --- do you consider yourself generally competent in making diagnosis of child or adolescent mental illness according to the standards of DSM-V?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: For the things I was trained in and have continued to get CME in, I do.
BY ATTORNEY BROOKS:
Q. And you do not have any training in sports physiology, do you?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Nothing specific.
BY ATTORNEY BROOKS:
Q. You would consider that to be outside your field

of professional expertise. Am I right?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: There is probably some over lap given that physiology and endocrinology are very important and tied and interlinked, but I couldn't tell you since I don't know where the overlap might be.
BY ATTORNEY BROOKS:
Q. You yourself have not done any research related to sports physiology, have you?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Not myself, no.
BY ATTORNEY BROOKS:
Q. Nor have you done any research relating to the impact of hormones on athletic capability?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Not personally.
BY ATTORNEY BROOKS:
Q. Do you consider yourself to be an expert in any sense in the question of what is or is not fair?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Well, that's a broad question. That's ---.
BY ATTORNEY BROOKS:
Q. Do you consider yourself an expert in the

concept of fairness?
ATTORNEY BORELLI: Objection.
THE WITNESS: I believe that I can recognize fairness and have a concept that would be appropriate for someone of my age.
BY ATTORNEY BROOKS:
Q. Do you believe that you have expertise and fairness beyond that from ordinary human experience?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would have to see what that would look like to say yes or no to that question.
BY ATTORNEY BROOKS:
Q. All right.
Let's look at your list of publications, which is on page three of Exhibit 2, your curriculum vitae. And under the --- the page three and continuing onto page four is a section titled Refereed Journal.
Correct?
A. Yes.
Q. And by Refereed Journal --- we'll both have to remember that. And also the court reporter may from time to time tell one of us to slow down. These all just ordinary parts of the process, just forgetting to speak up or to go slow enough to be transcribed.

Can you explain for the record what you mean by refereed journal, what the significance of that heading is?
A. Yes. So for those journals they are reviewed by an editor, and those are peer reviewed as well.
Q. So these --- this would be the list of your publications that would --- you would consider to be peer reviewed publications?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Looking at the date on the front of this one, yes.
BY ATTORNEY BROOKS:
Q. And that date is January 21st of this year, 2022.
Right?
A. Yes.
Q. And have you had any peer reviewed publication appear since January 21st of this year?
A. I have one that is --- that's in press for next month.
Q. And what is the title of that?
A. I would have to review the title in my e-mail. It's Clinical Simulation for Education of Nurse Anesthesia in Gender Affirming Care.

Q. Thank you.
A. Roughly.
Q. Roughly?
I see an article here, number three on the list, Tejwani, from Tejwani, et al, and you are one of the authors shown from year 2017. Do you see that?
A. Yes.
Q. And that relates to disorders of sexual development.
Am I correct?
A. Yes.
Q. And am I correct that that article has --- doesn't speak at all to the questions of gender.
Does it?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: That, no.
BY ATTORNEY BROOKS:
Q. Not correct?
A. I'm sorry, no, it doesn't speak.
Q. Just to be clear for the record, the Tejwani et al. article which you are a co-author does not speak at all to questions of gender identity.
Correct?
ATTORNEY BORELLI: Objection, form.

THE WITNESS: Correct.
BY ATTORNEY BROOKS:
Q. And I see here a Lapinski, et al. article, the 4th item, from 2018, entitled Best Practices in Transgender Health: A Clinician's Guide for Primary Care.
Do you see that?
A. Yes.
Q. Am I correct that that article does not report on any regional research by the authors?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: I believe that's true.
BY ATTORNEY BROOKS:
Q. Are you the author of any peer reviewed papers that report original clinical research relating to gender identity or for transgender therapies?
ATTORNEY BORELLI: Objection to form.
ATTORNEY BROOKS: I don't know who spoke to the witness.
THE WITNESS: So gosh, I have a lot of things that are in process. Let me give it a second.
ATTORNEY BORELLI: Take the time you need to review that to answer the question fully.
THE WITNESS: Could you repeat the

question?
BY ATTORNEY BROOKS:
Q. Yes. Are you the author of any published peer reviewed papers that report original clinical research relating to gender identity or transgender therapies?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: The item on number six would be the closest. And it is talking with patients about the gender identity and their experience of transgender care, yes.
BY ATTORNEY BROOKS:
Q. The --- that paper in particular is essentially calling for research.
Am I correct?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:
Q. It is not reporting on accomplished clinical research, is it?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So in that study we actually did interview individuals as part of the study, so it has --- it's done as a --- oh, Lord, words. I'm going to find the word in a second. Not in like ---

more of a public health-based research approach where you do not actual like counting of things like you would do sort of --- search, but more around interviewing and looking at quantitate versus qualitative. That's the word I'm looking for. It's a qualitative study which is typically done in public health programs or other public health research.
Q. All right.
Am I correct, Dr. Adkins, that you, yourself, have not treated nor personally examined Plaintiff, B.P.J.?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: That's correct.
BY ATTORNEY BROOKS:
Q. And you don't have any direct knowledge as to at what Tanner stage B.P.J. began puberty blockers.
Am I correct?
A. I don't recall seeing that in any of the documentation.
Q. And you don't have any knowledge as to how B.P.J.'s physiology or athletic capabilities compare to a genetic female of a similar age, do you?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I haven't assessed the

particular patient, person.
BY ATTORNEY BROOKS:
Q. Let me take you again to Exhibit 2 and page two ---?
ATTORNEY MORGAN: May I interrupt for a moment.
ATTORNEY BROOKS: I'm sorry. Who's speaking?
ATTORNEY MORGAN: Sure. This is Kelly Morgan. I'm having a terrible time understanding the witness. So before we go on is there any way to see if we can --- it sounds extremely muffled. I'm only catching like maybe half of the words.
ATTORNEY BROOKS: Most --- most of the voice is coming through very clear on our end. I'm going to move speaker so that paper shuffling is not as likely to shuffle it. Beyond that, I think everybody in this room will agree that we're speaking slowly and clearly and, frankly, loudly. So I'm not sure there's more we can do.
ATTORNEY BORELLI: And Kelly, for what it is worth, I think I caught maybe half of your words. I wonder if there is a connection issue on your end that might be worth investigating.

ATTORNEY HARTNETT: I will just say for the record, and others should speak up too because we obviously want all counsel to hear the deposition. I have been able to hear Mr. Brooks, the witness, and the objections have been a bit more faint, but we have been able to make them out so far.
ATTORNEY TRYON: This is Dave Tryon. I share Kelly's frustration. I'm having difficulty understanding the witness, so ---.
ATTORNEY BROOKS: And similarly, Dave, when we hear you, you're a little bit more muffled than some of the other voices. So the issue, perhaps the mics and speakers on the other end, but there's nothing more we can do at this end.
ATTORNEY GREEN: This is Roberta Green, and I'm also having trouble hearing. And I'm considering maybe --- you know, maybe muting my computer and calling in on my phone and see if I can hear better. I think when the doctor looks down to look at documents we lose some of that. So I'll report in if calling in on my phone is a breakthrough, but I appreciate you all. Thank you.
ATTORNEY DENIKER: Yes. Thank you. I'm also having trouble. And I'm curious if the court

reporter is having trouble. And if she's not, that's good, but I just want to make sure that we --- that everybody can hear.

COURT REPORTER: So my biggest issue is people not saying their names when they're speaking. So we just had a bunch of people and I really have no idea who is sayin anything. I don't know who is making the objections. And ma'am, with the mask on, it is hard to understand you at times. I'm really like having to really focus in on you. And the objections are coming in quick. And I mean, there are definitely some challenges, but I don't know.

ATTORNEY BORELLI: Well, in case this is helpful, so this is Tara Borrelli with Lambda Legal on behalf of the Plaintiff. I am the person defending the deposition, so the objections will be coming from me, in case that's helpful going forward.

COURT REPORTER: Yes.

ATTORNEY HARTNETT: This is Kathleen Hartnett for the Plaintiff from Cooley. I was the first person that spoke after someone raised the issue. I believe Miss --- Ms. Morgan had raised the issue of the ability to hear. And I would just say for the record this is an in person deposition that was scheduled where

we had proposed it to be remote if parties saw fit to do that. We're not objecting to it being in person. We're --- obviously they're defending. And all parties had the ability to attend in person if they chose to.

ATTORNEY BROOKS: And I --- I will --- this is Roger Brooks taking the deposition. I will suggest that we just agree by voice acclimation that we're not going to cycle through all the names and try to identify all the people who have chatted with us about their reception and simply move on with the deposition unless anybody objects to that.

ATTORNEY MORGAN: I have no objection to that. This is Kelly Morgan. But is there any possibility that the witness would be able to remove her mask if everyone else is masked other than the questioner? Like I --- I'm not having trouble hearing anyone else other than the witness, and it just seems to get muffled.

ATTORNEY BORELLI: I'm sorry, but I --- I don't believe that's going to be an option. I mean, this --- this is partly why a remote deposition would have been our --- our preference, but Dr. Adkins obviously has to take precautions because she is continuing to see and treat patients. And so she needs

to protect her health.

ATTORNEY BROOKS: And we did agree to proceed in whatever way the witness wanted when it comes to that, so we'll all just have to live with that as part of these days.

May we proceed?

ATTORNEY TRYON: Yes.

BY ATTORNEY BROOKS:

Q. If you have Exhibit 2 and on page two of that we have professional training and academic career, which towards the bottom includes your current two appointments associated with Duke University.

Am I correct?

A. Three.

Q. I apologize. I see that. One is you're an Associate Professor of Pediatrics.

Correct?

A. Correct.

Q. And you are the Director of the Duke Child and Adolescent Gender Care Clinic?

A. Correct.

Q. And you are a Co-Director of the Duke Sexual and Gender Health and Wellness Program.

Correct?

A. Correct.

Q. What is the total compensation you receive in connection with those three appointments with Duke University?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, you want a number or ---?

BY ATTORNEY BROOKS:

Q. I do.

A. I'm going to have to give an approximation.

Q. And that's fine?

A. Approximately, $173,000 per year.

Q. And that is your total compensation on a W-2 from Duke University?

A. No. Duke University only pays me $20,000 per year. I work for the private Diagnostic Clinic, which is our private practice, and they pay me the balance.

Q. Okay.

And do you receive any other compensation in connection with your work with patients in connection with the Duke Child and Adolescent Gender Care Clinic?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. Can you tell me what you earned in speaking fees in 2021, approximately?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In 2021? Is that what you said?

BY ATTORNEY BROOKS:

Q. I did.

A. Let's see. I'm losing track of dates. I think only like $500.

Q. And what were the total expert fees that you received in 2021 in connection with serving as an expert in litigation?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Nothing.

BY ATTORNEY BROOKS:

Q. And in 2021 did you receive any payments for any reasons from any pharmaceutical company?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. Let me ask you to look at Exhibit 1, which is your expert report. And if you would turn --- if you would turn to paragraph 37 of that report, paragraph 38. And there you say when a child is born a sex assignment

is usually made based on the infant's externally visible genitals. This designation is then recorded and usually becomes the sex designation listed on the infant's birth certificate. Do you see that language?

A. I do.

Q. And as a trained physician, can you tell us how a sex assignment is usually made based on the infant's external visible genitals?

A. Yes. In most cases the external genitals will have a form that looks typical to a male versus typical to a female. And if there is a question, then I get consulted, if there's something different.

Q. And by typical to a male, for instance, you mean what?

A. So male external genitalia at birth typically has a phalic structure, penis that is, of a certain length most of the time. And then there's scrotum and then there are usually testicles, although sometimes they can be up or down in the scrotum.

Q. And do you, yourself, have children?

A. I do.

Q. And you're aware that for quite a number of years now, in fact, parents often learn of the sex of their child before birth.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have been aware that ultrasonographers often tell people what they think they are. And I'm also the one that has to tell the parents that it is different when they're born and it is not exactly accurate.

BY ATTORNEY BROOKS:

Q. That is as a result of the quality of imaging on ultrasound sometimes the wrong call is made on that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Possibly the quality of imaging, the skill of the person. There are also sometimes variations that aren't easily visible on ultrasound.

BY ATTORNEY BROOKS:

Q. You're are aware, are you not, that the genetic sex of infant is, in fact, determinable by genetic testing as early as the first trimester of pregnancy?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: The typical testing for that is chromosomes, which are broad view and not specific for the hundreds of genes that can change the sex of the individual.

BY ATTORNEY BROOKS:

Q. Well, my question was you are aware, are you not, that the chromosomal sex of the infant is determinable as early as the first trimester of pregnancy?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. I didn't hear you say chromosomal. I thought you said biological. I apologize.

BY ATTORNEY BROOKS:

Q. I can't swear what I said the first time.

ATTORNEY BROOKS: Let's ask the reporter to read back the second question I asked. Is the court reporter muted perhaps?

COURT REPORTER: One minute.

ATTORNEY BROOKS: Okay.

COURT REPORTER: You said genetic testing. Do you want me to read the whole question?

ATTORNEY BROOKS: I do.

COURT REPORTER: You are aware, are you not, that the genetic sex of an infant is determinable by genetic testing as early as the first trimester of pregnancy?

ATTORNEY BORELLI: Objection to form.

COURT REPORTER: And again I just want to say that the witness is hard to understand. There is definitely a lot of muffling words coming through, you know, just like in the sentence there might be two words that I just have to like really --- I'm just struggling over here with this mask. I can't see your lips moving, so it's really hard, but --.

THE WITNESS: I'll slow down, but I was sick earlier this week, and I'd really rather not share that with anyone in the room. And I don't think that they would like that, so ---.

BY ATTORNEY BROOKS:

Q. Don't consider yourself pressured to take off your mask. Just do what you can to speak clearly into the microphone.

ATTORNEY BORELLI: Thank you. And we just moved the mic closer to the witness as well, so we --- we hope that that will help make a difference.

ATTORNEY HARNETT: Excuse me. This is Kathleen Hartnett from Cooley. I would like to ask whether the videotaping that's happening now will allow further transcription after the deposition?

VIDEOGRAPHER: Yes, that's --- the videotape is picking up everything that --- I'm having

no troubles on my side, so it's picking up all of the audio and everything.

ATTORNEY HARTNETT: Thank you very much.

VIDEOGRAPHER: You're welcome.

ATTORNEY BROOKS: And rather than re-reading the question, I'm just going to forget all that and ask you a new question.

BY ATTORNEY BROOKS:

Q. You are aware, are you not, that the chromosomal sex of an infant nowadays can be determined as soon as the first trimester of pregnancy?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: You can obtain the baseline chromosomes, yes.

BY ATTORNEY BROOKS:

Q. And that will tell you the chromosomal sex of that infant?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The --- not really a term that is really precise as there's hundreds of genes that can change that.

BY ATTORNEY BROOKS:

Q. So you are not able to answer my question yes or no?

ATTORNEY BORRELLI: Objection to form.

THE WITNESS: I'm not able to answer the question yes or no.

BY ATTORNEY BROOKS:

Q. You would agree that the genetic sex of an infant is determined at the instant of conception?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: The actual Y chromosomes are at that time, yes.

BY ATTORNEY BROOKS:

Q. That's not something that a doctor has any choice or could change at the time of birth?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The chromosomes, no.

BY ATTORNEY BROOKS:

Q. And you understand what I think we all learned in perhaps sixth grade biology that an individual with two X chromosomes, provided that there is no chromosomal abnormality, is female female and an individual free of abnormalities who has an X and a Y chromosome is male. Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Free of any abnormalities, yes.

BY ATTORNEY BROOKS:

Q. And you also understand that in humans, like all mammals, a gamete from a male and a gamete from a female are necessary to create a fertilized egg in a new individual?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Can you read the very first part of the question again, please?

BY ATTORNEY BROOKS:

Q. You understand that in humans, as in all mammals, a gamete from a male and a gamete from a female are necessary to create a fertilized egg and a new individual?

ATTORNEY BORELLI: Same objection.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. Now, if you look at paragraph 41 in your declaration ---

A. Yes.

Q. --- in paragraph 41 you state, quote, biological sex, biological male or female are imprecise and should be avoided. Do you see that?

A. Yes.

Q. And it is your view that the terms biological

male, biological female and biological sex are so imprecise as to be not useful from a medical point of view?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In my practice we have to be more careful than that because I see quite a lot of individuals where that wouldn't be a very precise answer.

BY ATTORNEY BROOKS:

Q. My question is is it your expert opinion, are you offering expert opinion in terms of biological sex, biological male and biological female are so imprecise as to not be medically useful?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

ATTORNEY BROOKS: Let me mark as Exhibit 4 what is tab 5, and that is the Endocrine Society Guidelines dated 2017, but the number of authors. The first name is Wiley Hembree.

(Whereupon, Adkins Exhibit 4, 2017 Endocrine Society Guidlines, was marked for identification.)

ATTORNEY BROOKS: I'm handing that to the witness and to opposing counsel.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, this is a document that you cite in your expert report.

Correct?

A. Correct.

Q. And with which you are quite familiar?

A. Correct.

Q. Do you know Dr. Hembree?

A. I spoke with him on the phone.

Q. You would agree, would you not, that he's been prominent in the field of transgender medicine for decades?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: His publications, yes.

BY ATTORNEY BROOKS:

Q. And another author is Peggy Cohen-Kettenis. Do you see that? She's the second author.

A. Yes.

Q. And likewise, she has been prominent in the field for at least 20 years?

ATTORNEY BORELLI: Objection.

THE WITNESS: I've seen publications in

that date range, yes.

BY ATTORNEY BROOKS:

Q. Have you met Dr. Cohen-Kettenis?

A. No.

Q. And she is associated with a highly respected institute in Amsterdam.

Am I right?

A. I am not certain. I would have to look that up.

Q. You don't know. You weren't invited to serve on the committee that drafted these guidelines, were you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There is an invitation extended to all Endocrine Society members. I did find a time. That was early in my work with this at that time.

BY ATTORNEY BROOKS:

Q. If you look down on page one, about five lines from the bottom ---.

A. Say it again.

Q. Page one, five lines from the bottom?

A. Yes.

Q. Actually, let's go two more up and begin a sentence. There's a sentence that begins they require a safe and effective hormone regimen that will, one, suppress endogenous sex hormone secretion determined by

the person's genetic/gonadal sex. Do you see that?

A. I do.

Q. And do you think you understand what's referred to by the term genetic/gonadal sex?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And what is your understanding of what that refers to?

A. So that would include both the chromosomes as mentioned before, the broad XY, and it should include all of the other genetic mutations as well as what actual gonads are present in the person.

Q. And this committee, these prominent researchers at least considered genetic/gonadal sex to be a meaningful and readily understandable binary classification.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That's not clear there and it is different from what you said before.

BY ATTORNEY BROOKS:

Q. I try to make each question somewhat different from the one before, so yes. Let me ask a new question.

This committee considered --- the committee that drafted these guidelines considered genetic/gonadal sex to be a meaningful and readily understandable classification.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes. They didn't use the word chromosomal sex. And they included gonads which are also a part of the broad development of human reproductive biology.

BY ATTORNEY BROOKS:

Q. And in fact, you, yourself, quoted this language in your expert report, did you not?

A. Yes.

Q. And genetic sex, in your understanding, what is the meaning of genetic sex?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, in most patients, in most people, it is whether you received an X or a Y chromosome and all of your body parts include an XY containing or an XX containing cell. There are cases where you can have mossaicism or different parts of a human at different sex chromosomes where a part is XX, a part is XY, part is XO. And then there is also some mutations that can occur in lots of other locations that

can determine whether or not a patient's, you know, likely to have the rest of their human development appear as what we would more typically see in a male human or a female human.

BY ATTORNEY BROOKS:

Q. Well, in every human individual who is healthy and free of disorder of sexual development, genetic sex and gonadal sex are --- directly correspond.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Typically, yes.

BY ATTORNEY BROOKS:

Q. So in a healthy individual free of genetic defect every individual who is chromosomally XX is going to have female gonads and female genitalia.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: My only concern is I would not use defect as a language. There's --- you know, we see variation across humans and we --- you know, there are variations that are normal and variations that are typical versus rare. So I would not call it necessarily a defect, maybe a variation would be the word I would use.

BY ATTORNEY BROOKS:

Q. The relationship between chromosomal sex and gonads are not separate things that can vary in healthy individuals, are they?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Well, I have healthy individuals who have XY chromosomes and external genitalia that are completely female.

ATTORNEY BROOKS: Let me mark as Exhibit 5 the prior edition guidelines put out by the Endocrine Society in 2009, eight years earlier.

(Whereupon, Adkins Exhibit 5, 2009 Endocrine Society Guidelines, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And the primary author is on --- the first author on the 2009 guidelines are the same individuals, Dr. Hembree and Cohen-Kettenis?

Correct?

A. Correct.

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. In fact, you, yourself, were familiar with and regularly consulted these guidelines.

Am I correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESSS: Prior to 2017?

BY ATTORNEY BROOKS:

Q. Correct.

A. I used these guidelines.

Q. And did you find them to be incomprehensible?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. If you look with me on page marked 3134, which is the third page of the document, second column three quarters of the way down is the definition of --- under the heading of definitions is a definition of transsexual or transsexual people.

Do you see that?

A. I see it.

Q. It says there that a transsexual person refers to a biological male who identifies as or desires to be a female --- a member of the female gender or vice versa.

Do you see that?

A. Yes.
Q. And so in 2009 these prominent authors in the field considered biological male to be a scientifically useful and adequately clear term for them to use in these guidelines issued by the Endocrine Society.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: It's written that way in this paper, yes.
BY ATTORNEY BROOKS:
Q. And you in that time period 2009 to just 2017 used these guidelines and were able to understand them.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, I would have to spend some time looking to see what else is in here. It has been a long time since I've used these particular and pulled out. And it is a single location. It can sometimes be misleading if you're aware --- if you've read many medical articles.
BY ATTORNEY BROOKS:
Q. So you don't recall whether you found these guidelines to be comprehensible and useful for your purposes in the years between 2009 and 2017?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: Generally they were useful.
BY ATTORNEY BROOKS:
Q. If you look just a little lower is --- the next definition is transition.
Do you see that?
A. Yes.
Q. And it refers to a period of time during which transsexual persons change their physical, social and legal characteristics to the gender opposite that of their biological sex.
Do you see that?
A. I do.
Q. And again, these authors used the term biological sex, did they not?
A. They did.
Q. And they indicated their understanding that biological sex is binary in referring to opposite of a biological sex.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: In this older version they do use more binary terms. As you know, language changes over time. In the new guidelines they don't talk as much about binary.
BY ATTORNEY BROOKS:
Q. Is it your belief that the underlying biology has changed since 2009?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Our understanding of a lot of things in this area is growing rapidly. It's a rapid area of research.
BY ATTORNEY BROOKS:
Q. Let me ask you to turn in this document to page 3141.
A. Same document, 3141?
Q. Yes.
A. Thank you.
Q. And here we're in a discussion of the use of GRNH analogs, which is to say puberty blockers.
Am I correct?
A. Which section?
Q. Well, the heading is 2.3, evidence, and it is talking about in the second paragraph treatment with GRNH analogs?
ATTORNEY BORELLI: Counsel, can we give the witness one moment to look at this?
ATTORNEY BROOKS: Of course.

ATTORNEY BORELLI: Thank you.
THE WITNESS: Yes, that appears to be what is discussed in this section.
BY ATTORNEY BROOKS:
Q. Here the authors in the 2009 Endocrine Society guidelines describe the effect of treatment with puberty blockers.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:
Q. And they say among other things that, quote, in girls breast development will become atrophic and menses will stop. And they continue, quote, in boys verilization will stop and testicular volume will decrease.
Do you see those quotes?
A. I do.
Q. Again, in 2009, the Endocrine Society didn't think there was ambiguity or imprecision as to what is a girl and what is a boy for purposes of development in puberty, did they?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: As I said, the language

would be different and likely is different in conversations around this because it is not as precise as I would use or my colleagues would use.

BY ATTORNEY BROOKS:

Q. In 2009 the Endocrine Society in publishing these guidelines didn't think there was any ambiguity or imprecision as to what is a girl and what is a boy for purposes of the effect of puberty.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I would have to read the article up to this point to see what their clarifications are with regard to those phrases. Oftentimes in the beginning of articles they will clarify what they mean by a particular phrase, and taking it out of context is a little bit difficult for me to just say it is true right here on the spot.

ATTORNEY BORELLI: I would also just object to the extent that we're asking about select definitions without having given the witness an opportunity to review the entire definition and section of the document and asking her to draw conclusions about the larger document.

ATTORNEY BROOKS: Counsel, I think that

you are supposed to under the Rules to confine your objections to stating objection.

BY ATTORNEY BROOKS:

Q. In your practice today with respect to individuals who do not suffer from any disorder of sexual development you don't have any trouble telling girls from boys, do you?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I do not have trouble deciding who was assigned female at birth versus those who were assigned male at birth.

BY ATTORNEY BROOKS:

Q. We have already talked about how that assignment is done based on observation of genitalia, which depend on underlying genetic sex.

Right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So the typical manner of assignment we have discussed. Sometimes those things change over time with --- absent of course a difference of sex development or intersex conditions. Typically they would match.

BY ATTORNEY BROOKS:

Q. And if you are, for instance, getting ready to

prescribe cross sex hormones for a patient in patients who are free of any disorder of sexual development you don't have any trouble determining which patients need testosterone as a cross sex hormone versus which patients need estrogen as a cross sex hormone, do you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: My mouth is getting dry. I don't have any trouble with that.

BY ATTORNEY BROOKS:

Q. And that's because absent rare and unusual disorders of sexual development it's really easy for all of us to tell girls from boys, isn't it?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: With regard to their sex assignment at birth, yes.

BY ATTORNEY BROOKS:

Q. Now, you've mentioned a couple times when I asked you questions about the 2009 guidelines that perhaps a language that's used has changed.

Am I right?

A. Yes.

Q. You are not contending that how human biology works has changed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Our understanding of human biology at this time is accelerating greatly, especially in the area of genetics. We can now look at someone's whole exome, whole chromosome, and it's --- I mean in this timeframe there's an amazing amount of information that's become more clear.

BY ATTORNEY BROOKS:

Q. So is it your --- are you asserting that the more recent Endocrine Society policy statement should be accepted as a more precise Scientific statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The goal is for that to be, yes, when you are writing those. And it's also been sometimes since this was published as well.

BY ATTORNEY BROOKS:

Q. Since the 2017 guidelines?

A. Correct.

Q. But in general, is it your view the more recent statements of the Endocrine Society that touch on issues of the definition of gender and sex are --- we should consider more accurate or reliable than earlier statements?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In the correct context,

yes. Sometimes when they're taken out of context and applied to not the exact same population, they may or may not be as precise.

BY ATTORNEY BROOKS:

Q. They may or may not be. That is you don't maintain that generally more recent statements of the Endocrine Society relating to definitions of gender and sex are more reliable than earlier statements?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Their goal and our goal as a community is to be as precise as possible. Sometimes that works and sometimes it doesn't.

ATTORNEY BROOKS: Let me mark as Exhibit --- what are we at, 6. Exhibit 6. What is tab 4 in the materials provided to the court reporter, an article Lapinski, et al., which Dr. Adkins is a coauthor from 2017. Pardon me, 2017.

(Whereupon, Adkins Exhibit 6, 2017 Lapinski Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And this is your only or perhaps one of only two

peer reviewed articles on which you were an author that relate to transgender patients.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm going to refer back to my ---.

BY ATTORNEY BROOKS:

Q. Please do, and that's Exhibit 2.

A. I apologize --- I'm sorry. I was thinking of the book chapter. Yes, I was thinking of the book chapter I've written there. So those are also peered reviewed. So if you just falling manuscript of joint articles, that's true, but I also have one book chapter published and one that is in process.

Q. Well, at any rate, this article was published in 2017, the same year as the more recent guidelines from the Endocrine Society.

Correct?

A. Correct.

Q. And in this article --- let me ask you to turn to page 692. And looking at a paragraph that actually runs over from 689 because of a long intervening table. Paragraph is headed understanding the meaning of transitioning for transgender patients.

Do you see that?

A. Yes.

Q. And the paragraph continues on to page 692 and the language I want to call your attention to is there, but of course feel free to look at the paragraph?

ATTORNEY BORELLI: Counsel, for clarity of the record, I'm showing that the heading is on page 689.

ATTORNEY BROOKS: Correct. That's where the paragraph begins and then there's a two-page table breaks up the paragraph and now we're on 692.

ATTORNEY BORELLI: Thank you.

THE WITNESS: Just that paragraph.

BY ATTORNEY BROOKS:

Q. Yes.

A. Okay.

Q. In 2017, writing a guide for clinicians as to what you considered to be best practices in transgender health you and your coauthors thought that it was clear and useful to refer to, quote, the opposite biological sex, closed quote, did you not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The language would be reflective of the original publications.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, what do you mean by that answer?

A. When you're putting something into a journal article and you're reporting that original article's information, it would be inappropriate to change the language. So the original report that states this particular information used those words.

Q. Well, you didn't put this in quotation marks in your article, did you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: We don't necessarily have to put them in quotation marks. In medically referred journals you can just put the reference.

BY ATTORNEY BROOKS:

Q. And in fact, there is no footnote to this, is there, there is no reference?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Not right at the end of that sentence.

BY ATTORNEY BROOKS:

Q. What that sentence says to get it into the record, I'm referring to sexual orientation, it says, quote, this fluctuation tends to occur more commonly with individuals who are attracted to the opposite

biological sex before transitioning, closed quotes. Have I read that language correctly?

A. Correct.

Q. And publishing this guideline for clinicians in 2017, is it your testimony that even if you thought that language was inaccurate and confusing you would not have clarified it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I can't change what the publication states. It would be inappropriate for me to make a statement that was different from what the publication states. And there are people that fall on the binary and people who fall in the middle, and that particular study investigated people who identified on each end of the binary spectrum of individuals identification of gender identity.

BY ATTORNEY BROOKS:

Q. So you believe as a scientist and an author that writing in 2017, even if you thought the term biological sex was misleading and inaccurate, you --- it was nevertheless appropriate for you to use that term in a best practices guide that you were writing for clinicians?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So if you would read the entirety of the article, I would hope that we would be clear and it would be understood in that isolated paragraph, again I, have to use what language was used in the original publication. Otherwise, I'm misrepresenting the original publication and I would not want to do that.

BY ATTORNEY BROOKS:

Q. Well, if you thought the original publication was in accurate and misleading you wouldn't want to cite and rely on it, would you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: As it's stated, it's not inaccurate. And if you infer things from a sentence it could be misleading. If you read it straight for what it says, it's accurate to what the report gave in the initial publication.

BY ATTORNEY BROOKS:

Q. Are you familiar, Dr. Adkins, with a NIH policy that requires research supported by NIH grants that involves animal or human clinical work to consider what NIH refers to as, quote, sex as a biological variable, closed quote?

ATTORNEY BORELLI: Objection, form.

THE WITNESS:S I have seen that policy and also seen the policies that are presented by the NIH which uses sex assigned at birth as well as gender identity and in addition, as variables that should be included in their research.

BY ATTORNEY BROOKS:

Q. My question is precise. Are you familiar with the NIH policy that requires grant supported research in sales or clinical work to, quote, consider sex as a biological variable?

ATTORNEY BORELLI: Objection, form. Counsel, if you are going to continue questioning her about the policy, we'd request a copy be placed in front of the witness.

ATTORNEY BROOKS: At the moment I'm just asking the witness if she's familiar with that policy.

ATTORNEY BORELLI: My objection stands.

THE WITNESS: I haven't read the entire policy. I have seen that within the documents that you have presented, so I can't accurately state if it is true.

BY ATTORNEY BROOKS:

Q. Have you, yourself, ever submitted any grant proposal that was subject to that NIH policy?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have submitted NIH grants.

BY ATTORNEY BROOKS:

Q. And in that connection did you take some steps to assure that your grant proposal would comply with that policy?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: All of my grants applications had sex assigned at birth as a variable that we report.

BY ATTORNEY BROOKS:

Q. Let me show you another more recent Endocrine Society policy statement. This is tab eight. It will be Exhibit 7.

(Whereupon, Adkins Exhibit 7, 2021 Endocrine Society Scientific Statement, was marked for identification.)

THE WITNESS: Before we start this questioning is it possible for me to take a break?

ATTORNEY BROOKS: It certainly is. At any time that you want to, you just say so.

VIDEOGRAPHER: Going off the record. The current time reads 10:08 a.m.
OFF VIDEO

(WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

ON VIDEOTAPE
VIDEOGRAPHER: We're back on the record. Current time reads 10:21 a.m. Eastern Standard Time.
ATTORNEY BROOKS: And this is Roger Brooks resuming the questioning. I have put in front of the witness what is marked Exhibit 7, which is a, quote, scientific statement from the Endocrine Society that is entitled Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement, closed quote. Do you see that?
A. Pardon me. Yes.
Q. So this is --- document, this statement is from 2021, just last year. And four more years --- recent four more years of science available as compared to the 2017 guidelines we looked at earlier.
Correct?
A. It is that --- yes, as far as the date goes, I mean, one would think they would be up-to-date.

Q. And let me just ask, obviously the Endocrine Society is a large organization, but do you know, either personally or by reputation, any of the authors listed on this document?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Excuse me. Walter Miller by reputation.
BY ATTORNEY BROOKS:
Q. And Walter Miller is at the University of California, San Francisco, according to the footnote there?
A. Let's see. That's what it looks like.
Q. And just looking down, the University of California, San Francisco, is a highly prestigious research institution, is it not?
A. It has a good reputation.
Q. And farther down, halfway down the block of institutions that these authors are associated with, I see University of California, Los Angeles. Do you see that?
A. Yes.
Q. And UCLA, to use its abbreviation, is also a highly respected research university, is it not?
A. You know, there is some variability there. And yes, there are some folks there who do a nice job.

Q. And maybe four lines from the bottom of that block I see a reference to the National Institute of Mental Health.
Do you see that?
A. Yes.
Q. And that's a highly respected governmental research laboratory.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:
Q. And let me ask you to turn here in this document to the second page, which is page 220. And this is, in fact, the beginning of the text after the abstract on the previous page. And there it begins, quote, sex is an important biological variable that must be considered in the design and analysis of human and animal research. The terms sex and gender should not be used interchangeably. Sex is dichotomous with sex determination in the fertilized zygotes stemming from unequal expression of sex chromosomal genes, closed quote.
Do you see that language?

A. I do.
Q. Do you understand the meaning of the word dichotomous?
A. I do.
Q. What does it mean?
A. Two options.
Q. There are two options. And do you think you understand the significance of the statement that, quote, sex is an important biological variable?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I understand that it --- yes.
BY ATTORNEY BROOKS:
Q. In fact, I believe you testified earlier that in the human body every body part, every cell either has XX chromosomes or XY chromosomes depending on the chromosomal sex of the individual.
Is that right?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Some individuals have a mixture.
BY ATTORNEY BROOKS:
Q. And those would be genetic abnormalities.
Am I correct?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, I don't like the word abnormalities. It is a variation in presentation of a human.
BY ATTORNEY BROOKS:
Q. You would agree, would you not, that any deviation from having either XX or XY chromosomes is widely considered to be an abnormality?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, I don't prefer that language.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, I didn't ask you what you prefer. I understand your preference. My question is you would agree, would you not, within the scientific community it is widely held view that any chromosomal arrangement other than having XX or XY is abnormal?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Not in my experience in my group of people that I practice with, they would not describe it that way.
BY ATTORNEY BROOKS:
Q. Would you agree that sex is determined to use the language that I have directed you to, quote, in the

fertilized zygote, closed quote?
A. I'm sorry. Can you re-read the question or repeat the question?
Q. Yes. I'm referring to the language that references sex determination in the fertilized zygote. And my question is do you agree that the sex of an individual is determined, quote, in the fertilized zygote, closed quote?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, they're not being very specific in that particular sentence about what they mean by sex.
BY ATTORNEY BROOKS:
Q. You're not able to say whether this opening language in this 2021 statement from the Endocrine Society is in your view accurate or in accurate?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: Taking one statement, I can't. This is a very long document.
BY ATTORNEY BROOKS:
Q. I'm asking you now, do you agree or disagree the sex is determined in the fertilized zygote?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: XX and XY components are

determined in fertilized zygote. That doesn't necessarily equal sex that's assigned at birth.
BY ATTORNEY BROOKS:
Q. Absent any disorder of sexual development, the determination the zygote that you just described will, in fact, dictate 100 percent reliability the sex observed at birth.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Well, I can't --- you know, in medicine we don't say anything is 100 percent. If you use the absent any --- any difference of sex development even an unknown one that we might not know about, that --- that is what we know to be true.
BY ATTORNEY BROOKS:
Q. You mentioned earlier that dichotomous means there are two alternatives and only two alternatives.
Right?
ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. That's just what the word means?
ATTORNEY BORELLI: Same objection.
THE WITNESS: That's what the word means.
BY ATTORNEY BROOKS:

Q. And in this important statement from the Endocrine Society published just last year drafted by a whole committee of prominent endocrinologists they say that sex is an important biological variable, closed quote. Do you disagree with this statement from the Endocrine Society?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: In reading that particular statement I would agree if they had used the word sex assigned at birth or something more precise in that sentence.
BY ATTORNEY BROOKS:
Q. Well, what they said precisely is sex is a biological variable. Do you see that language?
A. Yeah.
Q. Do you agree with that?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So in the context of medicine, when we're talking about sex and we're talking about --- that's very imprecise. I really think that it is --- I would --- it's hard for me to use that word because it is imprecise, as I have mentioned before.
BY ATTORNEY BROOKS:
Q. So you think this statement from last year from

the Endocrine Society in its opening language is so imprecise that you can't tell me whether you think it is accurate or not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would have to read the entirety of the report and take it within context as I would with any other language used.

BY ATTORNEY BROOKS:

Q. Sitting here right now, you're unable to answer my question as to whether you think it is an accurate statement that sex is a biological concept?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Sex is a biological concept, yes.

BY ATTORNEY BROOKS:

Q. And let me take you, in fact, to page 221 of this document, first column. And there you will see a heading that begins biological sex, the definition of male and female.

Do you see that?

A. Yes.

Q. And it begins sex is a biological concept. And you just said that you think that's a scientifically true statement.

Right?

ATTORNEY BORELLI: Objection, form. Could --- could she have an opportunity to read this section before we continue questioning?

ATTORNEY BROOKS: Yes. But I'll ask you not to coach the witness. I have not denied any requests, but the witness should make them, not counsel.

ATTORNEY BORELLI: The objection stands. It is appropriate to ask that a witness be able to read a section of a document before being asked to opine about the larger meaning of the document.

ATTORNEY BROOKS: I believe the witness threw some more language in this paragraph so that's a good idea.

BY ATTORNEY BROOKS:

Q. If you will tell us when you have read that paragraph.

A. Yes. Sorry.

Q. You have?

A. No, I will tell you.

ATTORNEY TYRON: Jake, could you scroll down a bit, please?

THE WITNESS: Okay.

BY ATTORNEY BROOKS:

Q. In the first paragraph under the heading biological sex, directing your attention to the statement did you discuss the statement sex is a biological concept. Do you see that language?

A. I do.

Q. And you believe that to be a scientifically accurate statement?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And in the next sentence this Endocrine Society statement tells us that, quote, all mammals have two distinct sexes, closed quote. Do you believe that is true or scientifically inaccurate?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Excuse me. I'm sorry. I'm trying to find that language.

BY ATTORNEY BROOKS:

Q. Third line of that paragraph, all mammals have two distinct sexes. My question is do you believe that is inaccurate or accurate scientific ---?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I still think it is imprecise.

BY ATTORNEY BROOKS:

Q. Have you finished your answer?

A. Yes. Sorry. My allergies are making me ---.

Q. Any time you need a drink.

A. Yeah. Sorry about that.

Q. Few lines down it says, quote, the classical biological definition of the two sexes is that females have ovaries and make larger female gametes, eggs, whereas the males have testes and male smaller gametes, sperm. Do you see that language?

A. I do.

Q. Do you agree that is a fair statement of the classical biological definition of the two sexes?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: When you use the word classical it describes what you would see typically, so I agree with that statement. It allows for there to be some variations that may not be classical.

BY ATTORNEY BROOKS:

Q. And it is accepted as a classical definition because it is accurate in the overwhelming percentage of cases.

Is that true?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, as I mentioned before in my papers that I submitted, it --- you know, the percentage of people with differences of sex development is low and those would be the individuals that would not follow typically within this.
BY ATTORNEY BROOKS:
Q. And those individuals are the overwhelming majority.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: They are the majority.
BY ATTORNEY BROOKS:
Q. Well more than 99 percent.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would have to do the math but that sounds accurate.
BY ATTORNEY BROOKS:
Q. Let me ask you to turn to page 228. In the second column, the final paragraph begins on that page, it reads, quote, sex is an essential part of vertebrate biology, but gender is a human phenomenon, semicolon. Sex often influences gender, but gender cannot influence sex. Do you see that language.

A. What is the first word in the sentence again so I can find it?
Q. It's on the second column, the final paragraph.
A. Okay.
Q. I'm really just calling your attention to the first sentence.
A. Yep, read it.
Q. Is there anything in that sentence that you believe to be inaccurate scientifically?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, I think they're imprecise as primates have gender roles and gendered activity, so it's not exactly precise.
BY ATTORNEY BROOKS:
Q. Anything else about that statement that you want to say is less than scientifically accurate?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, again they use the word sex without being very specific as to sex assigned at birth. That's my only other caveat.
BY ATTORNEY BROOKS:
Q. If we read that to refer to what the Endocrine Society determined used in the 2017 Endocrine Society statement that we looked at, that is, quote, genetic/gonadal sex, then do you you consider this statement to be accurate?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: That's not what it says, so I'll ask you to repeat the question for me.
BY ATTORNEY BROOKS:
Q. If we assume hypothetically --- I will ask you to assume that sex as used in this Endocrine Society 2021 document, has the meaning that you, in fact, explained from the term used in the 2017 Endocrine Society document that is, quote, genetic/gonadal sex, closed quote, then you believe this to be --- the language that I have read to you from the 2021 document to be accurate?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So I believe when I answered that question --- I believe when I answered that question sex, gonadal, you know, those are two parts of it. They have not included the full range of hormonal or external genitalia to be specific. In my line of work I would need all of that information to really pin down things.
BY ATTORNEY BROOKS:
Q. So your testimony now is that the term genetic/gonadal '17 guidelines is too imprecise for you really to understand?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: I think you asked that question before.
BY ATTORNEY BROOKS:
Q. And I thought you had said you did understand. You seem to be changing your testimony.
ATTORNEY BORELLI: Objection.
THE WITNESS: You can read it back to me if you --- I think that there's multiple things that are left out of that particular phrase to describe, you know, individuals. I can't say something that is, you know, in my experience and in the literature and in patients with intersex conditions that are --- that could be different from that. There --- yeah.
BY ATTORNEY BROOKS:
Q. If we for a moment focus on individuals who do not suffer from any disorder of sexual development, then do you believe the following quote from Endocrine Society 2021 document is true, and that is, quote, sex is an essential part of vertebrate biology, but gender is a human phenomenon, semicolon, sex often influences gender, comma, but gender cannot influence sex, closed

quote?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Trying to think, make sure --- I can't think of an instance right now that makes me disagree with that statement.

BY ATTORNEY BROOKS:

Q. Let me take you to the first column on page 228 and there's a heading there that says considering sex and/or gender as variables in health and disease.

Do you see that?

A. No. What page are you on?

Q. 228 ---

A. Yes.

Q. --- first column, the heading towards the bottom of the page.

A. Okay.

Q. And here they're specifically mentioning sex on one hand and gender on the other. Do you see that? This paragraph begins, quote, women and men differ in many physiological and psychological variables.

Do you see that?

A. Yes.

Q. Do you believe that to be a scientifically accurate statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think if I were to add typical, it's saying there is variability.

BY ATTORNEY BROOKS:

Q. Well, it is saying specifically that women and men differ from each other in physiological and psychological ways.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That's what it says.

BY ATTORNEY BROOKS:

Q. And do you believe that to be a scientifically true statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, you know, you have to interpret these in their context of what they are saying. Statements.

BY ATTORNEY BROOKS:

Q. Do you believe it to be true or false that women and men differ in many physiological and psychological variables?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: All people are different.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, do you believe it to be true or false that women and men as women and men differ from each other in many physiological and psychological variables?

ATTORNEY BORELLI: Objection to the form.

THE WITNESS: So women and men are a gender assignment, not the biological sex which you mentioned before. And gender is not necessarily a way that I would necessarily think is a scientifically precise way to place that if you're talking about this particular statement.

BY ATTORNEY BROOKS:

Q. Is it your belief that the Endocrine Society in this document in the terms women and men is referring to gender identity other than biological --- what does the word physiological mean to you as a doctor?

A. The method of function and interaction of all the parts of the body.

Q. It refers to biology, not to the statement of mind or identity.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I would just agree with that statement.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to page 229.

Q. The first full paragraph begins, quote, despite the fact that biological sex is such a fundamental source of interest specific variation in anatomy and physiology, much basic and clinical science has tended o focus studies on one sex, typically male, closed quote.

Do you see that language?

A. I do.

Q. And do you understand what is meant by intraspecific variation? Let me offer a suggestion. Do you understand it to refer to variations within the human species?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I think you know again in context I would need to intraspecific --- intraspecific could be between me and you. Isolated in this one sentence, I would need to take a moment to see if it better explains it if I were to read further.

BY ATTORNEY BROOKS:

Q. Do you disagree or agree that biological sex is a fundamental source of variation in anatomy and physiology within the human species?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. I got sidetracked in my brain. Could you please read the question?

BY ATTORNEY BROOKS:

Q. Yes, I can. Do you agree or disagree that biological sex is the fundamental source of variation in anatomy and physiology within the human cease species?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There is lots of other parts of physiology that are completely unrelated to your reproductive system that is more fundamental.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, do you agree or disagree that biological sex is a fundamental source of variation in anatomy and physiology with human species?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: It is one of the variables within variations.

ATTORNEY BROOKS: Let me mark as Exhibit 8 an infographic, if I can use that term. Exhibit 8?

VIDEOGRAPHER: Excuse me, Counsel. You cut out right after Exhibit 8. I didn't hear which document that was.

ATTORNEY BROOKS: It is tab 9 and it is a

one page infographic, if I may, put out by the National Institute of Health titled How Sex and Gender Influence Sex and Disease.

(Whereupon, Adkins Exhibit 8, NIH Sex/Gender Infographic, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And first let me ask, Dr. Adkins, are you familiar with the National Institute of Health as an organizations?

A. Yes.

Q. That is a government research institute?

A. Yes.

Q. And major grant --- major source of grants, grant making in the health sciences?

A. Yes.

Q. And are you --- were you aware that it has within it an Office of Research on Women's Health?

A. No.

Q. Do you see that this is published by the National Institute of Health, Office of Research on Women's Health?

A. Okay.

Q. In the box at the top it says, and I quote, sex is a biological classification included in our DNA. Males have XY chromosomes and females have XX chromosomes. Sex makes us male or female. Do you see that language?

A. I do.

Q. And it continues, every cell in your body has a sex making up tissues and organs like your skin, brain, heart and stomach. Each cell is either male or female depending on whether you are a man or a woman, closed quote.

Do you see that?

A. I do.

Q. And then it continues under that with a definition of gender. So my question is --- begins here, the opening statement in this NIH publication says that sex is a biological classification. Do you agree or disagree with that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, there is a whole literature on --- on this --- the differences in --- in sex. I --- so biological as opposed to another type of classification, I agree with that statement.

BY ATTORNEY BROOKS:

Q. It says a little further along that, quote, every cell in your body has a sex, closed quote. Do you agree or disagree with that?

ATTORNEY BORELLI: Objection to the form.

THE WITNESS: I agree. And each cell can be different.

BY ATTORNEY BROOKS:

Q. Are you saying that within an individual --- a specific individual each cell can have a different sex?

A. Yes.

Q. This NIH publication tells us that, quote, each cell is either male or female, closed quote. And I take it you simply believe the NIH is wrong about that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think that the nuances are something that you can't publish in a one-page documentation when they're not talking about an entire population.

BY ATTORNEY BROOKS:

Q. Under this initial box is a heading that says examples of sex and gender influences. Do you see that?

A. I do.

Q. And it has various categories of things that may

be influenced on one end by sex, which is defined in this document as a biological classification, and gender. Do you see that structure of this document?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yeah.

BY ATTORNEY BROOKS:

Q. And it says if we go down to cardiovascular risk one of the differences that is identified as based on sex is that, quote, blood vessels in a woman's heart are smaller in diameter and much more intricately branched than those of a man, closed quote. Do you see that?

A. Under cardiovascular risk, yeah. Okay.

Q. And the NIH gives this as an example of a physical measurable biological difference that depends on biological sex.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, actually the words they're using are gender --- gender words, not the words we would use for sex, you know, female or male or a variation in between. So I would --- if I were editing this document, I probably wouldn't have used the word woman.

BY ATTORNEY BROOKS:

Q. You would have said a female?

A. Typical female.

Q. Because what --- how the blood vessels in your heart are structured depend on your sex, not on your gender identity. Am I correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There is many variables that can affect these things and what --- that is one of them.

BY ATTORNEY BROOKS:

Q. To your knowledge, gender identity is not a variable that affects how the blood vessels in one's heart are structured, does it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Not that I'm aware of.

BY ATTORNEY BROOKS:

Q. Under the last item here is knee arthritis. Do you see that heading?

A. Yes.

Q. I'm sure we'll have the same terminology discussion, but the language there says, quote, women and girls are more likely to injure their knees when playing sports, closed quote. Do you see that language?

A. I do.

Q. And if we use the term --- substitute the term females for women and girls and say females are more likely to injure their knees when playing sports, do you believe that to be a scientifically accurate statement?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: You have to leave some room. Again, in medicine we're not like 100 percent. But I agree that portions of females that are typical in research have been reported to have more frequent knee injuries.

BY ATTORNEY BROOKS:

Q. Okay.

Let me ask you to find your report, Exhibit 1, and let's turn to paragraph 15. And there you wrote, quote, a person's gender identity refers to a person's inner sense of belonging to a particular gender such as male or female. And you continue every one has a gender identity, closed quote. Do you see that language?

A. I do.

Q. Let me direct your attention to the Endocrine Society guidelines from 2007, which is Exhibit 4. And we're going to come back --- if you can make a stack of most of these, but the 2017 guidelines we will come back to with some frequency. But we're ---

A. Keeping it on top?

Q. --- keeping it on top.

A. Okay.

Q. And there I want to call your attention to page 3873.

A. 3873.

Q. Right. And in the second column there's a section headed introduction. And it begins with a historical review of the concept of gender. And I'm going to ask you a question beginning with the language that is two inches from the bottom, two and a half inches from the bottom that begins these early researchers. So if you want to kind of glide through what comes before that, let me know and I'll begin my questioning.

A. Yes, I'll look over it. Thank you.

I have read that section.

Q. I want to call your attention to a sentence which my understanding is contrasting against or the history that begins, quote, some experience themselves as having both a male and female gender identity whereas others completely renounce any gender classification, closed quote. Do you see that language?

A. I do.

Q. And in your expert opinion, is that an accurate statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In my clinical experience I have met individuals who are --- identify as agender which would in my mind be similar to this definition, but I typically ask the patient what their gender means to them.

BY ATTORNEY BROOKS:

Q. Well, do you have any opinion as to whether some individuals experience both a male and female gender identity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have patients that do that, yes.

BY ATTORNEY BROOKS:

Q. And I think you said that --- I don't want to puts words in your mouth. Do you have an opinion whether some individuals report not having any gender, not fitting any gender classification?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do have patients that match that description.

BY ATTORNEY BROOKS:

Q. And this goes on the next sentence to say, quote, there are also reports of individuals experiencing a continuous and rapid involuntary alternation between a male and female identity, closed quote.

Do you see that?

A. I do.

Q. And do you believe that to be an accurate statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not had that clinical experience. I would have to rely on the, you know, medical report with that in particular, and I would probably look at the evidence that was available ---

BY ATTORNEY BROOKS:

Q. Well ---

A. --- prior to making a decision.

Q. --- do you as a practitioner consider it reasonable to rely on that assertion in this 2017 Endocrine Society statement guideline?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would rely on it to be something I should at least consider.

ATTORNEY BROOKS: Let me mark as Exhibit 9 what is tab 10, and that is a one-page statement from a World Health Organization's website titled Gender and Health.

(Whereupon, Adkins Exhibit 9, World Health Organization Webpage, was marked for identification.)

THE WITNESS: Thank you.

BY ATTORNEY BROOKS:

Q. Are you familiar with the World Health Organization as an organization?

A. I am.

Q. And do you consider the World Health Organization to be generally a respected source of information on medical and health topics?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: My general experience so far to date is they're reliable.

BY ATTORNEY BROOKS:

Q. Well, I will represent to you that this document came off of a World Health Organization website and the web address is at the bottom of the page. I see on the

copy in front of you --- I'll stand by my representation of why mine has it ---.

A. Okay.

Q. This document titled Gender and Health begins gender refers to the characteristics of women, men, girls and boys that are socially constructed, closed quote. Do you see that?

A. I do.

Q. And is that a definition of gender per se that's consistent with how you are used to seeing the term used?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, social constructs change regularly, so I would say that, you know, that wouldn't be completely inclusive of current socially constructed genders, in my experience.

BY ATTORNEY BROOKS:

Q. Well, let me direct --- why don't you read that whole first paragraph, which is just three sentences, because I think the World Health Organization raises exactly that point. So I'll ask you to read that?

A. Sure. Sure.

(WHEREUPON, WITNESS REVIEWS DOCUMENT.)

THE WITNESS: Okay.

BY ATTORNEY BROOKS:

Q. So extending into that paragraph, that three-sentence paragraph, just that explanation of the concept of gender fit with how you are used to seeing the term used in your professional experience?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So in reading that, my understanding of what they are using those specific words, men, women, girls and boys are examples. They don't comment on other societies. Just so --- in that assessment, yes.

BY ATTORNEY BROOKS:

Q. All right.

If we skip down to the third paragraph it begins gender interacts with but is different from sex, which refers to the different biological and psychological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs, closed quote. Do you see that language?

A. I would like to read it, too, though, if you don't mind.

Q. Sure.

A. Yeah. Okay. I have read it.

Q. So first, backing up to the statement, opening paragraph, that gender is socially constructed, do you believe that to be an accurate statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Gender is a social construct, yes.

BY ATTORNEY BROOKS:

Q. And then in the third paragraph it states that gender identity refers to a person's deeply felt internal and individual experience of gender. Do you see that?

A. I do.

Q. So gender identity refers to an individual's experience in relation to gender, which is a social construct.

Right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I see it, and I would ask you to read the question one more time. I just want to make sure I'm answering you accurately.

BY ATTORNEY BROOKS:

Q. As I think I see in this document really the question is as you understand it ---.

A. I think that you have to also include ---.

COURT REPORTER: Excuse me. I need to interrupt. Excuse me. I'm sorry to interrupt, but Counsel, your full question didn't come through on this end.

ATTORNEY BROOKS: I'll re-ask it. Pardon me.

ATTORNEY BORELLI: Actually, why don't we just address one housekeeping matter. Would you be able to identify for the record the URL that appears on your copy and whether there is a date of the document or date of access just so we have it on the record?

ATTORNEY BROOKS: There is no date of access. That access is within the last two months. The address is www.who.int/health-topics/gender#tabequalstab, underline one.

ATTORNEY BORELLI: Thank you.

ATTORNEY BROOKS: I'm glad it wasn't one of these four line ones.

BY ATTORNEY BROOKS:

Q. And I will re-ask my question.

A. Okay.

Q. The question is, Dr. Adkins, is it consistent with your understanding that gender identity refers to a person's individual experience of gender, which is in turn a social construct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That doesn't sound to me to be a full explanation. Just doesn't sound accurate to me. I'm having a hard time.

BY ATTORNEY BROOKS:

Q. Then let me not take more time on that.

A. Okay.

Q. You would agree that gender is a social construct that can change over time.

Am I right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Gender --- so it's a social construct, it's true. Gender is, you know, how you --- I mean, it's complicated. It involves more things than --- and so, you know, if you're talking about gender expression, that's different. Someone's gender as they understand it for their gender identity is different. I mean, I have patients who are assigned a particular sex and the family and the physicians assign a gender that is more typically correlated with that sex. And then

over time those individuals sometimes don't identify with that gender, and they may change their gender marker, for example, because their identity really just doesn't match what we assigned them at birth. I'm not sure how to give a clearer answer. I'm trying.

BY ATTORNEY BROOKS:

Q. Well, so if an individual comes into your office and asserts a gender identity of, let's say, man or both, either one of those, how can a clinician verify whether that individual is accurately understanding his own or their own subjective feelings?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: And you know, a gender again is something that's assigned at birth and it is what you work with in your life, and so you know, I would ask them and they could tell me how they were proceeding in life with regard to their gender behaviors. That would be how I would probably asses their gender.

BY ATTORNEY BROOKS:

Q. How do you ascertain whether that individual who claims identity of man or both is telling you, the clinician, the truth?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So in general, you know, in pediatrics we have a parental report, and it depends on the clinical situation. We may or may not have another health provider's report or a mental health provider's report. If we have questions, we start to dig deeper and look at other areas.

BY ATTORNEY BROOKS:

Q. Let me call your attention to paragraph 19 in your expert report, Exhibit 1. And there you refer to DSM-V definition of gender dysphoria.

Do you see that?

A. What paragraph?

Q. Paragraph 19?

A. Yeah.

Q. And you mention that among other things the diagnostic criteria under DSM-V for gender dysphoria includes, quote, clinically significant distress. Do you see that?

A. I do.

Q. And in fact, it includes clinically significant distress that, quote, impairs important areas of functioning, closed quote.

Am I correct? Do you recall that in DSM-V?

ATTORNEY BORELLI: Objection. Objection

to form.

THE WITNESS: That is how I recall that.

BY ATTORNEY BROOKS:

Q. Paragraph right?

A. Yeah. I want to reserve the right to look at it to be certain. That sounds correct to me at this moment.

Q. And what does clinically significant distress that impairs important areas of functioning look like in a child?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yeah. So you know, it depends on what they are coming in with. I mean, for some of my patients, you know, who are, you know, hyperthyroid, for example, their brain's run really fast, they can't focus during school, and that would be impairment in their ability to do their main job, which is to be in school and learn. So that's one area where you can have some impairment in their --- it varies from patient to patient and in each thing we're talking about.

BY ATTORNEY BROOKS:

Q. The example you just gave was impairment resulting from a hyperthyroid condition.

Am I correct?

A. Correct.

Q. What I asked was impairment due to --- attributable to what gender dysphoria looks like in a child.

A. Oh.

ATTORNEY BORELLI: I don't want to interrupt. I think there may have been a misreading of the language in the paragraph, and I just want to make sure the record is correct that the final sentence of that paragraph says in order to be diagnosed with gender dysphoria, incongruence must persist for at least six months and be accompanied by clinically significant distress or impairment in social, occupational or other important area of functioning.

BY ATTORNEY BROOKS:

Q. I, on the other hand, will ask a question that i believe is more closely tracked to the DSM-V language, which is what is clinically significant distress that impairs important area of functioning look like in a young child?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Okay. I misheard you. I'm sorry. I didn't hear the gender dysphoria part. I

apologize. So in patients with gender dysphoria sometimes it can be anxiety that keeps them from going to school. Sometimes it can be anxiety that keeps them from using public restrooms. Sometimes it is depression so that they can't get out of bed to function. Sometimes it's just feeling really uncomfortable and --- with how they are being treated and what they're allowed to do in a way that makes it more difficult for them than a person without gender dysphoria.

BY ATTORNEY BROOKS:

Q. In your practice is a full diagnosis of gender dysphoria under the DSM-V criteria a precondition for recommending or supporting social transitioning?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So in my practice the majority of my patients have socially transitioned before they come to see me in order to improve their gender dysphoria. In general, that is something that their family and their mental health provider decides. Each individual patient is different and we talk through whether that is appropriate for each patient.

BY ATTORNEY BROOKS:

Q. In your practice is a full DSM-V diagnosis of gender dysphoria a precondition for recommending social

transition?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. And in your practice is a full DSM-V gender dysphoria diagnosis a precondition for prescribing puberty blockers?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I use puberty blockers for more than one indication.

BY ATTORNEY BROOKS:

Q. Let me ask a better question. In your practice is a full DSM-V gender dysphoria diagnosis a precondition for prescribing puberty blockers as a treatment for gender dysphoria?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So my patients are evaluated by mental health providers outside the clinic and inside the clinic. The objective of using puberty blockers can be used to relieve dysphoria and give them time to consider their gender identity.

BY ATTORNEY BROOKS:

Q. In your practice is a full diagnose of gender dysphoria under the DSM-V criteria a precondition for

prescribing puberty blocker for believed gender dysphoria?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Well, in the way that you stated it, you're saying that the patient already has gender dysphoria, so yes.

BY ATTORNEY BROOKS:

Q. In your practice is the full diagnosis of gender dysphoria under the DSM-V criteria a precondition for prescribing puberty blockers as a therapy for gender dysphoria or gender incongruity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And in your practice is a full diagnosis of gender dysphoria according to the DSM-V criteria a precondition for prescribing cross sex hormones?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: They are used to relieve dysphoria. Typically that would be what we would use them to do, is to relieve that dysphoria so they would have that diagnosis. On occasion in my practice the incongruence does not necessarily cause dysphoria per se, and yet they still have significant issues that are

impairing their ability to move forward in their lives in a happy, healthy way. And I might use medications such as gender-affirming hormones in those cases.

BY ATTORNEY BROOKS:

Q. So if I understand correctly, you're saying that at least some cases in your practice you are willing to prescribe cross sex hormones for individuals who do not suffer from gender dysphoria according to the criteria spelled out in DSM-V?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Every patient is different. Most of my patients have gender dysphoria. All of them have a transgender identity, and I would treat either of those.

BY ATTORNEY BROOKS:

Q. I think this question can be answered yes or no. Do you prescribe cross sex hormones for some patients who do not suffer from gender dysphoria according to the DSM-V criteria?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't think so. I mean, gender-affirming hormones --- I use hormones for a lot of different things. Whether you call them gender affirming or not is --- you know, what is kind of a

thing here. I mean, for people with Klinefelter's, who are clinically significantly depressed because they have low testosterone, I prescribe testosterone to improve their mood, their libido, their muscle strength. For people who have dysphoria or who have a transgender identity, I do prescribe those medications. I think that to be precise in my answers I cannot say it as a yes or no answer.

Q. Let me ask you to turn to paragraph ten of your report. There you say I have treated approximately 500 transgender and intersex young people in my career.

Do you see that?

A. No, that's not how it's written.

Q. I apologize. I was reading to you the second sentence of paragraph ten, and I believe I read that ---.

A. Okay.

I'm sorry. I was starting at the beginning.

Q. I understand.

A. Yes.

Q. And let's break that out. Of those 500, approximately how many suffered from some form of DSD?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So the --- that I know of,

because we don't evaluate every person necessarily for an intersex condition, probably --- gosh, it's hard to estimate. So I think at least 60 in my clinic and then probably in the hospital at least 10, 15 a year. At least one a month or so.

BY ATTORNEY BROOKS:

Q. Of the 500 transgender intersexual young people that you treated in your career, how many would you estimate suffered from some form of disorder of sexual development?

ATTORNEY BORRELLI: Objection, form.

THE WITNESS: Off the top of my head I can think of one. I have reviewed a referral for a second one. Gosh. With that many patients, that's the best I can do. Sorry.

BY ATTORNEY BROOKS:

Q. And I take it then that the overwhelming majority, almost all the children that you have seen and treated for gender dysphoria did not suffer from any disorder of sexual development?

A. So at the time of my evaluation of them they weren't showing any signs of an intersex condition. I don't necessarily test for intersex conditions on every person that comes in. Insurance is really kind of funny

about paying for that sort of thing because they don't think it is appropriate to do. So I can't evaluate them unless they have a symptom of an intersex condition. Those can present even into your 30s and not be evident until you are trying to get pregnant. So I think to be accurate, that's ---.

Q. To your knowledge, almost all of the children that you have treated for gender dysphoria did not show signs of any intersex condition or disorder of sexual development?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: To best of my knowledge.

BY ATTORNEY BROOKS:

Q. Let me call your attention to page three of your report, which is on page five. And you say there in the second sentence, quote, all of my patients have suffered from persistent gender dysphoria.

Do you see that?

A. Uh-huh (yes).

Q. Now, I just don't understand that because a few minutes ago you explained to me that some of your patients suffer from gender dysphoria and some of them don't. So can you explain to me what you meant by that statement?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yeah. I learn more and more every day about the patients who come into my clinic. I did state that most of my patients have gender dysphoria. I am finding individuals currently in my practice who aren't necessarily to the point of having that clinically significant criteria that is mentioned in the --- for dysphoria that have a transgender identification. The majority I would say do have dysphoria.

BY ATTORNEY BROOKS:

Q. You would now say the majority rather than all?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I can't think of --- yeah, I would say the majority. There would be a very rare instance and that's why I mentioned it before.

ATTORNEY BORELLI: Counsel, just a quick question about timing and a potential break because we've been going for a little while.

ATTORNEY BROOKS: Right. I'm inclined to go --- like from my experience, if you stop early for lunch, then it's an awful long afternoon. So I'd be inclined to go until 12:30 or so and then break for lunch.

ATTORNEY BORELLI: Does that work for you? Would you like a break now before we later break for lunch or what is best for you, Dr. Adkins?

THE WITNESS: Well, since I'm not a breakfast eater, I would prefer to go a little bit earlier if we can.

ATTORNEY BROOKS: We can do it. I just warn you it gets to be a long afternoon.

THE WITNESS: I understand.

ATTORNEY BROOKS: Let me finish up the line of questioning. Well, should we target noon to stop for lunch?

THE WITNESS: That's fine. Thank you.

BY ATTORNEY BROOKS:

Q. Let me take you back to the Endocrine Society statement on --- back to the biological variable, which is Exhibit 7. If you would find that, please. And I'll ask you to turn to page 225, second column towards the bottom with the heading that reads biological basis of diversity and sexual/gender development and orientation.

Do you see that?

A. I do.

Q. And it reads at the beginning given the complexities of the biology of sexual determination and

differentiation, comma, it is not surprising that there are dozens of examples of variations or errors in these pathways associated with genetic mutations that are now well known to endocrinologists and geneticists. In medicine these situations are generally termed disorders of sexual development or differences in sexual development, closed quote.

Do you see that?

A. Yes.

Q. Now, in your opinion, a transgender identity is not a disorder.

Am I right?

A. It is a normal variation, in my opinion, of huma --- of humans in general.

Q. It's not a mental disorder?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, they have in the past included it in the DSM, which is categorized as those sorts of things. As far as like psychological, there's such over lap between psychological and the physical --- I guess the best word I can use, but that it's hard to --- it's hard to say. You know, I think people are moving more towards that it is more of a medical problem that is occurring within the person that

is giving them psychological symptoms that we see, which is really common in medicine. We see lots of different medical conditions caused psychological symptoms. I already mentioned one with hypothyroidism.

Q. In the overwhelming number of cases, transgender identification is not associated with any physical disorder that you as a doctor have become aware of?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. I got distracted. Can you repeat it?

BY ATTORNEY BROOKS:

Q. Yes. In the overwhelming majority of patients that you have seen, the transgender identity is not associated with any physical disorder that you are aware of.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I mean, I'm going to need a minute to think because I have seen so many patients that I don't --- I guess it sort of depends on how you define that, right. I am --- distress is physical and psychological. The difference is physical in that they're biologically assigned sex and those characteristics associated are different from their

gender identity. So it's a bit of a mixture.

BY ATTORNEY BROOKS:

Q. Many individuals who suffer from disorder of sexual development do not experience gender identity that is discordant with their chromosomal sex.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Some do, yes. That is true for some.

BY ATTORNEY BROOKS:

Q. Many individuals who experience a transgender identity --- I'm sorry. Many individuals who suffer from a disorder of sexual development do not experience a gender identity that is discordant with their chromosomal sex.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: So there's, you know, like 100 different variations. Some are more likely to have questions about their gender identity than others. It varies by diagnosis.

BY ATTORNEY BROOKS:

Q. Okay.

But my question is a high level one. It is

true, is it not, that many individuals who suffer from a disorder of sexual development do not experience gender identity that is discordant with their chromosomal sex?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In the medical literature the reports vary. Some of the conditions are 90 of them their identity matches with their chromosomal sex and in some cases it's like 30 to 40 percent.

BY ATTORNEY BROOKS:

Q. And as you have testified, many individuals who experience transgender identity do not suffer from any identified disorders of sexual development?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I answered that question already, yeah.

BY ATTORNEY BROOKS:

Q. The answer is yes?

A. Yes, I answered the question already.

Q. For clarity I would like you to answer it again.

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Can you repeat it then?

BY ATTORNEY BROOKS:

Q. Yes. Many individuals who experience a transgender identity do not suffer from any known

disorder of sexual development?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In my experience that is true.

BY ATTORNEY BROOKS:

Q. You have no knowledge as to the number of children who suffer from a disorder of sexual development who presently attend schools or colleges in West Virginia, do you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I can only rely on the prevalence that's recorded in the medical literature and then assume that West Virginia has the population base that is similar to those medical reports.

BY ATTORNEY BROOKS:

Q. You, yourself, don't have any actual knowledge either way on that.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not been given a list of the number of individuals, no.

BY ATTORNEY BROOKS:

Q. And you are not opining that B.P.J. suffers from any disorder of sexual development, are you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't know B.P.J.. I have not evaluated B.P.J.. I can't say that about B.P.J..

BY ATTORNEY BROOKS:

Q. And in fact, you don't know whether any child who is chromosomally XY but suffers from a disorder of sexual development has ever sought to compete in female athletics in West Virginia, do you?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: There are so many people who have competed or tried to compete over the years. I have not seen a documentation specifically of West Virginia. It's common in athletics.

BY ATTORNEY BROOKS:

Q. You are not aware of a single case that has ever occurred in West Virginia of a chromosomally XY child seeking to compete in female athletics based on a --- let me ask that question again. You're not aware of any specific instance in which an X --- chromosomally XY child who suffers from a disorder of sexual development has sought to compete in female athletics in West Virginia up to the present?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: So some people die with chromosomes XY and look completely female and never knew. So I can't say that anyone could definitely say that, including myself.

BY ATTORNEY BROOKS:

Q. Well, my question was you are not aware of any case of an XY individual who suffered from a disorder of sexual development seeking to compete in female athletics in West Virginia.

Right?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Correct.

BY ATTORNEY BROOKS:

Q. And so let me ask you --- a substantial portion of your expert report goes into all sorts of detail about disorders of sexual development.

Correct?

A. Correct.

Q. In your understanding, what is the point? What does that have to do with any opinion you are offering about issues in this case?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So the folks who have differences of sex development have really been our tool

within medicine to understand gender identity and how it developed over time, especially when there may be some difference in the effects of the chromosomes, the hormonal expression and the biological external reproductive genitalia. And it elicits --- kind of shows us that there can be some variations that identity that you might have --- I'm sorry, sex that you might assign at birth based on one of these categorical things or a mixture of them may not be exactly what a person identifies at birth.

For example, there are individuals who are born who never had any hormones, they don't have external genitalia at all when they're born, and so how do you decide what sex to assign that person and thus what gender to assign that person, and so it --- it helps us understand that there are lots of different things that go into determining a gender identity and you may not know it right at birth, certainly not at conception, but you may begin to understand it as the person grows older.

And so it's important to know that because when there are differences between those two things it can cause significant distress and harm to the individual as they get older if those two are not

matching.

BY ATTORNEY BROOKS:

Q. Let me take you to paragraph 28 of your expert report. At the end of that paragraph you state I know from experience with my patients that it can be extremely harmful for transgender youth to be excluded from the team consistent with their transgender identity. Do you see that?

A. It actually says with their gender identity.

Q. If I misspoke, I apologize. For the record, let me just do it again. Quote, I know from experience with my patients that it can be extremely harmful for transgender youth to be excluded from the team consistent with their gender identity, closed quote.

Do you see that language?

A. I do.

Q. Let me just ask were you a varsity high school or college athlete yourself?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I was.

BY ATTORNEY BROOKS:

Q. Now, let me ask what you understand to be the significance of that statement, that is are you offering an opinion in this litigation that the West Virginia law

is unreasonable to the extent that it prevents even a single transgender youth from playing in a division consistent with their gender identity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. That wasn't clear. Can you ---?

BY ATTORNEY BROOKS:

Q. Are you offering an opinion that the West Virginia law is unreasonable to the extent it prevents even a single transgender youth from playing in the division consistent with their gender identity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. Are you offering an opinion that West Virginia does not have a strong interest in ensuring fair and safe competition for females in their schools and universities?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think that would require me to have to, you know, talk with them about that and understand a little bit better. I would hope it would be every one that they were trying to keep safe.

BY ATTORNEY BROOKS:

Q. Are you offering an opinion that West Virginia law is not a reasonable measure to ensure fair and safe competition for females in schools and colleges?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, the language is --- it's not really clear with the female who uses the word female. It's like using the word sex. It's just not clear.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, I used the word female because earlier in one of these papers where it said woman you said it would work if they said female as a sex indicator to be distinguished from gender identity.

Do you recall that testimony?

A. I do.

Q. Let me ask the question again using the term female in the way that you meant in that earlier testimony. Are you offering an opinion that the West Virginia law is not a reasonable measure to ensure fair and safe competition for females in schools and colleges in West Virginia?

ATTORNEY BORELLI: Objection, form.

THE WITNESSS: Yes.

BY ATTORNEY BROOKS:

Q. Can you tell me the examples that you had in mind when you said I know from experience that it can be extremely harmful for transgender youth to be excluded from the team consistent with their gender identity?

A. I can.

Q. Please do.

A. I have patients who have participated in sports with the teams that they identify as. Their fellow students only know them as the gender that they identify with and that they express. If they were asked to participate on a team that matched their sex assigned at birth, then these individuals would, for one, would be on the boys' team and then everyone in school would know that they were transgender. They don't have to know that. It is not any of their business.

Once they are identified as transgender, they are at high risk for being bullied, harassed, sexually assaulted, and leaving school, which leads to poor jobs, poor insurance, homelessness. There are any number of reasons that I would want my patient to be able to participate on the team that identifies with their gender identity to keep them healthy.

Q. Dr. Adkins, your answer said if they were required to play on the team corresponding to their I'll

say chromosomal sex, their natal sex, which suggests you have not actually seen it happen. Is there a single case you can point me to in which you have observed a patient harmed by being excluded from the team consistent with their gender identity?

A. Yes.

Q. Can you tell me that area?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, one of my patients who had been on middle school sports teams that matched their gender identity was then asked to change. And they didn't feel comfortable going with the other individuals because their identity would be discovered, their --- individuals would know that they were transgender. No one at the time knew and still to this day don't know because they chose not to participate rather than be on the team that didn't match their gender identity.

BY ATTORNEY BROOKS:

Q. And when and what state did these events occur?

A. North Carolina.

ATTORNEY BORELLI: Objection to form.

BY ATTORNEY BROOKS:

Q. That's where, when? That's your Counsel's

objection.

A. North Carolina in --- for this particular patient, three years ago. I have patients that come in every day who this applies.

Q. Dr. Adkins, given that you're testifying under oath and trying to be accurate, is it true that you have patients come in every day that this applies to?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. Aren't we getting a little carried away here?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do like to be precise.

BY ATTORNEY BROOKS:

Q. Thank you.

A. In clinic, most days when I'm in clinic I see a patient who doesn't participate in athletics because of the requirement that they go to participate in an area that is for their assigned sex at birth. Most days I'm in a gender clinic.

Q. And what you state in your document, in your report here, is that you know from experience that being excluded from the team consistent with their gender identity can be, quote, extremely harmful to transgender youth. You have described to me students who choose not

to participate in athletics. Beyond that, can you give me examples of extreme harm that has resulted from such policies?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, some of that would require a bit of speculation because I wouldn't know what would happen to those individuals if they remain in the sport.

BY ATTORNEY BROOKS:

Q. I'm not asking you to speculate.

A. So can you re-ask the question so I can kind of figure out how to answer it better.

Q. I'll re-ask it and maybe that you're not able to answer it, but can you identify for me specific extreme harm that individual patients have suffered as a result of not being able to participate in the team consistent with their gender identity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So I have had patients who have no longer participated in sports, gained weight, become obese and developed type two diabetes. I have seen that around --- I can think of at least two examples. And then, you know, that's a chronic life long disease that can lead to amputation and all kinds

of other harms. And let's see, what other things.

I have seen patients with --- who were no longer happy at their school and because the time that they were identified as transgender were asked to leave their sport, their friend groups changed. And you know, it's tough in school. There are kids who have --- and that kind of can push them down the slope of suicidal ideation and depression and those sorts of things. I mean, I have to think longer for other examples. Those are two.

BY ATTORNEY BROOKS:

Q. Rather than starting something else, should we break now for lunch?

ATTORNEY BORELLI: That works.

VIDEOGRAPHER: Going off the record. The current time reads 11:54 a.m. Eastern Standard Time.

OFF VIDEO

(WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

ON VIDEO

VIDEOGRAPHER: We're back on the record. Current time reads 12:57 p.m. Eastern Standard Time.

BY ATTORNEY BROOKS:

Q. Okay.

Dr. Adkins, welcome back from lunch. On we go. We're going to have a long afternoon. Let me mark as Exhibit 10 what we have previously identified as tab 16, which is an article dated January 10, 2022 from the Washington Post entitled A Transgender College Swimmer is Shattering Records, Sparking a Debate Over Fairness.

(Whereupon, Adkins Exhibit 10, 1/10/22 Washington Post Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. Dr. Adkins, let me just ask generally, you're aware of recent events in the news involving Leah Thomas's competition in NCAA swimming.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I am aware of various pieces of that.

BY ATTORNEY BROOKS:

Q. And I'm not going to try to turn you into an expert on Lia Thomas, but you're just aware of that narrative. Are you generally aware that at least until

recently the NCAA policy for a decade at the collegiate level was that XX --- XY individuals, males, to use that terminology, could compete based on gender identity in women's divisions only after they had suppressed testosterone for at lest a year?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't know the details of NCAA. I just don't.

BY ATTORNEY BROOKS:

Q. Are you aware generally that some athletic leagues have a requirement that biological males may compete in women's athletics based on gender identity only after suppressing testosterone for some period of time?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have heard that there are individuals who are allowed to participate based on their gender identity and that there's some comment about hormone suppression.

BY ATTORNEY BROOKS:

Q. And do you have college-age transgender patients yourself?

A. I do.

Q. Does your statement that we looked at in

paragraph 28 of your report that it can be extremely harmful for transgender youth to be excluded from the team consistent with their gender identity hold true in your opinion at to collegiate level? And I was quoting from paragraph 29.

ATTORNEY BORELLI: To clarify, you just said 29 --- 28, paragraph 28?

ATTORNEY BROOKS: It is paragraph 28. I apologize.

ATTORNEY BORELLI: Thank you. I can't remember if I lodged an objection. Objection to form.

THE WITNESS: And the question was?

BY ATTORNEY BROOKS:

Q. The question was does your assertion in paragraph 28 of your report that you know from experience the patients --- that it can be extremely harmful for transgender youth to be excluded from the team consistent with their gender identity apply to college-age individuals as well as high school or younger individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In my experience, that --- yes.

BY ATTORNEY BROOKS:

Q. Do you have any opinion as to whether a policy that requires biologically male athletes to suppress testosterone for a certain period of time or to a certain level of testosterone prior to competing in women's or girls' athletics is reasonable or unreasonable?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you're asking me if that's my opinion? I'm sorry. Could you just repeat the question?

BY ATTORNEY BROOKS:

Q. Do you have an opinion --- do you have an opinion as to whether a policy that requires biologically male athletes to suppress testosterone either for a certain period of time or down to a certain level before they can be eligible to compete in women's athletics based on gender identity is reasonable or unreasonable?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: It gets tricky. I am --- you know, when you start throwing in sort of people with PCOS and people with intersex conditions and --- it gets tricky. So it's harder for me to answer.

I think the question was do I have an

opinion if it's reasonable or not reasonable? Is that the question?

BY ATTORNEY BROOKS:

Q. That is.

A. Okay.

In some cases it might be reasonable and some cases it might not be reasonable.

Q. If we put on one side and exclude from consideration individuals who suffer from any form of disorder of sexual development, do you believe that a policy that requires biologically male athletes to suppress testosterone either for a certain period of time or down to a certain level before they can be eligible to play in women's athletics based on gender identity is reasonable or unreasonable?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, for those who are assigned male at birth, it depends on where they are, you know, and what sport they're doing and what's involved. There are a number of caveats that could be thrown in there along those lines.

BY ATTORNEY BROOKS:

Q. Is it you don't know what you think about that?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I think you misunderstood the answer that I gave. It would really depend on a specific case.

BY ATTORNEY BROOKS:

Q. Well, let's look at a specific case. I have put in front of you Exhibit 10, this Washington Post article from January 10, 2022 about Lia Thomas, who, according to the headline, is shattering records. Let me ask you to turn in that article to page three. And there it --- if we look at the third paragraph, the one that begins her fastest 200 yard freestyle, and the second sentence --- or the third sentence says that's the fastest time by any female college swimmer this year, .64 seconds faster than Olympian Torri Huske. And it continues, quote, Thomas has also posted the nation's best 500 yard freestyle, timed this season at four minutes, 34.06 seconds, nearly three seconds faster than Olympian Brooke Forde.

Do you see that?

A. Uh-huh (yes).

Q. And these records were set after Lia Thomas had qualified under the NCAA requirement of testosterone suppression for one year. So my question on the specific sport for you is, is it your view that a policy

that permits Thomas to compete in the women's division against competitors who are biologically female is fair?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you will note in the paragraph above it also says that her time slowed down once she had this happened and she was suppressing her testosterone. You know, I --- I don't want to use that word. There are so many things that go into athletic performance and your time that's not totally related to your sex assignment at birth or your current hormonal status, practice, you know, training, whether you had an opportunity to get started at a young age, a lot of variables that aren't related to their current hormones.

BY ATTORNEY BROOKS:

Q. Do you have an opinion as to whether a policy that permits Lia Thomas to compete against those born female in swimming is fair?

ATTORNEY BORELLI: Objection to form. Counsel, I think we're starting to get outside the scope. The witness can answer this question if she can, but we're treading on that territory.

THE WITNESS: So in that there are very few transgender individuals who are involved and there are lots and lots and lots of opportunities for those

assigned female at birth to compete, I think it is fair.
BY ATTORNEY BROOKS:
Q. And let me call your attention two paragraphs down where it begins everybody wants, and quoting Michael Joyner, who identifies as a physiologist at the Mayo Clinic. Are you familiar with the reputation of the Mayo Clinic?
A. Yes.
Q. It is a high reputation.
Am I correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: In general, people think it has a good reputation.
BY ATTORNEY BROOKS:
Q. If you read this paragraph, Dr. Joyner says, quote, everybody wants to maximize each individual's opportunity to participate and be as inclusive as possible, one of the researchers, Michael Joyner, a physiologist at the Mayo Clinic, said in an interview. And his quote continues, but how do you balance that inclusion at the individual level with the fairness to the entire field? That's really the split the baby question, closed quote.
Do you see that language?

A. I do.
Q. Do you agree that the question of fairness that Dr. Joyner addresses there is, in fact, a tough question on which reasonable people could disagree?
ATTORNEY BORELLI: Objection, form. And counsel, I need to renew my objection as to scope.
ATTORNEY BROOKS: You can have a standing objection as to scope, but I can pursue this line of questioning.
THE WITNESS: I would like to take a moment to read the whole article, please.
ATTORNEY BORELLI: Counsel, can you point me to the portion of the report where she offers opinions about things?
ATTORNEY BROOKS: She has offered the opinion in the report that denying participation is extremely harmful. She has testified on the record that in her view, a policy that permits even one transgender individual from playing according to their gender identity, that she has an opinion, but she is offering an opinion that that is an unreasonable policy. I intend to examine that thoroughly. Scope is not tightly limited on expert depositions, I assure you.
ATTORNEY BORELLI: I'm going to stand on

my objection. We'll see where the line of questioning goes and we'll confer again if we need to.
ATTORNEY TRYON: This is Dave Tryon. I would ask that if there are further speaking objections or discussions about scope, it be done outside the presence of the witness.
BY ATTORNEY BROOKS:
Q. Let me ask you this without taking the time --- without reading the entire document, do you agree or disagree with Doctor Joyner that the question of whether a biologically male individual such as Lia Thomas should be permitted to complete in the women's division against biological females is a tough question that reasonable people can differ?
ATTORNEY BORELLI: Objection to form.
ATTORNEY BROOKS: That's enough. That's all you may say.
ATTORNEY BORELLI: Excuse me. Counsel, the witness has ---.
ATTORNEY BROOKS: You may say objection to form.
ATTORNEY BORELLI: The witness has --- the witness asked to read the entire document.
ATTORNEY BROOKS: I am asking a question

free and apart from the document. And I'm entitled to do that.
ATTORNEY BORELLI: I'm not persuaded that this is free and apart from the document.
ATTORNEY BROOKS: I will make it 100 percent apart from the document.
ATTORNEY BORELLI: Can you please restate the question to do that? Thank you.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, do you agree that the question of whether a biological male such as Lia Thomas should be permitted to compete against biological females in the collegiate level is a tough question on which reasonable people can differ?
ATTORNEY BORELLI: Objection, form. Counsel, you just put an article ---.
ATTORNEY BROOKS: That's enough of the speaking objection. I can take the article back away from the witness. My question makes no reference to the article.
ATTORNEY BORELLI: Your question makes reference to ---.
ATTORNEY BROOKS: Counsel, that's enough speaking objections. You are violating the Federal

Rules.

ATTORNEY BORELLI: I strongly disagree with that characterization. I don't think that's correct. You're asking questions about a subject of the article. Physically removing the article from the witness doesn't remove that question from the subject of the article.

ATTORNEY BROOKS: I don't have to show the witness every article about a topic. The witness is aware of Lia Thomas. I'm asking a question about Lia Thomas and competitive swimming. The witness can answer.

ATTORNEY BORELLI: I stand on my objection.

ATTORNEY BROOKS: You can do so.

THE WITNESS: Sorry. Thank you.

You know, everybody has their opinion based on their experience and their knowledge and they're allowed to state that and confer with others about it. Whether or not it is reasonable is a whole other question, and that involves perspective and background. So with that caveat, I could see people having different opinions on this particular matter.

BY ATTORNEY BROOKS:

Q. Thank you.

ATTORNEY BROOKS: Can we mark as Exhibit 11 a document previously identified as tab 17, article from the publication named Out Sports that is dated January 9, 2022.

(Whereupon, Adkins Exhibit 11, 1/9/22 Out Sports Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. Dr. Adkins, have you heard the name Iszac Henig?

A. No.

Q. Did you hear any news items that a transgender male competing in the female division that is genetic female, male identity, transgender male competing in the female division, beat Lia Thomas, a transgender female competing in the female division, in certain races? Have you heard that?

A. No.

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. All right.

You stated in paragraph 28 that it can be harmful for patients, deeply harmful, for transgender youth to be excluded from the team consistent with their gender identity. In your view is a policy that requires transgender youth who are biologically male to suppress testosterone before they can be eligible to compete on a team consistent with their gender identity extremely harmful to youth?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I was trying to catch up with you with finding the page.

BY ATTORNEY BROOKS:

Q. That was a complicated question. I will ask it again.

A. Thank you.

Q. In your view is a policy that requires a biological male who experiences a female gender identity to suppress testosterone prior to becoming eligible to compete in the women's division extremely harmful?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Suppression of the testosterone for my practice isn't the --- you know, the harm. It is the exclusion that does most of the harm. I think I answered that.

BY ATTORNEY BROOKS:

Q. Let me try to --- in light of what you just said, let me ask a better question. In your view, is a policy that excludes a biological male who identifies as a woman from competition in the women's division unless and until that biological male has suppressed testosterone extremely harmful?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: So the sex assigned at birth for this person would be male and would need time to suppress testosterone, which takes time and leads to limitations in participation of sports, in competition. I think that disadvantages most athletes if they have to take time off for any kind of medical treatment for their preparation. In that fashion it would be harmful to the athlete.

BY ATTORNEY BROOKS:

Q. And I believe you testified you don't have any simple single opinion as to whether it would nevertheless be reasonable despite being harmful to that athlete?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I don't think that's what I said.

BY ATTORNEY BROOKS:

Q. All right.

Then I'll ask a different to avoid unclarity. Do you have an opinion as to whether, despite the harm that you have described, a policy that requires suppression of testosterone in order for such an individual to be eligible to compete in a women's division is reasonable?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: That's complicated. I apologize for not answering yes or no. I just --- sometimes you get lost in your question. So I don't think it's reasonable to ask them not to participate. They need time to practice and participate like all their peers that are practicing and competing at the time.

BY ATTORNEY BROOKS:

Q. So your testimony as you sit here today is that even as a biologically male athletes, natal male athletes who have not suppressed testosterone at all, it is not reasonable to exclude them from participation in the women's division?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: To those who are assigned female at birth, you're again going to cause them harm

by not allowing them to participate and not be affirmed in their gender. That --- part of it is a big part of what it means to improve their overall health and what we do to care for these individuals. You're also marking them by saying that they are, you know, transgender and that is going to cause all kinds of kerfuffle and people are not nice to them. It can cause extreme harm to them in that way.

BY ATTORNEY BROOKS:

Q. In the beginning of your answer you referred to individuals identified as female at birth.

A. Assigned female at birth.

Q. And I think that your answer was speaking to individuals who are assigned male at birth.

A. Applies to both.

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. Then let me re-ask my question because I asked about individuals assigned male at birth. As to those individuals, is it your opinion that a policy that requires them to suppress testosterone prior to becoming eligible for participation in the women's division or high school level girls division is unreasonable?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: For an assigned male at birth, suppressing testosterone, so we're clear because you used the word they in that particular question, I think it is unreasonable for them to be taken out of their sport. I think it causes harm. We see evidence that it causes harm with regard to depression, anxiety, suicidality. It also causes metabolic harm, changes in the performance.

ATTORNEY BROOKS: Let me mark this Exhibit 11, an article by Duke Professor Doriane Lambelet Coleman, Michael Joyner and Donna Lopiano, the Duke Journal of Gender Law and Policy.

(Whereupon, Adkins Exhibit 11, Duke Journal of Gender Law and Policy Article, was marked for identification.)

VIDEOGRAPHER: Counsel, I didn't fully catch which document that was? Did you say it was tab 19?

ATTORNEY BROOKS: It is tab 19, that's correct.

VIDEOGRAPHER: Thank you.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, let me ask whether you have before now been aware of this article by Duke Professor Coleman and others?

A. I have heard of an article, yes.

Q. Do you know Professor Coleman?

A. I met Professor Coleman once.

Q. And have you ever seen this article before today?

A. I haven't looked at it.

Q. Probably my questioning about it will be very short. Let me ask you to turn to page 88. At the very bottom of page 88 is a sentence that runs over into 89 that reads as follows. If elite sport were coed or competition were open, even the best female would be rendered invisible by the sea of men and boys who would surpass her, closed quote. Do you see that language?

A. I do.

Q. Do you have the expertise to evaluate whether that is true or false?

ATTORNEY BORELLI: Object to form.

THE WITNESS: The --- well, again, you are picking one sentence out of a whole article. And I know that Dr. Coleman has actually called into question some of the information from this report in particular.

And without knowing which things I can't really rely on this document to say whether it's true. And that's not --- that's her expertise.

BY ATTORNEY BROOKS:

Q. Well, that's my question. Do you believe that it is within your expertise to evaluate that sort of question about sporting performance?

ATTORNEY BORELLI: Object to the form.

THE WITNESSS: Again, you are picking one sentence. I have some professional experience with assisting people in improving their physiology with regard to, you know, muscle mass, fat mass. Sport would be outside what I would have to say --- this specifically.

BY ATTORNEY BROOKS:

Q. I'm not sure that was a compete sentence, let me ask a follow-up question. Is it the case that it is --- you consider it outside your professional expertise to evaluate the truth or falsity of this supposed assertion that, quote, if elite sport were coed or competition were open, even the best female would be rendered invisible by the sea of men and boys who would surpass her, closed quote?

ATTORNEY BORELLI: Object to form.

THE WITNESS: That's not been my experience. That's not what we're seeing in sports. I can't say anything else about whether or not I could assess it. That would be my only way to assess it based on my experience.

BY ATTORNEY BROOKS:

Q. What is your professional training or research that qualifies you to evaluate the impact that would be experienced in athletics on biological women if sport were coed or competition were open?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Yeah. I don't study sports.

BY ATTORNEY BROOKS:

Q. You are an endocrinologist by training. Is that correct?

A. I am.

Q. Do you have an expert opinion as to what lasting or legacy --- strength and athletic capability if any way natal males continue to enjoy over natal females after suppressing testosterone?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So there's a lack of research in this area. I feel like we need more

information regarding this. I don't think that there's a way to answer that question with the data that we have at this time.

BY ATTORNEY BROOKS:

Q. Is it true in your practice that most of your biologically male patients present at your clinic let's say after age 13?

ATTORNEY BORELLI: Object to form.

THE WITNESS: Most of my patients who are assigned which at birth did you say?

BY ATTORNEY BROOKS:

Q. Male.

A. After age what again?

Q. I chose 13.

ATTORNEY BORELLI: Same objection.

THE WITNESS: I would agree with that.

BY ATTORNEY BROOKS:

Q. And implications of that are that those individuals have already experienced --- well, let me ask it differently. In your experience or based on your training, either one, on average what Tanner stage are boys at by the time they have finished their 13th year?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So assigned male at birth?

BY ATTORNEY BROOKS:

Q. Correct.

A. The average at 13 is Tanner 3.

Q. By the end of age 13 you would say Tanner 3?

A. It is really 13 and a half is what the published literature says.

Q. So presumably by the end of their 13th year, when they're older than 13 they're either in a later stage of Tanner stage 3 or moving into Tanner stage 4?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: On average, but there is such a wide variety of --- they can present with puberty from 9 to 14. And they all move differently at different rates and different times, so there's a lot of variety in the 13 and a half year olds I see in my clinic who are assigned male at birth.

BY ATTORNEY BROOKS:

Q. And my question was about averages. So on average, by the end of the 13th year the patients you see would be towards the end of Tanner stage 3 or entering into Tanner stage 4?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: On average, yeah.

BY ATTORNEY BROOKS:

Q. And by that time those biologically male who have under gone effects on skeleton, on height, on musculature, typical of or sometimes referred to as verilization.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So at 13 and a half the average assigned male at birth is dead center their growth spurt, so they've only gone through about half of it. They still have about half of it left.

BY ATTORNEY BROOKS:

Q. Okay.

And do you have any knowledge as to whether they have also undergone changes in heart and lung size and bone strength that are typical of male puberty?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So I can't comment about the heart and the lung. The lung size is typically proportioned to the body size. So in that way, halfway. Bone strength, however, there's more information about. And you know, people don't get their peak bone mass until they're 30, so they have a long way to go starting from 13 and a half before they reach that.

BY ATTORNEY BROOKS:

Q. Have, on average, males experienced significant bone densification by age --- by the end of their 13th year?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Depends on your definition of significant. Clinically significant, medically significant? Is it, you know, significant with regard to the biological assay. Is it you're talking about which would --- Dexus scans?

BY ATTORNEY BROOKS:

Q. I will take clinically significant.

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Can you repeat your question with that?

BY ATTORNEY BROOKS:

Q. Yes. On average, have biological males experienced clinically significant bone densification by the end of their 13th year?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Over their life span they do continue to increase their bone density. The peak of bone density is much later, so every person is different as to where they are in that density scale. At the middle of puberty, I mean, I would be guessing if I said

anything specific.

BY ATTORNEY BROOKS:

Q. Well, as I tell witnesses I am defending I don't know is always a great conversation stopper. Is it your testimony that you don't actually know how much bone densification has occurred by the end of the 13th year in those in biological males?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I haven't looked at it --- I haven't looked at it recently. There are --- that's an --- interpretations that we use and it comes with our reports and I would have to look at that to rely on it.

BY ATTORNEY BROOKS:

Q. Have you heard the name Joanna Harper?

A. No.

Q. Let me see tab 24.

ATTORNEY BROOKS: Marking 13, what was previously designated tab 24, article published December 2020 by Emma Hilton and Tommy Lundberg, titled Transgender Women in the Female Category of Sport: Perspectives on Testosterone Suppression and Performance Advantage.

(Whereupon, Adkins Exhibit 13, 2020

Hilton and Lundberg Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And Dr. Adkins, let me ask again whether you know the name Emma Hilton or Tommy Lundberg.

A. No.

Q. Can I take it then you have not seen this article before?

A. I wouldn't say that one equals the other. I'm terrible with names, to be quite honest.

Q. Let me ask --- therefore, I retract that question. Do you recall seeing this article before today?

A. No.

Q. Okay.

Then again, we will be short. You see the title. I understand you have not seen it. Let me ask you to turn to page 201. About an inch down in the first column, summarizing other research the authors of this paper write an extensive review of fitness from over 85,000 Australian children age 9 to 17 years old show that, compared with 9 year old females, 9 year old males were faster over short sprints, 9.8 percent, and

one mile, 16.6 percent. Could jump 9.5 percent further from a standing start, a test of explosive power. Quote, could complete 33 more push ups in 30 seconds and had 13.8 percent stronger grip, closed quote. Do you see that language?

A. Yeah.

Q. And my question for you is you have yourself any knowledge as to whether the facts recited there are scientifically accurate or inaccurate?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So whenever I'm reviewing an article, and again, I have not seen the full article, it's reporting on population from Australia, which I usually use the population that I'm talking about when I am using that information to help guide my practice. So I'm not completely sure that would be a thing that would come into my mind when looking at this. Is this the same population in Australia you we're seeing here? That's one of my first questions about it.

BY ATTORNEY BROOKS:

Q. And I understand that everybody in Australia is upside down, but my question simply was do you have any knowledge as to whether, as a matter of science, these assertions are true or false?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: They have published it in a peer reviewed journal I think. I would have to look if this is a peer reviewed journal because some are not. If those things are true, the assumption we make in medicine is that they are true.

BY ATTORNEY BROOKS:

Q. You are a very trusting person to peer reviewed journals.

A. They get redacted all the time. So again, my previous thing is you got to look at all of the pieces, et cetera.

Q. In general --- in general, do you consider that your expertise extends to the question of how much athletic advantage biological males enjoy over biological females prior to puberty, if any?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I know limited amount of that information. We all learn a little bit, but I wouldn't say that I could say, you know, I know everything that exists.

BY ATTORNEY BROOKS:

Q. What is your source of information in that area?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Generally education in medical school and then looking at hormonal effects in muscle and bone and those things. But not in particular these specific tests.

BY ATTORNEY BROOKS:

Q. Do you have any opinion as to whether prior to puberty natal males have strength, speed or other athletic advantages over natal females on average?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Gosh, there's such a wide variety of humans. And I know you are asking on average. I don't think I feel comfortable answering the question.

BY ATTORNEY BROOKS:

Q. All right.

You have offered the opinion --- we can go back to paragraph 28, I keep referring to the same, that refusing to permit a transgender individual to participate in a sport category corresponding to their gender identity can be or is extremely harmful. From your medical point of view, what do you consider to be the implications of that opinion when it comes to individuals who claim both a male and a female gender identity?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. Must they be permitted to play in either category according to their choice.

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That is a good question. I would have to talk to the individual person to really know what harm they might think --- feel that they are having if they were kept from one versus the other. I think that would be a very individualized question. I can't answer it with my experience.

BY ATTORNEY BROOKS:

Q. All right.

Would you have the same answer with regard to an individual who experiences neither gender identity, neither male or female?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So people who identify as a agender, you know, there is such a wide variety there of their life experience, their pubertal experience, their current hormones and what things they might be taking or not taking, where their levels are. I think it --- and you know, again, I think --- you would have to look at the individual person.

BY ATTORNEY BROOKS:

Q. Is it your opinion, Dr. Adkins, that the only reasonable policy for schools, colleges or athletic leagues would be to consider eligibility for transgender individuals on a case by case basis, taking into account all of the types of complexities you just described?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think that that is completely possible for them to do given the small population that we're talking about. And I think it is reasonable for them to take the time to do that with each individual human.

BY ATTORNEY BROOKS:

Q. Do you think that such a policy is the only reasonable policy?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yeah, I'm going to venture that, yes.

BY ATTORNEY BROOKS:

Q. In your view --- as you've testified earlier a bit about the category of gender fluid individuals. You mentioned the term. Are you familiar with that category, concept of gender fluid individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm aware of the concept.

BY ATTORNEY BROOKS:

Q. Can you explain for the court what the concept of --- what a gender fluid individual is or what that person experiences?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: So my experience is that every gender fluid person is different, and I have to actually dig deep when I'm talking to someone who is gender fluid as to what that means. It could mean a wide variety of different experiences.

BY ATTORNEY BROOKS:

Q. You're not able to describe at all what it mean to be gender fluid?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I can give you an example. I can give you more than one example.

BY ATTORNEY BROOKS:

Q. I'll take an example.

A. Okay.

For a patient I'm bringing to mind, for that individual they generally might be expressing their gender identity variably on a particular day. Their understanding of their identity is that it shifts a

little bit. They sometimes are frilly, like me, very feminine-ish, and on days --- and feel that --- and other days they might wear a suit and tie. And that gender expression may align with their gender identity I guess, to express themselves a different way. It's just a matter that, you know, some days I feel like a girl and some days I don't. And I actually also sometimes have that feeling of, you know, a more girly one day than the other. I don't know. I'm not implying that I'm gender fluid, but that particular person is an example of what might happen for someone who's gender fluid.

Q. Let me ask you to find. I told you we'd dig for it again, the Endocrine Society 2017 Guidelines, which are Exhibit 4.

A. I'm not saying my experience is the one and only, one all be all.

Q. And I'll call your attention to page five, column two?

A. I'm sorry, what is that again?

Q. Page five, column two. Language looks like this. That's on page five. That's fine.

ATTORNEY TRYON: This is Dave Tryon. I think both of you are starting to trail off at times and

speak less loudly and it's getting a little bit harder to hear you. If you can both remember to keep your voices up, it would be helpful to me.

ATTORNEY BROOKS: We will do our best. Wait until 6:30.

BY ATTORNEY BROOKS:

Q. Page 3873, column two. And towards the bottom is a discussion of the continuum and individuals who experience both or neither and then a reference that we looked at before about reports of individuals experiencing a continuous and rapid involuntary alternation between a male and female gender identity. Do you see that? It's about eight lines from the bottom.

A. On the right?

Q. Yes.

A. Yeah.

Q. And I'm going to focus you on the rapid involuntary alternation between male and female identity. And is it your view --- is it your opinion that unless school or league policy allows such gender fluid individuals to play in the league according to their present gender identity, whatever that might be, that it will do extreme harm to those individuals?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: So I think that unless you are working with that individual person to do what works for them based on their gender identity, you are likely to do harm.
BY ATTORNEY BROOKS:
Q. And am I correct that it is your opinion that avoiding harm to students who experience a transgender identity, perhaps a gender fluid identity, is a higher priority than ensuring fairness in competition for those born female?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: So doing a harm to individuals that are transgender can lead directly to their death. So we're talking about a life and death experience for these individuals. What you are referring to with regard to sports participation in my vision of all of the sports athletics is a rarity of someone dying, and it is not because of the harm policy --- of transgender person.
BY ATTORNEY BROOKS:
Q. What's the answer to my question?
COURT REPORTER: Excuse me.
ATTORNEY BORELLI: Objection.

COURT REPORTER: I just want to interrupt because the witness cut out during her answer.
BY ATTORNEY BROOKS:
Q. Well, I'm going to re-ask the question. And we'll both try to speak up and perhaps to some extent the transcript will have to be, you know, cleaned up from the recording. We'll do the best we can. Is it your opinion that avoiding harm to transgender individuals, potentially including gender fluid individuals, is a value that is more important than protecting the fairness and safety for girls and women for those born female in sport?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So when we're talking about life and death, that is the ultimate outcome. And I still say that if you're talking about a policy that could cause the death of a human being, that, in my judgment, does rank higher than fairness at that time.
BY ATTORNEY BROOKS:
Q. And you talked earlier about your assertion that you had patients who have experienced harm as a result of not being permitted to play according to their gender identity. Do you recall that testimony?
ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do.
BY ATTORNEY BROOKS:
Q. And do you have specific examples of such patients who experienced increased suicidal ideation specifically as a result of not being permitted to play in athletics according to their gender identity?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I do.
BY ATTORNEY BROOKS:
Q. Tell us about that.
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yeah. So one of my patients, for example, had played football. This patient was assigned female at birth, identifying as male in middle school. Really wanted to play in high school and was eventually not allowed to do so, and their depression deepened. They had not had any suicidal ideation before. They had been well affirmed. They were living in their gender identity in every other aspect of their life.
And they ended up having to go on medication to make sure that --- to treat that depression in addition to all of the support in the family and teachers were giving with their gender

identity.
BY ATTORNEY BROOKS:
Q. And do you have any knowledge as to whether that individual would have faced serious safety injury risks had that individual, natal female, been permitted to play football at high school level as your patient's male peers matured into full male stature?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: This particular patient was within the normal range for a male of that age as far as height, weight and BMI, so there wasn't a great disparity with regard to that. That can come up at times with regards to sports participation in consideration with injury. So this particular patient, I would not have had any concern there. Lots of assigned females at birth who are not transgender also play football in high school.
BY ATTORNEY BROOKS:
Q. Tab 25. Dr. Adkins, do you recall permitting the reporting of and being part of a WNYC podcast back in 2016?
A. Yes.
Q. Let me mark as Exhibit 14 a two-page kind of introductory page off the WNYC website describing this

podcast. The document itself, the posting is dated August 2, 2016. Give me one moment here.

(Whereupon, Adkins Exhibit 14, 2016 Podcast Summary Webpage, was marked for identification.)

ATTORNEY BROOKS: And let me also mark as Exhibit 15 the transcript of that podcast downloaded off of the WNYC website.

(Whereupon, Adkins Exhibit 15, 2016 Podcast Transcript, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And that --- the title apparently of the podcast is, quote, I'd Rather Have a Living Son than a Dead Daughter. Do you see that?

A. I do.

Q. And you allowed a reporter from WNYC to come into your office and record various conversations.

Am I correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: With the permission of --- the --- everyone involved.

BY ATTORNEY BROOKS:

Q. To participate and they waived the privacy with regard to anything that wasn't included in the podcast.

Am I correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: That would be standard.

BY ATTORNEY BROOKS:

Q. At least as far as yourself, do you recall doing that?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I don't recall. I suspect I would have.

BY ATTORNEY BROOKS:

Q. And did you yourself review the podcast before it was released for any privacy or accuracy concerns?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't remember. That's been so long ago.

BY ATTORNEY BROOKS:

Q. It has been a while. This was 2016. And you had been practicing in this area about how long in 2016?

A. In North Carolina?

Q. I'm sorry. In this field of treatment of gender --- of individuals suffering gender dysphoria?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I started caring for patients who are transgender in --- I think around 2013.

BY ATTORNEY BROOKS:

Q. Okay.

So between two and three years before the time this was recorded.

Okay.

Let me ask you to look at Exhibit 15, which is to say the transcript. And first page, it indicates and I'll just --- it deals with two clients with names, at least for purposes of the podcast, of Drew Adams and Mark. Do you recall that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would have to verify. Probably accurate, but ---.

BY ATTORNEY BROOKS:

Q. Martin shows up on page 13. A couple inches down we skip to the last patient at the end of a long day and then it says recalling this patient Martin.

A. I see that.

Q. Let's go back and just look at issues relating

to Drew Adams. Drew is, if I understand correctly, natal female, identifying at the time of this recording as ---?

A. Drew was assigned female at birth and identified as male at this time.

Q. And so far as you understand, based on your medical evaluation, Drew is somebody who was chromosomally female.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I don't get to verify their chromosomes. We don't do that.

BY ATTORNEY BROOKS:

Q. At the time this was recorded, you did have an understanding, did you not, that Drew had female reproductive biology?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: On my exam at that time Drew had external genitalia that appeared female and secondary sex characteristics typical of someone assigned female at birth.

BY ATTORNEY BROOKS:

Q. Well, in fact, somebody biologically female.

Correct?

ATTORNEY BORELLI: Objection.
THE WITNESS: Assigned female at birth.
BY ATTORNEY BROOKS:
Q. Well, let me ask you this. You prescribed hormones for Drew.
Am I correct?
A. Yes.
Q. And you didn't do that without a high level of confidence in your mind as to the biology of Drew's body.
Am I correct?
ATTORNEY BORELLI: Objection to form.
BY ATTORNEY BROOKS:
Q. You weren't just based on what somebody happened to be assigned at birth. You believed that Drew was biologically female, did you not?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So at the beginning, prior to treating patients, we do look at where their baseline hormones are. So I did have that information as well as an external exam. I didn't have chromosomes or an ultrasound.
BY ATTORNEY BROOKS:
Q. My question is at the time you prescribed

hormones for Drew you believed that Drew was biologically female firmly, did you not?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I had no reason at that time with the data in front of my to identify Drew as anything other than assigned female at birth.
BY ATTORNEY BROOKS:
Q. And you just didn't care what Drew's biology was as you chose hormones to prescribe?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I investigated what is necessary to move ahead with that prescription and make it safe for the patient.
BY ATTORNEY BROOKS:
Q. What was necessary was to determine that biologically Drew was female.
Am I correct?
ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. You are going to tell the court that you didn't try to determine whether Drew was biologically male or female?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I obtained baseline blood

work like I do with every patient, which is recommended by the Endocrine Society that you get baseline hormone levels. I did a physical exam. Not every patient gets to have an ultrasound, a karyotype or a full exon analysis. It's not the way you can practice medicine.
BY ATTORNEY BROOKS:
Q. Turn with me to page three of the transcript. Two, two and a half inches down, MH, who I believe is the reporter, not somebody working for you but the reporter, says, quote, this is Drew's second time here, closed quote. Do you see that, just two inches down?
A. Yeah.
Q. It's been quite a few years. Do you believe that that was accurate that what the events that were recorded here were on Drew's second visit to your clinic?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: It has been so long. To verify it is true I would have to look back at my clinic notes as well as if I even still had it recorded when they were in clinic or not.
BY ATTORNEY BROOKS:
Q. And do you know, as you sit here today, whether prior to this perhaps second meeting with Drew any

psychologist or psychiatrist associated with your new clinic had personally evaluated Drew to confirm the diagnosis of gender dysphoria?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Before we start treatment we have our mental health team do an assessment of the patient with regard to finding out their --- any psychological challenges that they may be having and confirm if they have gender dysphoria and confirm the criteria from the DSM --- God, my brain is just tired. From the DSM criteria. And in addition to that, we have a person who is a local mental health provider also perform any evaluation and develop a relationship with the patient prior to starting the treatment.
BY ATTORNEY BROOKS:
Q. Well, let me break that out. Do you require that a psychologist or psychiatrist associated with Duke confirm a diagnosis of gender dysphoria before you proceed with hormonal interventions?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I have a team of mental health providers who work with me and do that assessment. That is part of their standard job. And every patient is evaluated by that team. Sometimes it

is a psychiatrist, psychologist. Sometimes it is a different kind of mental health provider.
BY ATTORNEY BROOKS:
Q. Well, if it is not a psychologist or psychiatrist, on what type of mental health --- what qualifications of mental health providers do you rely to make such a diagnosis before prescribing hormonal interventions?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, there are Licensed Clinical Social Workers that we work with that are used by Duke in a number of capacities with regard to mental healthcare.
BY ATTORNEY BROOKS:
Q. Is it your testimony --- I want to be careful on this. Is it your testimony that you are willing to rely on a diagnosis by a social worker with no medical, psychological degree before prescribing a hormonal intervention?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So the mental health providers that I use have master's degree education in care for patients in this area and have ongoing continuing medical education with regard to their

ability to asses the mental health of a patient in front of them.
BY ATTORNEY BROOKS:
Q. That would be a --- a Master's in social work. Correct?
A. Often it's a Master's in social work. Also have people who have Master's in public health in addition I should say.
Q. And so if such any evaluations was done by a mental health professional associated with Duke, that would have been at Drew's first visit, not at the visit that was the subject of this podcast recording?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: At that time it could have been done physically at the first visit. Sometimes we have had them come on a different day than their visit with me. So it is possible it could have been a different day. I just don't remember.
BY ATTORNEY BROOKS:
Q. Okay.
Do you ever rely on the diagnosis of an individual's mental health worker not associated with Duke as an adequate basis to prescribe hormonal interventions?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: Our clinic policy is to have someone outside of Duke as well as someone inside of Duke.
BY ATTORNEY BROOKS:
Q. So you may recall --- do you recall that Drew and his mother had driven up from Florida for this meetings?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I do remember that.
BY ATTORNEY BROOKS:
Q. And do you sometimes consider diagnosis given by mental --- for purposes of proceeding with hormonal interventions?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: If they are licensed to practice in that area or certified in their state, that is what we rely on.
BY ATTORNEY BROOKS:
Q. At the top of page two --- and again, this is the voice of the reporter, so I want to check it with you. It says, the end of the first full paragraph, that Drew and his mom are driving eight hours from Jacksonville, Florida, to get here because North

Carolina is also home to one of the only clinics in the south that treats transgender kids. Do you see that?
A. I do.
Q. And in your understanding was that true in 2016, that you here had one of the only clinics in the south that treated transgender kids?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: We were one of a few.
BY ATTORNEY BROOKS:
Q. And they had driven all the way to North Carolina from Florida precisely because whatever mental health providers they were seeing in Florida didn't have expertise in this area.
Is that correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: They didn't drive here to see a mental health provider. They drove here to see me as an endocrinologist.
BY ATTORNEY BROOKS:
Q. I apologize. Whatever professionals were advising them in Florida didn't have expertise in this area?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: With regard to hormonal

management.
BY ATTORNEY BROOKS:
Q. What steps, if any, did you take to give yourself comfort that any comorbidities that might be --- might confound the diagnosis of transgenderism had been appropriately addressed before you prescribed hormones for Drew?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: I mean, I would have to look back at my notes specifically to see exactly what we had in the record. Our policy again is to have someone who has had a relationship with the patient outside of Duke Clinic that states that they have well managed issues with regard to their mental health and are prepared and safe to move forward with gender affirming hormones.
BY ATTORNEY BROOKS:
Q. As a matter of policy in your clinic do you insist on a diagnosis that will tell you whether or not this patient suffers from autism of any sort?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: We do require that they have a screening that is performed within our clinic for any potential signs or symptoms of autism.

BY ATTORNEY BROOKS:
Q. And if you identify that a patient does have some signs or symptoms of autism what significance does that have as to how quickly or whether you are willing to proceed with hormonal interventions?
ATTORNEY BORELLI: Objection to the form.
THE WITNESS: So again, every patient is different. Autism is a spectrum, as it's described autism spectrum disorder, and so you have to figure out each patient's understanding of their gender identity, what's going on in their life and if they're ready.
BY ATTORNEY BROOKS:
Q. Do you have any professional opinion as to whether autism itself can cause a patient to feel uncomfortable with their identity?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: Their whole identity?
BY ATTORNEY BROOKS:
Q. Yes.
A. I ---.
ATTORNEY BORELLI: Objection ---.
THE WITNESS: Yeah, I don't know if I have seen any reports about their whole identity being called into question just because they have autism.

BY ATTORNEY BROOKS:
Q. Do you have any professional opinion as to whether autism itself can cause individuals to feel alienated from or disassociated with their gender identity ---
ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. --- or I should say the gender identity associated with their natal sex?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: With the information that I have worked with on our autism team at Duke is that, you know, it can take a little longer for people with autism to truly understand their gender identity. So we do take care there. That's why we screen.
BY ATTORNEY BROOKS:
Q. I would like to play a clip from this podcast that includes your voice, the reporter's voice, Drew's voice. I think it will come through loud and clear. I'm optimistic --- for those of you ---.
ATTORNEY BORELLI: While you're settling this, will the words from the recording, do they appear in the transcription.
ATTORNEY BROOKS: They do. I was about

to say that for everybody's benefit.
ATTORNEY BORELLI: Thank you, Counsel.
ATTORNEY BROOKS: Now, I'm thinking. That has to be live. All right. So that's unmuted.
VIDEOGRAPHER: You said one?
ATTORNEY BROOKS: What's that?
VIDEOGRAPHER: You said one?
ATTORNEY BROOKS: But I need to say on the record and tell people --- can the court reporter here me.
COURT REPORTER: Yes.
ATTORNEY BROOKS: The clip that I'm about to play appears on page four of the transcript that is marked Exhibit 15 and it makes up kind of the center two-thirds of the transcript. All the words that you will hear or perhaps won't hear very well appear on the transcript. We're going to listen to clip one here.

(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

BY ATTORNEY BROOKS:
Q. The narrator says that Drew's only question was, quote, when can I start testosterone, and you responded today, sound good, yeah, all right. Is that consistent

with your recollection of what happened that day?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:
Q. Was that your voice?
A. That was my voice.
Q. Okay.
And did you know before you came into the room that Drew's goal was to walk out with a testosterone injection or a prescription for a testosterone injection?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: You know, I don't remember. I don't remember what I knew before in walked in the door. Sometimes I do. Sometimes I don't.
BY ATTORNEY BROOKS:
Q. Now, I want to be fair. This is --- these are clips and they're carefully done, so I can't be sure whether there are things in between.
A. Correct.
Q. Do you have any recollection as to any discussion or any further evaluation that happened between, hey, how are you, and your voice, and answering the question when can I start, today?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: So most typically, before I walk into a room I have reviewed the patient's medical record. I have reviewed their letter from their mental health provider. And I have reviewed any laboratory evaluation that I have received from them prior and generally review their records. So I would come into a visit with that sort of fresh in my mind.
BY ATTORNEY BROOKS:
Q. So it is consistent with your recollection that on Drew's second meeting with you, you walked into the room having made up your mind to give Drew testosterone?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Based on the words that are here, that would be --- I would have reviewed the information that I needed to know that that would be safe.
BY ATTORNEY BROOKS:
Q. And in between walking in the room and telling Drew today, yay, all right, did you make any further inquiry about whether Drew in the last --- since he last saw you had been suffering from any sort of depression?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: So typically that is part

of our visit. It's not necessarily part that I would do. And we also have forms that they fill out that does an assessment of depression prior to me walking in the room.
BY ATTORNEY BROOKS:
Q. Did you ensure that an assessment had been done that evaluated the strengths and weaknesses of Drew's relationship with Drew's family?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: The mental health evaluation does include walking through parent relationships, school relationships, teacher relationships and finding out where those are.
BY ATTORNEY BROOKS:
Q. Did you feel that you, yourself, needed to have any understanding, for instance, of Drew's relationship with Drew's father before you proceeded to prescribe cross sex hormones?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would want to know where their relationships are.
BY ATTORNEY BROOKS:
Q. So Drew's mother attended. What steps did you take to find out what Drew's relationship with Drew's

father was?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I don't remember. I would have to look back.
BY ATTORNEY BROOKS:
Q. And does your clinic before prescribing hormonal interventions make sure that an overall psychotherapy treatment plan has been prepared to diagnose and address any other psychological or social difficulties suffered by the patient?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: So you know, I follow the guidelines that say that we should have any of the mental health issues well managed and that's why we use --- have our patients have a mental health provider and that's why we have them tell us that in writing.
BY ATTORNEY BROOKS:
Q. So I'm going to play a second clip that picks up exactly where we left off on the transcript, that is at the very bottom of page five and continuing halfway --- I'm sorry, the very bottom of page four and continuing halfway down page five. If you would.

(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

ATTORNEY BROOKS: That was background noise. I thought it was coming through here. I apologize. Just start it again. My mistake.

(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

BY ATTORNEY BROOKS:

Q. Dr. Adkins, do you believe that the basic narrative here accurately describes what happened, that you came in, you spoke with Drew, you went out, and while you were out one of your aides read risk disclosures for consent to Drew and Drew's mother?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That is part of it.

BY ATTORNEY BROOKS:

Q. And the narrator said at the beginning explaining this process that there were still, as of 2016, a lot of unknowns about what these hormones will do long term. Was that an accurate statement at the time in your opinion?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: We've learned a lot more.

We have got however many more years, what, five more years at least of information since then. You can't know what every single thing that every drug is going to do forever.

BY ATTORNEY BROOKS:

Q. One of the things that you included at that time in your cautions or disclosures was that taking these cross sex hormones might prevent a patient who had --- was a natal female from ever being able to get pregnant, even if Drew stopped taking testosterone in the future.

Correct?

ATTORNEY BORELLI: Objection, form. One other just piece of clarity for the record, I want to make sure that it is clear that the transcript and recording is not a complete recording of the entire visit.

ATTORNEY BROOKS: I have made that clear I think.

ATTORNEY BORELLI: Thank you, Counsel.

BY ATTORNEY BROOKS:

Q. My question is one of your disclosures in 2016 was that the administration of testosterone to a natal female might mean that that individual would not ever be able to get pregnant even should the patient stop taking

testosterone at a future date.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Correct.

BY ATTORNEY BROOKS:

Q. And that is still part of your disclosure today; is that correct?

A. That's part of it. We actually have more studies that show actually an equal fertility rate for our transgender males who have been on testosterone and come off and choose to get pregnant as their cisgender peers, their assigned females at birth who've never been through any testosterone treatment.

Q. Because of the present science you still make exactly the same caution in your warnings to patients before prescribing testosterone.

Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I do.

BY ATTORNEY BROOKS:

Q. And so the sequence is that you said with regard to administering testosterone, which you cautioned or clinic cautioned could be potentially sterilizing, you as the doctor said to Drew, sound good, yeah, all right.

And then you left the room while somebody else read warnings and disclosures.

Is that right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That doesn't --- is that what the sequence was in this report? It looks like that I also make sure that the patients have adequate time to answer questions. I usually give them this form ahead of the visit so they can review it and in case their reading is their better method versus verbal. That's why we do it in two different ways as far as their learning style. We make every effort to help make sure that our patients understand.

ATTORNEY BORELLI: We have been going a while. Can we take a break soon? I think we should.

ATTORNEY BROOKS: Fairly soon. We'll finish this line of questioning and this clip.

BY ATTORNEY BROOKS:

Q. You yourself didn't ever sit down and talk through known or potential side effects with either the child or the mother in this case, did you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't remember it specifically every visit from 2016 and exactly what

happened.
BY ATTORNEY BROOKS:
Q. As a matter ---.
ATTORNEY BORELLI: Counsel, I'm sorry, I think I heard the witness say a moment ago that a break would be good. Why don't we break here? Can we come back in say ten minutes?
ATTORNEY BROOKS: We can say that or I can finish this paragraph.
ATTORNEY BORELLI: Why don't we break now. We've been going a while. Thank you.
VIDEOGRAPHER: Going off the record. The current time reads 2:27 p.m. Eastern Standard Time.
OFF VIDEO

(WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

ON VIDEO
VIDEOGRAPHER: We're back on the record. Current time reads 2:43 p.m. Eastern Standard Time.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, in dealing with Drew, you have a social worker read the disclosures, the warnings. Did you, yourself, ever present to Drew options for

fertility preservation?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes, that is a conversation I have with my patients.
BY ATTORNEY BROOKS:
Q. You, yourself, have that conversation?
A. I do.
Q. Let's --- and did you explain --- I see that the disclosure --- we heard the disclosure that it's --- using testosterone to appear more masculine is off label use. Is that part of your standard disclosures?
ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. Do you explain to your patients that the fact that it is off label means that no studies that establish safety of use of testosterone for that purpose at the level as would be required for FDA approval have been done?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: No, that wouldn't be an accurate statement. Those studies can be done. They just haven't been presented by the company manufacturing the medication to the FDA to try and get that certification from the FDA.

BY ATTORNEY BROOKS:
Q. Have you, yourself, ever participated as a physician in a so-called phase one clinica trial?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: So phase one typically is dose related. I have not done those. I have done phase two, phase three and then after market.
BY ATTORNEY BROOKS:
Q. Phase one is, among other things, required to establish safety.
Am I correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: That is part of the objective of a phase one study.
BY ATTORNEY BROOKS:
Q. And indeed, it is a required part of the objective.
Right?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:
Q. And to your knowledge, has any study of safety of administering testosterone for the purpose of appearing more masculine in natal females ever been done

at a level of rigor that could satisfy FDA requirements?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So I don't have the FDA standards right in front of me. I have, you know, read articles that report outcomes and side effects and safety profiles. There are other testosterone --- there are testosterone products on the market that are FDA approved for using cisgender females.
BY ATTORNEY BROOKS:
Q. Do you know whether any safety study has ever been done for administration of testosterone to natal females for the purpose of appearing more masculine at a level of rigor that could satisfy FDA requirements?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I can't answer the question without, you know --- I would have to really look at the indications, the FDA rules.
BY ATTORNEY BROOKS:
Q. Okay.
Let's listen to a third and final clip. This one begins with a sentence the last one ended with on page five and runs just onto page six, I believe. End of page five. Let's hear that.

(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

BY ATTORNEY BROOKS:

Q. All right.

My impression, correct me or tell me if you agree, that clip is just a single unbroken bit of conversation, not pieced together from different things. Is that consistent with what you heard and what you recall?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, I don't remember.

BY ATTORNEY BROOKS:

Q. Okay.

You come back in the room with a prescription in your hand, the warnings have been read while you were outside. You ask, guess what I have in my hand. You heard the clip and I see what it says there. Is the voice that says happy drugs Drew's voice or your voice?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Mine. My voice.

BY ATTORNEY BROOKS:

Q. The voice that says happy drugs is your voice. And the voice that says yay, yay, s also your voice? If

you want to hear it again you can.

A. It's not labeled that way.

Q. Well, yay, yay is labeled you?

A. Yay, yay is labeled me? Okay.

Q. Doctor A?

A. It's really confusing because it's ---.

Q. Let's do this. Let's listen to this one more time.

A. There is confusion.

Q. I want you to listen --- don't trust the labels. Listen to the voice on happy drugs. They may be ---.

(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

BY ATTORNEY BROOKS:

Q. Whose voice says happy drugs?

A. That sounded like Drew.

Q. Okay.

So the labeling you believe is correct. I just wanted to double check that.

Are you, as a physician, in light of all of the disclosures that have just been made about potential side effects, potential harmful effects, were you comfortable with the child referring to cross sex

hormones as happy drugs?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So if you will recall, we use the medication to decrease dysphoria, which is a discomfort, and to improve depression. So any medication that would relieve those things could be described as a happy drug. I'm okay with that.

BY ATTORNEY BROOKS:

Q. And after Drew says happy drug you said yay, yay. Are you comfortable that's consistent with your role as a doctor in light of potential downsides and side effects of this treatment and this child's life to serve the role of a cheerleader saying yay, yay?

ATTORNEY BORELLI: Objection. Counsel, I just want to note for the record it's not clear from that recording that both yays are in the same voice. That's actually not what I heard.

ATTORNEY BROOKS: If you have an objection you can raise it later.

ATTORNEY BORELLI: I need to make my record now, Counsel.

ATTORNEY BROOKS: No, you need to raise your objection now. You get to discuss it further in front of the court.

BY ATTORNEY BROOKS:

Q. I will re-ask my question. Do you consider it consistent with your role as a physician, in light of the potential downsides and side effects from cross sex hormones for this child, for you to play the role of cheerleader saying yay?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So in my job as a physician I often am helping motivate my patients improve their overall health. And in that way I often sound like I am a cheerleader and I am trying to help them believe in themselves and understand and feel good moving forward with medication treatments to have the best likelihood of success. So I may say yay.

VIDEOGRAPHER: Excuse me. You got cut out there in the middle of that --- in the middle of your answer.

THE WITNESS: Okay.

Do you want me to start over?

ATTORNEY BROOKS: Who was that?

ATTORNEY WILKINSON: That was the court reporter. I can make a recording if everyone is happy with my phone just on the table so we could refer to that later if that's useful if we're concerned about the

audio cutting out.
ATTORNEY BROOKS: There is no harm in a backup recording. Voices will be identifiable. If you want to set it there by that speaker.
ATTORNEY WILKINSON: If you're comfortable.
ATTORNEY BORELLI: I just want to check --.
COURT REPORTER: Who is talking right now. I'm sorry, who is --- who is talking about their phone. I don't understand. Like, I don't know who's speaking.
ATTORNEY BROOKS: Just now my colleague Lawrence Wilkinson is proposing to set his iPhone on record by the speaker here so there will be a backup onsite recording in case anything is dropped over the internet. And that will be made available both to those who are listening and to the court reporter service. Address some of the concerns. So let's fire that up and it will be there.
BY ATTORNEY BROOKS:
Q. I will continue with my questioning. Did it cause you any concern that in referring --- by referring to a testosterone injection as happy drugs that that was

an indication that young Drew was not taking seriously the 20 minutes' worth of cautions and warnings that had just been read?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So given that the medication is used to decrease dysphoria and improve depressive symptoms, in that way it does make someone happier. And I have no issue with a patient who is using a general reference as happy drugs in that that is part of what will happen with the medication. I didn't have any concerns with regard to the fact that Drew may not have gotten everything he needed to understand what he was going into going forward with this medication.
BY ATTORNEY BROOKS:
Q. Let's back up to page four of the transcript. And we're not going to listen to any ore clips. Everybody will be happy to know perhaps.
ATTORNEY BORELLI: It's unstable.
THE WITNESS: There we go.
BY ATTORNEY BROOKS:
Q. Okay.
And towards the top of page four, the second paragraph, the narrator --- and this is not you speaking and it is not Drew's mother speaking. The narrator says

she doesn't like talking about what Drew's life was like before he started transitioning. But when I asked her how she knew living as a boy was the right choice for Drew, she was blunt. She said I'd rather have a living son than a dead daughter. Do you see that?
A. I do.
Q. Did you ever tell Drew's mother that that was the choice that she faced, between a living son and a dead daughter?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: I would not have used that phrase. I would have discussed the risk of suicidality.
BY ATTORNEY BROOKS:
Q. Did you ever hear Drew's mother say she understood that was the choice she faced, between a living son and a dead daughter?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, I have heard it since then because of the podcast, so I can't remember if I heard it before then or not. I don't recall hearing it before then.
BY ATTORNEY BROOKS:
Q. When you saw the title to the podcast did you call WNYC and express any concern that that title could

be misleading?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I did not.
BY ATTORNEY BROOKS:
Q. Have you ever consulted research on the rate of suicide among preadolescents for any purpose?
ATTORNEY BORELLI: Objection to form.
BY ATTORNEY BROOKS:
Q. In any category?
A. Repeat the question, please.
Q. Have you ever consulted research or data about the rate of suicide among preadolescents, period?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Preadolescents, have I consulted research on suicidality on preadolescents, so before puberty. Not in a while.
BY ATTORNEY BROOKS:
Q. You are aware, are you not, that incidences of actual suicide are extremely rare in individuals of all categories before puberty?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: That sounds consistent with the leading causes that I recall for death before puberty.

BY ATTORNEY BROOKS:

Q. And you, yourself, are not aware of a single case of suicide by a preadolescent gender dysphoria patient that has come to your clinic?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. And have you consulted any research on the rate of actual suicide by children suffering from gender dysphoria under the age of 15?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Have I? Yes.

BY ATTORNEY BROOKS:

Q. And what did that --- what source do you have in mind when you say that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, I have trouble with remembering and there is a wide variety of reports, some as --- from 25 to 30 percent, some as high as 40 percent. And those are suicide attempts, as I recall, which means that the folks that died wouldn't have even been identified.

BY ATTORNEY BROOKS:

Q. Well, you are aware that there's a very wide

statistical gap between suicide attempts and suicides. Correct?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: There is some variation between suicide attempts and what was the word, suicide ideation, yeah.

BY ATTORNEY BROOKS:

Q. No. What I said is there is a very wide gap between suicide attempts and actual completed suicide?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There is a gap between. Not every one who attempts. Otherwise, there wouldn't be a difference in the name.

BY ATTORNEY BROOKS:

Q. In fact, you know as a matter of professional expertise that it is a very wide gap, do you not?

ATTORNEY BORELLI: Objection.

THE WITNESS: I would have to look at the literature, at what the numbers look like and describing it why is an opinion.

BY ATTORNEY BROOKS:

Q. Has any patient of the 500 under your care ever committed suicide at an age younger than 14?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Excuse me. No.

BY ATTORNEY BROOKS:

Q. Have you followed up so that you have current information about Drew's mental, physical and social health as of today, which would be about age 21?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Drew's no longer my patient, has transitioned to adult care. That's not what I do, so I don't have access to that.

BY ATTORNEY BROOKS:

Q. What procedures do you have in place, if any, in your clinic to follow up long term with those whom you have prescribed puberty blockers or cross sex hormones for?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, here at Duke we have a multidisciplinary team. As --- I don't know if I mentioned them before. It includes a wide variety of individuals. And that group discusses every month our patients, any concerns or questions. In addition, that group has put together a registry that starts when they come to my clinic and we follow their health, their mental health through the time that they are in our clinic and then when --- oops. Sorry. And then when

they are adults transitioning to our adult care team. And in that way I'm able to keep up with those patients who remain at Duke for adult care.

BY ATTORNEY BROOKS:

Q. So you have been practicing this field I think you said since about 2013. And the patients that you saw let's say in 2013, 2014, 2015, I think you said most of your patients presented older than age --- I don't recall exactly. Your average presentation is older than 13?

ATTORNEY BORELLI: Object to the form.

THE WITNESS: Yes.

ATTORNEY BORELLI: You got to pause so I can get in an objection.

THE WITNESS: Oh, yeah. Yeah.

BY ATTORNEY BROOKS:

Q. So --- yeah. So those patients on average are now in their upper teens or perhaps 20?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Let's see. I have patients who are older than that. I'm not sure of an average. I have not calculated an average.

BY ATTORNEY BROOKS:

Q. Do you have any procedures in place to attempt

to monitor the mental health of your patients five years after you first prescribe puberty blockers or cross sex hormones?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The patients that remain within our registry do have regular mental health follow-up. We have a team on the adult side as well in both of the two clinics that we work with.

BY ATTORNEY BROOKS:

Q. What percentage of your patients that you yourself have authorized cross sex hormones do you have access to data about their mental health five years after initiation of hormone treatment?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Some are still present in the clinic. I would have access to those. You know, I'm not supposed to access records specifically if they're no longer in my care. The provider can reach out to me with concerns and have a very close relationship with the adult providers and they do ask me questions about some of those. So in that way I would have access as well as when we calculate on a population base within our registry any outcomes there.

BY ATTORNEY BROOKS:

Q. As a matter of research, has --- have you or anybody associated with your clinic attempted a follow-up survey or systematic series of interviews of all patients who were prescribed hormones within, for instance, some particular time period?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So we currently are enrolling patients in that study. It's not complete.

BY ATTORNEY BROOKS:

Q. As we sit here today, you don't have any systematic reasonably thorough information on the mental health condition of let's say patients for whom you first prescribed hormonal interventions five years ago. Is that correct?

ATTORNEY BORELLI: Objection. Objection to form.

THE WITNESS: I would consider, you know, a registry with research based systematic method.

BY ATTORNEY BROOKS:

Q. A registry with research based ---?

A. That is research based is a systematic program to do that and find out follow-up.

Q. What do you mean by registry that it is research based?

A. A registry is a list of patients who are enrolled in a study, if it's done as a research protocol. And within that registry, you collect information that you choose to record that's important and then you follow that over time in a systematic way.

ATTORNEY BROOKS: Let me grab tab 29 --- let me mark as Exhibit 16 a document previously designated as tab 29, which is article entitled --- I should say a newspaper article entitled The Mental Health Establishment is Failing Trans Kids by Laura Edwards Leeper and Erica ---.

(Whereupon, Adkins Exhibit 16, 2021 Washington Post Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And Dr. Adkins, am I correct that this in the Washington Post came out in November of 2021 stirred up quite a bit of discussion within your profession?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I understand that there was an article by Laura Edwards Leeper that there was a lot of conversation around. I don't know if it was this

one. It is possible.

BY ATTORNEY BROOKS:

Q. Did you read this?

A. I haven't read this article.

Q. There was a lot of conversation around a recent article by Dr. Edwards Leeper and Dr. Anderson but you didn't bother to read it?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I have had discussions with my colleagues around the substance. I haven't had the time to read it.

BY ATTORNEY BROOKS:

Q. Have you had professional interactions in the past with Dr. Edwards Leeper?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: It's possible that we taught at a same conference once, but I don't recall ever having a conversation.

BY ATTORNEY BROOKS:

Q. And have you had professional interactions with Dr. Anderson?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not.

BY ATTORNEY BROOKS:

Q. Are you generally aware of Dr. Edwards Leeper's reputation in the field?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. How would you describe that reputation at least prior to publication of this article?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In general, I would not necessarily say that it has changed. People have respect for Dr. Edwards Leeper and her publications in general. I don't know about specific ---.

BY ATTORNEY BROOKS:

Q. People generally have respect for her publications?

A. Generally. I don't know about every one.

Q. Sure. Were you invited to participate as a member of the committee to revise the WPATH so-called standards of care relating to treatment of transgender individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I was.

BY ATTORNEY BROOKS:

Q. Are you doing that?

A. No.

Q. And did you participate in the task force for the American Psychological Association, which developed guidelines for practice guidelines for work with transgender individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not participated in that, no.

BY ATTORNEY BROOKS:

Q. Okay.

And let me mark the next one, which is an article that consists of an interview with Dr. Anderson. This I will mark as Exhibit 17?

(Whereupon, Adkins Exhibit 17, Anderson Interview, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And I believe I asked if you knew her or are you familiar with the reputation of Dr. Anderson, Dr. Laura Anderson?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Actually, no.

BY ATTORNEY BROOKS:

Q. So as a representation there I know that Dr. Anderson is transgender, is a natal male who's been living with a female gender identity for many years. That you don't know about one way or the other?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do not know that.

BY ATTORNEY BROOKS:

Q. Okay.

Let me take you back to Exhibit --- sorry, what was the first one we marked? Was it 17 and 18 or 16 and 17?

ATTORNEY WILKINSON: Sixteen (16) and 17, 16 and 17.

BY ATTORNEY BROOKS:

Q. Let me take you back to Exhibit 16. And the first paragraph contains a narrative. I have no idea whether it is a specific narrative or kind of case study narrative about this girl Patricia who told her parents she was transgender at age 13. It goes on to say that a year earlier she had been sexually assaulted by an older girl. Do you know what percentage of natal females who come to your clinic after the beginning of puberty have experienced sexual assault before they present to you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I can't give you a percentage. It is something that we discuss with every patient in their intake assessment.

BY ATTORNEY BROOKS:

Q. Do you believe that natal females who have suffered sexual assault are disproportionately represented among the population who present experiencing gender dysphoria or gender incongruence?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So those assigned female at birth, I can't say that based on my review of my information that they are overrepresented. And I would have to have a comparison group. You know, one in four cisgender women have been attacked sexually at some point in their life. It's hard to get around that.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to page three of Exhibit 16.

A. I'm sorry ---.

Q. Page three, Exhibit 16.

A. Okay. Thank you. I just had a drink of water.

Q. Of course.

A. They're not labeled on my paper.

Q. The pages are not. You are right. I wrote them on mine. You would have to count them to be sure, but the third page.

A. I think I got it.

Q. These authors, Doctors Edwards Leeper and Anderson, state at the end of the paragraph at the top of page three that, quote, we may be harming some of the young people we strive to support, people who may not be prepared for the gender transitions they are being rushed into, closed quote.

Do you see that?

A. Where again?

Q. It's the very last sentence of the partial paragraph at the top?

A. Right. Got it. Thank you. Yeah, I see it.

Q. Do you share that concern expressed by Dr. Edwards Leeper and Dr. Anderson that is that some young people are being rushed into transitions and may be harmed rather than supported as a result?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So if you're following the recommendations there's at least six months of time. In my general experience it is years before they even present to my clinic. So I don't --- I would not say

that that's a rush.

BY ATTORNEY BROOKS:

Q. Well, and my question wasn't about your clinic now. My question was do you share the concern of these authors that looking around the practice more generally that some young people are being harmed rather than supported because they are being rushed into transitions they may not be fully prepared for?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So within research and within my conversations with my colleagues who are doing similar work, we practice similarly. I don't agree that they are rushing these kids.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn over to the next page. And there in the second paragraph from the bottom is a sentence that begins in a recent study. Do you see that sentence?

A. I must not be on the right page.

Q. It is the penultimate page.

A. In the ---.

Q. In the penultimate paragraph.

A. Providers, that one?

Q. In a recent study of 100 detransitioners. I think it does, it begins ---.

A. Okay. All right.

Q. Within that you'll find the sentence that begins in recent study.

A. Got it.

Q. And it says in a recent study 100 detransitioners, for instance, 38 percent reported that they believed their original dysphoria have been caused by something specific such as trauma, abuse or mental health condition, closed quote.

Do you see that?

A. I do.

Q. Are you, yourself, aware of a recently published survey of 100 detransitioners by Dr. Litman of Brown University?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not seen that report.

BY ATTORNEY BROOKS:

Q. Are you aware of that?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: No, actually. Again, I don't remember names, so when you ask me about an article by Doctor Brown, I know 100 Doctor Brown. And I

have seen some articles about de-transition. So without that in front of me to really say, yes, I've seen that article --- it's possible. I do my best to keep up on the literature.

BY ATTORNEY BROOKS:

Q. All right. I'm used to wetting my fingers --- let me take you back to the previous page, the third paragraph --- and the paragraph begins comprehensive assessment. Do you see that paragraph?

A. Yes.

Q. And at the end of that the last sentence reads the messages that teens get from Tik-Tok and other sources may not be very productive for understanding this constellation of issues, referring to gender dysphoria-related issues. Do you see that sentence?

A. I do.

Q. Do you share the concern of these authors, young people are being unduly influenced on issues of gender identity by social media messages?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: As a pediatrician, I have my reservations about social media and their effects on teens. Always reminding teens in my care that they need to check their sources and that TikTok isn't, for

example, peer reviewed and that they should rely on, you know, the knowledge of their provider. And they're free to ask those questions and learn that information from a reliable person within our clinic.

BY ATTORNEY BROOKS:

Q. Do you share the concern that teens are particularly subject to peer pressure through social media?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, peer pressure is a recognized phenomenon with adolescents that can affect teens.

BY ATTORNEY BROOKS:

Q. Is your clinic seeing an increasing number of older teens or young adults who are considering de-transitioning?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. Repeat the very first part of that.

BY ATTORNEY BROOKS:

Q. Is your clinic seeing an increasing number of older teens or young adults who are considering de-transitioning?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Increasing over time ---

BY ATTORNEY BROOKS:

Q. Yes.

A. --- or in the past? I wouldn't say the rate has increased in my clinic.

Q. Within the last --- well, let's say within 2021 or whatever of 2022 there has been, how many patients have raised with you or to your knowledge anyone in your clinic the possibility of de-transitioning?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In that timeframe, I would have to look back exactly. Only three.

BY ATTORNEY BROOKS:

Q. Are you aware of multiple reports that the proportion of young people presenting with gender dysphoria or gender incongruence among teens has shifted heavily towards girls over the last decade?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You will have to clarify the question because girls ---.

BY ATTORNEY BROOKS:

Q. Are you aware that the proportion of teens presenting at clinics with gender dysphoria or gender incongruence who are natal female has increased greatly over the last decade?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have seen at least one study would suggest that. It has not been my clinical experience.

BY ATTORNEY BROOKS:

Q. That has not been the experience in your clinic?

A. No.

Q. Let me take you to paragraph 18 of your expert report. And there you express the opinion that a person's gender identity cannot be voluntarily changed and is not undermined or altered by the existence of other sexually related characteristics that do not align with it. Do you see that?

A. I do.

Q. And let me, in fact, have the Declaration --- the prelimiary injunction declaration, which is tab one.

ATTORNEY BROOKS: I'm going to mark that as Exhibit --- or did I already mark it?

ATTORNEY WILKINSON: Not marked.

ATTORNEY BROOKS: I did not. So what exhibit was that?

ATTORNEY WILKINSON: Eighteen (18).

ATTORNEY BROOKS: We will mark the

Declaration of Deanna Adkins dated 5/21/2021 as Exhibit 18.

(Whereupon, Adkins Exhibit 18, Declaration of Deanna Adkins, M.D., was marked for identification.)

BY ATTORNEY BROOKS:

Q. And in this document also I want to call your attention to paragraph 18. And in the declaration filed in May of last year in paragraph 18 you wrote a person's gender identity is fixed. Do you see that language?

A. I do.

Q. And you eliminated the word --- the assertion that a person's gender identity is fixed from your expert declaration submitted more recently. Do you see that?

A. I do.

Q. Why did you make that omission?

A. I think that it's too easy to misinterpret.

Q. Explain.

A. So when I'm talking about someone's gender identity it is what it is. And nothing that I do or they do or their family does can change that gender

identity. Their understanding of that gender identity may change over time. And that was my --- what I was trying to say was not changeable. And when you use the other word it seems that it could be misinterpreted to me.

Q. So you don't mean to say that gender identity never changes in individuals, do you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That's not what I said. I said gender identity is what it is. And your understanding of it may change over time.

BY ATTORNEY BROOKS:

Q. We looked in the Endocrine Society Guidelines, at the language that refers to individuals who experience a continuous and rapid involuntary alternation between male and female. Do you remember that language?

A. I do.

Q. How does that relate --- how is that consistent with your opinion that gender identity is fixed and means what it is?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So gender identity is that it moves somewhat along the spectrum. That doesn't

change. That is their identity.

BY ATTORNEY BROOKS:

Q. That doesn't change, but you have a professional opinion that individuals who experience a gender fluid identity at some period in their life inevitably remain gender fluid for the rest of their lives?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Understanding their gender identity may change, what the identity is, is under exploration throughout their lives. From the time they're young they're discovering their gender identity.

BY ATTORNEY BROOKS:

Q. Well, you consider part of your professional practice to believe what people tell you about their gender identity, don't you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The gender identity is something that can only be explained by a person because it is their knowledge of themselves.

BY ATTORNEY BROOKS:

Q. And if a person at one point in time feels that their gender identity is fluid and another point in time feels that it is not, on what basis do you say that their true gender identity hasn't changed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Everyone's gender identity is how they explain it. They may understand it differently over time. Just because I say I don't like strawberries when I'm eight and I do like strawberries now doesn't meant I never liked strawberries to begin with. It means I finally had a good strawberry.

ATTORNEY BROOKS: Let me have tab 12. Let me mark as Exhibit 20.

ATTORNEY WILKINSON: Nineteen (19).

ATTORNEY BROOKS: Let me mark as Exhibit 19, an article from Herbert Health Publishing by Sadra Katz-Wise, entitled Gender Fluidity: What it Means and Why Support Matters.

(Whereupon, Adkins Exhibit 19, 2020 Herbert Health Publishing Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. First I'll ask if you have any professional contact with Doctor Sadra Katz-Wise?

A. I don't see the name spelled out. It doesn't sound familiar.

Q. It's just under the graphic here ahead of the text. You'll see the name.

A. Oh, in red. That's why I didn't see it.

Q. Yeah, exactly. Right.

A. Got it. Katz-Wise. No.

Q. I see, when I look her up, that Dr. Katz-Wise is associated with Boston Children's Hospital and Harvard Medical School. That doesn't refresh your recollection as to any previous professional interactions with her?

A. Again, I'm terrible with names.

Q. You're aware that Boston Children's Hospital has a high reputation in the area of transgender therapy?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, they have been involved in transgender therapy for a long time.

BY ATTORNEY BROOKS:

Q. And they have a high reputation?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In general people feel like they do a good job.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to the second page. And down at the bottom is a heading that says what's the difference between gender fluid and transgender. Do you

see that?
A. I do.
Q. And the first sentence there says while some people develop a gender identity early in childhood, others may identify with one gender at one time and then another gender later on.
Do you see that?
A. I do.
Q. And do you agree or disagree with that statement by Dr. Sabar Katz-Wise?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So she is not saying that their gender identity changes. You know, at different times in your life your understanding may be that this is the group that I belong with. And as you learn more about your experience and your gender, that can change.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, how do you as a clinician --- if you have a patient who at one time identifies one way and another time identifies another way, how do you as a clinician determine which of those is that patient's true gender identity, given that you've said that gender identity is something that only the patient can express to you?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: So you know, we're not sort of doing anything to influence that in our patients until they come to us later and have had lots of time to reflect on that. They by the guidelines need to have at least six months of identification with and understanding that gender identity is a particular way. And typically gender identity is starting to consolidate in adolescence and have a good understanding of your identity at that time.
BY ATTORNEY BROOKS:
Q. What do you understand to be meant by the term gender incongruence?
A. It is similar to the gender identity not matching your sex assigned at birth.
Q. Let me ask you to find Exhibit 4, 2007 Endocrine Society guidelines. And turn if you would to page 3879, first column under the heading evidence, it reads in most children diagnosed with GD/gender incongruence it did not persist into adolescence.
Do you see that?
A. I did.
Q. So the point here is that these children were, in fact, diagnosed with gender dysphoria or gender

incongruence which you just said means that their gender identity doesn't match their gender assigned at birth. And then the Endocrine Society goes on to say that that identity, that sense of incongruence does not persist into adolescence.
Do you see that?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I do.
BY ATTORNEY BROOKS:
Q. And how do you reconcile that with your previously expressed opinion that gender identity is, quote, fixed?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So this is a random piece out of this whole publication. They are talking --- as far as I can tell right here, and again I would be speculating, that it is about a particular piece of medical evidence. And medical evidence in this area has varied. It's based on the different groups and the way they were recruited, et cetera.
BY ATTORNEY BROOKS:
Q. Well, you're --- never mind on a particular piece. You're well aware, are you not, that there are multiple studies that indicate the substantial majority

of children who are diagnosed with gender dysphoria desist from experiencing gender dysphoria by some stage in adolescence?
ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. You discuss that in your report, do you not?
A. I'm sorry. Can you repeat the question?
Q. You are aware that there are multiple studies that have found that children diagnosed with gender dysphoria, the large majority of those individuals desist from experiencing gender dysphoria by some time in adolescence?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: And I don't typically see those patients in my clinic.
BY ATTORNEY BROOKS:
Q. But you're aware of the science that is described though.
Right?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: There are patients --- there are studies that were done in the past that were not well done and had a bias with the recruitment that overlapped with other issues. I'm aware of those

studies. And children are not being treated in my clinic for gender dysphoria. Adolescents are who we treat in our clinic.

BY ATTORNEY BROOKS:

Q. Well, the study that the Endocrine Society chose to cite for this proposition just a little lower in that paragraph it says as follows. And this is 2017 Endocrine Society Guidelines. They say a large majority, about 85 percent of prepubertal children with a childhood diagnosis did not remain gender dysphoric/gender incongruent into adolescence.

Do you see that language?

A. I see that language.

Q. And this Endocrine Society considered that science worth citing rather than dismissing it as poorly done, as you just attempted.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In your goals in creating guidelines you want to be presenting the information that's available. This study is available.

BY ATTORNEY BROOKS:

Q. And the study in question is one by some of the most highly respected researchers in the field.

Am I correct?

ATTORNEY BORELLI: Objection.

BY ATTORNEY BROOKS:

Q. I see you looking at the footnote?

A. Right.

Q. Those are among the most highly respected researchers in the field.

Correct?

A. They are some of the --- they're some of the original researchers.

Q. And to this very day they are among the most highly respected in the field.

Am I right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In general, they are doing good research and publications. I can't say everything they do is beautiful.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, do you refuse to acknowledge that Dr. Steemsma, DeVries and Cohen-Kettenis are among the most highly respected researchers in your field?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Of their work that I have read and seen in general it is based on standards of

medical literature done well, though I have not read every study. I'm not going to comment on everything that they have done. A lot of the things I'm aware of are done well.

BY ATTORNEY BROOKS:

Q. I didn't ask you to comment on a single one of their articles. I asked you isn't their reputation among the highest in your field?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: If --- for gender-affirming care, yes.

BY ATTORNEY BROOKS:

Q. Thank you. How does their finding in large majority of children diagnosed with gender dysphoria desist from experiencing gender dysphoria by some stage in adolescence square with your opinion that gender identity is, quote, fixed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. Where are you reading from and what was that again?

BY ATTORNEY BROOKS:

Q. How does their finding that large majority of children diagnosed with gender dysphoria before puberty desist from experiencing gender dysphoria by some stage

in adolescence fit with your expressed opinion that gender identity is fixed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So they are talking about prepubertal children. Prepubertal children haven't gone through their real under --- development of understanding of their gender identity or their consolidation of gender identity at that time. It's kind of a false endpoint to put it that way because we're not really again treating these young children and we're not changing anything about them. These patients wouldn't even come to my clinic.

BY ATTORNEY BROOKS:

Q. You don't see prepubertal children at your clinic?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Very rarely.

BY ATTORNEY BROOKS:

Q. And?

A. Gender clinic?

Q. Patients you treat in any capacity?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I see all kinds of patients from birth until --- I'm credentialed to 30.

BY ATTORNEY BROOKS:

Q. Do you in your professional work deal with prepubertal children who are experiencing gender dysphoria?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Some.

BY ATTORNEY BROOKS:

Q. Okay.

And do you want to revise the statement in your report to say instead that after puberty gender identity is fixed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Will you point that out to me?

BY ATTORNEY BROOKS:

Q. I'm sorry, point what out to you?

A. That particular statement in my report.

Q. I misspoke. You asserted in your declaration that gender identity was fixed and my question is on consideration would you prefer to say that gender identity is fixed after puberty has occurred?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So I didn't put that in a way that --- again, we eliminated the word fixed because

of the easy ability to misconstrue that. People undergo a period of time in life where they understand their gender better than other times. And puberty is part of --- part of the mix.

BY ATTORNEY BROOKS:

Q. So --- and this is the opportunity --- you're here, so we're not going to misunderstand your words. You signed and swore to an affidavit last year in which you said gender identity is fixed. I'm giving you an opportunity if you want to clarify or qualify that. And my question to you is, is it now your testimony that gender identity is fixed once puberty has occurred?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, I think we have another document here that doesn't use the word fixed. Would you like me to go back and read that part? I can read through it and find it for you.

BY ATTORNEY BROOKS:

Q. No. I would like to work with your sworn document from May of last year in which you said it was fixed.

A. When we update documents we try to clarify anything that might be confusing.

Q. Dr. Adkins, in May of 2021, which is not so long

ago, you swore under oath that it was your professional opinion that gender identity was fixed. I'm entitled to ask you about that. The fact that you wanted to change a later document is interesting. It doesn't deprive me of the right to ask you questions about that document.

My question for you now is do you want to revise that statement to express the opinion that gender identity is fixed after puberty?

ATTORNEY BORELLI: Objection, form. I apologize, Counsel. Can we --- I'm sorry, just lost track. Have you introduced the PI declaration?

ATTORNEY BROOKS: I have.

ATTORNEY BORELLI: What exhibit number is it?

ATTORNEY BROOKS: It is 18. Paragraph 18.

ATTORNEY BORELLI: Paragraph 18. Thank you. Objection to form.

THE WITNESS: So I don't think that my description of people's understanding of gender identity and the way that we understand its development has changed. I can't do anything to change their identity. You can't do it. Their parents can't do it. And in that way I still agree with the fact that in the way

that that was meant to be stated, that it can't be changed. Fixed is a similar word. I use that word.

BY ATTORNEY BROOKS:

Q. So and I didn't ask you about our ability to change somebody else. Let me ask you a different question. At which developmental stage in your professional opinion does gender identity become fixed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, I believe I said already that gender identity is what it is from the time you are young. Your understanding of that develops over time based on your path through life. That --- in that way you can't change it.

BY ATTORNEY BROOKS:

Q. Does that mean that if, according to Steemza and Cohen-Kettenis, 85 percent of prepubertal children who are diagnosed with gender dysphoria ultimately desist from experiencing dysphoria, that their original diagnoses were wrong?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: So there are a lot of individuals who have looked at that information and felt that the original group of individuals didn't have a transgender identity. In a young group that's hard to

assess at times. And so I would say in that way, you know, we --- it's just not the same. And you can repeat the question for me, please.

ATTORNEY BORELLI: We have been going an hour. I'd like to take a break.

ATTORNEY BROOKS: Let me repeat the question since I was just invited to do so.

BY ATTORNEY BROOKS:

Q. I believe you testified that it is your view that one's gender identity never changes from infancy to adulthood although one's understanding of it may change over time. My question for you now is does that mean that in every case in which a child is diagnosed as gender dysphoric and they subsequently desist from gender dysphoria that the original diagnosis was wrong?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, at the time that their understanding of their identity was different from their sex assigned at birth when they were a child, if that was the case, and it is not clear in that study that that was necessarily the case, that the individuals felt dysphoria about that, that is what happened to them. Their understanding of their identity, if it changed over time, it may relieve some of that gender

dysphoria. I guess that's the best way I can state it.

ATTORNEY BROOKS: Let's take that break.

THE WITNESS: Thank you.

VIDEOGRAPHER: Going off the record. The current time reads 3:43 p.m. Eastern Standard Time.

OFF VIDEO

(WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

ON VIDEO

VIDEOGRAPHER:

We're back on the record. The current time is 3:59 p.m. Eastern Standard Time.

ATTORNEY BROOKS: I'm just --- sorry. I'm just moving that so --- make sure it's still recording and I didn't muck it up. I just wanted to not hit it with papers.

ATTORNEY WILKINSON: Yes, it's still recording.

BY ATTORNEY BROOKS:

Q. Let's --- Dr. Adkins, if I can ask you to find Exhibit 4 again, which is the 2017 guidelines. We are again on page 3879 where we just were. And there after the discussion that we looked at about desistance of

childhood gender dysphoria, the next sentence reads right after where we stopped if children had completed socially transition, the may have great difficulty in returning to the original gender role upon entering puberty. And it continues social transition is associated with the persistence of GD/gender incongruence as a child progresses into adolescence.

Do you see that?

A. Uh-huh (yes).

Q. At the very end of the paragraph it reads social transition in addition to GD/gender incongruence has been found to contribute to the likelihood of persistence.

Do you see that?

A. Uh-huh (yes).

Q. Now, what the Endocrine Society Committee, considering all the available research, says is that social transition has been found to contribute to the likelihood of persistence. Is that how you read their language here?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That's how I read it.

BY ATTORNEY BROOKS:

Q. And social transition has to do with how the

people around the child treat him or her, what pronouns they use, what names they use, what clothing they provide, correct, is that consistent with your understanding of social transition?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. It has to do with how society, how the people around you treat you.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And therefore, what this is saying is how parents and those around the child treat that child can affect whether that child ends up identifying as transgender or identifying with a gender identity congruent with his or her biology.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: One more time.

BY ATTORNEY BROOKS:

Q. What this is saying is that how parents --- when it says that social transition has been found to contribute to the likelihood of persistence what that

tells us is how parents and others around the child treat that child can affect whether the child ends up identifying as transgender or cisgender?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That is the way that reads. I would say that, you know, I don't recommend necessarily --- I recommend we follow the child and watch their gender developments.

BY ATTORNEY BROOKS:

Q. This Committee says that by assisting a child to socially transition the available science suggests that adults are contributing to the likelihood of persistence rather than desistance. That's what it says.

Right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry. I'm going to make you say it one more time, please. I apologize. I'm just getting tired.

BY ATTORNEY BROOKS:

Q. I know the feeling. This says that by assisting a child to socially transition the available science suggests that adults are, quote, contributing to the likelihood of persistence rather than desistance.

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Gosh. So I'm not sure what you say sounds right to me. That is what it says on the paper.

BY ATTORNEY BROOKS:

Q. And I will give you a chance to tell us whether you agree or disagree with it, because my understanding is that you, in contrast, believe that external influences can't affect gender identity.

Correct?

ATTORNEY BORELLI: Objection to form.

BY ATTORNEY BROOKS:

Q. Cannot?

A. So you know, all of your life influences your identity development. You can't change what it is. You can --- it can change your experience. I don't think that these children were likely to have had a different outcome.

Q. So your view is that gender identity can't change and therefore any child whose gender identity appears to change must have been mistaken at some state of their understanding.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So their understanding of

their gender identity can develop over time.

BY ATTORNEY BROOKS:

Q. Do you agree or disagree with this statement in the Endocrine Society Guidelines that social transition has been found to contribute to the likelihood of persistence?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, they --- I answered that question.

BY ATTORNEY BROOKS:

Q. I'm sorry. I perhaps didn't correctly understand. So if you would answer it again, that would be helpful.

A. So kids who --- now I've forgotten the question.

Q. This one is a simple one. Do you agree or disagree with the statement from this committee, the Endocrine Society, that social transition has been found to contribute to the likelihood of persistence?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, this --- it's hard for me to agree with that. As a pediatrician I know that people --- prepubertal children, young children, explore their gender identity in a lot of different ways over time, and so I don't know that I can

agree necessarily that the way that it's written --- that I necessarily agree with the specific terms.

BY ATTORNEY BROOKS:

Q. I don't mean to suggest to you by word or tone that this document was handed down on Mount Sinai. I understand that there's room for scientists to disagree. I am just trying to get clear on your opinion. I'm pretty sure this document was not handed down on Mount Sinai.

Let me find a copy of your rebuttal report, which I believe was marked as Exhibit 3. Exhibit 3, the rebuttal report. Let me ask you to turn to page 11 of your rebuttal report. We can hand you another copy if need be. We should have one more.

A. I think this is it.

Q. No, we're looking for your rebuttal report. It's going to be a typewritten kind of something or other.

A. Like this, right?

Q. Exhibit 3.

A. I'm sorry. No that's not --- sugar.

Q. I'm just going to hand you another one.

A. Okay. Thank you.

Q. No hard feelings.

A. I --- I know it's here because I -- there's so many papers. You warned me there would be so many papers.

Q. I did. I tried to warn you.

Let me ask you to turn to paragraph 11 of your rebuttal report.

A. Oh, okay. Yeah.

Q. Page five.

A. I'm sorry, the number --- one of the numbers skipped and it was just a labeling of a reference, so again 11.

Q. Yes. The second sentence there you wrote --- and this is of course a recent submission, adolescents with persistent gender dysphoria after reaching Tanner stage two almost always persist in their gender identity in the long term. Do you see that language?

A. I do.

Q. So --- and the basis that you cite for that rather specific factual proposition is an article or actually a chapter by Turban, DeVries and Zucker.

Correct? I'm just looking at footnote three.

A. Yes.

Q. So Tanner stage two, as I understand --- or we can look at the Endocrine Society note, but this is ---

Tanner stage two is when children first begin to exhibit physically recognizable changes in puberty.

Right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. So Tanner stage one, there's nothing observable. And the beginning of Tanner stage two is the first observable changes?

A. Yes.

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. And I think you testified, but if you could just remind us kind of the timespan that that tends to begin for boys and girls.

ATTORNEY BORELLI: Objection, form.

THE WITNESSS: Tanner two. Tanner two, for those assigned female at birth can range in the normal, typical development between the ages of 8 and 12. It does fall outside of that at times and is considered early and could be a marker of a problem as well as delayed could be a marker of a problem.

Q. For boys?

A. For those assigned male at birth, so usually

between 9 and 14. Anything earlier or later again might trigger some questions that something is going on.

Q. So age eight is generally girls turn eight in second or third grade? Third grade roughly?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That would be --- you know, it varies because early starters, late starters. But ---.

BY ATTORNEY BROOKS:

Q. And so for nine, for boys would be fourth grade?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: That would be the typical.

BY ATTORNEY BROOKS:

Q. So we're talking grade school kids here, not even the end of grade school?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. And if the type of changes that mark the beginning of Tanner stage two are generally at least to the layman's eye not visible on a clothed child.

Correct?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. That mark the beginning Tanner stage two?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would say that some assigned females at birth, especially if they're lean, you can see their breast development.

BY ATTORNEY BROOKS:

Q. Just a breast bud. But in general, when we speak of adolescence, we don't --- in common parlance we do not include third and fourth graders, do we?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, the definition of adolescence is the time during puberty, so they should be included.

BY ATTORNEY BROOKS:

Q. In your experience as to how people use the term, third and fourth graders included in adolescence?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: It varies with regard to the context. Within my medical practice that's the way we use the term.

BY ATTORNEY BROOKS:

Q. At any rate, we're talking about grade school ages, not junior high or middle school ages. What is your basis for saying that those children who persist up to the beginning of Tanner stage two almost always

persist transgender identity?

ATTORNEY BORELLI: Objection. Objection, form.

THE WITNESS: I don't know which reference it is, but I can state that in my practice that's what I have seen.

BY ATTORNEY BROOKS:

Q. Let me show you the only reference you did cite for that, which I will mark as Exhibit 20, the article by Turban, DeVries and Zucker cited in footnote 20 of your rebuttal report. I'm sorry. Don't know why I said 20. I'm going to hand the witness that article now.

A. Thank you.

(Whereupon, Adkins Exhibit 20, Turban, DeVries and Zucker Article, was marked for identification.)

COURT REPORTER: Excuse me, but you're mumbling and I can't understand everything that you're saying.

ATTORNEY BROOKS: At the moment I'm just shuffling papers and handing out documents. And I will speak up now and ask a question. Sorry about that.

COURT REPORTER: Well, we are on the record and I need to be able to hear every single word that you guys are saying.

ATTORNEY BROOKS: We'll do the best we can.

COURT REPORTER: It's hard for me over here.

BY ATTORNEY BROOKS:

Q. Is this, in fact, the article that you referenced in your rebuttal report, Dr. Adkins, or the chapter I should say?

A. Yeah. I mean, I'd have to take a minute to review it.

VIDEOGRAPHER: Counsel, which tab number is this?

THE WITNESS: I'm sorry, you broke up.

VIDEOGRAPHER: Which tab number is this document?

ATTORNEY BROOKS: Tab 39. I apologize.

VIDEOGRAPHER: Thank you.

THE WITNESS: It is labeled as that.

BY ATTORNEY BROOKS:

Q. Well, do you recall recently reading this article since it was cited in this document submitted just last week?

A. I have reviewed this document. I don't remember when though.

Q. Okay.

And in here --- let's look at page 638. And there at the top of --- near the top of the first column on 638 is a discussion of follow-up studies of persisters and desisters. Do you see that discussion?

A. Yes.

Q. And it says --- four lines, five lines down it begins, quote, Restoray and Skeemsma have provided the most recent study of 10 follow up studies in which the percentage of participants classified as persisters ranged from two percent to 39 percent collapsed across natal boys and girls, closed quote. Do you see that?

A. Yeah.

Q. And further down under the heading persistence of gender dysphoria from adolescence to adulthood is a very short paragraph that reads in its entirety in contrast low rates of persistence from childhood into adolescence, it appears that the vast majority of transgender adolescents persist in their transgender identity, closed quote.

Do you see is that?

A. Yes.

Q. And was that the language that you had in mind when you cited this reference in footnote three of your rebuttal report?

A. I would have to look all the way through the article. It's consistent.

Q. And the language that I directed you to at the top summarizes studies that show --- showing of persistence of gender dysphoria among childhood dysphorics of only two percent to 39 percent.

Right?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Those are two different populations.

BY ATTORNEY BROOKS:

Q. They are. And I'm asking you now again about what it says at the top?

A. Please repeat your question.

Q. The discussion at the top summarizes studies showing persistent childhood dysphoria of only between two percent and 39 percent, depending on the study?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I see that.

BY ATTORNEY BROOKS:

Q. And that is that the large majority consisted at some stage before adulthood.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: More than half per this.
BY ATTORNEY BROOKS:
Q. And nothing here tells us about exactly what stage of adolescence before adulthood they desisted, does it?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: In this literature adolescence is puberty. It would have to be at least Tanner two.
BY ATTORNEY BROOKS:
Q. At least. Now, my question was nothing in the discussion up towards the top of the column about these persistence and desistance studies tells us at what stage of puberty the desisters desisted, does it?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would have to look at the whole study. Just in that line that detail is not listed.
BY ATTORNEY BROOKS:
Q. And similarly, looking at the discussion under

the heading persistence of gender dysphoria from adolescence to adulthood not being in that sentence tells us what stage of adolescence, whether it is Tanner stage two or three or four is being referred to when it says the majority of adolescents persist?
ATTORNEY BORELLI: Objection, form.
THE WITNESSS: It's not written right there, no.
BY ATTORNEY BROOKS:
Q. Please identify for me all studies you are aware of that show that those who desist from childhood gender dysphoria do so by no later than beginning of Tanner stage two.
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I am not going to be able to remember those off the top of my head.
BY ATTORNEY BROOKS:
Q. Can you remember a single one?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would have to have you repeat the question, but I doubt it.
BY ATTORNEY BROOKS:
Q. I will repeat it. Identify all studies you're aware of that show that those who desist from childhood

gender dysphoria do so no later than the time they first reach Tanner stage two?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I don't think that I recall a study that's been modeled that way.
BY ATTORNEY BROOKS:
Q. Can you tell me --- identify for me any study that has examined whether what is called in the literature watchful waiting combined with psychotherapy results in worse outcomes for children as compared to administration of puberty blockers and social outcomes?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So the experience is that some patients have dysphoria that is significant enough once they are in puberty to be dangerous to their life. I worry about those patients. We allow them a pause with puberty blockers to continue to figure out their gender identity. I got lost in my answer, I apologize.
BY ATTORNEY BROOKS:
Q. Well, Dr. Adkins, I didn't ask what you were worried about. I asked can you identify any study that examines whether watchful waiting for children combined with psychotherapy results in better or worse outcomes on average than administering puberty blockers and

social transition?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, I can't remember the exact study. We have studies that show that if you are not helping the patients relieve their gender dysphoria and psychotherapy has not been shown to do that, then we would be, you know, at an unethical point to do that study because it would increase risk of death in those patients for us to watch and wait.
BY ATTORNEY BROOKS:
Q. So your answer is at no time since the inception of this field, that is therapy for gender dysphoria, are you aware of any study comparing outcomes for gender dysphoric children of on the one hand watchful waiting accompanied by psychotherapy and on the other hand puberty blockers and social transitioning?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: There's a long history of individuals who were left untreated or treated with psychotherapy who died in hospitals or not in hospitals because they were only given those therapies which were the only ones available at the time.
BY ATTORNEY BROOKS:
Q. Dr. Adkins, you are also aware, are you not,

that there's a long history of individuals who have transitioned both socially and hormonally who have committed suicide?

ATTORNEY BORELLI: Objection to form.

BY ATTORNEY BROOKS:

Q. That's well documented in the literature, is it not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There are individuals who still struggle with depression and anxiety to the point that they are --- do commit suicide and they have not necessarily the reason being related to their gender dysphoria. Could be. Hard to know.

BY ATTORNEY BROOKS:

Q. In fact, Skeemsma and colleagues at the respected institute in Amsterdam, DeVry University, have documented very high rates of successful completed suicide among transgender adults, have they not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would have to see the study.

BY ATTORNEY BROOKS:

Q. You are not aware of that information?

A. I have not seen that study. I have read the

literature. I don't recall a study saying there was a high or why. I would need a number.

BY ATTORNEY BROOKS:

Q. You read Dr. Levine's report?

A. Yeah, it was --- yes.

Q. And do you recall that he cites multiple studies, including studies from DeVry University team documenting high rates of successful completed suicide, not studies, he's done, that clinic has done documented high rates of successful suicide among transgender adults?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would need a number. I'm not going to classify something as high just because --- I would need a number.

BY ATTORNEY BROOKS:

Q. Have you thought that it was incumbent upon you somebody assisting young people to transition and prescribing hormones to thoroughly investigation and question suicidality among transitioned transgender individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Again, yes. I read those when I can. I am not good with recalling names in

specific reports. I am aware that that is an issue with some people who have transitioned fully.

BY ATTORNEY BROOKS:

Q. Do you believe that social transition is an important part of medical care for transgender individuals?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And do you also consider puberty blockers to be part of treatment for children with gender dysphoria?

ATTORNEY BORELLI: Objection to the form.

THE WITNESS: I have seen results from a recent study that said that there was a decrease in dysphoria. I think it was anxiety and depression. I would have to double check the article, with puberty blockers. Our goal with puberty blockers is to pause and allow people to understand their identity and figure out what is going on with that understanding and what is the best care for that patient is.

BY ATTORNEY BROOKS:

Q. Is the point of administering puberty blockers to children who are experiencing gender dysphoria to prevent puberty from occurring at the time that it

naturally would occur in that child?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In patients --- in patients who are having early puberty it is a different mechanism. For people with gender dysphoria where you are trying to pause it and we keep it within the realm of normal pubertal development.

BY ATTORNEY BROOKS:

Q. For individuals suffering --- children suffering from gender dysphoria the precise point of administering puberty blockers is to prevent puberty from occurring in that child at the time it would otherwise naturally occur.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: It would --- our pausing the puberty and keeping it within the normal range of pubertal development.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, the purpose of administering pubertal blockers to a particular child is to prevent it from happening when it would otherwise happen naturally in that child.

Correct?

ATTORNEY BORELLI: Objection, form.
BY ATTORNEY BROOKS:
Q. There is no other purpose?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I'm sorry. I have to ask --- you used some pronounced in there that were not real clear. If you don't mind repeating the question.
BY ATTORNEY BROOKS:
Q. The purpose of administering puberty blockers to a child suffering from gender dysphoria is to prevent puberty from happening in that child at the time it would otherwise naturally occur in that child absent the blockade?
ATTORNEY BORELLI: Objection.
THE WITNESS: We are pausing their puberty once it starts, putting a pause.
BY ATTORNEY BROOKS:
Q. I get to ask the questions. That means you wanted to prevent puberty from happening when it would naturally happen for that child apart from the medication?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:

Q. Thank you.
You regularly tell parents that the administration of puberty blockers for that purpose is, quote, safe?
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I go through very specific list of side effects and effects with my patients with that medication.
BY ATTORNEY BROOKS:
Q. You regularly tell parents using the word that puberty blockers are, quote, safe, do you not?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I am telling my patients the risks and benefits. I am telling them I feel comfortable using it.
BY ATTORNEY BROOKS:
Q. Let's find your report, which is Exhibit 1 --- no --- yes, Exhibit 1. If you can find your report. Apologize. Too much paper. Too long a day.
Dr. Adkins, do you or do you not tell parents that puberty blockers are safe?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, I review the effects

and side effects and my general experience and the publications that are available. Goodness gracious. Boy, that lunch is getting me.
I explain to my patients the effects and side effects and I talk with them about whether --- my experience has been I have had very few patients experience a problem with the medication.
BY ATTORNEY BROOKS:
Q. And if you are unwilling to sit here today and admit that you tell parents that puberty blockers are safe then why have you stated in your expert report to the court that treatment, including puberty blockers, are safe?
ATTORNEY BORELLI: Objection, form.
THE WITNESSS: Every patient is individual. I have to make an individual assessment for each patient. I will say it's safe for the patients that that applies to.
BY ATTORNEY BROOKS:
Q. Which patients does that apply to?
A. Most of the patients don't have a contraindication to using puberty blockers.
Q. Is safe a term of art to you as a doctor?
ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm not sure what you mean by the word art.
BY ATTORNEY BROOKS:
Q. Does it have a precise meaning? To say a pharmaceutical is safe, does that have a meaning to you as a doctor?
A. It has a meaning.
Q. What is that?
A. So in general when we're talking about safety and medicine we're talking about limiting the number of negative side effects that can cause significant issues for patients. I think that would --- I think that's what I would say.
Q. Isn't it a truism you were taught in medical school that every pharmaceutical has side effects?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So truism is a word that --- sorry, that is unclear to me. Can you clarify?
BY ATTORNEY BROOKSS:
Q. Weren't you taught in medical school that every pharmaceutical has side effects?
ATTORNEY BORELLI: Object to form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:

Q. And do you agree or disagree that a flat assertion that any pharmaceutical is safe is not consistent with accurate medical terminology?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would say that I work with what the information is available to me about safety profile. I apply that to each patient individually. Sometimes I feel safer using it in one patient versus another patient. Every drug is different, every side effect profile is different, every patient is different.

BY ATTORNEY BROOKS:

Q. Why then did you flatly assert to the court that treatment for transgender youth when you were discussing puberty blockers and hormone therapies is, quote, safe?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: In general I have not experienced nor have I seen published experiences of issues with using these medications that causes a significant problem for my patients.

BY ATTORNEY BROOKS:

Q. You regularly tell parents what you have said several times today, that puberty blockers act merely as a pause and are fully reversible, do you not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do.

BY ATTORNEY BROOKS:

Q. And you are aware, are you not, that the Endocrine Society guidelines advise that before approving puberty blockers a clinician should discuss risks to fertility and the availability, the possibility of fertility preservation.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm not sure that is in the Endocrine Society guidelines with puberty blockers. It may be. That it is no part of the gender affirming hormone recommendation.

BY ATTORNEY BROOKS:

Q. Let's look at page 3879 in the guidelines, Exhibit 4.

A. What exhibit again, 4?

Q. Exhibit 4. And I'm going to call your attention to 3879. And column two is guideline 1.5 where it says, quote, we recommend the clinicians inform and counsel all individuals seeking gender affirming medical treatment regarding options for fertility preservation prior to initiating puberty suppression in adolescence.

Do you see that language?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do.

BY ATTORNEY BROOKS:

Q. And what is your understanding as to why the Endocrine Society advises that it's important to advise about fertility preservation prior to initiating puberty suppression if puberty suppression is nearly nothing but a pause?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, the --- you know, puberty pausing is in my experience and in the reported data always reversible. I have not ever had a patient who didn't resume their normal puberty when they came off and were on no other treatment of a puberty blockade. I would think that this is being very careful about young individuals getting puberty blockers. Again, I haven't seen any reports. In fact, it is used to preserve fertility in cancer patients.

BY ATTORNEY BROOKS:

Q. Do you, in fact, counsel all parents and children about fertility preservation options before administering puberty blockers?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I do.

BY ATTORNEY BROOKS:

Q. And do you have a view as to whether for instance a 9 year old can even begin to understand puberty, sexual development and the possibility of becoming a parent so as to provide meaningfully informed consent?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So those individuals also have their parents who are with them to learn about these thing and weigh those things. The patient is not there in isolation. They get an option at the time where we would stop puberty blockers or any time that they are on to make a change in that. It is completely reversible.

BY ATTORNEY BROOKS:

Q. You have testified at the beginning of the day you had children of your own. Both as a professional and as a mother do you have a view as to whether a 9 year old can sufficiently understand puberty, sexual development and the possibility of becoming a parent to enable them to provide meaningfully informed consent?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So in young kids we use

these --- in five year olds --- I have treated a five year old this week with this medication for early puberty. I trust, based on the data that is available to me over the last 30 years using this medication to pause puberty for central precocious puberty that it is a safe medication and that the patient will be fertile. Can't say 100 percent because who knows what else is going on in each individual patient that may cause them to have an infertility issue.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, puberty blocking drugs have gone through phase one, phase two, phase three clinical trials submitted to the FDA, reviewed. They've been approved for the indication of precocious puberty. Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. None of that has been done for an indication of gender dysphoria to your knowledge. Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I use lots of medications that aren't FDA approved for the particular indications.

Many drugs in pediatrics are not ever tested in children. It's just within the last few years that they have made a recommendation that that happen for a medication. So there are many drugs that haven't been FDA approved that are used in pediatrics based on information for patients in a different indication or adulthood.

Q. Puberty blockers have been tested through phase one, phase two, phase three clinical trials for the purpose of postponing precocious puberty until the normal time period for puberty. Correct? That's what has been tested?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And no such tests have been done or submitted to the FDA ---?

COURT REPORTER: Can you repeat what you said because I'm not sure that last question fully came through.

ATTORNEY BROOKS: The last question was --- and I --- I admit that my voice, as the witness's, is dropping. We're trying here. And I --- Dave's resting his voice for a few questions towards the end of the day. I'll be glad.

BY ATTORNEY BROOKS:

Q. Just to clarify, and I don't mean to harass you, but we've been asked to repeat it. Puberty blockers have been put through phase one, phase two, phase three clinical trials submitted to the FDA for the purpose of delaying precocious puberty in children until the normal time for puberty. And your answer was?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And they have not been tested for safety, for efficacy in phase one, phase two or phase three clinical trials for the purpose of delaying puberty from its naturally occurring time in children who do not suffer from precocious puberty. Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: We use data that wasn't presented to the FDA to --- to look at this to see if it is safe. It's also been approved by the FDA to be used in adults. Also been used and approved for fertility preservation. Has lots of approvals that have verified its safety over time.

BY ATTORNEY BROOKS:

Q. Well, a moment ago when I asked you if you tell people they were safe you were not quite willing to say that. Do you want to revise that testimony?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I believe at the end of that I was saying to you that every patient is different. There are some that have risks. When I feel comfortable that my patient in front of me doesn't have those risks based on the medical literature I feel that they're safe to use. I have my experience. I have seen the literature. I feel --- yes.

BY ATTORNEY BROOKS:

Q. The law that's being challenged in this lawsuit doesn't restrict the use of puberty blockers so far as you understand, does it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't recall that being part of the law.

BY ATTORNEY BROOKS:

Q. It doesn't exclude anyone for participation on any team based on use of puberty blockers, does it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Not that I recall.

BY ATTORNEY BROOKS:

Q. And you have previously testified that in your view, the law is unreasonable if it excludes, prevents any individuals with a transgender identity from playing in the category that corresponds to their gender identity.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That sounds accurate.

BY ATTORNEY BROOKS:

Q. I don't want to mischaracterize your opinion. Okay.

So what is the relevance to your opinion that all the discussions in your report about puberty blockers?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Sorry. I need some water. And then, if you don't mind, while I'm doing that, could you please re-read the question. Sorry.

BY ATTORNEY BROOKS:

Q. Yes. I'll even wait until you've had your drink.

A. Sorry.

Q. I'm hitting the bottom myself.

A. It's pollen season. It's bad.

Q. It's just getting going.

A. I know.

Q. Given what we just walked through, ---

A. Yes.

Q. --- what is the relevance of all the discussion about puberty blockers in your expert report and rebuttal report to the opinions you're offering in this case?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So my part of this is to talk about what care is for people who are transgender and what medications they might be on and what treatments might be ideal for them.

BY ATTORNEY BROOKS:

Q. You've talked about how each --- you want to treat each patient differently. You want to be very careful about their treatment choices, their parents' treatment choices, that they understand all of the considerations.

Would it cause you concern if West Virginia put into place a law that created incentives or pressures on parents and children to make decisions about puberty blockers at an early stage?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I would not think it would be appropriate to pressure anyone.

BY ATTORNEY BROOKS:

Q. So for instance, a law that said if you take puberty blockers then you can play on the girls team and if you don't you can't, that would cause you concern as a doctor, would it not?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Ideally, they would be able to whether or not they have the puberty blockers or not play on the team that matches their gender identity.

BY ATTORNEY BROOKS:

Q. And ideally and from your perspective and in fact if the law set up an incentive that says you can only play on the girls' team if you take puberty blockers, and if you don't, you're forclosed from female athletics, that would cause you concern as a doctor as biasing the patient's and parents' decisions, would it not?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. That's not a law you would want to see on the books?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't think I would want to see that on the books. Haven't thought through every detail of that but I don't think so.

BY ATTORNEY BROOKS:

Q. You are aware, are you not, that all the recommendations in the 2017 guidelines, also in the 2009 guidelines from the Endocrine Society about the administration of puberty blockers is according to the committee that prepares those recommendation based on either low quality or very low quality evidence.

Right?

A. You know, all recommendation put together are graded with evidence, and it's in the report --- we use them --- not in the report, in the guidelines. And we use lots of guidelines that have low quality to help guide our care.

Q. Low quality evidence means that you, as a scientist, you as a doctor, can't be very confidant that the recommendation will result in beneficial results. That is kind of the meaning of low quality evidence.

Right?

ATTORNEY BORELLI: Objection to form.

THE WITNESS: I would suggest it gives us

a place to start and we need to be very mindful when using that information as to how we apply it.

ATTORNEY BORELLI:

Why don't we go ahead and take another break?

ATTORNEY BROOKS: Let me just ask the court reporter how many --- how much more time in the seven o'clock hours.

COURT REPORTER: We're at six hours and six minutes, so 54 minutes.

ATTORNEY BROOKS: Okay. We'll take that break. Absolutely.

(WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

ATTORNEY BROOKS:

All right. We will resume.

BY ATTORNEY BROOKS:

Q. Dr. Adkins, once again I will direct you to the Endocrine Society guidelines, Exhibit 4, and ask you to turn with me to page 3874 and column two --- column one, I'm sorry 3874.

A. Column ---?

Q. Column one. And towards the bottom, penultimate

paragraph begins in the future we need. Do you see that?

A. I do.

Q. And it says in the future --- this is in the preliminary section. Before the specific recommendations it says, quote, in the future we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols. And it goes on then to say specifically endocrine protocol --- specifically endocrine treatment protocols for GD/gender incongruence should include the careful assessment of the following. And it lists a number of things, the effective prolonged delay of puberty in adolescence on bone health, gonadal function and the brain, including effects on cognitive, emotional --- emotional, social and sexual development.

Have I, with various corrections, read that correctly?

A. Yes.

Q. So as of 2017, in the opinion of the committee that put together these guidelines ---.

COURT REPORTER: Excuse me. I don't know if you're speaking, but I lost you at cognitive.

ATTORNEY BROOKS: I'm sorry?

COURT REPORTER: I lost you at cognitive and then I didn't hear anything for like 20 seconds. So I wasn't sure if you were still talking since I can't see you.

ATTORNEY BROOKS: Of course. And I was. So, golly.

COURT REPORTER: Thank you.

BY ATTORNEY BROOKS:

Q. So I'm going to pick up that question again.

In the paragraph that we're looking at in column one of page 3874 the committee writes that things that need to be better studied include, quote, the effects of prolonged delay of puberty in adolescence on bone health, gonadal function and the brain, including effects on cognitive, emotional, social and sexual development, closed quote.

Dr. Adkins, is it your understanding that the committee here is saying that there's not yet adequate scientific evaluation of the impact of puberty blockers on the brain?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So you know, the recommendation by the same group is that in some patients this is the approach that --- that is used.

Certainly we all welcome more research. We all want to know if anything is different from the information that we have as mentioned before for use of this medication in other areas where we're not seeing any effect on these things.

BY ATTORNEY BROOKS:

Q. Is it consistent with your understanding as a doctor that the development of the brain in turn affects cognitive, emotional, social and sexual development?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: The brain has effects in all those areas.

BY ATTORNEY BROOKS:

Q. To your knowledge, it has effects that change across the course of puberty in all those areas.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes, they're all interrelated and they're occurring all at the same time.

ATTORNEY BROOKS: Let me mark as Exhibit 21 a document that is titled Teenage Brain: A work in Progress, which is am information sheet that is attributes itself to the National Institute of Mental Health, which I believe we discussed earlier. Tab 32.

Yes, thank you. I'm sorry, I believe I said it, Exhibit 21.

(Whereupon, Adkins Exhibit 21, NIMH Information Sheet, was marked for identification.)

BY ATTORNEY BROOKS:

Q. So I would like to talk for a moment about the impact of puberty and therefore puberty blockade on brain development. On the second page at the more information, we see contact information at the National Institute of Mental Health. And I don't want to misrepresent, did you earlier testify that is a well known and respected source of information about mental health therapies?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Yes.

BY ATTORNEY BROOKS:

Q. And let me take you to page one. And I'm simply using this to pin down a few kind of basic points. In the second column out of three, two-thirds of the way down, three-quarters of the way down --- well, the sentence begins halfway down. In the first such

longitudinal study of 145 children. Do you see that?

A. I see that.

Q. And it goes on to describe research that discovered the second wave of overproduction of gray matter, which it refers to as, quote, the thinking part of the brain, just prior to puberty. Do you see that?

A. I do.

Q. And it goes on to say that this second overproduction peaks at around age 11 in girls and 12 in boys. Do you see that?

A. Yes.

Q. And according to your earlier testimony, that is probably a bit into --- on average a bit into Tanner stage two.

Correct?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: In general.

BY ATTORNEY BROOKS:

Q. So a little later than the beginning of Tanner stage two?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Based on averages, yes.

BY ATTORNEY BROOKS:

Q. So this second wave of development of the

thinking part of the brain happens sometime a bit after the beginning of Tanner stage two according to this description here?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So let me read it myself.

BY ATTORNEY BROOKS:

Q. Sure.

A. What you read was --- it starts before that. So I just want to read it.

Q. I did misspeak. Let me just re-ask my question ---

A. Okay.

Q. --- because I mixed up peaks and starts, right, that was the problem.

According to the description here this second wave of development of the thinking part of the brain, the gray matter, peaks at sometime after the beginning of Tanner stage two?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Peaks, yes.

BY ATTORNEY BROOKS:

Q. And is it consistent with your understanding that the gray matter in the brain is the thinking part of the brain or is that really outside your expertise

given that you're not a neurologist?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think that that is basic enough in medical school that I can agree with that.

BY ATTORNEY BROOKS:

Q. Okay.

And in the next column, about the same distance down it reads, quote, the gray matter spurt --- growth spurt just prior to puberty --- we've already talked about the timing, predominates in the frontal lobe, which it goes on to say is the seat of, quote, executive functions, planning, impulse control, and reasoning, closed quote.

Do you see that?

A. I do.

Q. And is it within your knowledge or not within your knowledge that the frontal lobe is the seat of executive functions, including planning, impulse control and reasoning?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: That is what my education has informed me.

BY ATTORNEY BROOKS:

Q. And certainly all of us you who have raised

children have gratefully seen that planning, impulse control and reasoning improve across the years of puberty.

Right?

ATTORNEY BORELLI: Objection, form.

BY ATTORNEY BROOKS:

Q. Maybe some ups and some downs?

A. I'm am just happy that it continuously improves the whole time.

Q. I won't press --- I won't pres the question. Have you, yourself, attempted to make any study of the timing of brain gray matter development and the role of puberty hormones in promoting that development?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not.

BY ATTORNEY BROOKS:

Q. What study, if any, have you made of the effects of blocking puberty and the increased level of hormones associated with puberty on this growth spurt in the thinking part of the brain that otherwise peaks at around 11 in girls and 12 in boys?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not done that study. I don't see it here either.

BY ATTORNEY BROOKS:

Q. You said in your rebuttal report, paragraph 24, that patients with gender dysphoria who are treated with puberty delaying medication undergo hormonal puberty with all the same brain and other bodily system development. Do you recall writing that?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm sorry, could you ---?

BY ATTORNEY BROOKS:

Q. Right in front of you. Your rebuttal report is --- Exhibit 3?

A. I got it.

Q. Paragraph 24.

A. Thank you for your patience.

Q. Here, let me just find it. Let me see here. And the second sentence says, quote, patients with gender dysphoria treated with puberty delaying medication undergo hormonal puberty with all the same brain and other bodily system development, closed quote. Do you see that?

A. Oh, wait. I must be looking at the wrong place.

Q. Paragraph 24, second sentence. It runs over the page?

A. I see. I see. Yeah. I see that.

Q. Now, all the same brain and bodily development is a really big absolute statement, isn't it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: There are --- you know, for the most part, people go through it in this manner. Of course, again, with medicine you can't say 100 percent.

BY ATTORNEY BROOKS:

Q. Well, specifically, as a scientist, based on the information available to you, you can't say with confidence that patients who are treated with puberty delaying medication undergo all the same brain and bodily system development, can you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I used the medication for all of my career. I have followed patients through their --- into their puberty, in their growth. When they are done with their pubertal development, we have not seen any definable cognitive developmental issues with them. Haven't been able to identify that with any of my patients, including precocious puberty. There's not been any evidence in the literature over a year's worth of use of this medication that there's anything different happening to these individuals.

BY ATTORNEY BROOKS:

Q. Well, you also haven't done any systematic study of cognitive development of those for whom you have prescribed puberty blockers as compared to in a control group, have you?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Not personally.

BY ATTORNEY BROOKS:

Q. And the --- the Endocrine Society, 2017 --- let me ask you to turn in Exhibit 4 to page 3882. And we are in the section here that discusses a recommendation to use GRNH for purposes of puberty suppression when puberty suppression is indicated. Do you see that? That heading is on the previous page.

A. I see that.

Q. Just wanted to locate you in the discussion we're talking about puberty suppression. Now, back to 3882. And the first thing --- the first sentence under the heading side effects states that, quote, the primary risks of puberty suppression in GD/gender incongruent adolescents may include and then it lists a number of things, one of which is, quote, unknown effects on brain development, closed quote. Do you see that?

A. I do.

Q. So the committee that put together the Endocrine

Society guidelines thought that the potential effects of puberty suppression on brain development were at 2017 at least unknown. You just disagreed?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't have any reason to believe that there's any different effect on individuals based on the research from early puberty and the studies that --- I mean, sorry, my experience with those patients. I would want to be watchful of those individuals as I would always who use any medication for potential issues.

BY ATTORNEY BROOKS:

Q. Endocrine Society thinks the effect on brain development is unknown and you, though you have done no systematic study, are of the view that you know that is not harmful to brain development. Am I accurately summarizing your testimony?

ATTORNEY BORELLI: Objection.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. Let me ask it a different way if that was in accurate.

A. I am trying to tell you that you are able to look at the use of this medication in early pubertal

patients and see what happens to those individuals. Those outcomes can be used to give you some inference as to what might potentially happen if you use it later on for the same purpose of delaying puberty. It doesn't --- doesn't wholly rule out something different.

Q. And indeed, simply based on observation, nonsystematic observations from one clinic, it's not possible to rule out harmful effects on brain development, is it?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I'm not sure that there's any study you could do to completely role out any effect --- any specific effect. Lots of individuals have different effects.

BY ATTORNEY BROOKS:

Q. And you in your clinic haven't attempted any study?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I have not done a study.

BY ATTORNEY BROOKS:

Q. Let me have tab 43. In your report you asserted that those treated with gender dysphoria undergo --- I'm sorry, those treated with puberty delaying medication experience all the same brain and other bodily system

developments. The only source you cite in support of that is a 2015 article by Staphorsius.

Correct?

A. I would have to look at it and verify that.

Q. Forty-three (43).

A. Which exhibit were you ---?

Q. I have not given it to you yet. I apologize.

A. No, I mean ---.

Q. Oh, it was paragraph 24 in your rebuttal report, which is ---.

A. Okay.

Q. All right.

Did you carefully read the Staphorsius article that you cited in paragraph 24 of your rebuttal report?

A. At some point in time I have read that, yes.

Q. Are you able to describe the experiment that is --- the study that was done in this Staphorsius report --- or the Staphorsius article?

ATTORNEY BORELLI: Objection.

THE WITNESS: I'm not --- familiar ---.

BY ATTORNEY BROOKS:

Q. You say also in paragraph 24 of your rebuttal report that Dr. Levine's claims with regard to concern about brain development is, quote, inaccurate for the

additional reason that some people never go through hormonal puberty such as patients with Turner syndrome and still have normal brain development with respect to cognition and executive function. Do you see that language?

A. Yes.

Q. And you don't cite anything for that. What is the basis for that assertion?

A. So when you look at the information regarding Turner syndrome within the medical literature as well as the --- my work with Marsha Gavenport at UNC who runs --- ran the biggest Turner syndrome registry, in that experience we did not see any patients that had problems with --- there may have been some that were --- had sort of issues with visual spatial skills but not cognitive issues. In fact, I have partners that are women with Turner syndrome that practice medicine.

Q. You will agree with me as a scientist, will you not, that kind of anecdotal information about a particular person you know is not very weighty evidence as to whether hormone changes associated with puberty are generally important to cognitive development of humans?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: We can delve into Turner syndrome literature.
BY ATTORNEY BROOKS:
Q. Well, Dr. Adkins, I hope you understand that your obligation to prepare an expert report was to provide your opinions and the basis of your opinions. What literature are you relying on?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Every textbook that talks about Turner syndrome with regard to these patients talks about any of the issues that go along with that. I --- and that's something we study in our training as a pediatric endocrinologists because we see these patients routinely. So that has been my experience and training.
BY ATTORNEY BROOKS:
Q. Well, can you identify --- every is not very useful. Can you identify for me a single source that reports based on statistically significant studies that individuals who never go through puberty experience all the same brain development as individuals who do go through puberty?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would have to look back in the literature on those reports because we treat

patients now when we realize they are not going through puberty. I can't do that off the top of my head.
BY ATTORNEY BROOKS:
Q. And are you now contending that it is not widely accepted that hormonal changes associated with puberty drive important stages of brain growth?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I'm not saying that. What I'm saying is there are some things that are specific and you're generalizing my terms.
BY ATTORNEY BROOKS:
Q. Okay.
Well, flipping it around, you have also been taught whether or not it's --- if we're speaking in the area, I recognize you're not a neurologist.
Correct?
A. Correct.
Q. But it's your understanding that hormonal changes associated with puberty do drive important developmental stages in the human brain.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY BROOKS:

Q. And those are stages that, as we looked at in earlier document, include cognition, social skills, sexual development?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So you know, that is what is --- was written there. I agree that that can be affected by those --- by puberty. I also don't see in any of the literature around people who haven't gone with --- through puberty any mention of any of the concerning cognitive delays or other issues, again visual, spatial has been mentioned.
BY ATTORNEY BROOKS:
Q. Visual spatial, can you just --- for the uninitiated, the layman, can you explain what you're referring to?
A. For the use of like driving a car, looking at something and being able to estimate where it is or those sorts of things, navigating with a map versus not.
ATTORNEY BROOKS: Let me ask the court reporter how many minutes we still have on the clock.
COURT REPORTER: We're at six hours, 31 minutes, so 29.
ATTORNEY BROOKS: Well, I had promised to hand it over with 30 minutes to go, so I have broken my

word. And I will stop and leave the remainder of the time to counsel for the State of West Virginia, Dave Tryon.

EXAMINATION

BY ATTORNEY TRYON:
Q. Hello, Dr. Adkins. Long day. I appreciate your time. My name is David Tryon and I do represent the State of West Virginia. I would like just to ---.
A. You're cutting out.
Q. Okay.
ATTORNEY BROOKS: You are going to have to speak up very clearly because you are literally disappearing half of the time and we have no work around for that.
BY ATTORNEY TRYON:
A. Okay.
I will speak very loudly. Can you hear me now?
A. Yes.
Q. Okay.
So thank you for your time my. Name is David Tryon. I am an attorney for the State of West Virginia. I would like to continue with some questions about your

rebuttal report. Do you still have that in front of you?
A. Yes.
Q. Okay.
First of all, you have indicated that you are --- I'm still here --- give me a moment --- you run a clinic.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I have a clinic that I'm the medical director of, yes.
BY ATTORNEY TRYON:
Q. And that is --- I'm sorry, what's the name of the clinic again?
A. Duke Child and Adolescent Gender Clinic.
Q. What is a gender care clinic?
A. For our purposes in my clinic it includes patients who are transgender people who are --- also have intersex conditions as well.
Q. Are there other clinics that you consider gender care clinics elsewhere in the country?
A. Yes.
Q. Would you be able to estimate approximately how many of them there are?

A. That number is changing a lot. It would be difficult for me to say accurately.
Q. Would it be over 100?
A. I'm not sure. I'm not sure.
Q. Would it be over 50?
A. Oh, it could be definitely over 50. It could be over 100, but I'm not sure.
Q. And are you --- do you have any meetings with those other gender care clinics?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY TRYON:
Q. How many --- what fashion --- are those individual meetings or are they group meetings?
A. A bit of both.
Q. Are you aware of the practices of all of those other gender care clinics?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: We do talk about practice when we meet with the ones that I meet with. Can't speak to all of the others.
BY ATTORNEY TRYON:
Q. You are of course familiar with the practices in your clinic.

Correct?
A. Yes.
Q. Are you equally familiar with the practices of the other gender care clinics throughout the country?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I know a lot about them. I can't say I know everything.
BY ATTORNEY TRYON:
Q. Do you know if they have the exact same standards of care and practice that your clinic does?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: We all have discussed that we follow the Endocrine Society guidelines as well as WPATH guidelines.
BY ATTORNEY TRYON:
Q. You have disagreed with some of the guidelines in the WPATH guidelines that Mr. Brooks has shown to you.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I don't think I've seen the WPATH guidelines today.
BY ATTORNEY TRYON:
Q. Sorry, the Endocrine Society guidelines?

ATTORNEY BORELLI: Same objection.
THE WITNESS: So the Endocrine Society guidelines are guidelines. All of us who use guidelines do vary some from those guidelines when it's appropriate for the particular patient.
BY ATTORNEY TRYON:
Q. Do you know if the other clinics have the same reservations about the policies or guidelines in those --- in the endocrine Society's guidelines that you've expressed today?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I've had some discussions with people who have some reservations along the same lines that I do.
BY ATTORNEY TRYON:
Q. How many clinics does that represent?
A. Oh, you went out. You went out. Sorry.
Q. How many clinics does that represent?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: It's difficult for me to say because it is at our annual meeting and for some of the meetings, so it could be a lot. In group meetings that we have, I have some that are one on one and I have some that are about five different groups.

BY ATTORNEY TRYON:
Q. So fair to say you don't know?
A. I'm sorry, you broke up again.
Q. Is it fair to say you do not know?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I do not know what?
BY ATTORNEY TRYON:
Q. You do not know which ones have the same reservations that you do about the provisions you've expressed reservations about today?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I know --- I know --- I know off the top of my head three. The others I may or may not know where an individual is from when they're talking in all of our meetings. They are big meetings.
BY ATTORNEY TRYON:
Q. What are those three?
A. So Rady Children's in Los Angeles and in Seattle, Children's and Texas, Children's.
BY ATTORNEY TRYON:
Q. Are there any gender care clinics in West Virginia?
ATTORNEY BORELLI: Objection to form.
THE WITNESS: I don't know personally any

endocrinologists that do pediatric endocrinology or gender care in West Virginia. I'm not aware.
BY ATTORNEY TRYON:
Q. In the rebuttal report, your paragraph 11, I'd like to ask you some questions about that. If you would turn there.
A. I got it.
Q. When did you --- well, did you write this paragraph 11?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY TRYON:
Q. When did you write it?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I don't remember.
BY ATTORNEY TRYON:
Q. Was it after you received the expert reports from the Plaintiff's experts --- excuse me, from the Defendant's experts?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So we wrote the rebuttal after we received the expert witnesses from --- yes.
BY ATTORNEY TRYON:
Q. Who is we?

A. I'm sorry. I wrote it --- I'm sorry. I'm getting really tired. I apologize. I wrote it.
Q. In the --- I believe it is the third sentence says no medical treatment is provided to transgender youth until they have reached Tanner stage two. Do you see that?
A. I do.
Q. When you say no medical treatment, is that --- does that include affirmation therapy?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I am not aware of anything called affirmation therapy.
BY ATTORNEY TRYON:
Q. Are you aware of the term affirmation for transgender individuals?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Gender affirming care is a term I am aware of.
BY ATTORNEY TRYON:
Q. Do you consider gender affirming care to be medical treatment?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So it is meant to be wholistic, so part of it is medical, part of it is

social, part of it is surgical.
BY ATTORNEY TRYON:
Q. Is any gender affirming care provided to transgender youth before they reach Tanner stage two?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So the social transition is considered part of gender affirming care and some individuals do socially transition before Tanner stage two.
BY ATTORNEY TRYON:
Q. Do you assist them in that?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Not typically. They're not usually in my clinic until they are in puberty.
BY ATTORNEY TRYON:
Q. Is there any other type of gender affirming care which is conducted or provided prior to Tanner stage two?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Before Tanner stage two generally it's -- no --- no. No.
BY ATTORNEY TRYON:
Q. What do you consider to be medical treatment which is provided once they reach Tanner stage two?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: Not every patient is treated with medication. So some do, some don't. Sometimes that is puberty blockers. Sometimes it is not. Sometimes it is gender affirming hormones depending on where they're in their development.
BY ATTORNEY TRYON:
Q. What about surgery, is that considered medical treatment provided to transgender youth?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So patients who are children aren't having surgeries.
BY ATTORNEY TRYON:
Q. What's the difference between youth and children?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Youth in general in my mind are somewhat similar to adolescents in that they have started puberty.
BY ATTORNEY TRYON:
Q. At what point are --- is --- excuse me, at what point or age is surgery, medical treatment, provided to those who have gender dysphoria or considered to be transgender?

ATTORNEY BORELLI: Objection, form.
THE WITNESS: So you cut out and could you repeat the question?
BY ATTORNEY TRYON:
Q. Yes. Let me back up and make sure I understand. Surgery is considered medical treatment. Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So I hesitate to use those words. My surgical colleagues would take some offense at that. They consider themselves surgeons and not medicine doctors. So I think that's an opinion there. So I'm not sure that that phrase is appropriate.
BY ATTORNEY TRYON:
Q. So when you refer to medical treatment in this statement does that include or exclude surgery?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: They do not --- yeah, that would be inclusive of surgery in that particular statement.
BY ATTORNEY TRYON:
Q. At what point is surgery provided to transgender persons?
ATTORNEY BORELLI: Objection, form.

THE WITNESS: Well, not all individuals who are transgender actually have surgery. It depends on the patient. Many, many do not. Our recommendations are to wait until 18. There is a caveat in the Endocrine Society guidelines where some surgery could happen between 16 and 18, but generally 18 and up.
BY ATTORNEY TRYON:
Q. Why wait until 18?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: That is the --- as I understand it, the legal time at which a person has --- what is the word for it? You all are the legal people. I'm probably going to say it wrong, the ability to legally consent to things. Prior to that, we do get what's called an assent from the patient, but it's a little different than a consent from the patient if we're doing a general procedure.
BY ATTORNEY TRYON:
Q. Why is that legal consent different for surgery then it is for puberty blockers?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: As I mentioned before, puberty blockers aren't a permanent effect and surgery is complicated to reverse.

BY ATTORNEY TRYON:
Q. At the point in time that you prescribe puberty blockers for a natal male, that person has at that point concluded that they have a gender identity of female. Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: So for puberty blockers they may not totally be clear on their gender identity. They do have dysphoria with the changes that are happening to their body at the time and need time to get a better understanding of their gender identity.
BY ATTORNEY TRYON:
Q. At what point do we know that they have a full understanding of their gender identity?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Again, we do our best to take each patient as they get older and they are consistent for a period of time. Again, the recommendation are at least six months. Everyone is different. Most of my patients' identity isn't changing substantially. Their understanding of their identity isn't changing substantially for longer than that before one would do anything different other than puberty blockers.

BY ATTORNEY TRYON:

Q. At what point --- someone comes to you and says I am a biological male or assigned male at birth, however you want to term that, but I identify it as a --- let me rephrase that because I'm not sure I said that right.

Someone comes to you and says I was born an assigned male at birth, but I identify as a female. I have identified as a female for two years now and I want to move forward with any treatment possible so that I can feel comfortable with my true identity as a female. You accept that as their true identity?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You didn't give an age and I do way that into consideration.

BY ATTORNEY TRYON:

Q. Let's say a ten year old?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So we as I mentioned in my earlier testimony also use assessments from other individuals with regard to the consistency of their gender identity and including family as well as their mental health providers and we would provide individualized care based on that patient.

BY ATTORNEY TRYON:

Q. At that point do you actually give a diagnosis that they are their true gender identity is female or what happens?

ATTORNEY BORELLI:

Objection, form.

THE WITNESS: Again, gender identity is a core part of their being and their understanding of it at the time is their understanding of it at the time and that is the only way that we can decide what someone's gender identity is.

BY ATTORNEY TRYON:

Q. So at that point in time where the child is 10 or 12 or 14, at that point in time where they have concluded my true gender identity is not my natal sex of male but rather my true gender identity is a female, why shouldn't that child then be able to say I want gender --- I want surgery to remove my penis?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: So we don't want to do anything that's permanent until a person is older and their cognitive development is broader. And in some cases, you know --- well, I'll stop there.

BY ATTORNEY TRYON:

Q. If that child says, this is extremely harmful to me to still have my penis at this age, I want it removed, and you said yourself that is extremely harmful to not allow this child to not play on a sports team with which that child identifies, isn't having a penis when the child doesn't want one even more harmful?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I think they're both --- those situations could cause a risk for self harm and suicide. We would not like to do something that is permanent. Playing on a sports team is not something that is unchangeable.

BY ATTORNEY TRYON:

Q. But you told me, you told us, that gender is unchangeable and that child at that point has identified as a female. And since that is not going to change what is the harm in removing that child's penis?

A. You broke up after what is the harm in removing that child.

Q. That child's penis?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I stated that their understanding of their gender identity occurs over the lifespan and so we want to be very careful with regard

to that --- any permanent treatment.

BY ATTORNEY TRYON:

Q. So you're saying you don't --- you're saying you don't believe that that child's true identity is a female, true gender identity is a female, you doubt that child?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: I don't doubt what my patients tell me because --- what they tell me is their truth and their identity. I do like --- think it is important when you are making these decisions to again corroborate that with other individuals who are with the family --- I'm sorry, with the person. And we want to make sure that that is a durable place where their understanding is. Ideally, we would like for it to be as understood as it might be before making a decision that is a permanent decision like surgery.

VIDEOGRAPHER: Mr. Tryon, I sent you a chat, I didn't know if you saw that. I just wanted to give a five-minute warning.

ATTORNEY TRYON: Oh, it's five minutes left? Thank you. I did not see that. One moment.

BY ATTORNEY TRYON:

Q. You are getting paid as an expert witness in

this case right?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: Yes.
BY ATTORNEY TRYON:
Q. Are you being paid as an expert witness in connection to any other litigation or testimony or any other statutes --- similar statutes?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I am --- have not been paid. I am involved in other --- another case, two cases.
BY ATTORNEY TRYON:
Q. What are those other two cases?
A. I'm not going to be able to tell you the name because I'm terrible with names. It involves transgender care in Arkansas as well as in sports-related issues with transgender youth in Florida.
Q. Have you testified in those cases yet?
A. I have not.
Q. You testified in other cases.
Right?
A. You broke up again. Could you repeat?
Q. You have testified in other cases.
Right?

A. Yes.
Q. Which cases are those?
A. The transgender-related cases were with Adams in Florida. Why am I blanking?
Q. Connecticut?
A. I did not actually --- I have not been deposed in --- except for Adams.
Q. Okay.
In your --- in your expert report you say that I have testified twice as an expert at trial or deposition.
A. Yeah, I was involved in another case as an expert witness and was deposed for a case involving an infant with fractures that were --- there was concern for abuse.
Q. I'm sorry, you froze on me. Can you tell me what that was again?
A. Yeah. There was a case that I was involved with where the patient's parents --- they had concern for abuse from the parents because the child had fractures.
Q. Well, I'm running out of time, so let me glance through my notes and see if there is anything else. Do you disagree with the policies of the other agents --- excuse me, of the sporting organizations which require a

delay in time before a transgender female can participate in those sports?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I think it would be better for the patient if they did not have to delay.
BY ATTORNEY TRYON:
Q. So you --- if it was up to you, you would eliminate that delay that is required by these other sports organizations.
Is that right?
ATTORNEY BORELLI: Objection, form.
THE WITNESSS: I think it would be better for my patients. Yes.
BY ATTORNEY TRYON:
Q. And you think those organizations should change their policies to satisfy what your concern is?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: You know, there is a lot to weigh there. I am not sure that I would be able to like say for their purposes. I don't know all of the things that are there. For my patients what would be best for them is to not to have to have that delay.
BY ATTORNEY TRYON:
Q. But would you agree with me that the State of

West Virginia had a lot to weigh as well when it put in place its legislation before they passed the law?
ATTORNEY BORELLI: Objection. Objection, form.
THE WITNESS: I would hope that every piece of legislation is weighed heavily.
BY ATTORNEY TRYON:
Q. And you would agree that in this case there was a lot to weigh on a number of different issues before they passed the law.
Correct?
ATTORNEY BORELLI: Objection, form.
THE WITNESS: I would agree. And I wasn't there to know what was, so I agree there should be.
BY ATTORNEY TRYON:
Q. I'm sorry. I didn't catch that. You froze up. Can you repeat that?
A. Sure. I agree there should have been. I wasn't there to hear what happened with regard to the process, so I don't know if they actually did that.
ATTORNEY TRYON:
Thank you. Do I have any time left, Jacob?

VIDEOGRAPHER: I think that's the cap.
ATTORNEY TRYON: Okay.
Dr. Adkins, thank you very much for your time. Appreciate it.
ATTORNEY BORELLI: This is Tara Borelli for Plaintiff, B.P.J.. Plaintiff has no questions for the witness. We will read and sign.
VIDEOGRAPHER: That concludes this deposition. Current time reads 5:56 p.m. Eastern Standard Time.
* * * * * * *
VIDEOTAPED DEPOSITION CONCLUDED AT 5:56 P.M.
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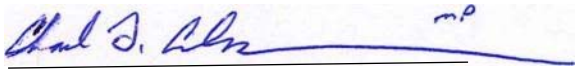
IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J., by her next friend and mother, HEATHER JACKSON, *Plaintiff,* vs. WEST VIRGINIA STATE BOARD OF EDUCATION; HARRISON COUNTY BOARD OF EDUCATION; WEST VIRGINIA SECONDARY SCHOOLS ACTIVITIES COMMISSION; W. CLAYTON BURCH, in his official capacity as State Superintendent, DORA STUTLER, in her official capacity as the Harrison County Superintendent, and the STATE OF WEST VIRGINIA, *Defendants,* and LAINEY ARMISTEAD, *Defendant-Intervenor.*	Case No. 2:21-cv-00316 Hon. Joseph R. Goodwin

DECLARATION OF DR. CHAD T. CARLSON, M.D., FACSM

I, Dr. Chad T. Carlson, pursuant to 28 U.S. Code § 1746, declare under penalty of perjury under the laws of the United States of America that the facts contained in my Expert Report of Dr. Chad T. Carlson, M.D., FACM prepared for *B.P.J. v. West Virginia*, attached hereto, are true and correct to the best of my knowledge and belief, and that the opinions expressed therein represent my own expert opinions.

Executed on February 23, 2022.



Chad T. Carlson, MD

Expert Report of Dr. Chad Thomas Carlson, M.D., FACM
prepared for *B.P.J. v. West Virginia*
February 23, 2022

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INTRODUCTION

Up to the present, the great majority of news, debate, and even scholarship about transgender participation in female athletics has focused on track and field events and athletes, and the debate has largely concerned questions of fairness and inclusion. However, the transgender eligibility policies of many high school athletic associations in the United States apply with equal force to all sports, including sports in which players frequently collide with each other, or can be forcefully struck by balls or equipment such as hockey or lacrosse sticks. And in fact, biologically male transgender athletes have competed in a wide range of high school, collegiate, and professional girls' or women's sports, including, at least, basketball,[1] soccer,[2] volleyball,[3] softball,[4] lacrosse,[5] and even women's tackle football.[6]

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[1]https://www.espn.com/espnw/athletes-life/story/_/id/10170842/espnw-gabrielle-ludwig-52-year-old-transgender-women-college-basketball-player-enjoying-best-year-life (accessed 2/17/22)

[2]https://www.unionleader.com/news/education/nh-bill-limits-women-s-sports-to-girls-born-female/article_d1998ea1-a1b9-5ba4-a48d-51a2aa01b910.html; https://www.outsports.com/2020/1/17/21069390/womens-soccer-mara-gomez-transgender-player-argentina-primera-division-villa-san-marcos (accessed 6/20/21)

[3]https://news.ucsc.edu/2016/09/challenging-assumptions.html (accessed 6/20/21); https://www.outsports.com/2017/3/20/14987924/trans-athlete-volleyball-tia-thompson (accessed 6/20/21)

[4]https://www.foxnews.com/us/californias-transgender-law-allows-male-high-schooler-to-make-girls-softball-team (accessed 6/20/21)

[5]https://savewomenssports.com/f/emilys-story?blogcategory=Our+Stories (accessed 6/20/21)

[6]https://www.outsports.com/2017/12/13/16748322/britney-stinson-trans-football-baseball (accessed 6/20/21); https://www.mprnews.org/story/2018/12/22/transgender-football-player-prevails-in-lawsuit (accessed 6/20/21)

The science of sex-specific differences in physiology, intersecting with the physics of sports injury, leaves little doubt that participation by biological males in these types of girls' or women's sports, based on gender identity, creates significant additional risk of injury for the biologically female participants competing alongside these transgender athletes.

In 2020, after an extensive review of the scientific literature, consultation with experts, and modeling of expected injuries, World Rugby published revised rules governing transgender participation, along with a detailed explanation of how the new policy was supported by current evidence. World Rugby concluded that "there is currently no basis with which safety and fairness can be assured to biologically female rugby players should they encounter contact situations with players whose biological male advantages persist to a large degree," and that after puberty, "the lowering of testosterone removes only a small proportion of the documented biological differences." Hence, World Rugby concluded that biological men should not compete in women's rugby. (World Rugby Transgender Women Guidelines 2020.) World Rugby has been criticized by some for its new guidelines, but those criticisms have often avoided discussions of medical science entirely, or have asserted that modeling scenarios can overstate true risk. What cannot be denied, however, is that World Rugby's approach is evidence-based, and rooted in concern for athlete safety. As a medical doctor who has spent my career in sports medicine, it is my opinion that World Rugby's assessment of the evidence is scientifically sound, and that injury modeling

meaningfully predicts that biologically male transgender athletes do constitute a safety risk for the biologically female athlete in women's sports.

In a similar vein, in 2021, the UK Sports Councils' Equality Group released new guidance for transgender inclusion in organized sports. This guidance was formulated after extensive conversations with stakeholders, a review of scientific findings related to transgender athletes in sport through early 2021, and an assessment of the use by some sport national governing bodies of case-by-case assessment to determine eligibility. Noteworthy within these stakeholder consultations was a lack of consensus on any workable solution, as well as concerns related to athlete safety and "adherence to rules which give sport validity." The Literature Review accompanying the guidance document further noted that "[t]here are significant differences between the sexes which render direct competition between males and females . . . unsafe in sports which allow physical contact and collisions." (UK Sports Councils' Equality Group Literature Review 2021 at 1.) Their review of the science "made clear that there are retained differences in strength, stamina and physique between the average woman compared with the average transgender woman….with or without testosterone suppression." (UK Sports Councils' Equality Group Guidance at 3.) This was also reflected in their ten guiding principles, stating that physical differences between the sexes will "impact safety parameters in sports which are combat, collision or contact in nature." (UK Sports Councils' Equality Group Guidance 2021 at 7.) Ultimately, UK Sport

concluded that the full inclusion of transgender athletes in women's sports "cannot be reconciled within the current structure of sport," stating that "the inclusion of transgender people into female sport cannot be balanced regarding transgender inclusion, fairness and safety in gender-affected sport where there is meaningful competition . . . . due to retained differences in strength, stamina and physique between the average woman compared with the average transgender woman…, with or without testosterone suppression." (UK Sports Councils' Equality Group Guidance 2021 at 6.) Finally, UK Sport affirmed the use of sex categorization in sport, along with age and disability, as important for the maintenance of safety and fairness. (UK Sports Councils' Equality Group Guidance 2021 at 7-8.)

Unfortunately, apart from World Rugby's careful review and the recent release of UK Sports Councils' guidance, the public discourse is lacking any careful consideration of the question of safety. As a physician who has spent my career caring for athletes, I find this silence about safety both surprising and concerning. It is my hope through this white paper to equip and motivate sports leagues and policy makers to give adequate attention to the issue of safety for female athletes when transgender policies are being considered. I first explain the nature and causes of common sports injuries. I then review physiological differences between male and female bodies that affect the risk and severity of injuries to females when biological males compete in the female category, and

explain why testosterone suppression does not eliminate these heightened risks to females. Finally, I explain certain conclusions about those risks.

CREDENTIALS

1. I am a medical doctor practicing Sports Medicine, maintaining an active clinical practice at Stadia Sports Medicine in West Des Moines, Iowa. I received my M.D. from the University of Nebraska College of Medicine in 1994 and completed a residency in family medicine at the University of Michigan in 1997.

2. Following my time in Ann Arbor, I matched to a fellowship in Sports Medicine at Ball Memorial Hospital in Muncie, Indiana, training from 1997 to 1999, with clinical time split between Central Indiana Orthopedics, the Ball State Human Performance Laboratory, and the Ball State University training room. I received my board certification in Sports Medicine in 1999, which I continue to hold. Since residency training, my practice has focused on Sports Medicine–the treatment and prevention of injuries related to sport and physical activity.

3. Since 1997, I have served in several clinical practices and settings as a treating physician, including time as team physician for both the University of Illinois and Ball State University, where I provided care to athletes in several sports, including football, ice hockey, basketball, field hockey, softball, gymnastics, soccer, and volleyball. In the course of my career, I have provided coverage for NCAA Power Five Conference championships and NCAA National

Championship events in basketball, field hockey and gymnastics, among other sports, as well as provided coverage for national championship events for U.S.A. gymnastics, and U.S. Swimming and Diving. I have also covered professional soccer in Des Moines.

4. Since 2006, I have been the physician owner of Stadia Sports Medicine in West Des Moines, Iowa. My practice focuses on treatment of sports and activity-related injury, including concussive injury, as well as problems related to the physiology of sport.

5. I have served in and provided leadership for several professional organizations over the course of my career. In 2004, I was designated a Fellow of the American College of Sports Medicine (ACSM). I have served on ACSM's Health and Science Policy Committee since 2010, and for a time chaired their Clinical Medicine Subcommittee. From 2009 to 2013, I served two elected terms on the Board of Directors of the American Medical Society for Sports Medicine (AMSSM), and during that time served as Chair of that body's Practice and Policy Committee. I was subsequently elected to a four-year term on AMSSM's executive committee in 2017, and from 2019-20, I served as AMSSM's President. AMSSM is the largest organization of sports medicine physicians in the world. I gained fellowship status through AMSSM in 2020–my first year of eligibility. My work for ACSM and AMSSM has brought with it extensive experience in public policy as relates to Sports Medicine.

6. In 2020, I was named as AMSSM's first board delegate to the newly-constituted Physical Activity Alliance. I am a named member of an NCAA advisory group on COVID-19, through which I provided input regarding the cancellation of the basketball tournament in 2020. I also serve as a member of the Iowa Medical Society's Sports Medicine Subcommittee and have been asked to serve on the Iowa High School Athletic Association's newly-forming Sports Medicine Advisory Committee.

7. I have served as a manuscript reviewer for organizational policy pronouncements, and for several professional publications, most recently a sports medicine board review book just published in 2021. I have published several articles on topics related to musculoskeletal injuries in sports and rehabilitation, which have been published in peer-reviewed journals such as Clinical Journal of Sports Medicine, British Journal of Sports Medicine, Current Reviews in Musculoskeletal Medicine, Athletic Therapy Today, and the Journal of Athletic Training. In conjunction with my work in policy advocacy, I have helped write several pieces of legislation, including the initial draft of what became the Sports Medicine Licensure Clarity Act, signed into law by President Trump in 2018, which eases the restrictions on certain practitioners to provide health services to athletes and athletic teams outside of the practitioner's home state. A list of my publications over the past ten (10) years is included as an appendix to this report.

8. In the past four years, I have not testified as an expert witness in a deposition or at trial.

9. I am being compensated for my services as an expert witness in this case at the rates of $650 per hour for consultation, $800 per hour for deposition testimony, and $3,500 per half-day of trial testimony.

I. OVERVIEW

10. In this statement, I offer information and my own professional opinion on the potential for increased injury risk to females in sports when they compete against biologically male transgender athletes.[7] At many points in this statement, I provide citations to published, peer-reviewed articles that provide relevant and supporting information to the points I make.

11. The principal conclusions that I set out in this white paper are as follows:

a. Government and sporting organizations have historically considered the preservation of athlete safety as one component of competitive equity.

b. Injury in sport is somewhat predictable based on modeling assumptions that take into account relevant internal and external risk factors.

[7] In the body of this paper, I use the terms "male" and "female" according to their ordinary medical meaning–that is to say, to refer to the two biological sexes. I also use the word "man" to refer to a biologically male human, and "woman" to refer to a biologically female human. In the context of this opinion, I include in these categories non-syndromic, biologically-normal males and females who identify as a member of the opposite sex, including those who use endogenous hormone suppression to alter their body habitus. In contexts that are not focused on questions of biology and physiology, terms of gender are sometimes used to refer to subjective identities rather than to biological categories – something I avoid for purposes of a paper focused on sports science

> c. Males exhibit large average advantages in size, weight, and physical capacity over females—often falling far outside female ranges. Even before puberty, males have a performance advantage over females in most athletic events. Failure to preserve protected female-only categories in contact sports (broadly defined) will ultimately increase both the frequency and severity of injury suffered by female athletes who share playing space with these males.
>
> d. Current research supports the conclusion that suppression of testosterone levels by males who have already begun puberty will not fully reverse the effects of testosterone on skeletal size, strength, or muscle hypertrophy, leading to persistence of sex-based differences in power, speed, and force-generating capacity.

12. In this white paper, I use the term "contact sports" to refer broadly to all sports in which collisions between players, or collisions between equipment such as a stick or ball and the body of a player, occur with some frequency (whether or not permitted by the rules of the game), and are well recognized in the field of sports medicine as causes of sport-related injuries.[8] The 1975 Title IX implementing regulations (34 CFR § 106.41) say that "for purposes of this [regulation] contact sports include boxing, wrestling, rugby, ice hockey, football, basketball, *and other sports* the purpose or major activity of which involves bodily contact." Certainly, all of the sports specifically named in the regulation fall within my definition of "contact sport." Mixed martial arts, field hockey (Barboza 2018), soccer (Kuczinski 2018), rugby (Viviers 2018), lacrosse

[8] It is common to see, within the medical literature, reference to distinctions between "contact" and "collision" sports. For purposes of clarity, I have combined these terms, since in the context of injury risk modeling, there is no practical distinction between them.

(Pierpoint 2019), volleyball,[9] baseball, and softball also involve collisions that can and do result in injuries, and so also fall within my definition.

II. A BRIEF HISTORY OF THE RATIONALE FOR SEPARATION OF SPORT BY SEX

13. World Rugby is correct when it notes that "the women's category exists to ensure protection, safety, and equality" for women. (World Rugby Transgender Women Guidelines 2020.) To some extent, those in charge of sport governing bodies in the modern era have always recognized the importance of grouping athletes together based on physical attributes, in order to ensure both safety and competitive balance. Weight classifications have existed in wrestling since it reappeared as an Olympic event in 1904. Women and men have participated in separate categories since the advent of intercollegiate sporting clubs early in the 20th century. When Title IX went into effect in 1975, there were just under 300,000 female high school athletes, and fewer than 10,000 female collegiate athletes. With the changes that resulted from Title IX, it was assumed that newly-available funds for women in sport would ensure the maintenance of existing, or creation of new, sex-segregated athletic teams that would foster greater participation by women. This has been borne out subsequently; by the first half of the 1980's these numbers had risen to 1.9 million and nearly 100,000 respectively. (Hult 1989.)

[9] See https://www.latimes.com/sports/story/2020-12-08/stanford-volleyball-hayley-hodson-concussions-cte-lawsuit, and https://volleyballmag.com/corinneatchison/ (both accessed 6/20/21).

14. The rationale for ongoing "separate but equal" status when it came to sex-segregated sports was made clear within the language of the original implementing regulations of Title IX , which, acknowledging real, biologically-driven differences between the sexes, created carve-out exceptions authorizing sex-separation of sport for reasons rooted in the maintenance of competitive equity. Importantly, the effect of these innate sex-based differences on the health and safety of the athlete were acknowledged by the express authorization of sex-separated teams for sports with higher perceived injury risk—i.e., "contact sports." (Coleman 2020.)

15. In the almost half century since those regulations were adopted, the persistent reality of sex-determined differences in athletic performance and safety has been recognized by the ongoing and nearly universal segregation of men's and women's teams–even those that are not classically defined as being part of a contact or collision sport.

16. Now, however, many schools and sports leagues in this country are permitting males to compete in female athletics—including in contact sports—based on gender identity. In my view, these policies have been adopted without careful analysis of safety implications. Other researchers and clinicians have addressed questions of the negative impact of such policies on fairness, or equality of athletic experiences for girls and women, in published articles, and in court submissions. One recent review of track and field performances, including sprints, distance races and field events, noted that men surpass the

top female performance in each category between 1000 and 10,000 times *each year*, with hundreds or thousands of men beating the top women in each event. (Coleman & Shreve.) Although this was not their primary focus, World Rugby well-summarized the point when it observed that in a ranking list of the top thousand performances in most sports, every year, *every one* will have been achieved by a biological male. (World Rugby Transgender Women Guidelines 2020.) Although most easily documented in athletes who have gone through puberty, these differences are not exclusively limited to post-pubescent athletes either.

17. I have reviewed the expert declaration of Gregory A. Brown, Ph.D., FACM of February 23, 2022, provided in this case, which includes evidence from a wide variety of sources, including population-based mass testing data, as well as age-stratified competition results, all of which support the idea that prepubertal males run faster, jump higher and farther, exhibit higher aerobic power output, and have greater upper body strength (evidenced by stronger hand grip and better performance with chin-ups or bent arm hang) than comparably aged females. This performance gap is well-documented in population-based physiologic testing data that exists in databases such as the Presidential Fitness Test, the Eurofit Fitness test, and additional mass testing data from the UK and Australia. Collectively, this data reveals that pre-pubertal males outperform comparably aged females in a wide array of athletic tests including but not limited to the countermovement jump test, drop jump test, change of direction

test, long jump, timed sit-up test, the 10 X 5 meter shuttle run test, the 20 meter shuttle run test, curl-ups, pull-ups, push-ups, one mile run, standing broad jump, and bent arm hang test. Dr. Brown further references studies showing a significant difference in the body composition of males and females before puberty. In sum, a large and unbridgeable performance gap between the sexes is well-studied and equally well-documented, beginning in many cases before puberty. In this white paper, I focus on some of these differences as they touch on the question of athlete safety.

III. UNDERSTANDING THE CAUSES OF SPORTS INJURIES

18. The causes for injury in sport are multifactorial. In recent decades, medical researchers have provided us an evolving understanding of how sports injuries occur, as well as the factors that make them more or less probable, and more or less severe. Broadly speaking, there are two ways of modeling injury: the epidemiological model, and the biomechanical model. These models are not mutually exclusive, but provide complementary conceptual frameworks to help us stratify risk in sport.

A. The epidemiological model of injury

19. From a practical standpoint, sports medicine researchers and clinicians often use the "epidemiological model" to explain, prevent and manage sports injuries. Broadly speaking, this model views an injury in sport as the product of internal and external risk factors, triggered by an inciting event. In other words, a given injury is "caused" by a number of different factors that are

unique to a given situation. (Meeuwise 1994.) When the interplay of these factors exceeds the injury threshold, injury occurs. One example of how this interplay might work would be a female distance runner in track who develops a tibial stress fracture, with identified risks of low estrogen state from amenorrhea (suppression of menses), an aggressive winter training program on an indoor tile surface, and shoes that have been used for too many miles, and are no longer providing proper shock absorption. Most risk factors ebb and flow, with the overall injury risk at any given time fluctuating as well. Proper attention to risk factor reduction *before* the start of the sports season (including appropriate rule-making) is the best way to reduce actual injury rates *during* the season.

20. As alluded to, the risk factors associated with injury can be broadly categorized as internal or external. Internal risk factors are internal to the athlete. These include relatively fixed variables, such as the athlete's age, biological sex, bone mineral density (which affects bone strength) and joint laxity, as well as more mutable variables such as body weight, fitness level, hydration state, current illness, prior injury, or psychosocial factors such as aggression.

21. External risk factors are, as the name suggests, external to the athlete. These include non-human risks such as the condition of the playing surface or equipment, athletic shoe wear, or environmental conditions. Other external risk factors come from opposing competitors, and include such

variables as player size, speed, aggressiveness, and overall adherence to the rules of the game. As already mentioned, these risks can be minimized through the proper creation and enforcement of rules, as well as the appropriate grouping of athletes together for purposes of competition. To the latter point, children don't play contact sports with adults and, in the great majority of cases, men and women compete in categories specific to their own biological sex. Certainly these categorical separations are motivated in part by average performance differences and considerations of fairness and opportunity. But they are also motivated by safety concerns. When properly applied, these divisions enhance safety because, when it comes to physical traits such as body size, weight, speed, muscle girth, and bone strength, although a certain amount of variability exists within each group, the averages and medians differ widely *between* the separated groups.[10]

22. Thus, each of these commonly utilized groupings of athletes represents a pool of individuals with predictable commonalities. Epidemiological risk assessment is somewhat predictable and translatable as long as these pools remain intact. But the introduction of outside individuals

[10] In some cases, safety requires even further division or exclusion. A welterweight boxer would not compete against a heavyweight, nor a heavyweight wrestle against a smaller athlete. In the case of youth sports, when children are at an age where growth rates can vary widely, leagues will accommodate for naturally-occurring large discrepancies in body size by limiting larger athletes from playing positions where their size and strength is likely to result in injury to smaller players. Thus, in youth football, players exceeding a certain weight threshold may be temporarily restricted to playing on the line and disallowed from carrying the ball, or playing in the defensive secondary, where they could impose high-velocity hits on smaller players.

into a given pool (e.g. an adult onto a youth football team, or males into most women's sports) would change the balance of risk inside that pool. Simply put, when you introduce larger, faster, and stronger athletes from one pool into a second pool of athletes who are *categorically* smaller (whether as a result of age or sex), you have altered the characteristics of the second pool, and, based on known injury modeling, have statistically increased the injury risk for the original athletes in that pool. This, in a nutshell, is the basis for World Rugby's recommendations.

23. Most clinical studies of the epidemiology of sports injuries use a multivariate approach, identifying multiple independent risk factors and examining how these factors might interact, in order to determine their relative contribution to injury risk, and make educated inferences about causation. (Meeuwise 1994.)

24. In applying the multivariate approach, the goal is to keep as many variables as possible the same so as to isolate the potential effect of a single variable (such as age or biological sex) on injury risk, as well as to determine how the isolated variable interacts with the other analyzed variables to affect injury risk. Failure to consider relevant independent variables can lead to error. Researchers focusing on differences between male and female athletes, for example, would not compare concussion rates of a high school girls' soccer team to concussion rates of a professional men's soccer team, because differences in the concussion rate might be due to a number of factors besides sex, such as age,

body mass, relative differences in skill, speed, or power, as well as differences in training volume and intensity.

25. As indicated earlier, an injury event is usually the end product of a number of different risk factors coming together. (Bahr 2005.) A collision between two soccer players who both attempt to head the ball, for example, might be the inciting event that causes a concussion. Although the linear and angular forces that occur through sudden deceleration would be the proximate cause of this injury, the epidemiological model of injury would also factor in "upstream" risks, predicting the possibility of an injury outcome for each athlete differently depending on the sum of these risks. If the collision injury described above occurs between two disparately-sized players, the smaller athlete will tend to decelerate more abruptly than the larger athlete, increasing the smaller athlete's risk for injury. Additional discrepancies in factors such as neck strength, running speeds, and muscle force generation capacity all result in differing risks and thus, the potential for differing injury outcomes from the same collision. As I discuss later in this white paper, there are significant statistical differences between the sexes when it comes to each of these variables, meaning that in a collision sport where skeletally mature males and females are playing against one another, there is a higher statistical likelihood that injury will result when collisions occur, and in particular there is a higher likelihood that a female will suffer injury. This again is the basis for the recent decision by World Rugby to disallow the crossover of men into women's rugby,

regardless of gender identity. (World Rugby Transgender Women Guidelines 2020.) The decision-making represented by this policy change is rational and rooted in objective facts and objective risks of harm, because it takes real, acknowledged, and documented physical differences between the sexes (in many cases before adolescence), and models expected injury risk on the basis of the known differences that persist even after hormone manipulation.

B. The biomechanical model of injury

26. Sports medicine researchers and clinicians also consider a biomechanical approach when it comes to understanding sports injuries. In the biomechanical model of injury, injury is considered to be analogous to the failure of a machine or other structure. Every bone, muscle, or connective tissue structure in an athlete's body has a certain load tolerance. Conceptually, when an external "load" exceeds the load tolerance of a given structure in the human body, an injury occurs. (Fung 1993 at 1.) Thus, researchers focus on the mechanical load—the force exerted on a bone, ligament, joint or other body part—and the load tolerance of that impacted or stressed body part, to understand what the typical threshold for injury is, and how predictable this might be. (McIntosh 2005 at 2-3.) Biomechanical models of injury usually consider forces in isolation. The more consistent the movement pattern of an individual, and the fewer the contributions of unexpected outside forces to the athlete, the more accurate biomechanical predictions of injury will be.

27. Biomechanical modeling can be highly predictive in relatively simple settings. For example, in blunt trauma injury from falls, mortality predictably rises the greater the fall. About 50% of people who fall four stories will survive, while only 10% will survive a fall of seven stories. (Buckman 1991.) As complexity increases, predictability in turn decreases. In sport, the pitching motion is highly reproducible, and strain injury to the ulnar collateral ligament (UCL) of the elbow can be modeled. The load tolerance of the UCL of a pitcher's elbow is about 32 Newton-meters, but the failure threshold of a ligament like this in isolation is not the only determinant of whether injury will occur. During the pitching motion, the valgus force imparted to the elbow (gapping stress across the inner elbow that stretches the UCL) routinely reaches 64 Newtons, which is obviously greater than the failure threshold of the ligament. Since not all pitchers tear their UCLs, other variables innate to an athlete must mitigate force transmission to the ligament and reduce risk. The load tolerance of any particular part of an athlete's body is thus determined by other internal factors such as joint stiffness, total ligament support, muscle strength across the joint, or bone mineral density. Injury load can be self-generated, as in the case of a pitcher's elbow, or externally-generated, as in the case of a linebacker hitting a wide receiver. While load tolerance will vary by individual, as described above, and is often reliant on characteristics innate to a given athlete, external load is determined by outside factors such as the nature of the playing surface or

equipment used, in combination with the weight and speed of other players or objects (such as a batted ball) with which the player collides. (Bahr 2005.)

28. As this suggests, the two "models" of sports injuries described above are not in any sense inconsistent or in tension with each other. Instead, they are complementary ways of thinking about injuries that can provide different insights. But the important point to make regarding these models is that in either model, injury risk (or the threshold for injury) rises and falls depending on the size of an externally-applied force, and the ability of a given athlete to absorb or mitigate that force.

IV. THE PHYSICS OF SPORTS INJURY

29. Sports injuries often result from collisions between players, or between a player and a rapidly moving object (e.g. a ball or hockey puck, a lacrosse or hockey stick). In soccer, for example, most head injuries result from collisions with another player's head or body, collision with the goal or ground, or from an unanticipated blow from a kicked ball. (Boden 1998; Mooney 2020.) In basketball, players often collide with each other during screens, while diving for a loose ball, or while driving to the basket. In lacrosse or field hockey, player-to-player, or player-to-stick contact is common.

30. But what are the results of those collisions on the human body? Basic principles of physics can cast light on this question from more than one angle. A general understanding of these principles can help us identify factors

that will predictably increase the relative risk, frequency, and severity of sports injuries, given certain assumptions.

31. First, we can consider **energy**. Every collision involves an object or objects that possess energy. The energy embodied in a moving object (whether a human body, a ball, or anything else) is called kinetic energy.

32. Importantly, the kinetic energy of a moving object is expressed as: $\boldsymbol{E_k = \frac{1}{2}mv^2}$. That is, kinetic energy is a function of the mass of the object multiplied by the *square* of its velocity. (Dashnaw 2012.) To illustrate with a simple but extreme example: if athletes A and B are moving at the same speed, but athlete A is twice as heavy, athlete A carries twice as much kinetic energy as athlete B. If the two athletes weigh the same amount, but athlete A is going twice as fast, athlete A carries four times as much kinetic energy as athlete B. But as I have noted, the kinetic energy of a moving object is a function of the mass of the object multiplied by the square of its velocity. Thus, if athlete A is twice as heavy, and moving twice as fast, athlete A will carry eight times the kinetic energy of athlete B into a collision.[11]

33. The implication of this equation means that what appear to be relatively minor discrepancies in size and speed can result in major differences in energy imparted in a collision, to the point that more frequent and more severe injuries can occur. To use figures that correspond more closely to average

[11] $2 \times 2^2 = 8$

differences between men and women, if Player M weighs only 20% more than Player F, and runs only 15% faster, Player M will bring *58% more kinetic energy* into a collision than Player F.[12]

34. The law of conservation of energy tells us that energy is never destroyed or "used up." If kinetic energy is "lost" by one body in a collision, it is inevitably transferred to another body, or into a different form. In the case of collision between players, or between (e.g.) a ball and a player's head, some of the energy "lost" by one player, or by the ball, may be transformed into (harmless) sound; some may result in an increase in the kinetic energy of the player who is struck (through acceleration, which I discuss below); but some of it may result in *deformation* of the player's body—which, depending on its severity, may result in injury. Thus, the greater the kinetic energy brought into a collision, the greater the potential for injury, all other things being equal.

35. Alternately, we can consider force and *acceleration*, which is particularly relevant to concussion injuries.

36. Newton's third law of motion tells us that when two players collide, their bodies experience equal and opposite forces at the point of impact.

37. Acceleration refers to the rate of change in speed (or velocity). When two athletes collide, their bodies necessarily accelerate (or decelerate) rapidly: stopping abruptly, bouncing back, or being deflected in a different

[12] $1.2 \times (1.15)^2 = 1.587$

direction. Newton's second law of motion tells us that: $\boldsymbol{F = ma}$ (that is, force equals mass multiplied by acceleration). From this equation we see that when a larger and a smaller body collide, and (necessarily) experience equal and opposite forces, the smaller body (or smaller player, in sport) will experience more rapid acceleration. We observe this physical principle in action when we watch a bowling ball strike bowling pins: the heavy bowling ball only slightly changes its course and speed; the lighter pins go flying.

38. This same equation also tells us that if a given player's body or head is hit with a *larger* force (e.g., from a ball that has been thrown or hit faster), it will experience *greater* acceleration, everything else being equal.

39. Of course, sport is by definition somewhat chaotic, and forces are often not purely linear. Many collisions also involve angular velocities, with the production of rotational force, or torque. Torque can be thought of as force that causes rotation around a central point. A different but similar equation of Newtonian physics governs the principles involved.[13] Torque is relevant to injury in several ways. When torque is applied through joints in directions those joints are not able to accommodate, injury can occur. In addition, rotational force can cause different parts of the body to accelerate at different rates—in some cases, very rapid rates, also leading to injury. For example, a collision where the

[13] In this equation, $\boldsymbol{\tau = I\alpha}$, torque equals moment of inertia multiplied by angular acceleration, where "moment of inertia" is defined as $\boldsymbol{I = mr^2}$, that is, mass multiplied by the square of the distance to the rotational axis.

body is impacted at the waist can result in high torque and acceleration on the neck and head.

40. Sport-related concussion—a common sports injury and one with potentially significant effects—is attributable to linear, angular, or rotational acceleration and deceleration forces that result from impact to the head, or from an impact to the body that results in a whiplash "snap" of the head. (Rowson 2016.) In the case of a concussive head injury, it is the brain that accelerates or decelerates on impact, colliding with the inner surface of the skull. (Barth 2001 at 255.)

41. None of this is mysterious: each of us, if we had to choose between being hit either by a large, heavy athlete running at full speed, or by a small, lighter athlete, would intuitively choose collision with the small, light athlete as the lesser of the two evils. And we would be right. One author referred to the "increase in kinetic energy, and therefore imparted forces" resulting from collision with larger, faster players as "profound." (Dashnaw 2012.)

V. GENDER DIFFERENCES RELEVANT TO INJURY

42. It is important to state up front that it is self-evident to most people familiar with sport and sport injuries that if men and women were to consistently participate together in competitive contact sports, there would be higher rates of injury in women. This is one reason that rule modifications often

exist in leagues where co-ed participation occurs.[14] Understanding the physics of sports injuries helps provide a theoretical framework for why this is true, but so does common sense and experience. All of us are familiar with basic objective physiological differences between the sexes, some of which exist in childhood, and some of which become apparent after the onset of puberty, and persist throughout adulthood. And as a result of personal experience, all of us also have some intuitive sense of what types of collisions are likely to cause pain or injury. Not surprisingly, our "common sense" on these basic facts about the human condition is also consistent with the observations of medical science. Below, I provide quantifications of some of these well-known differences between the sexes that are relevant to injury risk, as well as some categorical differences that may be less well known.

A. Height and weight

43. It is an inescapable fact of the human species that males as a group are statistically larger and heavier than females. On average, men are 7% to 8% taller than women. (Handelsman 2018 at 818.) According to the most recently available Centers for Disease Control and Prevention (CDC) statistics, the weight of the average U.S. adult male is 16% greater than that of the average U.S. adult female. (CDC 2018.) This disparity persists into the athletic cohort.

[14] For example, see https://www.athleticbusiness.com/college/intramural-coed-basketball-playing-rules-vary-greatly.html (detailing variety of rule modifications applied in co-ed basketball). Similarly, coed soccer leagues often prohibit so-called "slide tackles," which are not prohibited in either men's or women's soccer. See, e.g.., http://www.premiercoedsports.com/pages/rulesandpolicies/soccer.

Researchers find that while athletes tend on average to be lighter than non-athletes, the weight difference between the average adult male and female athlete remains within the same range—between 14% and 23%, depending on the sport analyzed. (Santos 2014; Fields 2018.) Indeed, World Rugby estimates that the typical male rugby player weighs 20% to 40% more than the typical female rugby player. (World Rugby Transgender Women Guidelines 2020.) This size advantage by itself allows men to bring more force to bear in a collision.

B. Bone and connective tissue strength

44. Men have bones in their arms, legs, feet, and hands that are both larger and stronger per unit volume than those of women, due to greater cross-sectional area, greater bone mineral content, and greater bone density. The advantage in bone size (cross-sectional area) holds true in both upper and lower extremities, even when adjusted for lean body mass. (Handelsman 2018 at 818; Nieves 2005 at 530.) Greater bone size in men is also correlated with stronger tendons that are more adaptable to training (Magnusson 2007), and an increased ability to withstand the forces produced by larger muscles (Morris 2020 at 5). Male bones are not merely larger, they are stronger per unit of volume. Studies of differences in arm and leg bone mineral density – one component of bone strength – find that male bones are denser, with measured advantages of between 5% and 14%. (Gilsanz 2011; Nieves 2005.)

45. Men also have larger ligaments than women (Lin 2019 at 5), and stiffer connective tissue (Hilton 2021 at Table 1), providing greater protection against joint injury.

C. Speed

46. When it comes to acceleration from a static position to a sprint, men are consistently faster than women. World record sprint performance gaps between the sexes remain significant at between 7% and 10.5%, with world record times in women now exhibiting a plateau (no longer rapidly improving with time) similar to the historical trends seen in men. (Cheuvront 2005.) This performance gap has to do with, among other factors, increased skeletal stiffness, greater cross-sectional muscle area, denser muscle fiber composition and greater limb length. (Handelsman 2018.) Collectively, males, on average, run about 10% faster than females. (Lombardo 2018 at 93.) This becomes important as it pertains to injury risk, because males involved in sport will often be travelling at faster speeds than their female counterparts in comparable settings, with resultant faster speed at impact, and thus greater impact force, in a given collision.

D. Strength/Power

47. In 2014, a male mixed-martial art fighter identifying as female and fighting under the name Fallon Fox fought a woman named Tamikka Brents, and caused significant facial injuries in the course of their bout. Speaking about their fight later, Brents said:

> "I've fought a lot of women and have never felt the strength that I felt in a fight as I did that night. I can't answer whether it's because she was born a man or not because I'm not a doctor. I can only say, I've never felt so overpowered ever in my life, and I am an abnormally strong female in my own right."[15]

48. So far as I am aware, mixed martial arts is not a collegiate or high school interscholastic sport. Nevertheless, what Brent experienced in an extreme setting is true and relevant to safety in all sports that involve contact. In absolute terms, males as a group are substantially stronger than women.

49. Compared to women, men have "larger and denser muscle mass, and stiffer connective tissue, with associated capacity to exert greater muscular force more rapidly and efficiently." (Hilton 2021 at 201.) Research shows that on average, during the prime athletic years (ages 18-29) men have, on average, 54% greater total muscle mass than women (33.7 kg vs. 21.8 kg) including 64% greater muscle mass in the upper body, and 47% greater in the lower body. (Janssen 2000 at Table 1.) The cross-sectional area of muscle in women is only 50% to 60% that of men in the upper arm, and 65% to 70% of that of men in the thigh. This translates to women having only 50% to 60% of men's upper limb strength and 60% to 80% of men's lower limb strength. (Handelsman 2018 at 812.) Male weightlifters have been shown to be approximately 30% stronger than female weightlifters of equivalent stature and mass. (Hilton 2021 at 203.) But in competitive athletics, since the stature and mass of the average male

[15] https://bjj-world.com/transgender-mma-fighter-fallon-fox-breaks-skull-of-her-female-opponent/

exceeds that of the average female, actual differences in strength between average body types will, on average, exceed this. The longer limb lengths of males augment strength as well. Statistically, in comparison with women, men also have lower total body fat, differently distributed, and greater lean muscle mass, which increases their power-to-weight ratios and upper-to-lower limb strength ratios as a group. Looking at another common metric of strength, males average 57% greater grip strength (Bohannon 2019) and 54% greater knee extension torque (Neder 1999). Research shows that sex-based discrepancies in lean muscle mass begin to be established from infancy, and persist through childhood to adolescence. (Davis 2019; Kirchengast 2001; Taylor 1997; Taylor 2010; McManus 2011.)

50. Using their legs and torso for power generation, men can apply substantially larger forces with their arms and upper body, enabling them to generate more ball velocity through overhead motions, as well as to generate more pushing or punching power. In other words, isolated sex-specific differences in muscle strength in one region (even differences that in isolation seem small) can, and do combine to generate even greater sex-specific differences in more complex sport-specific functions. One study looking at moderately-trained individuals found that males can generate 162% more punching power than females. (Morris 2020.) Thus, multiple small advantages aggregate into larger ones.

E. Throwing and kicking speed

51. One result of the combined effects of these sex-determined differences in skeletal structure is that men are, on average, able to throw objects faster than women. (Lombardo 2018; Chu 2009; Thomas 1985.) By age seventeen, the *average* male can throw a ball farther than 99% of seventeen-year-old females—which necessarily means at a faster initial speed assuming a similar angle of release— despite the fact that factors such as arm length, muscle mass, and joint stiffness individually don't come close to exhibiting this degree of sex-defined advantage. One study of elite male and female baseball pitchers showed that men throw baseballs 35% faster than women—81 miles/hour for men vs. 60 miles/hour for women. The authors of this study attribute this to a sex-specific difference in the ability to generate muscle torque and power. (Chu 2009.) A study showing greater throwing velocity in male versus female handball players attributed it to differences in body size, including height, muscle mass, and arm length. (Van Den Tillaar 2012.) Interestingly, significant sex-related difference in throwing ability has been shown to manifest even before puberty, but the difference increases rapidly during and after puberty. (Thomas 1985 at 266.) These sex-determined differences in throwing speed are not limited to sports where a ball is thrown. Males have repeatedly been shown to throw a javelin more than 30% farther than females. (Lombardo 2018 Table 2; Hilton 2021 at 203.) Even in preadolescent children, differences exist. International youth records for 5- to

12-year-olds in the javelin show 34-55% greater distance in males vs. females using a 400g javelin.[16]

52. Men also serve and spike volleyballs with higher velocity than women, with a performance advantage in the range of 29-34%. (Hilton 2021.) Analysis of first and second tier Belgian national elite male volleyball players shows ball spike speeds of 63 mph and 56 mph respectively. (Forthomme 2005.) NCAA Division I female volleyball players—roughly comparable to the second-tier male elite group referenced above—average a ball spike velocity of approximately 40 mph (18.1 m/s). (Ferris 1995 at Table 2.) Notably, based on the measurements of these studies, male spiking speed in *lower* elite divisions is almost 40% greater than that of NCAA Division I female collegiate players. Separate analyses of serving speed between elite men and women Spanish volleyball players showed that the average power serving speed in men was 54.6 mph (range 45.3–64.6 mph), with maximal speed of 76.4 mph. In women, average power serving speed was 49 mph (range 41–55.3 mph) with maximal speed of 59 mph. This translates to an almost 30% advantage in maximal serve velocity in men. (Palao 2014.)

53. Recall that kinetic energy is dependent on mass and the square of velocity. A volleyball (with fixed mass) struck by a male, and traveling an

[16] http://age-records.125mb.com/.

average 35% faster than one struck by a female, will deliver 82% more energy to a head upon impact.

54. The greater leg strength and jumping ability of men confer a further large advantage in volleyball that is relevant to injury risk. In volleyball, an "attack jump" is a jump to position a player to spike the ball downward over the net against the opposing team. Research on elite national volleyball players found that on average, males exhibited a 50% greater vertical jump height during an "attack" than did females. (Sattler 2015.) Similar data looking at countermovement jumps (to block a shot) in national basketball players reveals a 35% male advantage in jump height. (Kellis 1999.) In volleyball, this dramatic difference in jump height means that male players who are competing in female divisions will more often be able to successfully perform a spike, and this will be all the more true considering that the women's net height is seven inches lower than that used in men's volleyball. Confirming this inference, research also shows that the successful attack percentage (that is, the frequency with which the ball is successfully hit over the net into the opponent's court in an attempt to score) is so much higher with men than women that someone analyzing game statistics can consistently identify games played by men as opposed to women on the basis of this statistic alone. These enhanced and more consistently successful attacks by men directly correlate to their greater jumping ability and attack velocity at the net. (Kountouris 2015.)

55. The combination of the innate male-female differences cited above, along with the lower net height in women's volleyball, means that if a reasonably athletic male is permitted to compete against women, the participating female players will likely be exposed to higher ball velocities that are outside the range of what is typically seen in women's volleyball. When we recall that ball-to-head impact is a common cause of concussion among women volleyball players, this fact makes it clear that participation in girls' or women's volleyball by biologically male individuals will increase concussion injury risk for participating girls or women.

56. Male sex-based advantages in leg strength also lead to greater kick velocity. In comparison with women, men kick balls harder and faster. A study comparing kicking velocity between university-level male and female soccer players found that males kick the ball with an average 20% greater velocity than females. (Sakamoto 2014.) Applying the same principles of physics we have just used above, we see that a soccer ball kicked by a male, travelling an average 20% faster than a ball kicked by a female, will deliver 44% more energy on head impact. Greater force-generating capacity will thus increase the risk of an impact injury such as concussion.

VI. ENHANCED FEMALE VULNERABILITY TO CERTAIN INJURIES

57. Above, I have reviewed physiological differences that result in the male body bringing greater weight, speed, and force to the athletic field or court,

and how these differences can result in a greater risk of injury to females when males compete against them. It is also true that the female body is more vulnerable than the male body to certain types of injury even when subject to comparable forces. This risk appears to extend to the younger age cohorts as well. An analysis of Finnish student athletes from 1987-1991, analyzing over 600,000 person-years of activity exposures, found, in students under fifteen years of age, higher rates of injury in girls than boys in soccer, volleyball, judo and karate. (Kujala 1995.) Another epidemiological study looking specifically at injury rates in over 14,000 middle schoolers over a 20 year period showed that "in sex-matched sports, middle school girls were more likely to sustain *any* injury (RR = 1.15, 95% CI = 1.1, 1.2) or a time-loss injury (RR = 1.09, 95% CI = 1.0, 1.2) than middle school boys." In analyzed both-sex sports (i.e., sex-separated sports that both girls and boys play, like soccer), girls sustained higher injury rates, and greater rates of time-loss injury. (Beachy 2014.) Another study of over 2000 middle school students at nine schools showed that the injury rate was higher for girls' basketball than for football (39.4 v 30.7/1000 AEs), and injury rates for girls' soccer were nearly double that of boys' soccer (26.3 v. 14.7/1000 AEs). (Caswell 2017.) In this regard, I will focus on two areas of heightened female vulnerability to collision-related injury which have been extensively studied: concussions, and anterior cruciate ligament injuries.

A. Concussions

58. Females are more likely than males to suffer concussions in comparable sports, and on average suffer more severe and longer lasting disability once a concussion does occur. (Harmon 2013 at 4; Berz 2015; Blumenfeld 2016; Covassin 2003; Rowson 2016.) Females also seem to be at higher risk for post-concussion syndrome than males. (Berz 2015; Blumenfeld 2016; Broshek 2005; Colvin 2009; Covassin 2012; Dick 2009; Marar 2012; Preiss-Farzanegan 2009.)

59. The most widely-accepted definition of sport-related concussion comes from the Consensus Statement on Concussion in Sport (see below).[17] (McCrory 2018.) To summarize, concussion is "a traumatically induced transient

[17] "Sport related concussion is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilised in clinically defining the nature of a concussive head injury include:

SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.

SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.

SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.

SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.

The clinical signs and symptoms cannot be explained by drug, alcohol, or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction, etc) or other comorbidities (e.g., psychological factors or coexisting medical conditions)."

disturbance of brain function and involves a complex pathophysiological process" that can manifest in a variety of ways. (Harmon 2013 at 1.)

60. Sport-related concussions have undergone a significant increase in societal awareness and concurrent injury reporting since the initial passage of the Zachery Lystedt Concussion Law in Washington State in 2009 (Bompadre 2014), and the subsequent passage of similar legislation governing return-to-play criteria for concussed athletes in most other states in the United States. (Nat'l Cnf. of State Leg's 2018). Concussion is now widely recognized as a common sport-related injury, occurring in both male and female athletes. (CDC 2007.) Sport-related concussions can result from player-surface contact or player-equipment contact in virtually any sport. However, sudden impact via a player-to-player collision, with rapid deceleration and the transmission of linear or rotational forces through the brain, is also a common cause of concussion injury. (Covassin 2012; Marar 2012; Barth 2001; Blumenfeld 2016; Boden 1998; Harmon 2013 at 4.)

61. A large retrospective study of U.S. high school athletes showed a higher rate of female concussions in soccer (79% higher), volleyball (0.6 concussions/10,000 exposures, with 485,000 reported exposures, vs. no concussions in the male cohort), basketball (31% higher), and softball/baseball (320% higher). (Marar 2012.) A similarly-sized, similarly-designed study comparing concussion rates between NCAA male and female collegiate athletes showed, overall, a concussion rate among females 40% higher than that of

males. Higher rates of injury were seen across individual sports as well, including ice hockey (10% higher); soccer (54% higher); basketball (40% higher); and softball/baseball (95% higher). (Covassin 2016.) The observations of these authors, my own observations from clinical practice, and the acknowledgment of our own Society's Position Statement (Harmon 2013), all validate the higher frequency and severity of sport-related concussions in women and girls.

62. Most epidemiological studies to date looking at sport-related concussion in middle schoolers show that more boys than girls are concussed. There are fewer studies estimating concussion *rate*. This is, in part, because measuring injury rate is more time and labor-intensive. Researchers at a childrens' hospital, for example, could analyze the number of children presenting to the emergency department with sport-related concussion and publish findings of absolute number. However, to study concussion incidence, athlete exposures also have to be recorded. Generally speaking, an athlete exposure is a single practice or game where an athlete is exposed to playing conditions that could reasonably supply the necessary conditions for an injury to occur. Rates of athletic injury, concussion among them, are then, by convention, expressed in terms of injury rate per 1000 athletic exposures. More recently, some studies have been published that analyze the rates of concussion in the middle school population. Looking at the evidence, the conclusion can be made that females experience increased susceptibility to concussive injuries before puberty. For example, Ewing-Cobbs, et al. (2018) found elevated post-

concussion symptoms in girls across all age ranges studied, including children between the ages of 4 and 8. Kerr's 2017 study of middle school students showed over three times the rate of female vs male concussion in students participating in sex-comparable sports [0.18 v. 0.66/1000 A.E.'s]. (Kerr 2017.) This is the first study I am aware of that mimics the trends seen in adolescent injury epidemiology showing a higher rate of concussion in girls than boys in comparable sports.

63. More recent research looking at the incidence of sport-related concussions in U.S. middle schoolers between 2015 and 2020, found that the rate of concussion was higher in middle school athletes than those in high school. In this study, girls had more than twice the rate of concussion injury (0.49/1000 athletic exposures vs 0.23/1000 AE) in analyzed sports (baseball/softball, basketball, soccer and track), as well as statistically greater time loss. (Hacherl 2021 (Journal of Athletic Training); Hacherl 2021 (Archives of Clinical Neuropsychology).) The authors hypothesized that the increasing incidence of concussion in middle school may relate to "other distinct differences associated with the middle school sport setting itself, such as, the large variations in player size and skill."[18]

64. In addition, females on average suffer materially greater cognitive impairment than males when they do suffer a concussion. Group differences in

[18] https://www.nata.org/press-release/062421/middle-school-sports-have-overall-higher-rate-concussion-reported-high-school.

cognitive impairment between females and males who have suffered concussion have been extensively studied. A study of 2340 high school and collegiate athletes who suffered concussions determined that females had a 170% higher frequency of cognitive impairment following concussions, and that in comparison with males, female athletes had significantly greater declines in simple and complex reaction times relative to their preseason baseline levels. Moreover, the females experienced greater objective and subjective adverse effects from concussion even after adjusting for potentially protective effect of helmets used by some groups of male athletes. (Broshek 2005 at 856, 861; Colvin 2009; Covassin 2012.)

65. This large discrepancy in frequency and severity of concussion injury is consistent with my own observations across many years of clinical practice. The large majority of student athletes who have presented at my practice with severe and long-lasting cognitive disturbance have been adolescent girls. I have seen girls remain symptomatic for over a year, and lose ground academically and become isolated from their peer groups due to these ongoing symptoms. For patients who experience these severe effects, post-concussion syndrome can be life-altering.

66. Some of the anatomical and physiological differences that we have considered between males and females help to explain the documented differences in concussion rates and in symptoms between males and females. (Covassin 2016; La Fountaine 2019; Lin 2019; Tierney 2005; Wunderle 2014.)

Anatomically, there are significant sex-based differences in head and neck anatomy, with females exhibiting in the range of 30% to 40% less head-neck segment mass and neck girth, and 49% lower neck isometric strength. This means that when a female athlete's head is subjected to the same load as an analogous male, there will be a greater tendency for head acceleration, and resultant injury. (Tierney 2005 at 276-277.)

67. When modeling the effect of the introduction of male mass, speed, and strength into women's rugby, World Rugby gave particular attention to the resulting increases in forces and acceleration (and injury risk) experienced in the head and neck of female players. Their analysis found that "the magnitude of the known risk factors for head injury are . . . predicted by the size of the disparity in mass between players. The addition of [male] speed as a biomechanical variable further increases these disparities," and their model showed an increase of up to 50% in neck and head acceleration that would be experienced in a typical tackle scenario in women's rugby. As a result, "a number of tackles that currently lie beneath the threshold for injury would now exceed it, causing head injury." (World Rugby Transgender Women Guidelines 2020.) While rugby is notoriously contact-intensive, similar increases to risk of head and neck injury to women are predictable in any sport context in which males and females collide at significant speed, as happens from time to time in sports including soccer, softball, and basketball.

68. In addition, even when the heads of female and male athletes are subjected to identical accelerative forces, there are sex-based differences in neural anatomy and physiology, cerebrovascular organization, and cellular response to concussive stimuli that make the female more likely to suffer concussive injury, or more severe concussive injury. For instance, hypothalamic-pituitary disruption is thought to play a role in post-concussion symptomatology that differentially impacts women. (McGroarty 2020; Broshek 2005 at 861.) Another study found that elevated progesterone levels during one portion of the menstrual cycle were associated with more severe post-concussion symptomatology that differentially impacted women. (Wunderle 2014.)

69. As it stands, when females compete against each other, they already have higher rates of concussive injury than males, across most sports. The addition of biologically male athletes into women's contact sports will inevitably increase the risk of concussive injury to girls and women, for the multiple reasons I have explained above, including, but not limited to, the innate male advantage in speed and lean muscle mass. Because the effects of concussion can be severe and long-lasting, particularly for biological females, we can predict with some confidence that if participation by biological males in women's contact sports based on gender identity becomes more common, more biological females will suffer substantial concussive injury and the potential for long-term harm as a result.

B. Anterior Cruciate Ligament injuries

70. The Anterior Cruciate Ligament ("ACL") is a key knee stabilizer that prevents anterior translation of the tibia relative to the femur and also provides rotatory and valgus knee stability.[19] (Lin 2019 at 4.) Girls and women are far more vulnerable to ACL injuries than are boys and men. The physics of injury that we have reviewed above makes it inevitable that the introduction of biologically male athletes into the female category will increase still further the occurrence of ACL injuries among girls or women who encounter these players on the field.

71. Sports-related injury to the ACL is so common that it is easy to overlook the significance of it. But it is by no means a trivial injury, as it can end sports careers, require surgery, and usually results in early-onset, post-traumatic osteoarthritis, triggering long-term pain and mobility problems later in life. (Wang 2020.)

72. Even in the historic context in which girls and women limit competition to (and so only collide with) other girls and women, the rate of ACL injury is substantially higher among female than male athletes. (Flaxman 2014; Lin 2019; Agel 2005.) One meta-analysis of 58 studies reports that female athletes have a 150% relative risk for ACL injury compared with male athletes, with other estimates suggesting as much as a 300% increased risk. (Montalvo 2019; Sutton 2013.) Particularly in those sports designated as contact sports, or

[19] Valgus force at the knee is a side-applied force that gaps the medial knee open.

sports with frequent cutting and sharp directional changes (basketball, field hockey, lacrosse, soccer), females are at greater risk of ACL injury. In basketball and soccer, this risk extends across all skill levels, with female athletes between two and eight times more likely to sustain an ACL injury than their male counterparts. (Lin 2019 at 5.) These observations are widely validated, and consistent with the relative frequencies of ACL injuries that I see in my own practice.

73. When the reasons underlying the difference in the incidence of ACL injury between males and females were first studied in the early 1990s, researchers speculated that the difference might be attributable to females' relative inexperience in contact sports, or to their lack of appropriate training. However, a follow-up 2005 study looking at ACL tear disparities reported that, "Despite vast attention to the discrepancy between anterior cruciate ligament injury rates between men and women, these differences continue to exist." (Agel 2005 at 524.) Inexperience and lack of training do not explain the differences. Sex seems to be an independent predictor of ACL tear risk.

74. In fact, as researchers have continued to study this discrepancy, they have determined that multiple identifiable anatomical and physiological differences between males and females play significant roles in making females more vulnerable to ACL injuries than males. (Flaxman 2014; Lin 2019; Wolf 2015.) Summarizing the findings of a number of separate studies, one researcher recently cited as anatomical risk factors for ACL injury smaller ligament size,

decreased femoral notch width, increased posterior-inferior slope of the lateral tibia plateau, increased knee and generalized laxity, and increased body mass index (BMI). With the exception of increased BMI, each of these factors is more likely to occur in female than male athletes. (Lin 2019 at 5.) In addition, female athletes often stand in more knee valgus (that is, in a "knock-kneed" posture) due to wider hips and a medially-oriented femur. Often, this is also associated with a worsening of knee valgus during jump landings. The body types and movement patterns associated with these valgus knee postures are more common in females and increase the risk for ACL tear. (Hewett 2005.)

75. As with concussion, the cyclic fluctuation of sex-specific hormones in women is also thought to be a possible risk factor for ACL injury. Estrogen acts on ligaments to make them more lax, and it is thought that during the ovulatory phase of menses (when estrogen levels peak), the risk of ACL tear is higher. (Chidi-Ogbolu 2019 at 1; Herzberg 2017.)

76. Whatever the factors that increase the injury risk for ACL tears in women, the fact that a sex-specific difference in the rate of ACL injury exists is well established and widely accepted.

77. Although non-contact mechanisms are the most common reason for ACL tears in females, tears related to contact are also common, with ranges reported across multiple studies of from 20%-36% of all ACL injuries in women. (Kobayashi 2010 at 672.) For example, when a soccer player who is kicking a ball is struck by another player in the lateral knee of the stance leg, medial and

rotational forces can tear the medial collateral ligament (MCL), the ACL, and the meniscus. Thus, as participation in the female category based on identity rather than biology becomes more common (entailing the introduction of athletes with characteristics such as greater speed and lean muscle mass), and as collision forces suffered by girls and women across the knee increase accordingly, the risk for orthopedic injury and in particular ACL tears among impacted girls and women will inevitably rise.

78. Of course there exists variation in all these factors within a given group of males or females. However, it is also true that within sex-specific pools, size differential is somewhat predictable and bounded, even considering outliers. When males are permitted to enter into the pool of female athletes based on gender identity rather than biological sex, there is an increased possibility that a statistical outlier in terms of size, weight, speed, and strength—and potentially an extreme outlier—is now entering the female pool. Although injury is not guaranteed, risks to female participants will increase. And as I discuss later, the available evidence together suggests that this will be true even with respect to males who have been on testosterone suppression for a year or more. World Rugby relied heavily upon this when they were determining their own policy, and I think it is important to reiterate that this policy, rooted in concern for athlete safety, is justifiable based upon current evidence from medical research and what we know about biology.

VII. TESTOSTERONE SUPPRESSION WILL NOT PREVENT THE HARM TO FEMALE SAFETY IN ATHLETICS

79. A recent editorial in the New England Journal of Medicine opined that policies governing transgender participation in female athletics "must safeguard the rights of all women—whether cisgender or transgender." (Dolgin 2020.) Unfortunately, the physics and medical science reviewed above tell us that this is not practically possible. If biological males are given a "right" to participate in the female category based on gender identity, then biological women will be denied the right to reasonable expectations of safety and injury risk that have historically been guaranteed by ensuring that females compete (and collide) only with other females.

80. Advocates of unquestioning inclusion based on gender identity often contend that hormonal manipulation of a male athlete can feminize the athlete enough that he is comparable with females for purposes of competition. The NCAA's Office of Inclusion asserts (still accessible on the NCAA website as of this writing) that "It is also important to know that any strength and endurance advantages a transgender woman arguably may have as a result of her prior testosterone levels dissipate after about one year of estrogen or testosterone suppression therapy."[20] (NCAA 2011 at 8.) Whether or not this is true is a critically important question.

[20] https://www.ncaa.org/sports/2016/3/2/lesbian-gay-bisexual-transgender-and-questioning-lgbtq.aspx

81. At the outset, we should note that while advocates sometimes claim that testosterone suppression *can* eliminate physiological advantages in a biological male, none of the relevant transgender eligibility policies that I am aware of prior to 2021 requires any demonstration that it has *actually* achieved that effect in a particular male who seeks admission into the female category. The Connecticut policy that is currently at issue in ongoing litigation permits admission to the female category at the high school level without requiring any testosterone suppression at all. Prior to their new policy, just announced in January 2022, the NCAA's policy required no demonstration of any reduction of performance capability, change in weight, or regression of any other physical attribute of the biological male toward female levels. It did not require achievement of any particular testosterone level, and did not provide for any monitoring of athletes for compliance. Moving forward, through a phasing process, the NCAA will ultimately require athletes in each sport to meet requirements of their sport's national governing body (NGB). If no policy exists, the policy of that sport's international governing body applies, or, finally, if no policy exists there, the 2015 policy of the International Olympic Committee (IOC) will apply. The 2015 IOC policy requires no showing of any diminution of any performance capability or physical attribute of the biological male, and requires achievement and compliance monitoring only of a testosterone level below 10nmol/liter—a level far above levels occurring in normal biological

females (0.06 to 1.68 nmol/L).[21] Indeed, female athletes with polycystic ovarian disorder—a condition that results in elevated testosterone levels—rarely exceed 4.8 nmol/L, which is the basis for setting the testing threshold to detect testosterone *doping* in females at 5.0 nmol/L. Thus, males who qualify under the 2015 IOC policy to compete as transgender women may have testosterone levels—even after hormone suppression—*double* the level that would disqualify a biological female for doping with testosterone.[22]

82. As Dr. Emma Hilton has observed, the fact that there are over 3000 sex-specific differences in skeletal muscle alone makes the hypothesis that sex-linked performance advantages are attributable solely to current circulating testosterone levels improbable at best. (Hilton 2021 at 200-01.)

83. In fact, the available evidence strongly indicates that no amount of testosterone suppression can eliminate male physiological advantages relevant to performance and safety. Several authors have recently reviewed the science and statistics from numerous studies that demonstrate that one year (or more) of testosterone suppression does not substantially eliminate male performance advantages. (Hilton 2021; De Varona 2021; Harper 2021.) As a medical doctor, I will focus on those specific sex-based characteristics of males who have

[21] Normal testosterone range in a healthy male averages between 7.7 and 29.4 nmol/L.

[22] In November 2021, the IOC released new guidelines, deferring decision-making about a given sport's gender-affectedness to its governing body. The current NCAA policy, however, still utilizes the 2015 IOC policy to determine an athlete's eligibility in event that the sport's national and international governing bodies lack policies to determine eligibility.

undergone normal sex-determined pubertal skeletal growth and maturation that are relevant to the *safety* of female athletes. Here, too, the available science tells us that testosterone suppression does not eliminate the increased risk to females or solve the safety problem.

84. The World Rugby organization reached this same determination based on the currently available science, concluding that male physiological advantages that "create risks [to female players] appear to be only minimally affected" by testosterone suppression. (World Rugby Transgender Women Guidelines 2020.)

85. Surprisingly, so far as public information reveals, the NCAA's Committee on Competitive Safeguards is not monitoring and documenting instances of transgender participation on women's teams for purposes of injury reporting. In practice, the NCAA is conducting an experiment which in theory predicts an increased frequency and severity of injuries to women in contact sports, while at the same time failing to collect the relevant data from its experiment.

86. In their recent guidelines, UK Sport determined that, "based upon current evidence, testosterone suppression is unlikely to guarantee fairness between transgender women and natal females in gender-affected sports." (UK Sports Councils' Equality Group Guidance 2021 at 7.) They also warned that migration to a scenario by NGBs where eligibility is determined through case-by-case assessment "is unlikely to be practical nor verifiable for entry into

gender-affected sports," in part because "many tests related to sports performance are volitional," and incentives on the part of those tested would align with intentional poor performance. (UK Sports Councils' Equality Group Guidance 2021 at 8.)

87. Despite these concerns, this appears to be exactly the route that the IOC is taking, as reflected in their Framework on Fairness, Inclusion and Non-Discrimination on the Basis of Gender Identity, released in November of 2021.[23] In it, the IOC lists two disparate goals. First, that "where sports organizations elect to issue eligibility criteria for men's and women's categories for a given competition, they should do so with a view to . . . [p]roviding confidence that no athlete within a category has an unfair and disproportionate competitive advantage . . . [and] preventing a risk to the physical safety of other athletes." (IOC Framework 2021 § 4.1.) At the same time, governing bodies are not to preclude any athlete from competing until evidence exists based upon "robust and peer-reviewed research that . . . demonstrates a consistent, unfair, disproportionate competitive advantage in performance and/or an unpreventable risk to the physical safety of other athletes" – research moreover that "is largely based on data collected *from a demographic group that is consistent in gender and athletic engagement with the group that the eligibility*

[23] The IOC Framework on Fairness, Inclusion and Non-Discrimination on the Basis of Gender Identity and Sex Variations is available at https://stillmed.olympics.com/media/Documents/News/2021/11/IOC-Framework-Fairness-Inclusion-Non-discrimination-2021.pdf?_ga=2.72651665.34591192.1645554375-759350959.1644946978

criteria aim to regulate." (IOC Framework 2021 § 6.1) Finally, affected athletes may appeal any evidence-based decision-making process through a further "appropriate internal mediation mechanism, such as a Court of Arbitration for Sport." (IOC Framework 2021 § 6.1.) Rather than cite any of the growing evidence that testosterone suppression cannot mitigate sex-based performance differences, the IOC's new policy remains aspirational and opaque. And yet the research relating to hormonal suppression in transgender athletes, as confirmed by World Rugby and UK Sport, already speaks very clearly to the fact that males retain a competitive advantage over women that cannot be eliminated through testosterone suppression alone. What follows is a brief summary of some of these retained differences as they relate to sport safety.

A. Size and weight

88. Males are, on average, larger and heavier. As we have seen, these facts alone mean that males bring more kinetic energy into collisions, and that lighter females will suffer more abrupt deceleration in collisions with larger bodies, creating heightened injury risk for impacted females.

89. I start with what is obvious and so far as I am aware undisputed—that after the male pubertal growth spurt, suppression of testosterone does not materially *shrink* bones so as to eliminate height, leverage, performance, and weight differences that follow from simply having longer, larger bones, and being subsequently taller.

90. In addition, multiple studies have found that testosterone suppression may modestly reduce, but does not come close to eliminating the male advantage in muscle mass and lean body mass, which together contribute to the greater average male weight. Researchers looking at transitioning adolescents found that the weight of biological male subjects *increased* rather than decreased after treatment with an antiandrogen testosterone suppressor. (Tack 2018.) In one recent meta-analysis, researchers looking at the musculoskeletal effects of hormonal transition found that even after males had undergone 36 months of therapy, their lean body mass and muscle area remained above those of females. (Harper 2021.) Another group in 2004 studied the effects of testosterone suppression to less than 1 nmol/L in men after one or more years, but still found only a 12% total loss of muscle area by the end of thirty-six months. (Gooren 2004.)

B. Bone density

91. Bone mass (which includes both size and density) is maintained over *at least* two years of testosterone suppression (Singh-Ospina 2017; Fighera 2019), and one study found it to be preserved even over a median of 12.5 years of suppression (Hilton 2021; Ruetsche 2005).

C. Strength

92. A large number of studies have now observed minimal or no reduction in strength in male subjects following testosterone suppression. In one recent meta-analysis, strength loss after twelve months of hormone therapy

ranged from negligible to 7%. (Harper 2021.) Given the baseline male strength advantage in various muscle groups of from approximately 25% to 100% above female levels that I have noted in Section V.D above, even a 7% reduction leaves a large retained advantage in strength. Another study looking at handgrip strength—which is a proxy for general strength—showed a 9% loss of strength after two years of hormonal treatment in males who were transitioning, leaving a 23% retained advantage over the female baseline. (Hilton 2021.) Yet another study which found a 17% retained grip strength advantage noted that this placed the median of the group treated with hormone therapy in the 95th percentile for grip strength among age-matched females. (Scharff 2019.) Researchers looking at transitioning adolescents showed no loss of grip strength after hormone treatment. (Tack 2018.)

93. One recent study on male Air Force service members undergoing transition showed that they retained more than two thirds of pretreatment performance advantage over females in sit-ups and push-ups after between one and two years of testosterone-reducing hormonal treatment. (Roberts 2020.) Another recently-published observational cohort study looked at thigh strength and thigh muscle cross-sectional area in men undergoing hormonal transition to transgender females. After one year of hormonal suppression, this group saw only a 4% decrease in thigh muscle cross-sectional area, and a negligible decrease in thigh muscle strength. (Wiik 2020.) Wiik and colleagues looked at isokinetic strength measurements in individuals who had undergone at least 12

months of hormonal transition and found that muscle strength was comparable to baseline, leaving transitioned males with a 50% strength advantage over reference females. (Wiik 2020.) Finally, one cross-sectional study that compared men who had undergone transition at least three years prior to analysis, to age-matched, healthy males found that the transgender individuals had retained enough strength that they were still outside normative values for women. This imbalance continued to hold even after *eight* years of hormone suppression. The authors also noted that since males who identify as women often have lower baseline (i.e., before hormone treatment) muscle mass than the general population of males, and since baseline measures for this study were unavailable, the post-transition comparison may actually represent an overestimate of muscle mass regression in transgender females. (Lapauw 2008; Hilton 2021.)

94. World Rugby came to the same conclusion based on its own review of the literature, reporting that testosterone suppression "does not reverse muscle size to female levels," and in fact that "studies assessing [reductions in] mass, muscle mass, and/or strength suggest that reduction in these variables range between 5% and 10%. Given that the typical male vs female advantages range from 30% to 100%, these reductions are small." (World Rugby Transgender Women Guidelines 2020.)

95. It is true that most studies of change in physical characteristics or capabilities over time after testosterone suppression involve untrained subjects

rather than athletes, or subjects with low to moderate training. It may be assumed that all of the Air Force members who were subjects in the study I mention above were physically fit and engaged in regular physical training. But neither that study nor those studies looking at athletes quantify the volume or type of strength training athletes are undergoing. The important point to make is that the only effect strength training could have on these athletes is to *counteract* and reduce the limited loss of muscle mass and strength that does otherwise occur to some extent over time with testosterone blockade. There has been at least one study that illustrates this, although only over a short period, measuring strength during a twelve-week period where testosterone was suppressed to levels of 2 nmol/L. During that time, subjects actually increased leg lean mass by 4%, and total lean mass by 2%, and subject performance on the 10 rep-max leg press improved by 32%, while their bench press performance improved by 17%. (Kvorning 2006.)

96. The point for safety is that superior strength enables a biological male to apply greater force against an opponent's body during body contact, or to throw, hit, or kick a ball at speeds outside the ranges normally encountered in female-only play, with the attendant increased risks of injury that I have already explained.

D. Speed

97. As to speed, the study of transitioning Air Force members found that these males retained a 9% running speed advantage over the female control

group after one year of testosterone suppression, and their average speed had not declined significantly farther by the end of the 2.5 year study period. (Roberts 2020.) Again, I have already explained the implications of greater male speed on safety for females on the field and court, particularly in combination with the greater male body weight.

CONCLUSION

Since the average male athlete is larger and exerts greater power than the average female athlete in similar sports, male–female collisions will produce greater energy at impact, and impart greater risk of injury to a female, than would occur in most female-female collisions. Because of the well-documented physiological testing and elite performance differences in speed and strength, as well as differences in lean muscle mass that exist across all age ranges, the conclusions of this paper can apply to a certain extent before, as well as during, and after puberty. We have seen that males who have undergone hormone therapy in transition toward a female body type nevertheless retain musculoskeletal "legacy" advantages in muscle girth, strength, and size. We have also seen that the additive effects of these individual advantages create multiplied advantages in terms of power, force generation and momentum on the field of play. In contact or collision sports, sports involving projectiles, or sports where a stick is used to strike something, the physics and physiology reviewed above tell us that permitting male-bodied athletes to compete against, or on the same team as females—even when undergoing testosterone

suppression—must be expected to create predictable, identifiable, substantially increased, and unequal risks of injuries to the participating women.

Based on its independent and extensive analysis of the literature coupled with injury modeling, World Rugby recognized the inadequacy of the International Olympic Committee's policy to preserve safety for female athletes in their contact sport (the NCAA policy is even more lax in its admission of biological males into the female category). Among the explicit findings of the World Rugby working group were the following:

- Forces and inertia faced by a smaller and slower player during collisions are significantly greater when in contact with a larger, faster player.
- Discrepancies in mass and speed (such as between two opponents in a tackle) are significant determinants of various head and other musculoskeletal injury risks.
- The risk of injury to females is increased by biological males' greater ability to exert force (strength and power), and also by females' reduced ability to receive or tolerate that force.
- Testosterone suppression results in only "small" reductions in the male physiological advantages. As a result, heightened injury risks remain for females who share the same field or court with biological males.
- These findings together predict a significant increase in injury rates for females in rugby if males are permitted to participate based on gender identity, *with or without testosterone suppression*, since the magnitude of forces and energy transfer during collisions will increase substantially, directly correlated to the differences in physical attributes that exist between the biological sexes.

Summarizing their work, the authors of the World Rugby Guidelines said that, "World Rugby's number one stated priority is to make the game as safe as

possible, and so World Rugby cannot allow the risk to players to be increased to such an extent by allowing people who have the force and power advantages conferred by testosterone to play with and against those who do not." (World Rugby Transgender Guidelines 2020.) As my own analysis above makes clear, I agree with the concerns of UK Sport and the conclusions of World Rugby regarding risk to female athletes. Importantly, I also agree that it must be a high priority for sports governing bodies (and other regulatory or governmental bodies governing sports) to make each sport as safe as reasonably possible. And in my view, medical practitioners with expertise in this area have an obligation to advocate for science-based policies that promote safety.

The *performance* advantages retained by males who participate in women's sports based on gender identity are readily recognized by the public. When an NCAA hurdler who ranked 200th while running in the collegiate male division transitions and immediately leaps to a number one ranking in the women's division;[24] when a high school male sprinter who ranked 181st in the state running in the boys' division transitions and likewise takes first place in the girls' division (De Varona 2021), the problem of fairness and equal opportunities for girls and women is immediately apparent, and indeed this problem is being widely discussed today in the media.

[24] https://en.wikipedia.org/wiki/Cece_Telfer (accessed 6/20/21)

The causes of sports injuries, however, are multivariate and not always as immediately apparent. While, as I have noted, some biological males have indeed competed in a variety of girls' and women's contact sports, the numbers up till now have been small. But recent studies have reported very large increases in the number of children and young people identifying as transgender compared to historical experience. For example, an extensive survey of 9th and 11th graders in Minnesota found that 2.7% identified as transgender or gender-nonconforming— well over 100 times historical rates (Rider 2018), and many other sources likewise report this trend.[25]

Faced with this rapid social change, it is my view as a medical doctor that policymakers have an important and pressing duty not to wait while avoidable injuries are inflicted on girls and women, but instead to proactively establish policies governing participation of biological males in female athletics that give proper and scientifically-based priority to safety in sport for these girls and women. Separating participants in contact sports based on biological sex preserves competitive equity, but also promotes the safety of female athletes by protecting them from predictable and preventable injury. Otherwise, the hard science that I have reviewed in this white paper leaves little doubt that eligibility policies based on ideology or gender identity rather than science, will,

[25] https://www.nytimes.com/2016/07/01/health/transgender-population.html?.?mc=aud_dev&ad-keywords=auddevgate&gclid=Cj0KCQjwkZiFBhD9ARIsAGxFX8BV5pozB9LI5Ut57OQzuMhurWThv BMisV9NyN9YTXIzWl7OAnGT6VkaAu0jEALw_wcB&gclsrc=aw.ds (accessed 6/20/21)

over time, result in increased, and more serious, injuries to girls and women who are forced to compete against biologically male transgender athletes. When basic science and physiology both predict increased injury, then leagues, policy-makers, and legislators have a responsibility to act to protect girls and women before they get hurt.

Chad Carlson, M.D.,
FACSM Stadia Sports
Medicine West Des
Moines, Iowa Past-
President, AMSSM

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APPENDIX – LIST OF PUBLICATIONS

Publications of Dr. Chad Thomas Carlson, M.D., FACSM

Sports Medicine CAQ Study Guide, Healthy Learning, 2021 [editor].

SEXUAL VIOLENCE IN SPORT: AMERICAN MEDICAL SOCIETY FOR SPORTS MEDICINE POSITION STATEMENT. Published in Curr Sports Med Reports June 2020;19(6):232-4; Clin J Sports Med June 8 2020; Br J Sports Med 2020;0:1-3.

Traveling with Medication. NCAA Sports Science Institute Bulletin, 2015 http://www.ncaa.org/sport-science-institute/traveling-medication.

A SURVEY OF STATE MEDICAL LICENSING BOARDS: CAN THE TRAVELING TEAM PHYSICIAN PRACTICE IN YOUR STATE? 2013. Jan (47)1:60-62.

AXIAL BACK PAIN IN THE ATHLETE: PATHOPHYSIOLOGY AND APPROACH TO REHABILITATION. Curr Rev Musculoskel Med. 2009 (2):88-93.

THE NATURAL HISTORY AND MANAGEMENT OF HAMSTRING INJURIES. Curr Rev Musculoskel Med 2008 (1):120-128.

SPONDYLOLYSIS AND THE ATHLETE. Athletic Ther Today. 2007 (12)4:37-39.

"ACUTE SUBDURAL HEMATOMA IN A HIGH SCHOOL FOOTBALL PLAYER," J Athl Training, 38;2(63), 2003.

THE RELATIONSHIP OF EXCESSIVE WEIGHT LOSS TO PERFORMANCE IN HIGH SCHOOL WRESTLERS – A PILOT STUDY; presented at the AMSSM national meeting, San Diego, CA, 2000; Clinical Journal of Sport Medicine 10(4):310, October, 2000.

CURRICULUM VITAE (ABBREVIATED)

Chad Thomas Carlson, MD

Work Address: Stadia Sports Medicine
6000 University Ave.
Suite 250
West Des Moines, IA, 50266
Phone (515) 221-1102

Active professional licenses: IA, NE, CA, TX, TN, NC, AZ, FL (telemed)

Board certified family medicine, ABMS 1998; recertified 2005, 2012

Board certified sports medicine, ABMS 1999; recertified 2009, 2019

EDUCATION:

- Fellowship: Sports Medicine -- Ball Memorial Hospital/Central Indiana Orthopedics, 1997-1999; Completed 4/99
- Residency: University of Michigan Department of Family Medicine,1994-97
- University of Nebraska College of Medicine
  M.D. obtained May 1994
- University of Nebraska at Lincoln
  B.S. with majors in history (emphasis American) and biology obtained May 1990

EMPLOYMENT HISTORY:

- Physician Owner, Stadia Sports Medicine, West Des Moines, IA, 2006 - present
- Staff Physician, University of Illinois, 9/04-6/06
- Director, Carle Sports Medicine, Carle Foundation Hospital, Urbana, IL, 2001-2004; Team physician, University of Illinois.
- Private practice, Ionia County Hospital, Ionia, MI, 1999-2001.

HOSPITAL AFFILIATIONS:

- Iowa Methodist Hospital, Des Moines
- Mercy Medical Center, Des Moines

PROFESSIONAL HONORS/AWARDS:

- Appointed to Board of Directors, Physical Activity Alliance, 2020
- Appointed to joint AMSSM/NCAA COVID-19 Working Group, March 2020-present
  - Medical advisory panel, 2021 Women's Division I NCAA Basketball Tournament
- AMSSM Founders Award 2019, awarded once annually for the Sports Medicine Physician nationally who best exemplifies the practice of Sports Medicine
- Fellow designation, American Medical Society for Sports Medicine, 2019
- Elected to Executive Committee, American Medical Society for Sports Medicine, 2017-21
  - **President of AMSSM, 2019-2020**

- Practice/Policy Committee, AMSSM, 2007-2016 (Former Chair)
    - Author of US HR 921, the Sports Medicine Licensure Clarity Act, which passed the US House of Representatives and Senate in January 2017, and was signed into law by President Trump, 2017
- Appointed member of physician liaison group to the NCAA to discuss return to sport strategies in the COVID-19 pandemic, 2020
- Appointed to Board of Directors, Running the Race, 2018-present
- Sports Ultrasound Committee, Policy Co-Chair, AMSSM, 2015-2017
- Elected to Board of Directors, American Medical Society for Sports Medicine, 2009-2013.
- Member, Health and Science Policy Committee, ACSM, 2010-present
    - Chair, Clinical Medicine Subcommittee, HSPC, ACSM, 2012-2015
- Iowa Medical Society Leadership Development Committee, 2022
- Member of Sports Medicine Subcommittee for the Iowa State Medical Society, 2007-present
    - Iowa designate to National Youth Sports Safety Summit
        - New York City – 2015
        - Indianapolis – 2016
        - Kansas City – 2017
- AMSSM designate for the American Academy of Orthopaedic Surgeons' Knee Osteoarthritis Quality Measure review committee, 2014-2016
- Associate Editor, Current Reviews in Musculoskeletal Medicine, 2006-2010.
- Fellow, American College of Sports Medicine: Designated in 2004

SPECIAL QUALIFICATIONS:

- Prior legal consulting work in cases with both local and national reach
- Extensive training in office musculoskeletal injury
- Oversight of treadmill stress testing/metabolic stress testing
- Independent consultation regarding establishment of individual exercise programs consistent with revised ACSM guidelines
- Proficient at evaluation/management of bone mineral density problems at all ages

- Qualified procedurally for:
    - Ultrasound diagnostic testing and guided injections
    - Joint injection/aspiration
    - Percutaneous tenotomy (TENEX)
    - Rotator cuff barbotage
    - Lactate/Anaerobic threshold, $VO_{2\,MAX}$/ exercise testing
    - Laryngoscopy for vocal cord assessment
    - Compartment pressure assessment
    - Ultrasound-guided nerve blocks
- Extensive experience speaking to large national groups on issues pertaining to sports medicine, including, but not limited to:
    - Overuse Injury
    - Head and Neck Injuries on the Field
    - Exercise-Induced Asthma
    - The Shoulder Exam
    - Principles of Exercise Prescription
    - Traumatic Brain Injury in Sport
    - The Knee Exam
    - The Ankle Exam
    - The Hip Exam
    - The Pre-Participation Exam
    - Cardiopulmonary Exercise Testing for Determination of Training Zone Estimates and to Identify Causes of Exercise-Related Dyspnea
    - Athletic Amenorrhea
    - Advocacy in Sports Medicine
    - Medical Practice Economics

PUBLICATIONS/RESEARCH:

- Sports Medicine CAQ Study Guide, Healthy Learning, Monterey, CA. 2021.[editor].
- AXIAL BACK PAIN IN THE ATHLETE: PATHOPHYSIOLOGY AND APPROACH TO REHABILITATION. Curr Rev Musculoskel Med. 2009 (2):88-93
- SPONDYLOLYSIS AND THE ATHLETE. Athletic Ther Today. 2007 (12)4:37-39.
- THE NATURAL HISTORY AND MANAGEMENT OF HAMSTRING INJURIES. Curr Rev Musculoskel Med 2008 (1):120-128.
- A SURVEY OF STATE MEDICAL LICENSING BOARDS: CAN THE TRAVELING TEAM PHYSICIAN PRACTICE IN YOUR STATE? BJSM. 2013. Jan (47)1:60-62.
- SEXUAL VIOLENCE IN SPORT: AMERICAN MEDICAL SOCIETY FOR SPORTS MEDICINE POSITION STATEMENT
    - Curr Sports Med Reports June 2020;19(6):232-4.
    - Clin J Sports Med June 8 2020;
    - Br J Sports Med 2020;0:1-3
- "ACUTE SUBDURAL HEMATOMA IN A HIGH SCHOOL FOOTBALL PLAYER," J Athl Training, 38;2(63), 2003
- Traveling with Medication. NCAA Sports Science Institute Bulletin, 2015 http://www.ncaa.org/sport-science-institute/traveling-medication
- THE RELATIONSHIP OF EXCESSIVE WEIGHT LOSS TO PERFORMANCE IN HIGH SCHOOL WRESTLERS – A PILOT STUDY; presented at the AMSSM national meeting, San Diego, CA, 2000 Clinical Journal of Sport Medicine 10(4):310, October, 2000

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

* * * * * *

B.P.J., by her next friend and mother, HEATHER JACKSON,

Plaintiffs

vs.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, and DORA STUTLER in her official capacity as Harrison County Superintendent, PATRICK MORRISEY in

* Case No. 2:21-CV-00316

VIDEOTAPED DEPOSITION OF

JOSHUA SAFER, M.D.

March 24, 2022

his official capacity as Attorney * General, and THE STATE OF WEST VIRGINIA, *
Defendants *
* * * * * *

VIDEOTAPED DEPOSITION OF
JOSHUA SAFER, M.D.
March 24, 2022

VIDEOTAPED DEPOSITION
OF

JOSHUA SAFER, M.D., taken on behalf of the Intervenor herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Nicole Montagano, a Court Reporter and Notary Public in and for the Commonwealth of Pennsylvania, taken via videoconference, on Wednesday, March 24, 2022 at 9:30 a.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
JULIE VEROFF, ESQUIRE
ZOE HELSTROM, ESQUIRE
KATELYN KANG, ESQUIRE
Cooley, LLP
3 Embarcadero Center
20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

SRUTI SWAMINATHAN, ESQUIRE
Lambda Legal
120 Wall Street
19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

DAVID TRYON, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

APPEARANCES (cont'd)

SUSAN DENIKER, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and HARRISON COUNTY SUPERINTENDENT DORA STUTLER

KELLY C. MORGAN, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and SUPERINTENDANT W. CLAYTON BURCH

APPEARANCES (cont'd)

ROGER BROOKS, ESQUIRE
LAURENCE WILKINSON, ESQUIRE
CHRISTIANA HOLCOMB, ESQUIRE
JOHNATHAN SCRUGGS, ESQUIRE
Alliance Defending Freedom
15100 North 90th Street
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

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STIPULATION

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not not waived.)

PROCEEDINGS

MR. BABWAH: My name is Brandon Babwah. I'm a notary public out of the State of New York.

VIDEOGRAPHER: We are now on the record. My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is March 24th, 2022. The current time on the video monitor reads 9:17 a.m. Eastern Standard Time. This deposition is taken remotely by videoconference. The caption of this case is the United States District Court for the Southern District of West Virginia at Charleston, BPJ, et al. versus West Virginia State of Board of Education, et al., Civil Action No. 2:21-cv-00316. The name of the witness is Joshua Safer. Will the attorneys present state their names and the parties they represent?

ATTORNEY BROOKS: Roger Brooks for the Intervenor, Lainey Armistead, in the room --- in the conference room with the witness. With me is my colleague, Lawrence Wilkerson.

ATTORNEY HOLCOMB: Christiana Holcomb for the Intervenor.

ATTORNEY TRYON: This is David Tryon representing the State of West Virginia. I'm with the Attorney General's Office.

ATTORNEY MORGAN: This is Kelly Morgan on behalf of the West Virginia Board of Education and Superintendent Burch.

ATTORNEY DENIKER: Good morning. Susan Deniker representing Harrison County Board of Education and Superintendent Dora Stutler.

ATTORNEY GREEN: Roberta Green here on behalf of West Virginia Secondary School Activities Commission.

ATTORNEY BLOCK: For the Plaintiff in the room is Josh Block from the ACLU.

ATTORNEY SWAMINATHAN: And you have Sruti Swaminathan from Lambda Legal.

ATTORNEY HARTNETT: Good morning. This is Kathleen Hartnett from Cooley for the Plaintiff.

ATTORNEY BARR: This is Andrew Barr from Coley for Plaintiff.

ATTORNEY KANG: Good morning. This is Katelyn Kang from Cooley for the Plaintiff.

ATTORNEY HELSTROM: Hello. This is Zoe Helstrom from Cooley for Plaintiff.

VIDEOGRAPHER: And if that's everyone, may I ask the notary to swear in the witness?

JOSHUA SAFER, M.D.,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND HAVING FIRST BEEN DULY SWORN BY A NOTARY PUBLIC, TESTIFIED AND SAID AS FOLLOWS:

VIDEOGRAPHER: May I also ask the notary to identify himself for the record as well?

NOTARY: My name is Brandon Babwah.

VIDEOGRAPHER: And at this time the notary may be dismissed and we can begin.

ATTORNEY BROOKS: Thank you. And thank you all for making all this complicated stuff work.

EXAMINATION

BY ATTORNEY BROOKS:

Q. Doctor Safer, good morning. I want to first put in front of you your expert report and your rebuttal report so that you have those if at any point you want to refer to them. It looks --- for convenience let's mark those as Exhibit 1 and 2 for the deposition.

ATTORNEY TRYON: Roger, one moment. I'm looking at the realtime, and it's recording you as Attorney Capehart. So I don't know if that needs to be corrected now. And it's showing me as Attorney Hartnett.

ATTORNEY BROOKS: She will get that fixed and the record will be correct.

ATTORNEY TRYON: Okay.

(Whereupon, Exhibit 1, Report of Dr. Safer, was marked for identification.)

(Whereupon, Exhibit 2, Rebuttal Report of Dr. Safer, was marked for identification.)

ATTORNEY BROOKS: And at the moment I'm handing copies to the witness. And I would like to mark as Safer Exhibit 3 a short article entitled Fairness for Transgender People in Sport by Joshua Safer.

ATTORNEY WILKINSON: Tab 82.

(Whereupon, Exhibit 3, Fairness for Transgender People in Sports Article, was marked for identification.)

ATTORNEY BROOKS: And the court reporter will hand the stamped copy to the witness; am I correct?

BY ATTORNEY BROOKS:

Q. And Doctor Safer, I will ask you questions if you go about your expert reports but let me ask you now to focus your attention on Exhibit Number 3. Am I right that this is an article that you have just very recently published?

A. Yes.

Q. When did this come out?

A. This came out within the past few weeks I think.

Q. And this is not a recording of the original research. This is a two page piece simply explaining current issues to the readership of this journal?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So this is not original research, that's correct.

ATTORNEY BROOKS: Thank you.

BY ATTORNEY BROOKS:

Q. How would you describe the purpose of this article?

A. The purpose of this article is to educate endocrinologists, frame the issues and also serves a bit as a charge to endocrinologists in terms of work that needs to be done.

Q. Thank you. If you look at the first column of the first page, in the third paragraph you will see it begins a possible tension exists because of the observation that on average cisgender boys and men have better performance outcomes in athletics than do cisgender girls and women. Do you see that language?

A. I do.

Q. And you are referring there to the general observation that natal males have better average athletic performance than natal females in a variety of measures.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I guess I need to be more specific or I can clarify.

BY ATTORNEY BROOKS:

Q. If you would be more specific.

A. So cisgender men at a certain age have better sports outcomes than cisgender women.

Q. But you wrote in this just published article that cisgender boys and men have better performance outcomes than the cisgender girls and women.

Correct?

A. That is correct.

Q. And what did you mean in that statement by your reference to boys and girls?

A. Boys and girls who are basically --- it depends, it's context I guess. So boys and girls who are developed to that point.

Q. So those --- what you had in mind are boys and girls, once the puberty process begins in males in particular?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes, I guess I would say that what we know is what is towards the end of puberty and subsequent development beyond puberty.

BY ATTORNEY BROOKS:

Q. You say in the next sentence --- well, let me just clarify, you accept as a scientific fact the general observation that, on average, boys and men, defining boys as you just did, have significantly

stronger athletic performance in a variety of metrics than girls and women as you just defined girls; correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I guess how I would say that is I accept as fact that men and boys who are appropriately developed have, yeah, have bad performance outcomes in certain sports than do cisgender women and cisgender girls again appropriately developed.

BY ATTORNEY BROOKS:

Q. And the next sentence reads the performance difference has resulted in the establishment of female only divisions for sport participation for girls and women and safely compete in the live events, closed quote. Do you see that language?

A. I do.

Q. And there you were, am I correct, explaining the relationship of your observation about male performance with the existence in our society of sex-separated sports.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I guess --- I would think the way I would say it myself is this is a --- this is the reason why we have the carve-out for the

female category.

BY ATTORNEY BROOKS:

Q. And one reason is to give cisgender girls and women an opportunity to, quote, reliably win events.

Correct?

ATTORNEY BLOCK: Objection.

COURT REPORTER: I'm sorry, Counsel, I can't hear you.

BY ATTORNEY BROOKS:

Q. One reason, according to what you've written in this article, that there have been a carve-out in a separate female division is to provide girls and women with opportunities to, quote, reliably win events, closed quote.

Correct?

A. So I guess the way I would say it is if we are going to be really careful with the language here that it would be on average to reliably win events, that is --- yeah, I will leave it at that.

Q. Certainly not every girl and women is going to win events, as I know as a male who never won an event?

A. Exactly.

Q. And another reason, according to this sentence that you wrote, for having a separate category for girls

and women is so that they can, quote, safely compete.

Correct?

A. The word safely in that context is kind of --- accentuates reliably.

Q. And you wrote in the next sentence that, quote, the female-only divisions are a major factor to encourage greater participation of girls and women in sports with a goal of equal participation rates.

Do you see that language?

A. I do.

Q. And can you explain to me what you understand or what you were trying to explain as the relationship between having a separate female category on the one hand and encouraging greater participation by women and girls on the other?

A. Some of the goals of the people who are in sport who organize sport are to get as high fractions of the population to participate as can be encouraged to do so for sheer health of those individuals and then of everybody. And so the purpose of the carve-out then in these circumstances is to encourage girls and women to participate in larger numbers than they might otherwise.

Q. And do you have an opinion, do you have an expert opinion as to whether the existence of separate

categories for female sports has in fact been a, quote, major factor in encouraging greater participation by women and girls in sport?

A. I don't have an expert opinion.

Q. You don't know whether that is objectively true or not?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't --- right, I can't state as an expert on the details of that subject, that's right.

BY ATTORNEY BROOKS:

Q. On the second column, in the --- the first full sentence begins many hormone related. Do you see that?

A. Yes, I do.

Q. Let me read that sentence into the record. Quote, many hormone-related physical characteristics acquired during puberty are not reversed if hormone levels are changed later in life. Can you tell us what physical characteristics associated with typical male development are in your opinion not reversed if hormone levels are changed later in life?

A. Again, so I don't know that I would off the top of my head give an exhaustive list but a classic would be height.

Q. Would you --- I understand your list may not be exhaustive, but let me ask you to tell us all the examples as you're able to sit here thinking today of physical characteristics acquired during male puberty that are not reversed if hormone levels are changed later in life.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't know that I could --- I don't know that I would want to accidentally go down that path and conjecture too much, but if I'm expanding a bit on height and thinking about bone characteristics, especially there might be modest change but significant residual bone would be the biggest example. And some other elements --- I can't even say I was about to say a bit proportional, but it's more complicated than that, so other --- other tissues partly influenced by that fact.

BY ATTORNEY BROOKS:

Q. If we jump down to the next paragraph it begins, quote, the questions arise most with transgender women who began hormone treatment after puberty. And then it continues, quote, the situation includes most transfeminine people because it is most common to undergo endogenous puberty prior to seeking medical interventions appropriate to gender identity. Have I read that correctly?

A. Yes.

Q. And is it consistent with your experience that most natal males who seek what you refer to as gender confirming treatment do so after experiencing at least most of the ordinary male puberty?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes. So just terminology, just to be clear, so people who are recorded male at birth who are looking for gender affirming is the term but gender confirming is fine. And sorry, the question there?

BY ATTORNEY BROOKS:

Q. I will ask it again. Is it consistent with your personal experience that most natal males who seek gender affirming treatment present after undergoing at least most of a natural male puberty?

ATTORNEY BLOCK: Same objection to terminology.

THE WITNESS: Yes. So most transgender women who come seeking medical treatment have gone through a typical male puberty, that is correct, right now.

BY ATTORNEY BROOKS:

Q. And in your clinic most of them have gone through what you would consider to be a complete male puberty process?

A. I can't answer that completely because we define puberty in this narrow way with the Tanner stages, but then people continue to have development even beyond that to a significant degree.

Q. But they have experienced, in your professional experience, at least the bulk of the pubertal changes?

A. Yes, I mean the --- I guess --- the way I would say it is, is that most of the transgender women who are coming or even girls who are coming for medical attention have gone through the classic Tanner stages of puberty through Tanner five, which is the last one, by the time they have determined that they're interested in gender-affirming treatment, yes.

Q. And let's go back to the very first paragraph of your article in which you mention about five lines down, quote, concern for possible residual athletic advantages from a history of typical male puberty, closed quote. Do you see that language?

A. Let me find it. Where is it?

Q. It's about five lines down on the very first

paragraph of the article.

A. Oh, the middle of the sentence, exactly.

Q. And so in your opinion, it is concern for possible residual athletic advantages from a history of typical male puberty that drives a great deal of concern about how to address inclusion of natal males who experience a female gender identity in female athletics.

Am I correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the concern about the residual impact of testosterone during puberty for transgender women who went through a typical male puberty is the source of --- right, is a source of tension at a medical sensitive level, yes.

BY ATTORNEY BROOKS:

Q. And that's an issue that, for instance, you engage in extensive discussions about in connection with your service on the committee for the IAAF.

Am I correct?

A. So the --- right, the conversation at World Athletics now, but formerly IAAF, has dealt and I'm sure will continue to deal with that which is the question of to what degree are some of those characteristics, a cause for relevant athletic advantage.

Q. And in your opinion, concern about possible residual athletic advantages resulting from a history of typical male puberty is legitimate concern.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Right. I don't know that I'm as an expert commenting on its legitimacy. My role on the committee is talking about what is.

BY ATTORNEY BROOKS:

Q. Do you have any expert opinion as to whether concern for possible residual athletic advantages from a history of typical male puberty is a legitimate concern?

A. I'm sorry. Say that again.

Q. Do you have any expert opinion as to whether concern for possible residual athletic advantage from a history of a typical male puberty is a legitimate concern?

A. I don't know that I would --- again, I don't know that I'm an expert on what is legitimate or not. I come into the room as the scientist talking about what is true and what is not true, what do we know and what do we not know.

Q. So on the question then after the science has been put on the table as to how to balance that with

other considerations of fairness, of inclusion, that is not your expertise is what you are telling me?

A. That is right, that is not my expertise.

Q. If we go to page two, in the first column, the second full paragraph begins because testosterone. Do you see that paragraph?

A. I do.

Q. And you discuss there World Athletic requirements, that is the former IAAF I believe you just testified?

A. Yes.

Q. And the World Athletics has adopted a requirement to suppress testerone (sic) to five nanomolar per liter testosterone.

Correct?

A. World Athletics threshold is five nanomolar per liter for those sports where they have a threshold. That's right, yes.

Q. And at least formally the International Olympic Committee had a ten nanomolar threshold as part of what you would call out in this paragraph.

Is that correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yes. So it was the case

that the International Olympic Committee Medical Group was trying to form a unified approach just for purposes of organization. And at that time a ten nanomolar per liter suggestion was put out. And that is about as far as it got because it then was shifted to all of the individual international federations.

BY ATTORNEY BROOKS:

Q. You say in the final sentence of that paragraph, quote, such thresholds are considered to be fair to transgender women because they are well above the 1.7 nanomolar per liter target testosterone threshold in medical treatment guidelines, closed quote.

Do you see that language?

A. Yes.

Q. Am I correct that in your professional understanding the 1.7 nanomolar per liter target is set because that's generally believed to be at the upper range of testosterone levels in normal, healthy females?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the 1.7 nanomolar per liter target is the upper level for adults cisgender women.

BY ATTORNEY BROOKS:

Q. And with that clarified, can you explain to me

what you meant by the sentence that I just read, what the point is there?

A. The point of the sentence is to --- I guess there are a couple of considerations in terms of determining these numbers, but --- so part of the point is to identify numbers that are feasible for transgender women on their medical treatment.

Q. Is there some other point to this sentence in your understanding as it is offered?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the sentence references that piece, but there is the additional context of having a number that is fair to the greater female committee cisgender and transgender too.

BY ATTORNEY BROOKS:

Q. So it's fair in your judgment to transgender women because the threshold that is being set gives, what should we say, plenty of buffer above what is considered to be the upper range of normal female testosterone levels?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Right. So I'm not taking a position on what is fair to be clear.

BY ATTORNEY BROOKS:

Q. Thank you.

A. But the concept of those in the room making that distinction felt that this cutoff would be fair because there would be, indeed, create some buffer and, therefore, people who weren't perfectly at goal would still be included.

Q. So because this may be important, let me clarify, when you wrote such thresholds are considered to be fair, you were not offering a personal opinion about fairness but explaining the judgment that had been made by this committee about fairness?

A. That's correct.

Q. Thank you. And did it cause you personally any concern that the threshold --- that because the threshold that was set was more than three times higher than the upper bounds of testosterone concentrations in normal healthy women, that that might be unfair to the broader population of cisgender women?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So to be clear, I'm not rendering an opinion as an expert on what is fair, but I can interpret the considerations of people having these conversations. And so while it is true that the laboratory range for testosterone for healthy cisgender

women has an upper limit of 1.7 nanomolar per liter, there are cisgender women who, for a variety of reasons, have numbers higher than that and so that and --- so that is part of the consideration.

BY ATTORNEY BROOKS:

Q. Let me take you to the two paragraphs below that to the paragraph that begins the societal priorities. Do you see that paragraph?

A. I do.

Q. The last sentence of that paragraph reads if advantage from testosterone is demonstrated, does society want to implement rules that may indirectly coerce transgender children to begin medical regimens prior to their being ready and that they might never actually choose otherwise, closed quote.

Do you see that language?

A. I do.

Q. Would you explain to me the concern that you are expressing there?

A. If a societal goal --- and again here recognize I'm not acting as an expert in this space, but I'm trying to explain to my colleagues what people are discussing. And if our concern is increased participation in sport by various people, then you can

envision a circumstance where some girls farther along in puberty have a testosterone advantage that could be demonstrated. Again, not that we even have at this point. And then we would be faced with that question, which is that competing goal of making those transgender girls participate in sports and a recognition if they are sufficiently far along in their development that they may have an advantage if we demonstrate such an advantage.

Q. Let me see if I can break that out. Were you talking here about a concern about a hypothetical rule that says to a natal male who identifies as female that you may play if you have suppressed testosterone --- you may play if you have taken puberty blockers at an early age but you may not play if you have not taken puberty blockers from an early stage? Is that the hypothetical structure that you were addressing in this sentence?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- it is a hypothetical and it would be that if we make a specific testosterone lowering rule at a scholastic level, might we run into a circumstance where we are encouraging somebody to make medication who might not otherwise take that medication.

BY ATTORNEY BROOKS:

Q. And staying away from questions of fairness and speaking from what I think is a medical ethics perspective, would you think it raises ethical problems if society were to adopt a rule that permitted certain individuals to compete in female athletics if they had taken puberty blockers but did not permit them to compete with the athletic if they had not taken puberty blockers?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think that's beyond where I'm commenting as an expert witness. Some of that decision is a society decision or for other experts.

BY ATTORNEY BROOKS:

Q. Do you consider yourself to have some expertise on medical ethics?

A. Not as an expert.

Q. And you don't feel able --- you don't have any opinion as you sit here today as to whether a policy that created incentives for children to begin medical regimes relating to gender transition could raise medical ethical concerns?

A. Not as a medical expert, that's right.

Q. In the next paragraph --- and I think we said

this is just out in the last couple of weeks, this publication.

Right?

A. It's very fresh. Number five, so yes.

Q. I'm not playing memory games. It says at the top advance access publication 17 March 2022?

A. Good.

Q. So very recent?

A. Yes.

Q. And you believe you are reasonably current in the science of this area?

A. I am reasonably current, indeed.

Q. I didn't ask if you know it all because nobody knows it all, but you say at the beginning of this paragraph much remains unknown scientifically. And you continue, quote, for example, at what point in puberty is advantage from testosterone significant. Is there a point where such advantage would outweigh a priority to outweigh all participants --- all to participate in sport of some sort, closed quote.

Do you see that language?

A. I do.

Q. And actually the point in writing the second sentence there --- strike that.

Let me just ask this in general. Do you have an opinion as to how much of a performance advantage would count for those --- for natal males versus natal females, how much of a performance advantage would be, quote, significant?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I do not have an opinion.

BY ATTORNEY BROOKS:

Q. And in your view, is that even a scientific question?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Let me think. No, that isn't a scientific question.

BY ATTORNEY BROOKS:

Q. And you --- and the next sentence is there a point where an advantage, such an advantage would outweigh a priority to motivate all to participate. Am I correct that you also don't consider that to be a scientific question?

A. That is correct.

Q. That is a value judgment?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So it's not a scientific question. I can go a little more in --- I can expand a

little bit there which is to say that we have various advantages and degrees of unfairness. So what could be a scientific question, if we knew the answers, would include the degree of advantage for some circumstance versus another circumstance where we are able to measure those things.

BY ATTORNEY BROOKS:

Q. But the question of whether an advantage on the one hand outweighs a desire to be inclusive on the other hand is a value question, not a scientific question?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BROOKS:

Q. In your opinion.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I guess I would just go back to saying how I said it, which is the scientific question in there would be to provide that degree of difference and show, for example, that this would be --- this is small advantages versus someone that we are already do in society as big advantage and that would be how --- that would be the role of the scientist.

BY ATTORNEY BROOKS:

Q. I understand that's what you would like to say, but my question for you is, in your opinion, is the next

step of deciding of whether that advantage which has now been scientifically detailed outweighs a priority to motivate all to participate is a value decision.

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, I don't --- I guess I can't as an expert say for certain that in all circumstances that is a value to consider.

BY ATTORNEY BROOKS:

Q. You continue among your lists of things that are, quote, unknown scientifically, quote, for those who have completed puberty, what duration of testosterone-lowering treatment is sufficient to create a level playing field in a given sport, closed quote.

Do you see that?

A. Yes.

Q. And in your view, the question of what duration of testosterone lowering treatment, if any, can be sufficient to create a level playing field in a given sport is currently unknown scientifically?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It's unknown scientifically across virtually all sports. What duration of testosterone lowering raises what degree of advantage. It's just at that level. To go to the level playing

field is a whole further tier.

BY ATTORNEY BROOKS:

Q. And in your final paragraph I think you said at the beginning that, in part, this was a call to the field of endocrinology for needed research. In the final paragraph you say, quote, we in the endocrine healthcare community have much work to do to create an evidence base to help guide decision makers so the choices for transgender women in sport are data driven, closed quote.

Have I read that language correctly?

A. Yes.

Q. So it's your view as of 2002 that the data that we have available today are insufficient to enable data driven choices about transgender participation in female athletics.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say that in 2022 we have insufficient data to --- how would I say this, we have insufficient data to make rules for, let's say, transgender women, mostly talking about older more developed people, that would address these concerns for participation.

BY ATTORNEY BROOKS:

Q. Let me ask you to find your initial expert report, which is Exhibit-1, and there I will ask you to turn to paragraph 58. At the beginning of paragraph 58 you wrote in this report executed on January 21, 2022, which is two months prior to the publication date of the article we just looked at --- and actually, let me pause and ask you, when did you write the article that we just looked at? And the process always grinds on for a little while. When do you think you substantially completed the task?

A. I honestly don't remember.

Q. Sorry. The question was when do you think you substantially wrote the text in the article that you just looked at?

A. I honestly don't remember the details. We can talk in years, so it would be 2022 and back into 2021.

Q. Okay.

So about the same time that you were preparing this expert report?

A. There certainly would be some overlap.

Q. You wrote in paragraph 58, quote, even if evidence were eventually to show that on average transgender women have some level of advantage compared

to average non-transgender women, closed quote.

Do you see that language?

A. I do.

Q. Now, in fact, you are aware of substantial evidence that, on average, transgender women do have some level of advantage compared to advantage non-transgender women.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, I'm not. So that isn't my statement.

BY ATTORNEY BROOKS:

Q. And is the question --- so you served on the IAAF Committee discussing questions of testosterone levels. And in that context you did not become acquainted with data showing that on average transgender women have some level of advantage compared to average non-transgender women?

A. Not in --- so, no. In the context of specific sports, no.

Q. Do you consider the question of how much advantage natal males have over natal females in particular sports to be within your professional expertise?

ATTORNEY BLOCK: Objection to form.
THE WITNESS: So sorry --- so cisgender men versus cisgender women, that difference at an adult level, is at my expertise to know that degree of difference? Is that the question?
BY ATTORNEY BROOKS:
Q. It is.
A. No, that is not my expertise.
Q. And is it within your expertise to know the level of advantage enjoyed by natal males who have transitioned to female gender identity over cisgender women in any particular sport?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So in the --- so if we are talking cisgender women versus transgender women, it would be in my expertise to know what data we have on this subject, which is different from knowing the degree of difference because we don't have those data.
BY ATTORNEY BROOKS:
Q. You say in paragraph 60, let me find this, quote, there is no inherent reason why transgender women physiological characteristics related to athletic performance should be treated as any more of an unfair advantage than the advantages that already exist among

different women athletes. Do you see that language?
A. I do.
Q. Now, earlier you told me rather emphatically that the question of fairness is outside your professional expertise.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: It is outside my expertise.
BY ATTORNEY BROOKS:
Q. So why did you offer here an opinion about what is fair or unfair?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Right. So I'm not determining the fairness per se as an expert, but I'm simply talking about the inputs where somebody who is determining what is fair --- where somebody is determining what is fair would consider.
ATTORNEY BROOKS: Let me mark as Safer Exhibit 4 an article by Professor Handelsman entitled Circulating Testosterone on a Hormonal Basis of Sex Differences in Athletic Performance.

(Whereupon, Exhibit 4, Professor Handelsman Article, was marked for identification.)

ATTORNEY WILKINSON: Tab 18.
VIDEOGRAPHER: I'm sorry, what tab is it?
ATTORNEY BROOKS: Tab 18.
BY ATTORNEY BROOKS:
Q. And Doctor Safer, am I correct this is an article that you read with some care?
A. This is an article that I read with some care.
Q. You cited in your expert report.
Correct?
A. I think so.
Q. I think so, too. It's not a memory test. I retract the question. We will come to it shortly.
Let me ask you to turn in --- and let me ask you, do you know Professor Handelsman personally?
A. I do not.
Q. Have you encountered him in any other actions?
A. I have.
Q. Once, more than once?
A. That is also a trick question for me. For sure once.
Q. Okay.
Do you consider him to have a high reputation in the field?

A. If that question is as an expert I can't --- I won't comment, but he certainly has published widely and we quote him.
Q. What do you mean by we in that answer?
A. The rest of us in the field and I certainly quote him in an expert opinion.
Q. All right.
And this article in particular we note you widely reference?
A. This article is --- yeah, I think that is actually a fair thing to say. It is as widely referenced as anything in a relatively small field.
Q. Let me ask you to turn to the second page of this article where Professor Handelsman in the first full paragraph --- the second full paragraph begins nevertheless. He says, quote, fairness is an elusive subjective concept with malleable boundaries that may change over time as social concepts of fairness evolve.
Do you see that?
A. I do.
Q. Do you agree with that statement?
A. As an expert I can't comment.
Q. You don't purport to be able to give any definition of fairness?

ATTORNEY BLOCK: Objection to form.
THE WITNESS: Yes, not as an expert.
BY ATTORNEY BROOKS:
Q. And you don't have any opinion as to whether standards of fairness can change over time?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I'm aware of the conversation on the subject, of course, but if you are asking me to comment as an expert, then no.
BY ATTORNEY BROOKS:
Q. If the actual evidence shows that the actual scientific data were to show that, quote, on average transgender women have, closed quote, a very large advantage compared to average non-transgender women, would you then have any view as to whether permitting non-transgender women to compete in female categories is fair?
ATTORNEY BLOCK: Objection to form. I'm sorry, what's the quotation?
BY ATTORNEY BROOKS:
Q. If actual data were to show that on average transgender women have a very large advantage compared to non-transgender women, then would you have any opinion as to whether it is fair to permit the

transgender women to compete in the female category?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: No, that would not change. I would simply as an expert I would talk about those degrees of difference as information.
BY ATTORNEY BROOKS:
Q. But you would offer no opinion as to whether permitting the participation in the female category was or was not appropriate?
A. I would not offer an expert opinion. That's right.
Q. Now, you say in paragraph 60 of your expert record that there is, quote, no inherent why transgender women's physiological characteristics related to athletic performance should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes, close quote. We have looked at that language.
Correct?
A. You are reading that correctly.
Q. Thank you.
A. Whatever the question is.
Q. No question beyond that so far. And your point I take it is that for any given sport some women just

have substantially more favorable physiques than others?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Right. So for any given sport some women have advantages relatively to others, yes.
BY ATTORNEY BROOKS:
Q. And in basketball some are simply genetically going to be substantially taller than others?
A. In basketball some are taller than others, yes.
Q. I'm not speaking for you, I, at 5'8", in my shoes for instance was --- am just physiologically disadvantaged for basketball compared to a man who is 6'10"?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So as an expert I actually wouldn't go there because there are other characteristics in basketball per se.
BY ATTORNEY BROOKS:
Q. That's true, although I have none of them. But is it, in your view, equally true that there is no inherent reason why cisgender men's physiological characteristics related to athletic performance should be treated as any more of an unfair advantage for competing in the women's category than the advantages

that already exist among different women athletes?
A. So yeah, let's go through this more slowly a second so I'm clear.
Q. All I did was substitute cisgender men for transgender women in that sentence. And my question is doesn't your argument as stated there apply exactly with equal force to cisgender male?
A. No.
Q. Why is that?
A. When we talk about --- when we're talking about a range of characteristics among a range of people versus something that might be systematically true or not and so it just --- so the answer just ends up being more complex.
Q. Well, you have testified that most natal women --- pardon me, you testified that most natal males with female gender identity have undergone at least the majority of male puberty before they present for gender affirming treatment.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So most cisgender women when they come to medical attention have gone through a significant puberty, the five Tanner stages.

BY ATTORNEY BROOKS:

Q. And just to clarify, to use your terms, in giving that answer you said cisgender women. That is not what you meant.

Correct?

A. That is not what I meant, thank you. Transgender women.

Q. And therefore, they systematically have gone through --- systematically gone through physiologic changes associated with male puberty?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- so they --- they have gone through male puberty. And there is something on average that may be true there, but whether that relates to an advantage in a specific sport I can't go there.

BY ATTORNEY BROOKS:

Q. Well, the example that you gave earlier of a systematic difference resulting from male puberty that these transgender women enjoy is height, that is you mentioned that earlier.

Correct?

A. Uh-huh (yes).

Q. So again, let me ask, given that according to

your testimony and experience the substantial majority of transgender women have undergone most of male puberty, why is it not equally true that there is no inherent reason why cisgender men's physiological characteristics related to athletic performance should be treated as any more of an unfair advantages than the advantages that already exist among different women athletes?

A. So if I'm following this correctly then it's --- then the answer to the question why are cisgender men different than transgender women?

Q. Why does this logic apply differently to the cisgender men than to the transgender women?

A. So let's see. It actually doesn't. So if you have a sport where that --- where the advantage or --- for the --- where a known advantage for cisgender men versus cisgender women was sufficiently modest, and again, I wouldn't be the judge of that, but you could envision that becoming a coed sport.

Q. Are you offering an opinion that either government or leagues have an obligation to do an individual by individual assessment as to whether a particular natal male who experiences a female gender identity does or does not enjoy a physiological

advantage in the sport they wish to play in as a result of typical male development that they had gone through?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Right, I'm not offering an opinion. It was a long question.

BY ATTORNEY BROOKS:

Q. Would you like to hear the question back?

A. Sure, but I'm not offering an opinion on several aspects.

ATTORNEY BROOKS: Would you read that question back, please?

(COURT REPORTER READS BACK PREVIOUS QUESTION.)

BY ATTORNEY BROOKS:

Q. And your answer is?

A. So I'm not offering an opinion. I should expand a bit because how that question was phrased as an individual by individual person and most of these rules are across a group of sports.

Q. And my question was about an individual person.

A. Your question was an individual person, but ---.

Q. Right. Looking at your paragraph 60, again, do you believe there is --- are you offering an opinion ---

let me start that again. Are you able to identify for me any inherent reason why a relatively weak or small or slow male --- strike that.

You referenced in your report and also the article we just looked at the IAAF regulations that excluded from the female category any individual who has circulating testosterone higher than five nanomolar per liter. Do you recall that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So just to clarify, it is not --- that rule for five nanomolars is not across all sports.

BY ATTORNEY BROOKS:

Q. And which sports in your recollection did that apply to?

A. Yeah, that's --- I don't remember off the top of my head.

Q. At the very least it applied to track events.

Correct?

A. It does. But if you start to quiz me on the specific distances, I won't get that.

Q. And nor will I so quiz you. And that requirement as applied to track competition was, in fact, the subject of a major international arbitration,

as you're aware.
Correct?
A. If we're referencing the Caster Semenya case, yes.
Q. Did you yourself have any participation in that arbitration?
A. I did not.
Q. Do you know whether Doctor Handelsman had any participation in that?
ATTORNEY BLOCK: Objection.
THE WITNESS: I don't know off the top off of my head.
BY ATTORNEY BROOKS:
Q. Have you ever read the arbitrarial decision in that case?
A. I'm certain I read excerpts, but that is as much as I could say.
Q. Okay.
You participated in developing on the --- a member of the committee that developed the regulation that you've referenced, the 7.5 nanomolar threshold?
A. I was on the committee that helped determine that particular threshold conceptual, yes.
Q. And you're aware that in addition to individuals

such as Caster Semenya, who suffered of a disorder of sexual development, that that rule would exclude some transgender women from female athletics that were subject to that IAAF rule.
Correct?
ATTORNEY BLOCK: Objection to the terminology.
THE WITNESS: So I was aware that by setting a threshold that there --- and even that threshold in particular, that there would be transgender women who would not achieve that threshold for whatever reason.
BY ATTORNEY BROOKS:
Q. And did you nevertheless consider the regulation to be reasonable?
A. If you are asking me as an expert, then again I can't comment.
Q. Well, let me just ask you as Doctor Safer.
A. Am I allowed to ---?
ATTORNEY BLOCK: Objection to form.
BY ATTORNEY BROOKS:
Q. You are allowed.
A. Okay. So having a rule does make sense to me, yes.

Q. And you thought that that rule was reasonable?
A. As with the data we have currently, yes, personally.
Q. And what, in your opinion, is the inherent reason that advantages conferred by testosterone levels far outside the normal female range should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?
ATTORNEY BLOCK: Objection. I'm sorry. Can you clarify as an expert or as an individual just because you shifted back and forth?
BY ATTORNEY BROOKS:
Q. First as an expert.
A. So yes --- give me the question again. I'm sorry.
Q. What, in your opinion, is the inherent reason that advantages conferred by testosterone levels outside the normal female range should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?
A. So to clarify we --- so, okay, let me go back. Let me answer in pieces I guess or ask you to say it in pieces. So what is different between typical male levels of testosterone in an individual and some other

characteristics that are across the range of characteristics of cisgender women? Is that the question? Am I rephrasing that correctly?
Q. I'm actually referencing paragraph 60 of your expert report, but my question --- and let's take for instance, a natal male who has press testosterone but only achieved six nanomolar per liter concentration, do you have that concentration, do you have that in mind?
A. A transgender woman whose testosterone level is six.
Q. Right. What in your opinion is the inherent reason that advantages conferred by testosterone levels above a threshold such as five nanomolars should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So a couple of things. First of all, I don't know that a testosterone level of six is from a scientific perspective demonstratively different than a testosterone level of five. It's just a matter of affecting it overall. So I want to clarify that. It's not that --- that that small degree is necessarily relevant. And I can't even say that we

demonstrated advantage. It's still a theoretical with regard to some of those higher testosterone levels. Let me think about those for a second. Yes, so some of the logic pattern for having a threshold is in order to be able to limit the entire conversation to dealing with transgender women or women with --- or intersex women or women who for any reason have have elevated testosterone levels and not to open the door at the elite level for a participation by cisgender men posing as cisgender women if that makes sense.

BY ATTORNEY BROOKS:

Q. Is there, in your judgment, any inherent reason that advantages conferred by testosterone levels well outside normal female ranges should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?

A. So I have to go back to that one. Is it my opinion that male level testosterone levels ---?

Q. Let me --- my question is testosterone levels significantly above normal female ranges?

A. Are --- then no, sorry. It took me a little while to get there, but no.

Q. Because the question was complicated and the answer was broken up I will ask you again, not to insult you but so we have a clear record. I think I understood your answer but is there, in your opinion, any reason why advantages provided by testosterone level well outside normal female ranges should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: And as an expert I'm not rendering an opinion there, that's right.

BY ATTORNEY BROOKS:

Q. Okay.

In paragraph 55 of your ---.

ATTORNEY BLOCK: Would now be a good time for a break?

ATTORNEY BROOKS: Let me just ask this one question and then yes.

BY ATTORNEY BROOKS:

Q. In paragraph 55 you cite a 2015 article by Joanna Harper?

A. I do, yes.

Q. Have you ever met Joanna Harper?

A. I have.

Q. And have you collaborated with Joanna Harper in any way?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Yeah, I don't, but I guess --- it's a complicated answer, so I need to know what you mean by that.

BY ATTORNEY BROOKS:

Q. I mean it broadly. Have you worked with her on any sorts of projects or committees?

A. Well, we were both in the working group for World Athletics that helped develop this threshold.

Q. And do you consider Doctor Harper to be knowledgeable in the field of sports physiology?

A. I do.

Q. And do you consider Doctor Harper to be knowledgeable with regard to the impact of testosterone suppression on athletic capabilities in male?

A. So do I consider her to be knowledgeable in the field? I certainly do. For what it's worth, she is still Ms. Harper. She's actually in the Ph.D. program now.

Q. Oh, okay. I just gave her an honorary degree.

A. She occupies a prominent place in the field.

ATTORNEY BROOKS: Let's take that break.

VIDEOGRAPHER: Going off the record. The current time is 10:25 a.m. Eastern Standard Time.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. Current time reads 10:39 a.m. Eastern Standard Time.

BY ATTORNEY BROOKS:

Q. Dr. Safer, let me ask you to go back to Exhibit 4 Professor Handelsman's article. And if you would turn in that article to page 805, the first paragraph begins the strongest classification in a league sport is that after puberty men 20 times more testosterone than women.

Do you see that language?

A. I do.

Q. And he discusses a number of results and ends his paragraph by saying in concert --- quote, in concert these render women on average unable to compete effectively against men in power based or endurance based sports.

Do you see that?

A. I do.

Q. And do you consider yourself qualified to evaluate Professor Handelman's assertion that women are

on average unable to compete effectively against men in power based or endurance based sports?

A. No.

Q. Not qualified?

A. Not qualified, correct.

Q. Do you believe you have an understanding --- well, let me ask you this. Do you consider yourself qualified to offer any opinion as to why sports have been separated by sex historically?

A. I guess I would say I'm aware of the history.

Q. And in your understanding what is the reason that sports have been separated by sex historically?

A. The history is that at a certain point where sufficient development has taken place there is a differential in at least some sports between men and women --- between cisgender men and cisgender women such that in order for women to win those events reliably there needs to be a carve-out.

Q. And as you sit here today can you identify for me any sport in which you believe that cisgender men after puberty do not enjoy a significant performance advantage over cisgender women?

A. Yes.

Q. Please do.

A. Examples include --- well, I guess I better not get too far and be the expert here, but I believe riflery and others in the category of hand/eye coordination. I think some of the equestrian sports are examples.

Q. Okay.

You are not offering any opinion, are you, that the reason for separation of sports by sex is to affirm sex specific social roles or identities?

A. I'm not aware of that. I'm not an expert on those pieces, but I'm not aware personally.

Q. And it is not your opinion, is it, that separation of sport by sex is in general unfair?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So again, as an expert I'm not commenting on fairness.

ATTORNEY BROOKS: I'm going to mark as Safer Exhibit 5, a Decision in the arbitral award delivered in the Court of Arbitration for Sport in connection with the arbitration between Athletic South Africa and the IAAF, a bulky document, unfortunately.

(Whereupon, Exhibit 5, Court of Arbitration for Sport Decision, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And Doctor Safer, now that you have --- I asked you earlier about whether you had seen the arbitration decision and I think you said you might have read excerpts of it. Looking at it today, do you believe that you have ever seen a copy of the whole Decision?

A. I do not think I've read through the whole Decision.

Q. Do you think you've ever held this whole document in your hand before?

A. This is the first time that I held the whole document.

Q. I'm going to ask you about a few quotations in it, not to ask your opinions about the judgment but to elicit your opinions about the science. So if you would turn --- and the structure of the document is that everything in it has a paragraph number which, thank goodness, makes it easy to find things. So if you would turn to paragraph 556. The first sentence of paragraph 556 of this Decision reads there is no dispute that ensuring fair competition in the female category of elite competitive athletics is a legitimate objective

for the IAAF to pursue, closed quote. As a member of the IAAF Committee that established the policy that was challenged in this arbitration, do you agree or disagree that there is no dispute that ensuring fair competition in the female category is a legitimate objective for the IAAF to pursue?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As an expert I do not have an opinion.

BY ATTORNEY BROOKS:

Q. Okay.

Let me ask you to turn to paragraph 456. And this arbitration, as you noted, deals with the case of Caster Semenya and therefore with track events, not with riflery or with equestrian events. So I will ask your reaction to that context. In the middle of paragraph 456, beginning halfway through the sixth line the panel wrote, quote, suffice to say that post puberty generally speaking males outperform female athletes --- I'm sorry, male athletes outperform female athletes at an elite level. This difference is insurmountable, closed quote.

Do you see that?

A. I do.

Q. And do you believe it to be true, false or outside of your expertise that male athletes outperform female athletes at the elite level at a difference that is insurmountable?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As a blanket statement, no, I would say that is not my expertise.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to 576. I said 576. I meant 577. I apologize. At the end of 577 the panel has written, quote, ---.

ATTORNEY BROOKS: We just had static here, so let me ask whether people outside the conference room are hearing us? If somebody could unmute.

ATTORNEY TRYON: I can hear you.

ATTORNEY BROOKS: We just had some static that caused me concern.

BY ATTORNEY BROOKS:

Q. At the end of paragraph 577 the panel wrote, quote, male athletes do not have to be elite to surpass even the very best female athletes. Dr. Berman pointed out that in a race such as the 800 meter, a 1.6 percent advantage, as calculated in BG17, was sufficient to

determine first place by the region of nine meters, closed quote.

Do you see that language?

A. Yes.

Q. And do you consider it to be true, false or outside your expertise that male athletes do not even have to be elite to surpass the very best female athletes?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: In a --- as a blanket statement it is outside my expertise.

BY ATTORNEY BROOKS:

Q. And do you have an opinion as to whether a 1.6 percent advantage is a significant advantage or insignificant advantage?

A. I think that's too complicated as phrased for me to answer.

Q. That's actually one of the simpler questions that I've asked today. Let me ask it again and ask you to think. Do you have an opinion, and if you --- one answer of course is I don't have an opinion or it is outside of my expertise, but do you have an opinion as to whether a 1.6 percent advantage in a track event is a significant advantage?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So it depends on the event.

BY ATTORNEY BROOKS:

Q. Why does it depend on the event?

A. Well, there are events where we see --- as an elite Olympic event where the runners are virtually tied. And 1.6 percent then will be significant in the moment because that will be described in that field. And yet there are other events where people are far more spread out and there's greater --- in every element, then 1.6 percent advantage becomes lost in that noise.

Q. And --- well, let's take competitive high school athletics, competitive high school track. Do you have an opinion as to 1.6 percent advantage in that context is significant or insignificant?

A. I do not have an opinion.

Q. So if I understand correctly, your point in some context you know that 1.6 percent is significant but that in other context you don't know one way or the other?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Yes, I guess I would say that in some context I can see that 1.6 percent is significant and then in other context I can see that 1.6

percent does not appear to be significant. And actually even if you're asking as an expert, what even is significant is outside my purview, but with that understood I can still see that someone would say it one way and not say it the other way.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to paragraph 357. And first I will ask you to turn to page 88, paragraph 351, just so you can see we're in a section summarizing the testimony of Professor David Handelsman. That begins at paragraph 351. And then I'm going to call your attention to paragraph 357 and it puts you to the statement there.

357 includes a number of bullet points. The third bullet point, which is on page 91, reads --- and again this is --- the paragraph begins, quote, Professor Handelsman went on to explain in greater detail why the sex difference in circulating testosterone is the cause of the difference in athletic performance between men and women, and then there are bullet points. The third bullet point reads, on average, women have 50 to 60 percent of men's upper arm muscle cross-sectional area, 65 to 70 percent of men's thigh muscle cross-sectional area, 50 to 60 percent of men's limb

strength and 60 to 80 of men's leg strength. Do you see that language?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I do.

BY ATTORNEY BROOKS:

Q. Do you have any knowledge as to whether those statistics are on correct as given by Dr. Handelsman?

A. I do not.

Q. And do you have any expert knowledge as to how those statistics do or do not change under the influence of testosterone suppression in natal males who experience a female gender identity?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: So I guess the --- I have no expert knowledge about these numbers, per se, but I do know as an expert that when testosterone levels are suppressed in transgender women and actually in cisgender men, anyone, that these numbers are decreased. And I can say that with confidence as an expert.

BY ATTORNEY BROOKS:

Q. But you're not able to quantify that decrease. Is that correct?

A. I cannot quantify that decrease. The data gets

murky when we start to get there.

Q. Have you ever met Professor Coleman at Duke University?

A. Doriane Coleman?

Q. Yes.

A. I have.

Q. And in what context have you interacted with Professor Coleman?

A. The --- a professional context.

Q. Can you describe the context?

A. We have served on some of these --- two of the same committees --- committee task force, whatever you call it, for World Athletics together.

Q. Was she, in fact, on the committee which you participated that set the five nanomolar standard for the IAAF?

A. I don't recall for sure but I think not.

Q. Then can you identify for me the two committees that you recall that you did sit on with Professor Coleman?

A. Subsequent to the initial group, and I don't know that it's two committees, it may be the same committee, they get renamed. Things like that happen. So it is --- I'm thinking forward to assisting other

international federations with their rule making.

Q. And do you consider Professor Coleman to be knowledgeable about the relative athletic capabilities and records of male and female athletes?

A. To me that's too vague a question. She's a lawyer.

Q. Are you aware also of her athletic background as a competitive athlete?

A. I am.

Q. And are you aware of her research and publications having to do with athletic records and capabilities of male and female athletes?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm aware of some of her publications where she has co-authored, but she's not usually the physiology expert in the group.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to paragraph 393. And if you look at the page you will see that this is within the tribunal summary of testimony of Professor Coleman. Let me ask you since you dealt personally with the professor, because I want the record to be respectful, does she in general use --- prefer to be referred to as Professor Lambelet-Coleman or simply Professor Coleman?

A. I don't know the answer.

Q. Okay.

A. I prefer to her on a first name basis.

Q. All right.

I will stick with the shorter version. In paragraph 393 the panel describing Professor Coleman's submission states, quote, Professor Lambelet-Coleman's report compared the lifetime best performance of three elite female athletes in the 400-meter event with the performance of male athletes in the same event during a single year, 2017, period. This showed not only that the elite females would have lost to the best men by a margin of about 12 percent but also that even at their absolute best the elite females would have lost to thousands of other boys and men by a much smaller margin, closed quote. Do you see that language?

A. I do.

Q. And do you have any reason to doubt the accuracy of that summary of athletic performance statistics?

A. I can't render an expert opinion there.

Q. Do you as you sit here today have any reason to doubt the accuracy of those statistics?

A. Again, I cannot comment as an expert. I guess that's the bottom line.

Q. If it is true that the most elite female athletes performing at their absolute best would lose to thousands of others boys and men. It is also true, would you not agree, that the very best female college athletes would lose to even a larger number of collegiate boys and men?

A. If I'm speaking as an expert, then I'm not rendering an opinion there.

Q. How about as a highly educated and intelligent professor?

A. Simply in that context, it would be true that --- that it would least be true at some level in the elite levels of college.

Q. And the very best female high school athletes would lose to an even larger number of high school boys. Correct?

A. So now I can render a little bit of an expert comment, which is that as you move down that line, the degree of difference falls because the degree of testosterone impact on body is evolving across those ages.

Q. If it's true that the world fastest female athletes would lose to thousands of boys and men then it is inevitably true, is it not, Doctor Safer, to say that

the very best female high school athletes would lose to even larger numbers of high school boys?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- it is the coils here. So it would be larger numbers of cisgender men in general, including people who are older than they are, but I'm not sure where that would be going.

BY ATTORNEY BROOKS:

Q. Let me take you back to your expert report, Exhibit 1, and take you to paragraph 48. Actually, let me have the Declaration, which is Tab 50.

ATTORNEY BROOKS: Let me mark as Safer Exhibit 6 a Declaration of Dr. Safer executed in May 10th, 2021.

(Whereupon, Exhibit 6, 5/10/21 Declaration of Dr. Safer, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And I apologize, it's paragraph 50. Dr. Safer, did you, in fact, prepare and execute this Declaration in the time leading up to May 26, 2021?

A. Yes.

Q. And you state in paragraph 48 that, quote, age, grade competitive sports records show minimal or no difference in athletic performance between non-transgender boys and non-transgender girls before puberty, and you cite Handelsman, the article that we have been looking at.

Correct?

A. Yes.

Q. And what research did you do to arrive at the conclusion that age grade competitive sports records show minimal or no difference in athletic performance between non-transgender boys and non-transgender girls?

A. Is the question of original research on my part?

Q. No, what steps did you take to arrive at that conclusion?

A. Reading relevant literature.

Q. You cited only Professor Handelman's 2018 article. Did you read other literature that gave you comfort that is a true statement?

A. I have read other literature, but I would suggest that Doctor Handelsman gave --- Doctor Handelsman's paper is the best summary of the point.

Q. And again, in making this statement, what did you consider to be a minimal difference?

A. When I'm thinking about this as a scientist it is a difference where I'm not sure if it is true or whether it is significant when defining the word minimum.

Q. You just defined minimal by using the work significant. You force me to ask you what do you mean by significant?

A. Sorry. So as a scientist --- well, there are two definitions of significant. So the one is that it is relevant for those --- for decision makers. And that actually gets outside of my expertise. And then we do use it as a term of art in science as well.

Q. You meant statistically significant?

A. The second would be statistically significant, that's right.

Q. Dr. Safer, you deleted that sentence from your expert report.

Is that correct?

A. I have to look.

Q. I don't mean it to be a trick question. Let me ask you this. Do you recall removing that sentence as you revised your Declaration to create your expert report?

A. No.

Q. All right.
A. I don't recall.
Q. We will just move on to the science and not ask you deleted the question. Let me take you to paragraph 44 of your expert report, Exhibit 1. And just to be sure, you are on the expert report now and not the Declaration? They are so similar that it is easy to get confused.
A. Yes.
Q. Paragraph 44 you say in the second sentence, increased testosterone begins to affect athletic performance at the beginning of puberty, but those effects continue to increase each year of puberty until about 18, with the full impact of puberty resulting from the cumulative effect of each year. Do you see that language?
A. I do.
Q. And just to clarify, in making this statement what do you refer to as, quote, the beginning of puberty? And we're talking about male typical puberty in this discussion so as to clarify. So what do you have in mind as the beginning of male puberty?
A. So the answer is complex. The typical male puberty is defined as beginning with what we label as

Tanner 2. And in terms of when you would see impact on athletic performance, per se, is not well established.
Q. And now stretching that in both directions, on the one hand Tanner Stage 2, if I'm correct, is essentially defined as certain first observable physical changes in a boy's body.
Right?
A. Tanner 2 is specifically defined as specific observable changes in a person's body, yes.
Q. And therefore, testosterone levels have begun to increase even before the first observable changes that result.
Correct?
A. The way it's understood in medicine is it is reflective of existing reality. So it is not necessarily --- you know, only in the absolute.
Q. Well, as a medical doctor, you would agree with me or would you not that testosterone levels must increase in the body before observable changes in the body caused by testosterone can be --- can come about?
ATTORNEY BLOCK: Objection to the form.
THE WITNESS: So it must be the case that the testosterone levels would have to rise prior to their having a noticeable effect, that is true.

BY ATTORNEY BROOKS:
Q. Cause has to precede effect?
A. Cause in this case has to precede effect, exactly. But I caution that it is not clear that that's something that we could parse out medically in a given person in a reasonable way. That is I don't know that I could do a blood test and catch it as it were.
Q. Okay.
Can you explain to me what you were referring to when you mentioned the cumulative effect of pubertal changes at the end of that sentence?
A. Where are we now?
Q. We are in the second sentence of paragraph 44 of Exhibit-1. And you say at the end with a full impact of puberty resulting from the cumulative effect of each year, and if you would explain for the Court what you meant by cumulative effect that would be helpful.
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So the testosterone has impact on certain tissues, and then it continues to have impact on tissues. And I don't know that I have any greater explanation for the right cumulative impact.
BY ATTORNEY BROOKS:
Q. So your point is that by the age of 18 whatever

advantages in athletic performance a particular male has is due to body changes that have happened each year since puberty began, not due simply to the testosterone level of that individual at age 18?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: The meaning isn't as --- I guess I would be careful about overstating it, so there can --- there might be some impact earlier and then there might be additional impact over time, but --- and so in the absolute it would be true to say that all of the effect doesn't occur at Tanner 5, which is the defined end.
BY ATTORNEY BROOKS:
Q. Okay.
The cumulative physiological changes that you are referring to here result from a multi-year history of male typical levels of testosterone by age 18.
Correct?
A. Yes. Well, even that is --- there's complexity but yes.
Q. You say --- sorry, we are jumping back and forth.
A. Actually, just continuing a little bit further, it's also about age 18 is not a trivial word.

Q. Understood. And I simply used that as a representative end marker and for some individuals it would be earlier and for some individuals it would be later.

Correct?

A. That's right, even with the college athletes.

Q. You state at the beginning of paragraph 44 that, quote, the concerns that animated the World Athletics and prior IOC policies are even more attenuated for students in the middle of high school where athletes typically range from 11 to 18.

Do you see that?

A. I do. Was this paragraph 44?

Q. It is. And by attenuated you mean the same in nature but smaller in scale.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, I can't even say that so --- yeah, I can't ---.

BY ATTORNEY BROOKS:

Q. Isn't that what attenuated means?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Attenuated is both in scale and type in this case.

BY ATTORNEY BROOKS:

Q. All right.

You are not here or anywhere denying that the same type of concern, that is physiological advantages, exist at for instance age 15?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So sorry, say that again.

BY ATTORNEY BROOKS:

Q. You are not in this paragraph or anywhere offering an opinion that the same type of concerns, that is physiologic or in performance advantages, exist to some degree at, for instance, age 15?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not offering an opinion there, that's right.

BY ATTORNEY BROOKS:

Q. And the same is true at age 13?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not --- so I guess as we --- as you move along to the continuum, then ---.

BY ATTORNEY BROOKS:

Q. It gets more attenuated?

A. The opinion --- right, the opinion shifts because it depends on context.

Q. In paragraph 49 of your expert report you write in the third full sentence, quote, West Virginia categorically prevents girls who are transgender from participating on girls teams regardless of whether they are prepubertal, receiving puberty blockers, or receiving gender-affirming hormone therapy, closed quoted. Do you see that?

A. I do.

Q. What in your opinion is the significance of that statement? What is your point?

ATTORNEY BLOCK: Objection. Could you just give him some time to read the context?

BY ATTORNEY BROOKS:

Q. Yes.

A. So I guess I maybe make the --- help me with where you're going with that question. I'm --- the rule as written includes all transgender girls.

Q. Are you --- did you mean to suggest that medical science would dictate that the West Virginia law should make an exception for natal males who have suppressed puberty?

ATTORNEY BLOCK: Object to form.

THE WITNESS: The context for the --- the context of different transgender girls with different

degrees of treatment and different stages of puberty are different. I guess that's as much I would say. I'm not expressing an opinion about what the --- I'm serving here just as a scientist in terms of what the --- what the --- what we know about athleticism.

BY ATTORNEY BROOKS:

Q. You are not offering an opinion that either science or reasonableness requires that West Virginia's laws make an exception for natal males who have suppressed puberty?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not offering an opinion that that would be --- that would be a logical law for transgender girls in that circumstance.

BY ATTORNEY BROOKS:

Q. And in the article that we began today looking at you expressed concern about policies that would create incentives for children to begin puberty blockers, would you not?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So earlier in my --- I reference that as a concern. I want to be clear that as an expert I'm not suggesting that --- I'm not suggesting an expert opinion that these needs to be concerns. I'm

raising the issues that we are considering.
BY ATTORNEY BROOKS:
Q. Well, what you wrote to educate your colleagues as an endocrinologist, you, Professor Safer, raise that as a concern?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: To be clear, I raised it as a concern of the community. I did not take an opinion in that article that it was a concern that I was offering as an expert.
BY ATTORNEY BROOKS:
Q. Well, let me ask you as a medical doctor sitting here today, an endocrinologist, it would cause you concern, would it not, that policies are adopted that created incentives for children to start puberty blockers when they might otherwise not choose to do so?
ATTORNEY BLOCK: Objection to form and to scope.
THE WITNESS: It's too broad of a question as you're asking it because there is certainly --- in medicine it is certainly the case that we fear coercing people to certain treatments and certain circumstances but they are certainly alternate examples where we very much coerce people to have certain medical

interventions. And so as an expert I have no opinion, as we said already. And simply as somebody trying to be logical and thoughtful I can come up with examples in both certain circumstances.
BY ATTORNEY BROOKS:
Q. I'm going to ask you to take Exhibit-6 --- no, Exhibit 4, the Handelsman article if you would.
A. Yes.
ATTORNEY TRYON: Roger, would you speak up a little more, please? And Josh, when you shuffle your papers, it really garbles the testimony. If you'd be a little more careful about that, I'd appreciate it.
ATTORNEY BLOCK: Sorry.
ATTORNEY BROOKS: It's a crowded table and we have papers bumping up against the mic. So just call out if we do that wrong.
BY ATTORNEY BROOKS:
Q. So Dr. Safer, you pointed to the Handelsman article as the best source on the proposition --- on the question to what extent if any natal male has physiological or I should say athletic performance advantages over natal females before puberty. Correct?
ATTORNEY BLOCK: Objection to

terminology?
THE WITNESS: And if I said the word best maybe that's not the best way of saying it, but it's a very clean, well-written summary of the circumstance.
BY ATTORNEY BROOKS:
Q. At any rate, it's the one that you chose to cite?
A. And it is the one that I chose to cite.
Q. I'm going to give you a three by five card to help read a chart that doesn't have grid lines on it so you have a straight edge. And I want to take you in Handelsman's 2018 article, Exhibit 4, to page 813 and figure one. And you've familiar with this figure and these curves, are you not?
A. I am, yes.
Q. When you studied this article carefully this is part of what you studied. Right?
A. It is.
Q. And these charts show percentage performance advantage of males over females and just to simplify terminology I believe there's nothing in here about dealing with transgender individuals in these charts. So with your permission I'll simply use male and female

to be the dare I say simple biological designations as we had previous discussions. Is that acceptable?
A. I think so.
Q. If it's something that comes up ---.
A. I will mention it, yes.
Q. I don't think it will in this discussion. First of all, would you agree with me that, generally speaking, junior high contemplates grades 7 through 9 and commonly ages in the range of 12 to 15?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Junior high is grades 7 through 9. It used to be. Now there is Middle School.
BY ATTORNEY BROOKS:
Q. I know?
A. Exactly.
Q. Let's just work with you and I are of general age. So Junior High is 7 to 9?
A. Okay.
Q. And in your general understanding, this is layman's stuff, not expert stuff, that is ages 12 to 15-ish?
A. Let's see, seven --- let me think about this. Right, 15 at about the max, right, because there is about 14.

Q. And high school is 14, 15 through age 18-ish. Some people graduate at age 17?
A. Yes. As a non-expert I would believe, yes.
Q. All right.
And this chart charts the percentage advantage enjoyed --- on average enjoyed by males over females in three different events at over --- on a year by year basis from ages 10 up to 19.
Am I describing it correctly?
ATTORNEY BLOCK: Objection to form. Just for the record, it's percentage differences, not percentage advantages.
BY ATTORNEY BROOKS:
Q. Correct, it says --- it says gender difference percentage to read the Y axis.
A. Clear, yes.
Q. Okay.
So let's look at running and you have your straight edge if it is helpful to you. At age 12, what, according to Dr. Handelsman, is the gender difference in running performance?
A. So in this paper there is a range. But just to help you get to your point faster I guess we can --- it is about five percent of tab over.

Q. And for reasons best known to Professor Handelsman, his arrow bars extend only upwards, correct, in this chart?
A. Right. I will have to attribute that to cleanliness of the figure.
Q. Or if he has chosen to fit his curve to the bottom end of this error range possibly?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Yeah, I can't comment there, but that wouldn't be usual.
BY ATTORNEY BROOKS:
Q. That would not be usual, I agree. And what advantage --- what gender difference between male and female does Professor Handelsman report at age ten approximately?
A. At age ten in the particular figure that we are referencing it is --- the average is --- well, actually, so here it ranges from about two percent because that is probably how the air bars are meant to be up to just a little north to three percent.
Q. And going back to age 12, do you consider a five percent difference between male and female performance to be minimal?
ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the problem here with going right to this figure is it's including a range of inputs, and so this is --- so these are what are called cross-sectional studies, and so the --- if your question is just in the narrow point of this five percent minimal, well, even there I don't know that I can comment because it depends on how broad the variation is among the group.
BY ATTORNEY BROOKS:
Q. And what gender difference did Dr. Handelsman report in running at age 15?
A. At age 15, a range that is hovering about 9 to 10 percent.
Q. And by age 15, according to his sample, the gender difference is approached --- begins to level off. In other words, it has --- most of the gender difference has been achieved at age 15.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Among this data in this study set, yes, I will agree with you it does level off.
BY ATTORNEY BROOKS:
Q. So let me ask you this. Do you have an understanding of the physiological basis of what you

described as a two to three percent male advantage at age ten in running?
ATTORNEY BLOCK: Objection to form.
BY ATTORNEY BROOKS:
Q. If any?
A. So speaking as an expert, there's no --- there is no physiological --- there is no expectation of a physiological explanation. And there is awareness of other confounders in terms of experience, exposure to sport and things like that.
Q. Let me ask you to look at jumping, at age ten. And this is --- at age ten what performance of gender difference advantage did Dr. Handelsman report for boys in jumping?
A. So at age ten it would go on --- so at age ten then the range ---.
Q. This by the way tells us that he cannot be inclined in arrow bar --- a symmetrical arrow bar below.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So he can't. In fact, the range that he's showing there goes from an advantage for girls --- that is it goes below to an advantage --- for boys. The range is included and it just --- for both

sexes.
BY ATTORNEY BROOKS:
Q. So what is the average advantage that he reports at age ten for boys?
A. So in this dataset the average is about a six percent average for boys, but it is important to understand the data. And the data that --- the point being that if we were to repeat the study you would anticipate that that average would fall across those entire --- the entire range shown so that in a different day it might show a bigger advantage for boys, but a different day it might also show an advantage for girls about higher.
Q. Are you aware of any dataset that shows a smaller advantage in jumping for girls at age ten?
A. Off the top of my head I cannot guide --- lead you to a dataset.
Q. At age 12 what advantage in jumping --- well, let me start over. At age 12 what advantage in jumping does Dr. Handelsman report for boys?
A. So in this dataset at age 12 he shows the advantage --- the average advantage to be of the less than the average advantage for age ten, but this exactly points to the caution that I was referencing, which is

that the range of possibilities that you might anticipate based on this particular dataset at age 12 has a range of four to six percent advantage for boys.
Q. The arrow bar has tightened up a lot?
A. The arrow bar in that age range is tighter.
Q. And do you consider a six percent advantage to be minimal?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: As an expert I can't answer that because it depends on context on the heterogeneity of all these events.
BY ATTORNEY BROOKS:
Q. And at age 15 what average advantage in jumping did Dr. Handelsman report for boys?
A. For age 15 he has a range or the average sits at 15 percent and the range runs from about 14 percent to maybe 17 percent.
Q. Is there any context in your opinion, any athletic endeavor that involves jumping in which a 15 percent advantage is in your view minimal?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Yes, I think as an expert I can't answer that. If you're thinking at the scholastic level where there is a wide range of --- where there's a

quite wide range of heterogeneity in development, body type, et cetera, I certainly could envision a situation, yes.
BY ATTORNEY BROOKS:
Q. Dr. Safer, in your Declaration filed in May you stated that before puberty athletic advantage by boys was minimal. Do you recall that language?
A. The way I would say it is the difference between boys and girls before puberty is minimal or non-existent. I don't know if I could be wiser than that.
Q. All right. But now you are telling me when I asked you questions about minimal that you as an expert are not able to define minimal. How do you reconcile those two?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So the definition of minimal is in context. And so as we discussed it was not a significant difference using both those definitions that we already used were no different at all.
BY ATTORNEY BROOKS:
Q. Your statement in your Declaration simply asserted categorically in almost no context that the

difference in athletic capability of boys to girls were both minimal. My question for you is using whatever definition you had in mind when you wrote that do you consider a --- I will look at jumping, a five percent difference in capability to be minimum?
ATTORNEY BLOCK: Objection to form and characterization of the report.
THE WITNESS: So it's a context. So in the report the reference is to prepubertal children. And there it is easier to be more categorical. Where now we're moving into an area where there is --- where things are more complex and so it is a harder context to make that statement.
BY ATTORNEY BROOKS:
Q. That is a sample of ten-year old boys includes some who are no longer prepubertal.
Correct?
A. No. I'm saying it more the other way, which is a sample of ten-year-old boys would overwhelmingly be prepubertal but a sample of 15-year-old boys would have more of a range and have more heterogeneity. And there's more to it even than that, which is the definition of minimal also includes the context of the entire population who participated in the sport.

Q. So focusing on ten-year-old boys and jumping you said at age ten the large majority of boys are, according to your definition, prepubertal. Referring back to Declaration and the meaning that you ascribed to the word minimal there, in your view, is a six-percent difference in capability minimal or not minimal?

ATTORNEY BLOCK: Objection to form and to talking about his Declaration without it being in front of him.

ATTORNEY BROOKS: He has it in front of him and we already looked at the language.

BY ATTORNEY BROOKS:

Q. You may answer.

A. So the graph that we are looking at includes arrow bars that include the possibility that boys would have --- that the girls would have a superior outcome, and so the answer then becomes, yes. Where the data are either small or are suspect or not significant, then all of that collectively certainly is --- would be included as minimal to non-existent.

ATTORNEY BROOKS: Let me mark as Exhibit Safer 7 a paper by Emma Colton and Tommy Lundsburg entitled Transgender Women in a Female Category of Sport, from 2021, previously marked as Exhibit 13 at Dr.

Adkins's deposition.

(Whereupon, Exhibit 7, Transgender Women In a Female Category of Sport, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And first, Professor Safer, let me ask whether you're familiar with this paper published last year?

A. I am familiar.

Q. And have you interacted professionally with either Dr. Colton or --- and I don't know his degree, Mr. Lundsburg in any context?

A. Here I don't remember.

Q. Okay.

Do you believe that you became aware of this paper soon after it was published?

A. I don't know if I can answer that cleanly either, but I certainly have became aware of it somewhere between then and now.

Q. And have you read it with some care?

A. I have read it with some care, yes.

Q. Let me ask you --- well, let me ask you this first. Would you describe this paper as reporting

original research or as more of a literature review paper?

A. I don't recall them reporting on their original research, but I would have to look. It's mostly a review paper.

Q. That is also my impression. I just didn't want to create a different impression. Let me ask you to turn to page 201, and there in the first column beginning six lines down there is a sentence that begins an extensive review. Let me ask you to find that.

A. I have it.

Q. And that --- I'll read it into the record. Quote, an extensive review of fitness data from over 85,000 Australian children age 9 to 17 years old showed that compared with nine-year-old females, nine-year-old males were faster over short sprints, 9.8 percent, and one mile, 16.6 percent, could jump 9.5 percent farther from a standing start, which tested explosive power, could complete 33 more push-ups in 30 seconds and have 13.8 percent stronger grip. Male advantage of a similar magnitude was detected in a group study of children where compared to a six-year old females six-year old males competed 16.6 percent more shuttle runs in a given time and could jump 9.7 percent further from a standing

position. Do you see that language?

A. I do.

Q. And on the Australian study, if you follow the footnote you will see that it references a study by Kaitlin Thompkinson. That's footnote 22. And my first question is have you read the reference study by Kaitlin Thompkinson?

A. I don't recall. I'm guessing yes.

Q. All right. All right.

Do you have any reason to doubt the accuracy of this summary of the findings of Kaitlin Thompkinson based on data from over 85,000 Australian children?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think the important thing to recognize when you look at these sorts of data are recognizing the multiple inputs. So the larger these groups --- these cross-sectional studies get the more confounded they get by access and other social explanations why there are boys participating in sports to a greater degree.

BY ATTORNEY BROOKS:

Q. So putting aside causation, which might be physiological and might be cultural, as you said there could be various causes, do you have any reason to doubt

the accuracy of the findings of performance advantage summarized here in the passage that I've just read?

ATTORNEY BLOCK: Objection to form and terminology.

THE WITNESS: Putting aside causation, I have no --- I can't offer an expert opinion I guess if that's the bottom line. But if you're asking me just as an individual, I'm not expecting that they're fabricating that data. I am not expecting that.

BY ATTORNEY BROOKS:

Q. And you agree that advantages on a scale of 9 percent, 16 percent could provide a significant advantage in athletic competition, do you not?

ATTORNEY BLOCK: Objection to terminology.

THE WITNESS: So say that question again.

BY ATTORNEY BROOKS:

Q. You agree that advantages on the scale of 9.8 percent or 16.6 percent would provide a large advantage in athletic competition, do you not?

ATTORNEY BLOCK: Same objection to terminology.

THE WITNESS: In elite athletic competition, yes.

BY ATTORNEY BROOKS:

Q. Did you play any sport in high school?

A. At a sophisticated level I did not.

Q. Your general knowledge permits you to say, does it not, that at the high school level also a 9.8 percent or a 16.6 percent advantage is a very large advantage?

ATTORNEY BLOCK: Objection to form and terminology?

THE WITNESS: So there it gets more diffuse, therefore, and I can't answer as an expert.

BY ATTORNEY BROOKS:

Q. Can you answer as an informed adult citizen?

ATTORNEY BLOCK: Same objection.

THE WITNESS: So as an expert for sure not. As an informed adult, it falls back to the same situation. When there is a wide range of athletes in a certain context, then it is going to seem less relevant. And obviously with the example I gave before with an elite circumstance where that --- it describes the entire field is more significant.

BY ATTORNEY BROOKS:

Q. Let me ask you to find your rebuttal report.

A. And actually --- do others need a break?

Q. Any time --- your concentration is most important. So if you need a break, we'll take a break.

A. So I'm good.

ATTORNEY BROOKS: Well, obviously, if anybody wants a break, we can take a break.

ATTORNEY BLOCK: Do you need a break?

ATTORNEY SWAMINATHAN: No.

ATTORNEY BLOCK: We are good.

THE WITNESS: So my rebuttal.

BY ATTORNEY BROOKS:

Q. Your rebuttal, which is Exhibit 2, so it's probably at the bottom. And in that I'm going to draw your attention to paragraph 11. And there you wrote there is also no basis to confidently predict the patterns about the athletic performance of prepubertal cisgender boys will be the same for prepubertal transgender girls, closed quote. Do you see that?

A. I do.

Q. And let me attempt to see if I understand the point of this paragraph. And indeed, if you would like to read the whole paragraph you should. But my understanding of the point is that you're saying that even if prepubertal boys have some performance, some statistically significant performance advantage over prepubertal girls, that you are not confident that the athletic performance capabilities of natal males who identify as females before puberty will be the same as those of natal males who identified as male before puberty?

ATTORNEY BLOCK: Objection to the terminology.

THE WITNESS: So to the extent --- so were differences to be determined between cisgender boys and cisgender girls, it is correct to say that that won't conclusively demonstrate that the same applies for transgender girls. That's right.

BY ATTORNEY BROOKS:

Q. Now, elsewhere in your writings you have said that it is well known that the majority of prepubertal children who experience gender dysphoria do not persist in that dysphoria into pubertal adolescence. Correct?

ATTORNEY BLOCK: Objection.

THE WITNESS: No.

BY ATTORNEY BROOKS:

Q. Not correct?

A. Not correct.

Q. Then we will come back to that. In this paragraph 11, you speculate a little farther down that,

quote, the experience of transgender girls might be more similar to the experience of cisgender girls?

ATTORNEY BLOCK: Objection to the characterization and speculative.

BY ATTORNEY BROOKS:

Q. Well, by using the word might you meant to indicate, did you not, Dr. Safer, this is a hypothesis, this is not a documented fact?

A. That if the question is do I know that the experience of transgender girls is definitely in this circumstance the same as cisgender girls, that's right, I don't know that. It only might be true.

Q. And towards the end, in the last line, you refer to potential biological underpinnings of gender identity. Again, the word potential signaling that no such specific underpinnings have yet been identified.

Correct?

A. Say that question again.

Q. In the last line, your reference to, quote, potential biological underpinnings of gender identify, by the word potential you are indicating that no specific biological underpinning has yet been identified.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So it's --- so no, potential in this context does reference that most of this biology is unknown, so that part is true, but it doesn't mean that there is nothing known.

BY ATTORNEY BROOKS:

Q. You do not propose to offer any opinion that natal males --- let me strike that and start again.

You do not propose to offer any opinion, do you, that prior to puberty natal males who identify as female are less athletic capable on average than natal males who identify as male?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I'm not offering an opinion with regard to cisgender --- excuse me --- cisgender boys versus transgender girls and their athleticism when they are prepubertal. If that's what you are asking, then yes, I'm not offering an opinion between those two groups. I'm simply raising the possibility that something like biology associated with transgender could have influence into it.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to paragraph 22 of your rebuttal report. And there you write Doctor Brown also refers to widely publicized anecdotes about isolated cases of transgender girls and women state championships in high school sports or NCAA championships in college. Do you see that?

A. I do.

Q. And you go on to write but transgender athletes of women have been competing in NCAA and secondary school athletics for many years at this point, closed quote. Do you see that language?

A. I do.

Q. Let me ask you to name all instances of male males known to you who have competed in women's division varsity athletics in any athletic endeavor for any NCAA member school?

ATTORNEY BLOCK: Objection to form and scope.

THE WITNESS: Right, so I certainly can't do that usefully off the top of my head, name transgender women and all these context in such an exhaustive way like that.

BY ATTORNEY BROOKS:

Q. Well, I asked you accused Doctor Brown of citing isolated cases. Do you have any basis to assert that he has done anything other than cite all cases in which natal males have competed in NCAA athletics in the female category?

A. So the --- if our focus is on the word isolated then per se they are all --- these are all isolated cases. These aren't systematic analyses of any cohort of people.

Q. You are not accusing Doctor Brown of picking and choosing?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So let me think about that. By simply choosing individual cases that are in the press then it is by its nature picking and choosing.

BY ATTORNEY BROOKS:

Q. What do you mean by that?

A. Well, these are simply individual cases that have --- that have come to public attention, and so I --- so --- and that's the basis of my statement as opposed to some exhaustive attempt to identify transgender people in a systematic fashion.

Q. As you sit here today, Dr. Safer, are you aware of a single case not mentioned by Doctor Brown in his report of a natal male who has competed in NCAA athletics in the women's category?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Can I name somebody off the top of my head? I cannot.
BY ATTORNEY BROOKS:
Q. Do you have any concrete --- leaving aside whether you remember a precise name, do you have any factual basis to know that Doctor Brown has omitted any case of a natal male who has competed in the female division of NCAA athletics?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So I guess if the question is what can I do off the top of my head, then I cannot.
BY ATTORNEY BROOKS:
Q. Off the top of your head, you recall the case of June Eastwood, do you not?
A. You have to remind me what that is.
Q. A runner in Montana?
A. I actually would need to be reminded of those details.
Q. All right. Certainly you recall Lia Thomas because none of us can mis Lia Thomas these days?
A. Lia Thomas is still in the news.
Q. Do you recall the case of CeCe Telfer?
A. Names are not my strength.
Q. All right. No more on that.

You say at the end of this paragraph, quote, the occasional championship that has been widely publicized do not come close to constituting the rates one would expect if they, that is transgender athletes, wanted rates that are proportional to their overall percentage of the population, which is approximately one percent. Do you see that language?
A. I do.
Q. Do you have any knowledge as to what --- first of all, let me ask, what is your basis for believing that the current student population in college and high school level is approximately one percent transgender?
A. The statistic for the percentage of the population who are transgender comes from surveys.
Q. And do you have any knowledge at all as to what percentage of varsity athletes in America today at the NCAA --- among NCAA member schools in the women's division are transgender?
A. If the question is that a survey in that population, I'm not aware of a survey that's been done.
Q. So you don't know whether the number of victories of championships that have been taken in the women's division by transgender competitors is higher or lower than the percentage of athletes in those divisions

who are transgender?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: That is correct. I do not know the percentage that --- what we know is the percentage of transgender people and then we know the percentage of identified athletes winning competitions. And even then we don't know that absolutely. We only know the ones that are publicized. But, right, in the in between, we don't have statistics. That's right.
ATTORNEY BROOKS: Counsel, I'm going to suggest --- in my experience, if we break for lunch at noon, it makes it a little long afternoon. So I would suggest that we take a short break now and then keep going until like 12:45 or something. It's seven hours on the clock and I'm here just to tell you that the afternoon gets long. So unless you are starving I'd recommend ---?
THE WITNESS: No, I think that's a great idea.
ATTORNEY BROOKS: Take a short break now.
THE WITNESS: So you don't know who is on the phone so give them a break.
ATTORNEY BROOKS: Let's go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 12:01:00 p.m. Eastern Standard Time.
OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE
VIDEOGRAPHER: Back on the record. Current time reads 12:14 p.m. Eastern Standard Time.
ATTORNEY BROOKS: Let me mark as Safer Exhibit 8 the Endocrine --- Treatment of Gender Dysphoric Gender Incongruent Persons, an Endocrine Society Clinical Practice Guidelines from 2017 previously marked as Adkins Exhibit 4.
ATTORNEY WILKINSON: Tab 5.

(Whereupon, Exhibit 8, Endocrine Society Guidelines, was marked for identification.)

BY ATTORNEY BROOKS:
Q. And Doctor Safer, am I correct you served the committee that created this revised version of the Endocrine Society's Guidelines?
A. Yes.

Q. And is it reasonable for me to assume therefore that you are familiar with it in some detail?
A. I am familiar with it in some detail.
Q. They also pertain to your practice? Am I correct.
A. And they do pertain to my practice, yes.
Q. Let me ask you to turn in Exhibit-5 to Page 3879 --- Exhibit 8, 3879. And there I will call your attention to the specific recommendation that's numbered 1.4. And it says there we recommend against puberty blocking and gender-affirming hormone treatment in prepubertal children with GD/gender incongruence. Do you see that?
A. I do.
Q. And then there is a section headed evidence, right?
A. Yes.
Q. And the first statement in the sentence that is --- in the section headed evidence is, quote, in most children diagnosed with GD/gender incongruence it did not persist into adolescence, closed quote. Do you see that?
A. I do.
Q. Do you believe that to be a false statement?

A. I wouldn't --- I guess it depends on context here too. So as of when this was written, the literature being referenced had a broader diagnosis for gender dysphoria and gender incongruence or really gender dysphoria is the label that was being used and still is. Gender incongruence is where we are headed. And so with that broader definition, that included gender expansive children who were not necessarily transgender.
Q. The statement is I think fairly specific. And as you are aware, the discussion cites various references, but the introductory sentence states in most children diagnosed with GD a gender dysphoria or gender incongruence did not persist into adolescence. Do you believe to be a true statement or false statement?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: The problem is I can't answer that quite that cleanly. The statement references a circumstance that I just referenced where children receiving that label have to --- for the most part were not transgender. The only caution I want to make is that as we grow more refined in our understanding of gender identity and also in our labeling, that we are more specific in identifying

transgender kids with these sorts of labels.
BY ATTORNEY BROOKS:
Q. Well, recommendation 1.4 says we recommend against puberty blocking and a gender hormone treatment in prepubertal children with gender dysphoria or gender incongruence. Do you have an understanding of why these Endocrine Society guidelines of which you're a co-author recommended against puberty blocking in prepubertal children?
A. Yes.
Q. Why?
A. They have no impact.
Q. Can you point me to anywhere in the evidence discussion that suggests that is the reason for this recommendation?
A. I don't know. Let me look.
Q. The evidence discussion is just two paragraphs.
ATTORNEY BLOCK: I just want to object to the extent you're limiting his review to the evidence section.
BY ATTORNEY BROOKS:
Q. My question pertains to the evidence section.
A. So those two paragraphs are both primarily referencing 1.3 and not 1.4.

Q. Well, let me ask you to turn to page 3881. And at the top of that first column on 3881 it reads we, therefore, advise starting suppression in early puberty to prevent irreversible development of undesirable secondary sex characteristics. However, comma, adolescents with gender dysphoria, slash, gender incongruence should experience the first changes of their endogenous puberty because their emotional reaction to these first physical changes has diagnostic value in establishing the persistence of gender dysphoria/gender incongruence. Do you see that language?
A. I do.
Q. And as a scientist and practitioner do you agree with that statement?
A. I would say that the validity of that statement is in evolution.
Q. In your practice, over time --- well, let me ask you this. When this was drafted did you raise an objection to the proposition that the child's emotional reaction to the first physical changes of puberty had important diagnostic value?
A. I cannot recall our specific conversations, but if you're asking if my view has shifted since let's say

2015, 2016, 2017, no, the recognition that there is an evolution was already part of my opinion.

Q. What do you mean the recognition that there is an evolution about?

A. So the evolution is that whether there is a need to start puberty as a diagnostic --- as a necessary diagnostic circumstance.

Q. In your practice today do you prescribe puberty blockers prior to Tanner Stage 2?

A. I --- so two things. My practice is with adults. And although I will see older kids because I don't have a hard threshold of age 18, but I don't prescribe puberty blockers because I don't --- my practice does not include those age children. But two, it is still the guidance and so the pediatricians who are part of my program do not prescribe puberty blockers prior to Tanner 2 for the reason I stated initially.

Q. And according to these guidelines, by the time you reach Tanner Stage 2 there have been sufficient first pubertal --- stages of pubertal development to give a chance to observe the child's reaction to pubertal changes for diagnostic purposes.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- so I guess there are kind of two pieces. The sentence is --- that sentence is written, but that is the sentence that I'm suggesting is an opinion that is in evolution, like I'm saying, to whether that need really exists or not. The reason why we still don't prescribe puberty blockers before Tanner 2 is that there is no point, there is no preventive element to puberty blockers and so there is no point to give them before puberty begins and there is no way to know that until there is an observable objective finding.

Q. Has your own practice ever involved to a significant extent treating prepubertal or early pubertal stage children for gender dysphoria or gender incongruence incongruence?

A. Have I personally cared for prepubertal children who are transgender or otherwise? Actually, in the subjects, no.

Q. And do physicians who do treat prepubertal children report to you in connection with your position at the clinic or the Mount Sinai Medical Hospital?

A. Yes.

Q. And do you know whether your clinic makes use of children's emotional reactions to the first physical changes of puberty as part of their process of determining whether transgender hormonal therapies of any sort are appropriate for that child?

A. Yeah, I can't give you give you an answer. I would actually have to go survey my psychologists.

Q. Let me direct you to paragraph 17 of your rebuttal report. And there you say in the second sentence under current standards of care transgender adolescents are eligible to receive puberty blockers when they reach Tanner 2, not Tanner 3, which is early enough to prevent endogenous puberty from taking place, closed quote.

Do you see that?

A. I do.

Q. Now, just for context, you testified previously that the large majority of minors I'll say who present with gender incongruence or gender dysphoria are, in fact, considerably older and have gone through at least most of the Tanner stages.

Correct?

ATTORNEY BLOCK: Objection to characterization.

THE WITNESS: Most of the people we are seeing in clinical practice are coming to us at later

stages of development, yes.

BY ATTORNEY BROOKS:

Q. And so when we talk about prepubertal children, we're talking about a small minority of the patients coming in to ---?

A. I can't define small, but it is the minority, that's correct.

Q. And do you believe that what your clinic is seeing in that regard is typical of what's being seen across the country these days?

A. So if I'm sitting here as an expert, I don't have an expert survey to point to, to give you an answer there.

Q. But you read the literature and you talk to colleagues at other institutions.

Am I correct?

A. I certainly both read the literature and talk to colleagues.

Q. And is it your current belief that what you are seeing in terms of the breakdown of patient population is similar to or quite different from what other major gender clinics are experiencing?

A. So kind of separating, I'm living in my expert role, I really want to point to data where I have any

confidence at all, and I have none. If you are asking me in a more informal way among our conversations, then I can answer that our experience seems similar to others' experience.

Q. All right.

So in talking about prepubertal children --- well, strike that. We've been through that.

In your rebuttal report when you said beginning puberty blockers at Tanner stage 2 is early enough to prevent endogenous puberty from taking place, let me ask you, in consideration, do you believe it is accurate as stated?

A. So Tanner 2 early enough to prevent endogenous puberty from taking place, yes, that is accurate.

Q. You would agree with me, would you not, that the endocrine guidelines of which you are a co-author recommend to treat beginning puberty blockers at Tanner Stage 2?

A. So to clarify, under the cited guidelines what they say the recommendation is do not use puberty blockers prior to puberty beginning, prior to Tanner 2.

Q. Let me direct you to recommendation 2.2 on page 3880. Recommendation 2.2 reads we suggest the clinicians begin pubertal hormone suppression after

girls and boys first exhibit physical changes of puberty.

Do you see that?

A. I do.

Q. And then it says, paren, Tanner stages G2/B2 which is to say the girls Tanner 2 or boys Tanner 2, correct?

A. That is what that means, yes.

Q. So the official recommendation from the Endocrine Society is begin at or after Tanner Stage 2, right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That is a correct.

BY ATTORNEY BROOKS:

Q. And it says that Tanner Stage 2 is defined as girls and boys first exhibiting physical changes of puberty.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The definition of Tanner 2, is where there is any objective evidence when puberty has begun.

BY ATTORNEY BROOKS:

Q. So in fact, beginning puberty blockers at Tanner

Stage 2 does not categorically prevent endogenous puberty from taking place but instead prevents a substantial portion of endogenous puberty from taking place.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So let me ---.

BY ATTORNEY BROOKS:

Q. It is in paragraph 17.

A. So the --- I guess the way this is understood is --- I guess it depends on how extreme you want to take things. It is back to our original conversation of that cause has to take place before effect. So it's parsing it to that degree.

In a biological context it really is the case that we need some objective evidence before we begin things so that we don't make the mistake of using a medication prior to its having any impact. And then it's also true that some of the hormone mediated changes that we see do actually regress to that prepubertal state when we --- when you use puberty blockers at Tanner 2. So the statement as written --- as I wrote it is accurate in the way we think of these things in biology.

Q. Although the guidelines specifically state that adolescents should --- before puberty blockers, quote, should experience the first changes of their endogenous, spontaneous puberty. And the recommendation calls for beginning puberty blockers, quote, after girls and boys first exhibit physical changes at puberty, paren, Tanner stages 2, closed paren. I'm not misreading anything, am I?

ATTORNEY BLOCK: Objection to just reading an excerpt.

THE WITNESS: Right. I don't know --- I don't know if those were are all direct quotes or not so I won't comment on whether you're misreading or not, but the first statement that you reference, as I've said, is one where there is an evolving understanding of its veracity or its applicability.

The statement 2.2 is simply using alternate phrasing for saying Tanner 2, that is we need to have objective evidence that puberty is genuinely beginning. The focus and the purpose of these statements is to avoid people using puberty blockers on non-pubertal kids.

BY ATTORNEY BROOKS:

Q. Well, you would agree with me, would you not,

that if one administer puberty blockers in accordance with Endocrine Society guidelines, then some stages of endogenous male puberty will have occurred in natal male patients?

ATTORNEY BLOCK: Objection the form.

THE WITNESS: So when we are --- specifically we're referencing transgender girls here. And although pre-pubertis gender boys, when we see Tanner 2, then some --- some degree of development has taken place. That part is true. So in the absolute sense, then yes. But in a biological sense, like I said already, the --- some interesting reality is that some of that does regress.

BY ATTORNEY BROOKS:

Q. By the way, you, yourself, do not have any knowledge as to what developments of endogenous male puberty BPJ underwent prior to initiating puberty blockers, do you?

A. I have had no physical contact with BPJ.

Q. Nor have you studied BPJ's chart sufficiently to be feel that you know the answer to that question?

A. Right, I'm not expressing any opinion to the specific medical terms, that's right.

Q. Have you, yourself, ever supervised any

research, clinical research, concerning treatment of prepubertal children for gender dysphoria or gender incongruence?

A. Have I supervised research on treatment of prepubertal transgender girls? Let me think about that. Nothing is coming to mind, but our program does do research across an age span.

Q. Well, some of your colleagues might have done such research, but my question is whether you have been personally supervised or involved in such research?

A. I'm pretty involved actually, especially in our research program, but I'm having a difficult time coming up with an example.

Q. All right.

I just want to make sure I know about it if it exists.

A. Yes.

ATTORNEY BROOKS: Let me mark as Safer Exhibit 9 an article entitled --- an article or a chapter or something entitled Care of the Transgender Patient dated 2019 by Dr. Safer and by Doctor Vin Tangpricha.

(Whereupon, Exhibit 9, Care of the Transgender Patient Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. Am I correct that this is --- well, you tell me, is this an article or book chapter? How would you describe this document?

A. This is a review article from the Annals of Internal Medicine.

Q. And by review you mean it's not reporting on original research but rather summarizing the state of knowledge in a particular area?

A. That is correct.

Q. Okay.

And the pages may have ITC and a number, but I'll just refer to the number if I may. On page three, column two, is a statement that I think is just repeating what you told me, that is most --- quote, most transgender persons present to clinicians in late adolescence or adulthood, closed quote. That is consistent with what you testified earlier.

Correct?

A. That is, yes.

Q. And if you turn then to page five, column two,

you write in the first full sentence in column two, prior effects of androgens on the skeleton height and size and shape of the hands, feet, jaw and pelvis and voice, including visibly --- visible laryngeal prominence, will not be altered if treatment is initiated after puberty.

Do you see that language?

A. I do.

Q. And is it consistent with your understanding that at this stage also changes to the size of the heart and the lungs will not be altered if testosterone is commenced after the initiation of puberty?

A. Not quite.

Q. Explain that to me, please.

A. So transgender women, if they have gone through a typical male puberty, are going to remain larger, but the testosterone has action on certain tissues, so specifically muscle, and that --- when those testosterone levels shrink, then that muscle shrinks and the heart muscle is --- well, the heart is a muscle, so it will be --- there will be an impact from body size, but there will also be impact from the lower level of testosterone. So it will be kind of a mix of those two.

Q. The heart is a muscle but it has in it cavities

of a certain size in which blood flows, out of which blood is pumped, correct? Do you have any knowledge, are you aware or any literature that documents that testosterone suppression reduces the heart's pumping capacity?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- so there is a gap there of transgender research --- so no, that is something that's not been studied.

BY ATTORNEY BROOKS:

Q. And the lungs are not muscle tissue. Are you aware of any science that indicates or even suggests to you as an expert that an individual who has gone through typical male puberty, that individual's lungs reduce in size if testosterone is suppressed?

A. So the answer with regard to lungs is going to have some of those same inputs as heart or other tissues actually where overall size of the individual is not --- well, certainly height at least is not decreasing, and so this person is larger. And so lung size matches that to some degree. And testosterone has some impact on surrounding muscle. And so to the degree that that shrinks there might be lung shrinking too. And so you hear that --- that is going to be a complex answer. And

in terms of interpreting it even, you then would also have to interpret it in the context of the size of the body if you want to consider function, and none of this has been studied.

Q. Certainly you don't believe, do you, that an individual who has been --- let me start that again. It is not your opinion, is it, that testosterone suppression by an individual who has been through a typical male puberty reduces that individuals VO2 mass to typical female levels?

A. So the more we get into some of the subtler physiology, I will take a step back and give you an expert opinion, but I will --- in addition to that point out that we don't even have studies on this. We're just at a stage of beginning to look at that sort f thing.

ATTORNEY BLOCK: Roger, are you able to speak up a little?

ATTORNEY BROOKS: I will try.

BY ATTORNEY BROOKS:

Q. You state that in paragraph 55 of your expert report, Exhibit 1?

A. So paragraph 55.

Q. Fifty-five (55). You state that there are, quote, only two studies examining the effect of

gender-affirming hormone therapy on athletic performance, closed quote. Do you see that?

A. Yes.

Q. You are aware, are you not, that there are a substantially larger number of studies that examine the effect of testosterone suppression on strength or muscle mass in natal males?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: There are --- there are a handful of studies on the impact of testosterone lowering treatment on transgender women on some tissues, yes.

BY ATTORNEY BROOKS:

Q. Well --- and not to get carried away with the terminology, there are also studies that relate to application of testosterone suppression to males who don't identify as transgender, are there not?

A. To cisgender men in addition to transgender women there are some studies --- yes, there are actually some modest studies, yes, on cisgender men.

Q. And have you now taken some care to review yourself all the peer-reviewed studies of that type that were cited in Doctor Brown's report?

A. I have looked at papers that were cited by

Doctor Brown. The moment we use the word all I hesitate, but certainly I've read through the papers that were cited.

ATTORNEY BROOKS: Well, let's start with one you referenced, article by Roberts, et al., from 2020, which I will mark as Exhibit --- Safer Exhibit-10.

COURT REPORTER: 10.

ATTORNEY WILKINSON: 10, Tab 60.

(Whereupon, Exhibit 10, Roberts, et al, Articles, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And in fact, this is one of only very few articles that you cite in your expert report start to finish.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So this paper is referenced to an expert report.

BY ATTORNEY BROOKS:

Q. Let me direct you to the last page of your expert report where there is a bibliography. And other than citing to your own writings as the entire basis of

your opinions you cited only six articles.
Correct?
ATTORNEY BLOCK: Objection to characterization about its entire cases for his opinions.
THE WITNESS: So the paper specifically referenced two reviews and six papers but recognized that some of these papers specifically are summaries of the topic.
BY ATTORNEY BROOKS:
Q. You have studied the Roberts 2020 article with some care.
Is that correct?
A. I have indeed, yes.
Q. And so far as you know it is the only longitudinal study of the impact of testosterone suppression in natal males and actual athletic performance and in this case running.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So the Roberts study and the Harper study are both studies of transgender women with at least two time points.
BY ATTORNEY BROOKS:

Q. The Harper study is strictly retrospective, it is not a prospective, longitudinal study?
A. The Harper study is --- that's a good question. I actually don't know if it is --- it's probably mixed, honestly.
Q. Well, we can look at it, but it is not mixed. It is a one-time survey.
A. Well, to be clear, the way we phrase these things sometimes are --- I'm trying to be --- are according to certain conventions academically, so that sometimes it will be framed that way because from an academic perspective we'll use that context, but I think some of the data was actually collected in both collections.
Q. The Roberts study you understand to be a prospective, longitudinal study, do you not?
A. Well, actually, you are testing me on that. Did they set out at the beginning to do it or did they go back and look? I'd have to see.
Q. Well, based on the method, I think the answer is they went back and looked because it begins we reviewed?
A. Yes.
Q. Do you --- is it your opinion that amongst the available data, the Roberts study is --- on the impact

of testosterone on athletic performance is some of the strongest data that we have available?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: It is my opinion that the Roberts and Harper studies are the only two studies that we have available.
BY ATTORNEY BROOKS:
Q. Is it your opinion as an expert, is it not, that the structure of the Roberts study renders it --- and the source of its data renders it far more reliable than the Harper 2015 study?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I would not overstate that, so no. If I'm being --- if I'm being professorial and saying this is how to organize something, then in that context I might say that, but in terms of simply believability of data, I got two modest papers that are the sum of the world literature on the subject.
BY ATTORNEY BROOKS:
Q. You say in paragraph 56 of your report that Roberts found, quote, after two years of gender-affirming hormone therapy transgender women completed the 1.5 mile run 12 percent faster on average than non-transgender women, closed quote. Do you see

that?
ATTORNEY BLOCK: I think he needs some time to get ---.
THE WITNESS: Yeah, to actually find the ---.
BY ATTORNEY BROOKS:
Q. Paragraph 56. And I will refer you to the third sentence.
A. All right.
Sorry say that again.
Q. I'm simply calling your attention to the place where you wrote at the Roberts report that after two years of a gender-affirming hormone therapy transgender women completed the 1.5 mile run 12 percent faster on average than non-transgender women.
A. Yes.
Q. And two years, not a trick question here, twice as long as the one year testosterone suppression requirement that led to the NCAA rule.
Correct?
A. Two years is twice one year, yes.
Q. And you would agree with me that a 12 percent faster in women's time is a substantial advantage?
ATTORNEY BLOCK: Objection to form.

THE WITNESS: So this is a bit --- this is a bit of the same conversation. I guess I can't say that in a blanket way. It depends on context.

BY ATTORNEY BROOKS:

Q. The context here is that that these are all Air Force members, do you recall?

A. I believe they are all Air Force members, yes.

Q. All subject to Air Force physical fitness requirements. So we are not talking about couch potatoes?

A. I'm not rendering an opinion there as an expert.

Q. Generally you would accept that this is a relatively fit population?

A. I can't even render an opinion there as an expert.

Q. Do you have some unhealthy relative who's a member of the armed forces?

A. I was in the National Guard, so I do have some insight.

Q. Okay.

You would agree, would you not, that running speed and endurance, per se, are relevant to quite a number of sports?

A. Running speed and endurance are relevant to many

sports. I'm certain that is true. I'm not ---

Q. Well ---.

A. --- an expert again.

Q. I'm no sports fan, but we've all seen enough sports to know there's a lot of running involved not just in track but in basketball, soccer, lacrosse and field hockey.

Correct?

A. I have observed that, yes. But again, I'm not rendering an expert opinion there, but yes.

Q. And on page six of this paper ---.

A. This is Roberts.

Q. Yes, Roberts and Exhibit 10. Roberts and his co-authors summarize in their conclusion by stating, quote, in this study we confirm that the use of gender affirming hormones are associated with changes in athletic performance and demonstrated that the pretreatment differences between a transgender and a cisgender woman persist beyond the 12-month time currently --- requirement currently being proposed for athletic competition by the World Athletics and the IOC. Do you see that?

A. This is the conclusion section?

Q. It is.

A. Yes, I see that.

Q. And you don't have any expert opinions that the findings of Roberts are inaccurate or unreliable, do you?

A. So the --- this is again a question of context. So I have no reason to suspect that these data are suspect. The only question then is what we conclude when you do a study of --- for the transgender women I think we are talking about 29 people, which I certainly like a lot better than simply pointing to a random individual, but I recognize as also simply 29 individuals in a certain circumstance that might or might not be replicated as we do this again and increase the numbers of people that we evaluate.

Q. You don't propose to offer any expert opinion that the findings of Roberts as reported in this paper of 2020 are inaccurate?

A. So, I guess the way I said it is how I said it already, which is I'm not doubting Roberts' data, but I wouldn't then over generalize to say that I know that these would be the findings we would see in every similar circumstance.

Q. And are you aware that one common track event or cross-country event, I can never keep them straight, is

the 1600 meter, which is about a mile?

A. Actually, that is not my expertise. I believe you.

Q. Are you aware that the 3,000 meter, a 1.8 mile distance, is a standard event?

A. If you are meaning to quiz me on the standard lengths these days and meters and all of that, no.

ATTORNEY BROOKS: Well, I can't complete my next document in two minutes, we if we want to break at 1:00 now or I can do one more document.

ATTORNEY BLOCK: I'm fine continuing if you are.

THE WITNESS: My bias is to push.

ATTORNEY BROOKS: Folks online, we're going to continue a little bit farther.

BY ATTORNEY BROOKS:

Q. You cited a paper by Harper from 2015. And that paper also I take it you studied with some detail?

A. Yes.

Q. And how many individuals did Harper have in that study?

A. I --- do we have her ---?

Q. Everything that you mention I have.

ATTORNEY BROOKS: Let me mark as Safer

Exhibit 11 ---
ATTORNEY WILKINSON: Yes.
ATTORNEY BROOKS: --- Harper's --- Harper et al. or just Harper, article Race Times for Transgender Athletes from 2015.
ATTORNEY WILKINSON: Tab 61.

(Whereupon, Exhibit 11, Race Times for Transgender Athletes Article, was marked for identification.)

THE WITNESS: Thank you.
BY ATTORNEY BROOKS:
Q. You say you have worked with Joanna Harper, you are aware that Dr. Harper is both an athlete and transgender?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I am aware. I am aware that she is an athlete, and I'm aware that she is transgender.
BY ATTORNEY BROOKS:
Q. Did you have after studying the paper end up with an understanding of how many participants there were?

A. There were eight participants. I'm looking at Table 5.
Q. Did you have an understanding of how those participants were recruited?
A. I do have some understanding of that, yes.
Q. How is that?
A. The --- how would I characterize this? It's somewhat ad hoc in the sense that Ms. Harper is in the category of these other participants, and so she was able to identify others that met the criteria of being both transgender and being sufficiently intense in their middle distance running that they had race times that they could identify that would allow for the --- for these determinations of age based --- I don't know all the terminology here, but their age-based grade proportional to others in that same sex category.
Q. And it is consistent with your understanding, is it not, that all of the information in this study about what hormonal treatment these individuals had undergone was self reported?
A. This is --- the entire study is self report, that is she didn't have --- Ms. Harper did not have access to people's individual records independently.
Q. So there was no independent confirmation of how

long that they had suppressed testosterone.
Correct?
A. There was no independent confirmation beyond Ms. Harper and her dealing with other subjects directly.
Q. Well, in your view as a scientist, that's not independent confirmation, is it?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So I'm not expressing an opinion there because in a science --- you know, in a scientific paper we would have --- we would have peer review, but we don't --- that just --- ends up being a little bit of a fuzzy realty.
BY ATTORNEY BROOKS:
Q. There is no information in this paper about what testosterone levels were achieved by any of these individuals as a result of suppression, is there?
A. I don't know. Let's --- I can look through that a little bit because does she reference how many of them have had surgery and such? It has been quite a while, you know. So notably, there is some independent confirmation of some of the data because some of this was posted.
Q. Wait. Let me just be clear. Some of the times were verified independently.

Correct?
A. That's correct.
Q. Nothing about the hormonal treatment?
A. Right.
ATTORNEY BLOCK: Do you want to give him a chance to review it?
BY ATTORNEY BROOKS:
Q. Doctor Safer, let me just withdraw that question and ask you another question.
A. Yeah, go ahead.
Q. Do you know whether Doctor Harper stands behind the conclusions of her 2015 paper today?
A. If you ask me do I know it, that's too strong a statement.
ATTORNEY BROOKS: Let me mark as Safer Exhibit 12 an article by Joanna Harper and others from 2021 entitled How Does Hormone Transition in Transgender Women Change Body Composition, Muscle Strength and Hemoglobin.
ATTORNEY WILKINSON: Tab 21.

(Whereupon, Exhibit 12, Joanna Harper Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. Dr. Safer, have we put that in front of you? Yes, we have. Are you familiar with this article?

A. I am.

Q. And have you read it, reviewed it recently?

A. I have reviewed it relatively recently.

Q. And do you understand, and I didn't completely read the title. The second sentence of the title says Systematic Review with the Focus on Implications for Sport Participation.

Do you see that?

A. I do.

Q. Can you tell me why when you cited Harper's 2015 paper that you just referred to as older science you didn't cite Harper's 2021 publication?

A. So to be clear, I didn't use the older science. I simply referenced Harper's paper as one of the only two papers on the subject. And your question?

Q. Why didn't you cite Harper's 2021 paper on the topic?

A. So this paper is more in the category of the papers looking at impact on tissues of which there are several papers as opposed to actually investigating a specific activity, a person's activity. And does this

have primary data in it?

Q. Well, let me take you to page eight.

A. Yeah, I don't even think this has a final data in it.

Q. Describing the Roberts study, Harper here on page eight, column one, about halfway down, summarizes as follows: Quote, trans women ran significantly faster during the 1.5 mile fitness test than ciswomen. These observations in trained transgender individuals are consistent with the finding of the current review in untrained individuals whereby 30 months of gender affirming hormone therapy maybe sufficient to attenuate some but all influencing factors associated with muscular endurance and performance, closed quote.

Do you see that?

A. Yes. This is the end of the paragraph there?

Q. Yes.

A. We're starting with these observations, yes, I see that.

Q. And do you propose to offer any expert opinion inconsistent with Joanna Harper's summary of the data here suggesting that 30 months of gender affirming hormone therapy may be sufficient to attenuate some but not all influencing factors associated with muscular endurance and performance?

A. The statement here is too broad, so it's simply raising questions.

Q. Well, Joanna Harper says here that the findings of her current review were that 30 months of gender affirming hormone therapy may be sufficient to attenuate some but not all influencing factors associated with muscular endurance and performance?

ATTORNEY BLOCK: Objection to leaving out words of what you quoted.

BY ATTORNEY BROOKS:

Q. And my question for you is do you intend to offer an expert opinion that you believe is inconsistent with that statement?

ATTORNEY BLOCK: Same objection. It's misquoting the document.

THE WITNESS: So the operative or inoperative word here is may be sufficient, and so when we're --- these are research questions as we try to understand physiology and the relevance of certain testosterone levels at certain endpoints and then not just endpoints as surrogates, which is what most of the papers to date still are, but endpoints in actual athleticism and athletic competition. And so that's all

this is doing is putting out some questions or some potential thoughts.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to page one and column one.

A. Of this same paper?

Q. Of the same paper. In the conclusion of the abstract the last sentence reads, quote, these findings suggest the strength may be well be preserved in trans women during the first three years of hormone therapy, closed quote.

Do you see that?

A. I do.

Q. And having reviewed whatever literature you have reviewed to date do you share Doctor Harper's understanding that strength may well be preserved in trans women during the first three years of hormone therapy?

ATTORNEY BLOCK: Objection to misquoting the document.

THE WITNESS: So I can't comment on Ms. Harper's understanding, but if you're asking is that --- you know, is the question a question, so the question is a question. These findings suggest that strength may

and again an operative word is may.
BY ATTORNEY BROOKS:
Q. Yes.
A. And these are as I, a scientist, and she is a scientist too, we are turning the earth, as it were, of what we know looking for what questions we might want to study and how we might want to frame studies going forward.
Q. Let me take you back to page eight, if I may. And the penultimate sentence of this paper at the bottom of the first column of paragraph of page eight reads, quote --- well, let me read --- yeah, I will just read that, quote, whether transgender and cisgender women can engage in meaningful sport even after gender affirming hormone therapy is a highly debated question, closed quote.
Do you see that language?
A. I do.
Q. You'll agree that up to the present that is a highly debated question?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: There's context there too. So this is referencing a league sport and it's --- as well there are a range of potential sports, and so the

question and the degree to which it is highly debated even I'm not going to render an official opinion there. So the --- whether transgender and cisgender women can engage in meaningful sport depends on what sport we're talking about, what treatment we're talking about, age group, whether elite versus more of an intermural setting. And so it's just a relatively simple statement and to summarize a paper I guess.
BY ATTORNEY BROOKS:
Q. You agree that this --- that is the question of whether transgender and cisgender women can engage in meaningful sport even after gender affirming hormone therapy is one on which reasonable scientists can disagree and today are disagreeing?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So going back --- so is your --- so are you asking me --- I guess help me reframe what the question is there because there are a bunch of things packed into that sentence actually. And you heard me try to unpack them both.
BY ATTORNEY BROOKS:
Q. That may be a complex question, as debated questions often are, but my question is do you agree that the question of whether transgender and cisgender

women can engage in meaningful sport even after gender affirming hormone therapy is one on which reasonable scientists can differ and are differing today given the possibility of data?
ATTORNEY BLOCK: Objection to form for the same reasons.
THE WITNESS: So I'm sitting here as a scientist talking about differences in athleticism and such and whether --- and so moving onto meaningful sport goes beyond my expertise. I'm only putting data together in a --- that's my lane on this subject.
ATTORNEY BROOKS: Okay.
Let's break for lunch.
ATTORNEY BLOCK: Let's go off the record, so 2:15.
ATTORNEY BROOKS: 2:15? Any dissent? No dissent.
VIDEOGRAPHER: Going off the record. The current time is 1:16 p.m. Eastern Standard Time.
OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time is 2:18 p.m. Eastern Standard Time.
BY ATTORNEY BROOKS:
Q. Good afternoon, Dr. Safer. Take you back into context, I'm going to ask you to find your expert report, Exhibit-1, and find paragraph 25, which we have looked at before. And there in the third sentence it reads based on current research comparing non-transgender boys and men with non-transgender girls and women before, during and after puberty the primary known biological driver of these average group differences is testosterone starting at puberty, and not reproductive biology or genetics, period, closed quote.
Do you see that language?
A. Yes.
Q. And your one cite for that is the endocrine that we've already looked at already.
Right?
ATTORNEY BLOCK: Objection to the form.
THE WITNESS: So the citation in that paragraph is the Handelsman, yes.
BY ATTORNEY BROOKS:
Q. And do you recall our earlier discussion about how the effects of testosterone are cumulative over time

rather than depending solely on the testosterone level of an individual at a particular time, right? Do you recall that discussion?

A. So the impact --- excuse me, the impact of testosterone is cumulative. It depends what impacts we're talking about. So there are impacts that are cumulative, like height, and there are impacts that really do reflect that point in time.

Q. Now, at the moment let me ask just based on your recollection. The Handelsman article is Exhibit-4. Do you have that? And I will ask you to find it in your pile. I should have neated up your pile of exhibits while you were out. That looks like it.

A. Got it, yes.

Q. The Handelsman article, as far as you recall, does not contain any data or conclusions concerning the effects of testosterone after the beginning of male puberty, does it?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Honestly, I would have to go look carefully.

BY ATTORNEY BROOKS:

Q. Then I won't take time to do that.

A. Okay.

Q. It does or it doesn't. We will deal with that.

A. Yes.

Q. Do you know whether any other writing Professor Handelsman has expressed any view as to whether testosterone suppression after male puberty eliminates sex-based physical advantages sufficiently to maintain fairness in sports for women?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: So first of all, putting it altogether that way isn't necessarily how I would say it or how I would expect it to be said. It would be testosterone suppression and whatever the scientific finding at the moment would be. So we already know that the data that relate to athleticism are just the Roberts paper and the Harper paper, so I guess that is as much as I can say in that particular context. And in terms of --- so yes, I think that it wouldn't be --- I forgot already how you phrased that.

BY ATTORNEY BROOKS:

Q. Let me just ask again.

A. Yes.

Q. So the first question is not a hard one.

A. Okay.

Q. Do you know whether Professor Handelsman has

himself in his publication expressed any view whether testosterone suppression after male puberty eliminates sex-based physical advantages sufficiently to maintain fairness in sports for women?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I don't know if he has written something covering all those bases that you just described, how you described it.

ATTORNEY BROOKS: All right. Let's look at treatment variable. Let me mark as Exhibit 13 a short article by Dr. Roberts with a subsequent comment by David Handelsman.

ATTORNEY WILKINSON: Tab 62.

ATTORNEY BROOKS: And unfortunately, the words were a little clipped on this. We will see how we do.

(Whereupon, Exhibit 13, Dr. Roberts Article, was marked for identification.)

ATTORNEY BLOCK: Thanks.

BY ATTORNEY BROOKS:

Q. And I think a fair description of what we have here is a relatively popular press type piece by Dr.

Roberts first. And this document is dated December 16, 2020.

ATTORNEY BLOCK: Objection. Does it say where it was published?

ATTORNEY BROOKS: No, it doesn't say on its face where it was published. And as we sit here right now I don't recall, though actually looking at it I do recall that Kilio is an online publication of some sort, and I've seen the brand came from the Kilio website.

BY ATTORNEY BROOKS:

Q. At any rate, I see the date, I see the title. It purports to be an article by Professor Roberts. I just want to be clear in my description it does not --- it does not have the appearance of a separate peer review article since the summary taken off of the article that we've already looked at. And then at the end of it is a two-paragraph prospective on this offered by Dr. Handelsman.

Do you see that?

A. I do.

Q. And he begins by making clear that he is commenting on this study, that is Roberts study that is discussed above. He is not introducing new science,

correct, is that consistent with your understanding?

ATTORNEY BLOCK: Objection. Give him a chance to read it.

THE WITNESS: So that, yes, my understanding, too, is that there is not new data here, mostly a commentary within the context some of our existing knowledge on the Roberts study.

BY ATTORNEY BROOKS:

Q. And in his comment to Dr. Handelsman states in the second paragraph, as of 2020, quote, a major question remains whether gender affirming hormone treatment overcomes sex-based physical advantages sufficiently to maintain fairness so that an exception can be made for trans women, paren, natal males, closed paren, treated with estrogen.

Do you see that language?

A. I do.

ATTORNEY BLOCK: Objection. I believe that is what it says, but I just want to note for the record that there is text cut off on the left.

ATTORNEY BROOKS: There is. And I'll get better copies. I'm looking at a copy that's not cut off I will represent.

BY ATTORNEY BROOKS:

Q. And do you have an expert opinion as to --- well, do you propose to offer any opinion disagreeing with Professor Handelsman that as of 2020 it remained a major question whether gender affirming hormone treatment to overcome sex-based physical advantages sufficiently to maintain fairness so that an exception could be made for trans women treated with estrogen?

A. So to me that's too broad a question if you're asking me to render an expert opinion about his opinion.

Q. I'm asking whether you propose to offer an expert opinion inconsistent with his view that remains a major question as of 2020.

A. It's --- I might --- well, I would at least phrase things differently in there --- we might have to go through pieces of it because certainly where we lack data I think we would agree, but in terms of those statements that then go on to editorialize, I don't know that we necessarily agree in how we would frame that.

Q. A little farther down, maybe two sentences down it reads, quote, by contrast, trans women treated with estrogens after completing male puberty experienced only minimal declines in physical performance over 12 months, substantially surpassing average female performance for up to eight years, closed quote. Do you agree or

disagree with Professor Handelsman summary of the findings of Roberts?

ATTORNEY BLOCK: Objection to form. I'm just not sure it's all based on Roberts?

THE WITNESS: It is not clear to me that it's --- that it is based on Roberts for what it's worth. It's also somewhat simplistically written. And an example is we don't --- the contention with regard to athletic outcomes relates more to testosterone, and so saying transgender women treated with estrogens wouldn't be precisely how I would frame that either.

BY ATTORNEY BROOKS:

Q. He concludes --- Professor Handelsman concludes by stating supporting federations should incorporate these findings in the strategies for including trans women in elite female competitions while maintaining fairness and safety for other women. Dr. Safer, do you agree that maintaining safety for cisgender women is a legitimate and indeed important concern?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: As an expert I'm not going to give an opinion.

BY ATTORNEY BROOKS:

Q. As Doctor Safer do you agree that ensuring

safety for cisgender women and girls is a legitimate concern?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So if I'm simply speaking not as an expert, just as an educated person in the field, then it is true that safety is important, but I'm not clear that --- I don't know that in most of these athletic activities it's actually a concern.

ATTORNEY BROOKS: Let me mark as Safer Exhibit 14 a document entitled Guidance with Transgender Inclusion in Domestic Sport with symbols of a number of UK sport governing bodies across the front and a statement published September 2021.

ATTORNEY WILKINSON: Tab 22.

(Whereupon, Exhibit 14, Guidance with Transgender Inclusion in Domestic Sport, marked for identification.)

THE WITNESS: Thank you.

BY ATTORNEY BROOKS:

Q. And my first question for you, Dr. Safer, is whether you have seen this document before?

A. I have seen this document before.

Q. And were you aware of it prior to its reference in this litigation?

A. I don't know that I was.

Q. And are you familiar with the role of the supporting body mentioned on the front page in governance of sport within the United Kingdom?

A. By looking at all their logos, I cannot say that I know them all, no.

Q. And do you have any knowledge as to whether these are official government charted --- chartered sporting governing bodies?

A. I do not have that knowledge.

Q. Have you now studied this document with some care?

A. I would say that I have only looked at this document superficially. I'm certainly happy to look through it.

Q. I will ask you just about a couple of passages. Let me ask you to turn to page three of the document. And towards the very bottom and the next to the last paragraph this --- five organizations states, quote, our work exploring the latest research, evidence and studies made clear that there are retained differences in strength, stamina and physique between the average women

compared with the average transgender women for nonbinary person registered male at birth with or without testosterone suppression.

Do you see that language?

A. I do.

Q. And do you disagree with the conclusion of these UK sporting bodies that the latest research, evidence and studies now make clear that there are retained differences in strength, stamina and physique in nonbinary --- in transgender women or nonbinary persons registered male at birth with or without testosterone?

ATTORNEY BLOCK: Objection to referring to this as something written by the governing bodies as opposed to the quality council that makes recommendations to the governing bodies.

THE WITNESS: To the statement written by whoever actually wrote it that evidence and studies on the subject of transgender people make clear anything, I disagree.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to page six, under the heading question review is recommending it states, quote, as a result of what the review found the guidance concludes that the inclusion of transgender people into

female sport cannot be balanced regarding transgender inclusion, fairness and safety in gender affected sport where there is meaningful competition, period, closed quote.

Do you see that?

A. I do.

Q. And do you disagree with that conclusion of this organization or these organizations?

A. So I really --- as we discussed earlier, I'm not going to express as an expert --- I don't think I'd be able to express as an expert fairness and so I can't comment any further.

Q. Let me ask you to turn to page nine in your expert report, paragraph 49.

A. Okay. Paragraph 49.

Q. At the end of paragraph 49 you state, quote, a person's genetic makeup and internal and external reproductive anatomy are not useful indicators of athletic performance and have not been used in elite competition for decades. In making that statement when you refer to a person's genetic makeup were you referring to the question of whether they had XX or XY chromosomes?

A. So when I'm making the statement genetic makeup

I'm heavily referencing chromosomes. So I guess I would say that is mostly correct with some --- with perhaps some known genes, but mostly chromosomes.

Q. You would agree, would you not, that respected voices in the field take the view that genetic sex it is at least an important determinant of athletic performance, do you not?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So that I'm supposed to comment that there are people in the field who say that? I guess what I would say is the consensus right now among medical people advising elite athletic organizations would be to move away from using that as a surrogate. In the past it was. There were chromosome tests and the problem is that people have --- there is quite a bit of variety in biology and of course the moment you make a rule you see the exceptions.

BY ATTORNEY BROOKS:

Q. The exceptions.

A. And so I would say that as an expert I can't comment in terms of, you know, some study of everybody's opinion or some survey. But as somebody who has been on these committees I've observed that that was discarded.

Q. So if you put alongside individuals who suffer

from any condition that has been identified as a disorder of sexual development, am I correct that you consider yourself to have expertise in what constitutes a disorder of sexual development?

A. I have some expertise. And the terminology is actually differences of sexual development or sexual differentiation or intersex are the terms that are more popularly used.

Q. You would agree with me, would you not, that many respective sources up to the present would continue to refer to disorders of sexual development?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So there --- what I would say there is that --- the newer terminology has not --- has not yet permeated because there have not been revisions to all the documents that have been created.

BY ATTORNEY BROOKS:

Q. How about if we say DSD?

A. DSD is a reasonably safe or DSD intersex is what some people do, yes.

Q. Well, not all DSDs would be considered intersex conditions.

Correct?

A. You are right that some people try to parse

those two terms even. And there is --- but I think those kinds of distinctions might be on the scope of what we are discussing.

Q. Probably so. If we put on side individuals who suffer from anything that is characterized in the field as a DSD you would agree, would you not, that genetic makeup and specifically whether the individual possesses XX or XY chromosomes is a statistically meaningful indicator of athletic performance?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So no, and the --- it's --- I guess it depends what you mean is what it comes down to. So if you are --- if you are simply saying, well, a certain fraction of people of these chromosomes are going to be --- have this other characteristic, then maybe there are those kinds of associations. But if you are going to say that it's connected to the point where you could actually use one of those let's say observing a chromosome as an actual determination for a given individual, then I would say no.

BY ATTORNEY BROOKS:

Q. Is it your opinion that a gender identity itself is a --- or useful indicator of athletic performance?

A. It is my opinion that gender identity itself is

not a useful indicator of athletic performance.

Q. You say at paragraph 44 of your report --- I will save that. I think that is a new Declaration and we will not take time to do that.

Let me ask you to look at paragraph 24 of your rebuttal report. You say in paragraph 24 that none of Doctor Carlson's arguments support HB-3293 categorical ban of all girls who are transgender from all girls sports teams.

Do you see that?

A. I do.

Q. And I should continue. I'm sorry. Doctor Carlson's safety argument relates solely to contact and collision sports and the physical characteristics developed during puberty, period. By referring to a categorical ban let me ask this. Do you agree that safety considerations could justify or may justify excluding natal males who experienced all or significant part of male typical pubertal development from participating in female division of contact or collision sports such as basketball and soccer?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So if the question is would I anticipate as an expert that there would be a safety

explanation for banning transgender women from the female category, then I would --- I wouldn't --- I certainly --- let me think about which way to phrase it. I would have a hard time coming up with an example where I would use being transgender as a safety criterion as opposed to body habitus size or some other more objective criterion.

BY ATTORNEY BROOKS:

Q. Well, and I didn't say anything about gender status. Let me ask again. Would you agree that safety considerations could justify excluding natal males who have experienced all or a significant part of male typical pubertal development from participating in female division contact and collision sports such as basketball or soccer?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So you're saying that even if we otherwise decided that it would be okay for cisgender males to play with cisgender females, would I envision there being a safety reason to ban those cisgender males?

BY ATTORNEY BROOKS:

Q. All I asked had nothing to do with gender identity. Do you agree that the introduction onto the

field or the court in or have been spoken of its contact or collision sports in the female division of natal males who have gone through all or a significant part of male typical pubertal development could raise legitimate concerns about safety for the natal females?

ATTORNEY BLOCK: Same objections as the previous two questions.

THE WITNESS: So any person who's gone through a male puberty would that, per se, make me invoke a safety concern, if that's the question ---.

BY ATTORNEY BROOKS:

Q. Could that in your mind raise the given safety concerns?

A. So I would not --- the word legitimate I'm not addressing, but I'm not aware of that in and of itself being a safety concern.

Q. You state in paragraph 22 of your rebuttal report that, quote, transgender athletes and women have been competing in NCAA and secondary school athletics for many years at this point. Let me ask you if you are aware of any instance in which natal males have competed in the female category in any contact or collision sport in either the NCAA or high school division?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So can I identify transgender girls or women specifically and specific instances of participation? I cannot.

BY ATTORNEY BROOKS:

Q. What was your basis for asserting that such athletes have been competing in the NCAA and secondary school athletics for many years?

ATTORNEY BLOCK: I'm sorry. Is the question about collision sports? Because you are quoting something that is not about collision sports.

ATTORNEY BROOKS: Let me break that out. Thank you.

BY ATTORNEY BROOKS:

Q. Do you have a view as to whether --- I shouldn't say a view. Do you have any information as to whether transgender athletes have been competing in the women's division of NCAA or secondary school athletics in any contact or collision sports for many years?

A. That information on the validity is that they have had access because there has not been a ban.

Q. But whether they have done so you do not have any information?

A. But I cannot point to specific instances, exactly.

Q. I apologize if I asked something early in the morning, but it's faster than trying to dig back into the transcript. Do you have any opinion as to whether it is reasonable to exclude a natal male with a male gender identity from a high school girls basketball team?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So ask that again a little bit slower.

BY ATTORNEY BROOKS:

Q. Do you have have any opinion as to whether it is reasonable to exclude a natal male with a male gender identity from participation in a girls high school basketball team?

ATTORNEY BLOCK: Objection.

THE WITNESS: I do not have an expert opinion on that subject.

BY ATTORNEY BROOKS:

Q. Do you have a personal view?

A. I don't know that I --- there it would get more complicated depending on context.

Q. You don't have a simple yes or no personal view on that question?

A. I don't.

Q. And do you have a view whether it is reasonable to exclude a natal male with a female gender identity from participation in a high school girls basketball team?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So do I have a view on participation of a cisgender girl in the girls category? Sorry. Say it again.

BY ATTORNEY BROOKS:

Q. I said do you have a view on whether it is reasonable to exclude a natal male with a female gender identity from participation in the high school girls basketball team?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So that is a transgender girl, got it. So --- and the question is do I have a view on --- I apologize. Go back.

BY ATTORNEY BROOKS:

Q. I can do it again.

A. Yes, do it again. Sorry.

Q. Do you have a view as to whether it is reasonable to exclude a natal male with a transgender identity from participation in the girls high school basketball team?

ATTORNEY BLOCK: Objection to form.
THE WITNESS: And it is do I have a view on excluding --- as an expert am I opining on that? I'm not. I'm opining as a scientist on what the data are.
BY ATTORNEY BROOKS:
Q. Do you consider a policy that excludes natal males with a male gender identity from the girls basketball team to be, quote, discriminatory?
ATTORNEY BLOCK: Objection to form and scope.
THE WITNESS: So as an expert I'm not taking a position on excluding cisgender males from the female category, if I answered that correctly.
BY ATTORNEY BROOKS:
Q. My question was simply do you consider such a policy to be a discriminatory policy?
ATTORNEY BLOCK: Objection to form and scope.
THE WITNESS: So are you asking me as an expert to define discrimination?
BY ATTORNEY BROOKS:
Q. I will direct you to paragraph 27 of your rebuttal report. And there you wrote Doctor Carlson has not offered cogent explanation for why alleged safety

concerns based on average differences in size and strength should be addressed within an across the board exclusion of transgender women as opposed to tailored nondiscriminatory policies.
Do you see that?
A. I do.
Q. So understanding discriminatory, however you did understand it when you wrote that, do you consider a policy that prohibits natal males with a male gender identity from participating on the girls basketball team to be a discriminatory policy?
ATTORNEY BLOCK: Same objections.
THE WITNESS: Right. So I'm not defining --- I'm not defining discriminatory here. I'm --- right. So if you are asking as an expert to define discriminatory, that I can't do.
BY ATTORNEY BROOKS:
Q. Well, if you don't know what discriminatory means, what do you mean when you referred to a tailored nondiscriminatory policy?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: I guess I have to circle back initially to --- I mean we can do that for any word here, right, where I could have like my own personal

definition or am I acting as an expert to define these words, and I think we are kind of in that situation.
BY ATTORNEY BROOKS:
Q. But I'm asking you about your expert reports in the litigation. You must have meant something. What did you mean by nondiscriminatory when you submitted this expert report?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So when I'm using the word nondiscriminatory I am using it to mean something that isn't using some other indicator --- well, I'm really just using it in the broadest sense to something that is including people.
BY ATTORNEY BROOKS:
Q. Using it in the broadest sense, discriminating between one category and another is --- could be a good thing or a bad thing.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: As an expert I --- that is way outside my scope. But simply as an English speaker, yes, discrimination could be good or it can be bad, yes.
BY ATTORNEY BROOKS:
Q. And for instance, if you are --- well, you said

you don't prescribe to minors, so --- but if you are dealing with a 19-year-old who says and you concluded I need gender affirming hormone, and I will use the term you prefer, if that individual's hormones and biology are female then gender affirming hormones are going to consist, among other things, perhaps of administering testosterone.
Correct?
A. Yes, typically we would have have ---.
Q. And if that individual's biology and hormones endogenous were male, then the gender affirming hormones would include among other things estrogen or estrogen analog.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: If that person had typically --- typically a male hormone profile, right, to move toward a more feminine profile that typically would include estrogens or some other agents that were other than testosterone, yes.
BY ATTORNEY BROOKS:
Q. So speaking scientifically and not in civil rights terms, if I may, you as a scientist, as you decide which regimen of hormones to administer to this

individual have to discriminate between those who are endogenously male and those who are endogenously female in deciding which regimen you prescribe.

Correct?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: We have to make a decision. And so if you are trying to get me to say that discrimination can be defined as making decisions, I'm with you and yes.

BY ATTORNEY BROOKS:

Q. Okay.

Let me just run down a few items to make sure. You have not personally engaged in any research regarding sports physiology, have you?

A. I'm trying to think it there's anything. I don't believe I have.

Q. You yourself haven't personally engaged in any research or published any papers --- that's a compound question. You, yourself, haven't engaged in any research relating to sports medicine or sports injuries, have you?

A. I have not engaged in any research with regard to sports injuries. And the answer to the first part of that gets a little muddled because some of the papers

that I have written about physiology and transgender people could apply to sports medicine.

Q. Have you, yourself, ever participated in devising any athletic training regimes for individuals of either sex?

A. I've not been involved in devising any training regimes.

Q. Have you done any research with related to male physiology --- I'm sorry, male physiological advantages relevant to athletics before, during or after puberty?

A. So there I have --- none of the research that I have done to date has been specifically loopholed as --- well, I can't even say that. So research that I have done with regard to observing physiology among my subjects can be applicable to sports medicine in some context.

Q. On what publications, if any, of yours do you believe relate to male physiological advantages in athletics before, during or after puberty?

A. Well, just off the top of my head, without looking at it exhaustively, I have a paper on hematocrit, which is the oxygen-carrying cells in people. In transgender people I have a paper on testosterone levels with different treatments. So those

can have --- those actually can have a sports context.

Q. Have you done any research on the impact of testosterone suppression on athletic performance or any measurement of strength?

A. So the second piece of that is I have not done any research that specifically used strength as an endpoint in my own studies. To the second piece of those --- I forgot what ---.

Q. Athletic performance?

A. Athletic performance, there it gets a muddled thing. The research that I have done can be applicable in that context.

Q. Well, that is if your endpoint is hematocrit count, to use the right term, you're saying that might have implications for athletic performance? Is that your point?

A. That is correct, yes.

Q. But you have not done any research in which any measurement of athletic performance is an endpoint?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Again, I have to think about how to say that because some of the --- part of the problem is that papers that we're looking at include quite a bit of literature on components that may be

applicable --- that may be applicable in sports medicine, whether it is muscle strength and muscle size or blood cell counts and such. And so that more expansively than my research is in that category. Whereas, if I'm trying to be focused and narrow, then I've got those two studies, the one by Roberts and the one by Harper. And my papers are not those.

BY ATTORNEY BROOKS:

Q. You don't have any information about numbers of children in West Virginia who suffer from any DSD, do you?

A. No, as --- I guess I have to say no there in terms of actual surveys of kids in West Virginia, I know some brought statistics. West Virginia is big enough that you would predict that the statistics would generally apply, but that is as smart as I could get on the subject.

Q. And you are --- I think you effectively answered this, but to be clear for the record you are not opining that BPJ suffers from any DSD?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: So the --- here too we get into --- into an evolving area of definitions where you could envision if some of the specific genetics that are

associated with being transgender became identified, would we in the medical world start to label those instances as DSD? It's possible. So that is just ---.

BY ATTORNEY BROOKS:

Q. Thus far no such indicators have been identified.

Correct?

A. I can't even --- I can't even say that definitively. It is an area of active conversation in terms of --- in terms of boarder setting in the medical community right now.

Q. However, I think my question is easier. You're not offering an opinion --- any opinion that BPJ suffers from any DSD, are you?

A. So I don't have --- so to be clear first I don't know the --- BPJ's specific medical condition. I wasn't brought in to evaluate that and I have not. So I can't actually render an opinion on any of the medical story there.

Q. And you don't know whether any child or typical XY chromosome --- pardon me, you don't know whether any child with XY chromosomes who suffers from a DSD has ever sought to compete in female athletics in West Virginia up until the present?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: So the question is do I know of an instance of a specific individual with XY chromosomes and a DSD connected to that who has specifically participated in sports in West Virginia?

BY ATTORNEY BROOKS:

Q. Who has sought to participate in female athletics in West Virginia?

A. Right, so who has sought to participate in female sports in West Virginia. I cannot give you a specific instance, that is true. I can say, though, knowing the percentage of people who have DSDs and the size of the State of West Virginia that you would predict it would be true, but that would be again as smart as I could be on one subject.

ATTORNEY BROOKS: Let me mark as Safer Exhibit 15 what was previously designated as Tab 53, an article by Dr. Safer and others entitled the Mount Sinai Patient Center Preoperative Criteria Meant to Optimize Outcomes are Less of a Barrier to Care than WPATH SOC 7 Criteria Before Transgender Specific Surgery. And yes, that is a mouthful.

(Whereupon, Exhibit 15, Dr. Safer Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. Now, Dr. Safer, to be fair, I see that you are the last listed author on a fairly lengthy list of authors. And maybe that does and maybe that doesn't have significance in terms of how in depth your involvement in this paper was. Let me ask. Was this a paper of which you had some significant input?

A. I had significant input. I can tell you that in the medical and scientific community the first author typically did the work and the last author is the senior author and supervisor. And the middle authors are actually the ones where you ---.

Q. Okay.

I was aware of the significance of the first. I was not aware of the significance of the last. Okay. That is helpful. All of the authors here, if I'm correct, are colleagues within the Mount Sinai Clinic or division that you supervise.

Am I correct?

A. All of the authors were in those positions at some point, which is how we came together to write the paper.

Q. And the paper I should say for the record is dated 2020. And let me see if I correctly understood what the paper is about. If we --- in this paper you compare the eligibility of patients who are seeking vaginoplasty under the WPATH Standard of Care 7 criteria versus the criteria actually used by your clinic.

Am I correct?

A. Yes.

Q. And just so we're clear, vaginoplasty is a surgery that is only done on biological male, natal male individuals.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So a vaginal plasty is the genital reconstruction surgery to create a vagina in a person. When we are using it as a gender affirming surgery, then we are using it on people who have what would be considered typically male anatomy in that circumstance but the surgery could also be used on somebody with typically female anatomy requiring construction for whatever their circumstance may be.

BY ATTORNEY BROOKS:

Q. That said, the subjects discussed in this paper are all individuals who are seeking the surgery for

gender affirming purposes rather than, for instance, because of a severe DSD.

Correct?

A. The people in this circumstance are all people seeking the surgery for gender affirming purposes and not those for DSD or for other purposes, reconstruction of vaginas for accidents and cancers. I mean there is quite a range.

Q. And the result as summarized in the abstract is that of 139 patients who were identified as subjects of this study, 63 qualified for surgery immediately based on the Mount Sinai criteria.

Correct?

A. Yes.

Q. Whereas only 21 of those would have qualified based on the criteria set out in the WPATH Standard of Care Version 7?

A. Yes.

Q. Three times as many individuals qualified for immediate surgery under the standard used by your clinic as opposed to the standards set out in the WPATH Standard of Care?

A. That's correct.

Q. When did your clinic begin approving surgery for

patients who are not eligible under the WPATH Standard of Care?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, so to be clear, the patients in our program qualify by both criteria. The paper is simply pointing out that our process is more efficient and patient friendly, but it's not to say that we were not informed by WPATH criteria also. And I think I need to expand even a little bit further. Part of the point of the paper is that it includes --- it includes efforts to know benefit to the patient that end up being time consuming and therefore are a waste of energy in contrast to our approach, which is actually more conservative than WPATH's approach. We actually look at more things but we do so in a more efficient fashion and that is actually the point of the paper.

BY ATTORNEY BROOKS:

Q. Well, let me clarify one thing you just said. According to this paper, it is not the case, is it, that every patient for whom your clinic approved surgery was at that time qualified according to the WPATH criteria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Wait. Say it again. Could you repeat that?

BY ATTORNEY BROOKS:

Q. It is not the case, is it, that every patient who was qualified for surgery by your clinic had been demonstrated to satisfy the WPATH criteria for eligibility?

A. It is --- so there were --- the patients just as stated who qualified by our criteria but not by WPATH criteria, there is such a group that existed, exactly, yes.

Q. Okay.

And specifically, according to your criteria, three times as many patients are eligible according to WPATH criteria?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It's not so much the three times. It is the pace. Some of this relates to pace and efficiency.

BY ATTORNEY BROOKS:

Q. Dr. Safer, your clinic, according to this paper, approved for surgery 42 patients who were at that time not eligible according to WPATH criteria.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No. So the reality is we

still live in the universe that everybody else lives in, so we are --- so this paper proposes a more appropriate and a more patient appropriate model, but it is not the case that we actually sent people to surgery who would not be approved by WPATH.

BY ATTORNEY BROOKS:

Q. Well, were you personally involved in developing and approving Mount Sinai's criteria?

A. Let me look at the role here. Yes, I definitely had a role in developing our criteria.

Q. Let me ask you to look at page 168, column one, call your attention quite a bit to table one. And if I understand correctly, table one is designed to help us compare and contrast what is required by the WPATH criteria for surgical readiness versus the Mount Sinai criteria for surgical readiness.

Correct?

A. That is correct, yes.

Q. And the WPATH requires a letter of support from the patient's hormone provider confirming the hormone regimen and the length of time of hormone therapy.

Correct?

A. That is how it is written, yes.

Q. And farther down, under mental health it says

that it requires two letters of support from mental health providers?

A. It does, yes.

Q. And it gives on page 157 a definition who is a qualified mental health professional down towards the bottom of the second column. I'm going to ask you to find that language if you could?

A. Uh-huh (yes), yes.

Q. You say, many define licensed mental health providers having one or more of the following credentials, the LCSW, Licensed Clinical Social Worker. Is that right?

A. LCSW is Licensed Clinical Social Worker, yes.

Q. And MD, DO that is a medical doctor, a doctor of --- what does the O stand for?

A. Osteopathy.

Q. There we go. A psychiatrist, a Ph.D., yes, that was surprising to me. Surely not just any Ph.D.?

A. Right, that's referring to a Ph.D. clinical psychologist.

Q. Okay.

Or any Master's level for above counseling degrees. But then you go on to say that in your evaluation based on SOC-7 criteria. That's the WPATH

criteria?

A. That's the WPATH criteria, yes.

Q. We included the above degrees with the following exclusions, mental health providers with lower than Master's level training and unlicensed mental health providers of any type, NPs and PAs without mental health credentials, physicians who are not psychiatrists or mental health providers who are still in training. Do you see that language?

A. I do.

Q. So under the definition used in your clinic you, yourself, do not qualify as a mental health professional.

Correct?

A. That is correct.

Q. So at no point have you relied on your own opinion for any mental health evaluation for eligibility?

A. That's correct.

Q. Okay.

I just wanted to understand that clearly. So back to mental health data. In says in the WPATH column that two letters of support from mental health providers are required. In this paper you state on the next page,

but I will quote it the most significant of the Mount Sinai criteria is the removal of the requirement of two independent psychiatric evaluations. And that is in column two of page 169, at the end of the first full paragraph. The first full paragraph, column two, the final sentence.

A. I'm in which column? Sorry.

Q. Column two.

A. Oh, column two. Sorry.

Q. The first full paragraph, final sentence.

A. The most significant deletion from the Mount Sinai criteria is the removal of --- yes, I see that.

Q. And you stated at the top of column one on the same page that, quote, finding two mental health providers to do independent evaluations is time-consuming, expensive and difficult.

Right?

A. Just trying to find that exact wording. Yes.

Q. So in your own clinic's practice, while WPATH calls for two letters from independent mental health providers, you concluded that because it was hard to get two independent evaluations your clinic would simply dispense with the requirement of any independent mental health review.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, that is not quite correct. Part of the difference for our operation is that we have --- we have expertise in-house and we have --- if you notice, looking at the table, a longer list of requirements actually than WPATH does, which includes a social work component. And that actually is the --- that's the source of actually yet a second pair of eyes, as it were. And so it is not the case that we are --- that we're providing less of a screen, we are actually providing more of a screen. It's just that we are operating in a more efficient manner for the patient.

BY ATTORNEY BROOKS:

Q. Let's flip back to column one. A few more lines down it says for our analysis patients who otherwise met WPATH SOC 7 criteria received one letter of support from the CTMS mental health provider. Right? You would agree with me, would you not, that the only letter of support for a mental health provider required by your protocols is from a mental health provider within your employment?

ATTORNEY BLOCK: Objection to not reading the complete sentence.

THE WITNESS: So yes. So maybe let me just --- show me the wording again.
BY ATTORNEY BROOKS:
Q. Yes. For our analysis --- and I'm beginning at perhaps eight lines down.
A. Our analysis, yes.
Q. Patients who otherwise met WPATH SOC 7 criteria received one letter of support from the CTMS mental health provider doing the assessment, period, closed quoted.
Do you see that?
A. I do, yes.
Q. As the term is generally understood in your field, a CTMS mental health provider is not independent --- let me use the correct terminology, is not an independent mental health provider?
A. So in a clinic setting I don't know that the word independent actually has the same meaning as in some other context. So even a WPATH requirement isn't necessarily that it would be an unaffiliated person or I don't know what you were thinking independent might mean here, so I don't want to put words in your mouth or conjecture too much. But when we say independent we just mean two different people.

Q. But in fact, the letter of support from the CTMS mental health provider that you refer to in this paragraph at the top of column one of page 169 actually plays no role in your determination as to whether this patient is eligible for surgery.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So yes. I'm confused by the question.
BY ATTORNEY BROOKS:
Q. I'm confused by the text. The final paragraph --- sentence in that paragraph reads these letters of support were used to satisfy third payor requirements to cover surgery and were not part of the CTMS assessment?
A. Oh, yeah, that's a good point. The literal letter is because we are all in-house the opinion of the person is, of course, important and so the screen takes place. But the need to create --- the bureaucratic of creating a specific letter is one of the burdens that we are suggesting could be removed.
Q. In table one, let me find this. Under mental health WPATH SOC-7 requires, quote, persistent, well documented gender dysphoria.
Do you see that?

A. I do.
Q. And you understand well documented gender dysphoria to be referring to a general diagnosis under the DSM-V criteria?
A. So for WPATH's purposes I think they are specifically referring to the DSM diagnosis.
Q. In your clinic you are willing to approve for this --- I'm not sure how to actually say the word vaginoplasty surgery, individuals who do not suffer from persistent well documented gender dysphoria.
Correct?
ATTORNEY BLOCK: Objection to the form.
THE WITNESS: So if you look, the list of the criteria for Mount Sinai, then the phrasing is a confirmation that this person --- for all intents and purposes, that this person is transgender and with the language and evolution we use that word gender dysphoria and we also use the new word that will replace gender dysphoria, gender incongruence, as the terms I referenced before, transgender.
BY ATTORNEY BROOKS:
Q. And the effect of that is you do not require a diagnosis of gender dysphoria under the terms of DSM-V.
Correct?

ATTORNEY BLOCK: Objection to form.
THE WITNESS: So the --- yeah, if we had our druthers, which is I think you are asking, and we did not --- and we weren't simply satisfying a third party payor, would we insist on that formal DSM-V criteria for a person we otherwise know to be transgender? We would not.
BY ATTORNEY BROOKS:
Q. And in fact, you do not.
Correct?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Well, as a practical matter, like I said, we live in a universe where we end up doing both what we suggest is the necessary approach and we end up, because we still live in the universe that we live in, satisfying the other approach even though we're suggesting that it's cumbersome.
BY ATTORNEY BROOKS:
Q. Dr. Safer, you testified earlier that, in fact, in 42 patients your clinic determined they were surgery eligible even though they did not satisfy the SOC criteria listed in column one of table one?
A. Right. So they are not --- so they would be --- they theoretically would be eligible without having

satisfied the --- some of those specific WPATH criteria that we discussed. But in practice nobody went to surgery without covering both sets of criteria.

Q. Isn't the precise results reported by this paper that 42 patients were deemed surgery approved who did not qualify under WPATH criteria?

A. But I guess the bottom line of the paper is that if we followed our --- our rules alone, we would actually cover more details and be more conservative in our approach if a longer list of criteria and we would do so more quickly. That's all the paper says. It doesn't say that we have --- that we have actively defied the existing universe and sent people to surgery without covering the criteria that are generally being used by doctors.

Q. And by the way, the surgery we're talking about, vaginoplasty, in the context where it is being used for gender affirming purposes, invariably includes castrating the individual.

Correct?

ATTORNEY BLOCK: Objection to form and foundation.

THE WITNESS: So a vaginoplasty is a genital reconstruction surgery, which in this context is

taking the existing typically --- typical male genitalia and reconfiguring it into typically female genitalia. And in that --- in the procedure the testes are removed.

BY ATTORNEY BROOKS:

Q. They're not reconfigured?

A. They are not reconfigured.

Q. Let me ask you 169, column one, it says about two-thirds of the way down, at the end of the paragraph that begins medical requirements for the Mount Sinai CTMS? I want to direct your opinion --- your attention to the final sentence.

A. So which paragraph, column one.

Q. Column one, the paragraph that begins halfway down, medical requirements?

A. Yes.

Q. Now, let's jump to the end. The Mount Sinai criteria also removed the 12-month continuous hormone therapy requirement for the vaginoplasty which complicates matters for people who have received hormone therapy from non-medical providers.

Do you see that language?

A. I do.

Q. Explain to me the reference for people who have received hormone therapy from non-medical providers?

A. Well, it is the circumstance that some people more so outside of New York, some transgender people still do not have access to care for --- to gender affirming care and do get some of their treatment by alternative means. And if there is an insistence on a documented 12-month continuous hormone therapy requirement, then those people might not be able to be approved for surgery.

Q. I need to ask you to clarify what you mean by obtaining by alternate means?

A. We have people getting hormones from internet providers. We have people inappropriate --- well, I apologize, I don't want to make a value judgment there, but we have people getting hormones from friends or connections of theirs, things outside the system.

Q. So you have some people come to you who have effectively self-diagnosed and self-prescribed ---

ATTORNEY BLOCK: Objection.

BY ATTORNEY BROOKS:

Q. --- hormone therapies?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So when we are seeing people for surgeries, then it is no longer a matter of self-diagnosis because we see them ourselves with our

internal team. But there are people who have self-prescribed their hormones or obtained them by nonconventional means, that part, yes.

BY ATTORNEY BROOKS:

Q. And when people come in who have obtained hormones by nonconventional means and taken them without prescription necessarily, you chose to remove the requirement for 12 months properly prescribed continuous hormone therapy rather than insisting that the patients undergo control of hormone therapy for 12 months before you operate on them?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So to clarify, again, these are --- we are proposing that this would be the protocol. In practice, we have not been able to do this, that is we have had to do both. But in our experience, as a program we don't see any benefit to a supervised --- a supervised regimen, that is we are not --- I'll just leave it there.

BY ATTORNEY BROOKS:

Q. WPATH in table one requires that all psychiatric symptoms be, quote, well controlled.

Correct?

A. They use that language, yes.

Q. And the language under the CTMS column is rather different. Among other things it says no suicide attempt in the last six months. Do you see that?

A. Let me find it. We're in the table, right?

Q. We are in the mental health section under CTMS column?

A. Yes.

Q. No suicide attempt in the last six months. But if the patient tried to commit suicide seven months ago, that's okay?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the point here and the distinction is that the WPATH criteria are too vague, and so what you are observing with the Mount Sinai criteria is they're much more granular. And rather than leaving something to some subjective interpretation we define some of the specifics to make it clearer on what the guidelines should be.

BY ATTORNEY BROOKS:

Q. You refer here in your guideline to no suicide attempt in the last six months. If a patient has entertained suicidal thoughts but made no attempt in the last six months, did that patient potentially satisfy the Mount Sinai criteria?

A. So that kind of decision would be at the discretion of the reviewing mental health professional, the psychiatrist or the psychologist, and so you can certainly envision different circumstances. So even going back to your example of seven months, you could envision that something like that might be considered, depending upon the person, too unstable even though they technically met criteria. This isn't just a check box. It is more a guideline. And similarly, to your point about a suicidal ideation, there are different tiers of them. And I won't claim to be an expert on the specifics there, but my mental health professionals are more concerned about some of those than others.

ATTORNEY BROOKS: Take a break.

VIDEOGRAPHER: The current time reads 3:35 p.m. Eastern Standard Time.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time is 3:55 p.m. Eastern Standard Time.

BY ATTORNEY BROOKS:

Q. Dr. Safer, you testified earlier, and I think I'm using the word that you used that if your clinic had its druthers they would be following or making decisions strictly based on the criteria that are laid out in this paper, Exhibit 15, under the heading of Mount Sinai CTMS.

Correct?

A. Yes.

Q. And can I infer from that that you, yourself, don't view the WPATH SOC-7 as setting out scientifically established best practices but rather recommendations on which you use different?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, I would not say that. So SOC-7 sets out the guidelines as things were understood in 2011 and 2012, and we have learned --- we've learned and things have evolved since then in terms of the care of transgender people.

BY ATTORNEY BROOKS:

Q. Did you have any participation in the development of the SOC-7 guidelines?

A. I had very minimal participation. I helped review some articles that informed those guidelines.

Q. Those guidelines --- did you have any

familiarity with the process of how they were being drafted?

A. I'm trying to think if I can say things usefully. I was not close enough to the process that we would want --- that I would want to start commenting on.

Q. Do you know whether they addressed issues on which opinions within the drafting committee differed?

A. I can't comment on SOC-7. We are literally writing SOC-8 now.

Q. And on that are there issues that the SOC-8 is addressing on which opinions significantly differ?

A. Yes.

Q. So it's not that every aspect of the guidelines are unanimously agreed by every member?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So with medical guidelines in general there isn't --- that unanimity wouldn't be a thing. They're referred to as consensus documents rather than unanimous documents.

BY ATTORNEY BROOKS:

Q. And what that tells us is that there is --- that reasonable people differ on at least some aspects of what is set forth in the document?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: In all guidelines, including these, members of the committee even differ in terms of how things are framed and when consensus is obtained, but not unanimity.

BY ATTORNEY BROOKS:

Q. How many gender performing surgeries or gender affirming surgeries were performed in your clinic in 2021?

A. In 2021, all --- there were, according to the New York Times, about 9,000 total surgeries performed at Mount Sinai hospitals, including everything we do. So that wouldn't just be vaginoplasty. That would include chest reconstruction surgeries, revisions of older surgeries, et cetera.

Q. Well, you quote the New York Times. Where did they get the information?

A. I suppose the sources is us.

Q. You believe that number to be approximately accurate?

A. I think that's right.

Q. I don't trust the New York Times, but you have a pass. And now 2021 may or may not have been affected by COVID in terms of patients presenting and wanting surgery. Has there been a clear trend in numbers of

surgeries performed by your clinic over the last five years?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So there is definitely an increase in the number of surgeries at Mount Sinai over the past five years. Unfortunately, expectation is the challenge. We opened the program in 2016, so roughly those five years. And certainly the first few years were quieter as the reputation grew. In 2020, numbers were down because we had to divert resources to taking care of people with COVID. Our group, including myself, literally dropped what we were doing for a period of time to go become COVID hospital employees, and so there was a dip there in 2021 as a little bit of a rebound element to it.

BY ATTORNEY BROOKS:

Q. Are you able to give me any average total receipts of your clinic or the hospital as a whole and associated physicians from gender affirming surgeries performed within 2021?

A. I'm sorry, say that again.

Q. Let me just ask this again. Do you have any knowledge as the total --- as to the total receipts of your clinic or the wider hospital and physicians

involved as a result of gender affirming surgeries performed by your clinic in the last year?

A. So do I know some of the financial elements?

Q. Correct.

A. So I do know some of the financial elements, but nothing that the hospital would allow me to share.

Q. Your counsel can designate it as confidential later on, so it doesn't become public, but you are obliged to answer the question.

ATTORNEY BLOCK: I'm not ---.

BY ATTORNEY BROOKS:

Q. I'm entitled to understand your financial interest in the area of your testimony.

ATTORNEY BLOCK: We are not representing him in the context of any legal dispute with Mount Sinai.

ATTORNEY BROOKS: I am entitled to understand the expert's financial interest. And I suggest to you, Counsel, that you'd rather have me questions asked here where you can designate it as confidential than at trial in a public courtroom.

ATTORNEY BLOCK: It's not up to me.

ATTORNEY BROOKS: You can confer if you want, because that would be the alternative. If you

want to step out and confer with your witness, you should do so.

ATTORNEY BLOCK: It's not up to me to say what he can and can't say in contravention with an agreement with his employer, and so I think if you want to like obtain like a Protective Order, you know, with him.

ATTORNEY BROOKS: We have a Protective Order in place, Counsel.

ATTORNEY BLOCK: I know, I'm not representing him in that capacity, though. So if you want to interface with his attorney through Mount Sinai then you can, but I don't have an attorney/client relationship with him for purposes of any employment disputes.

ATTORNEY BROOKS: Are you instructing the witness not to answer?

ATTORNEY BLOCK: No, I'm not.

ATTORNEY BROOKS: Are you refusing to answer?

THE WITNESS: I wouldn't be able to answer without including the hospital lawyers.

BY ATTORNEY BROOKS:

Q. Can you tell me ---?

ATTORNEY TRYON: This is Dave Tryon. I'm sorry ---.

ATTORNEY BROOKS: Go ahead.

ATTORNEY TRYON: May I just also say that I think if the witness is not willing to disclose his financial interest here, that that would be grounds to disqualify him as a witness, which on behalf of the state I would likely pursue. So I would respectfully request that he answer the question.

ATTORNEY BLOCK: Dave, on what basis is that grounds to --- he has disclosed everything required by the rules. You're asking for --- he has no financial interest in this litigation.

ATTORNEY BROOKS: We don't need to argue the motion right now. The motion seems likely, the motion will be briefed, but we don't --- we got no Judge here, we're not going to be deciding ---.

ATTORNEY BLOCK: If you want to file a subpoena as a third-party subpoena for that information with a Court Order, than you're free to do so. He is appearing here as an expert witness on his expert testimony. So you have plenty of discovery tools to obtain that information. And we're not his counsel for that.

ATTORNEY BROOKS: I do have discovery tools, including asking him questions at this deposition. I've attempted to do so. You have not instructed him not to answer. The witness has refused to answer. The record is clear.

BY ATTORNEY BROOKS:

Q. Let me ask you about personally. Does your own income or any bonus you receive depend on any part of the overall revenues of your plan?

A. It does not.

Q. And does your personal income consist strictly of a salary or also a salary plus fees associated with surgeries performed?

A. Exclusively a salary.

Q. And your income depends in no way on how many surgeries, you yourself perform?

A. That --- well, I don't perform surgeries I'm not an endocrinologist.

Q. Pardon me.

A. But that's right, it's not revenue based.

Q. It's not revenue based in any way?

A. In any way. That's right.

Q. That is helpful. Do you have any understanding as to the average revenues per patient that your clinic receives for patients who are seeking gender affirming surgery in the clinic?

A. We don't characterize it that way. There's a --- there's a wide range of reimbursements or lack of reimbursements across medicine. And gender affirming care includes quite that entire range actually, from mental health, which is under reimbursed, to the surgeries which are --- where there's more money.

Q. I've been waiting to hear the flip side of that.

A. So yes, so we have that, so I don't think I could give --- I wouldn't --- even were I allowed by the hospital to give you the specifics, I don't know that I would be able to do that on a per patient basis.

Q. Can you tell me your total personal income in 2021 from --- in any way related to your work in connection with your employment at Mount Sinai?

A. So is this something that I'm answering?

ATTORNEY BLOCK: I'm sorry, could you restate the question?

THE WITNESS: He's asking for my --- you're asking for my salary?

BY ATTORNEY BROOKS:

Q. I'm asking for your total income, in any way --- in 2021 in any way associated with the clinic at Mount Sinai?

A. So we're running into --- so I'm simply on salary, but the specifics of that are also something where I would need to include the Mount Sinai lawyers, because that's part of their practice, and I would have to defer to them.

Q. You decline to answer the question about your own personal income?

A. Yes.

ATTORNEY BROOKS: I won't take time to speak upon it, but I will object.

BY ATTORNEY BROOKS:

Q. I read in some document that your spouse is an employee of Parexel --- if I'm pronouncing that company correctly.

Is that still the case?

A. Yes.

Q. And does that company derive any revenues from the sales, testing, clinical trials of any pharmaceutical that is used to suppress puberty or is used as a cross sex hormone?

A. I don't know the answer. Parexel is a very large back office organization supporting clinical research with many clients. And so you can envision

some connection buried in there, but I don't know specifics.

Q. Fair enough.

ATTORNEY BROOKS: Let me have 54.

BY ATTORNEY BROOKS:

Q. Let me ask you to turn to paragraph 18 in your expert report, and there in the first sentence you write although the detailed mechanisms are unknown, there is a medical consensus that there is a significant biologic component underlying gender identity, closed quote.

Do you see that?

A. No, I might have pulled the wrong thing out. Which ---?

Q. It's the expert report not the rebuttal?

A. Expert report. And it's which paragraph?

Q. Paragraph 18?

A. Oh, sorry.

Q. This is why lawyers number their paragraphs.

A. That is wise. All right. Paragraph 18.

Q. I'm just calling your attention --- and I have read into the record the first sentence of that paragraph.

A. I see it.

Q. And picking up on our earlier discussion about

consensus. When you say there is a medical consensus, do you mean that all experts in the field agree or do you mean that in your view this is a majority opinion?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So when I guess similar to when we talked about guidelines if the question is, is there unanimity, then there is never unanimity, so there you go.

BY ATTORNEY BROOKS:

Q. Okay.

A. I can be a little stronger, though, because the mainstream medical organizations have various statements in this space. So for example, the endocrine society, which is the largest international organization of endocrinologists does actually have a statement where the sum of the modeling for gender affirming care is prefaced with statements that support this.

Q. In providing the basis for your opinion that there is such a consensus, you cite only two papers and those only papers that you had written yourself.

Did you consider those papers written by yourself to adequately document the existence of the medical consensus?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So both of the papers reference reviews with larger bibliographies that reference yet other papers that support the statement. And when we're talking about what's informing the statement, of course, is not limited to the specific papers referenced, so that's part of the reason why I gave that example, for example, the endocrine society's formal statements on the project, which is a consensus view of more people than myself, of course.

ATTORNEY BROOKS: Let me mark as Exhibit 16, an article by Aruna Saraswat and others entitled Evidence Supporting the Biological Nature of Gender Identity from 2015 of which Dr. Safer is one of the co-authors.

ATTORNEY WILKINSON: Tab 54.

(Whereupon, Exhibit 16, Aruna Saraswat Article, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And Dr. Safer, is that a paper that you --- I guess I see by placement --- had supervisory responsibility for?

A. Yes.

Q. Let me --- I learned something in this deposition, so that is good.

Let me call your attention to page two and column two, and in the very bottom paragraph ---.

ATTORNEY BLOCK: I'm sorry, did you mean 200?

ATTORNEY BROOKS: I did mean 200. I apologize. That is also the second page.

BY ATTORNEY BROOKS:

Q. In the bottom --- first column bottom paragraph it states, quote, however it is important to note that most transgender individuals develop a gender identity that cannot be explained by atypical sexual differentiation, closed quote.

A. So this is column two.

Q. Column one. If I misspoke I apologize.

A. I could have misunderstood at this hour.

Q. At the bottom paragraph?

A. However it is important to note, I'm there, yes.

Q. All right.

Can you explain to me what is meant by the statement that most transgender individuals have a gender identity that cannot be explained by atypical transgender differentiation?

A. So that is referencing, in this context at the time that this was written, the anatomy, genitals, reproductive structures.

Q. And let me just --- for purposes of terminology, you said at the time this was written. This is about seven years ago, six years ago?

A. 2015, yes.

Q. And if you look at the page one, column one abstract. This paper is using the term disorders, in sexual development, and that DSD.

Do you see that?

A. I do.

Q. That was a term that you were comfortable with most recently?

A. It was a terminology that I was using that recently, yes.

Q. The point here, on page 200, column one, that we were just looking at is, in fact, most transgender individuals do not suffer from any identifiable DSD.

Is that what this is saying?

A. From a physically identifiable DSD, that is what this is saying, yes.

Q. Physically, genetically, hormonally, identifiable by any physical measurement.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So you have to be careful to be not too broad, and part of the reason is the line there is actually blurring. So when I'm sitting here and talking in 2022 I recognize that there is a potential for some blurring in that line. But in 2015 it was certainly understood to be how you're saying it.

BY ATTORNEY BROOKS:

Q. Well, it remains true today, does it not, that the overwhelming majority of transgender individuals do not suffer from any identifiable atypicality genetically, physically or hormonally.

Correct?

A. Well, that's not how I would say it, because gender identity is a biological phenomenon and so one would predict that as we identify certain correlates or even explanations, than we will have things in that space. But if we're talking about how things were defined in 2015, being transgender was defined as somebody where their gender identity was not aligned with the rest of their biology, and there was no apparent, physical variation either in terms of their anatomy or their chromosomes in terms of their genitals,

in terms of their reproductive anatomy or in terms of their chromosomes. So that is how it was defined at the time.

Q. Well, today, and using identifiable to mean you, Doctor safer, are able to identify it now, not hypothetically in the future, it remains true that the overwhelming majority of transgender individuals do not suffer from any current identifiable, physical chromosomal or hormonal irregularity.

Correct?

A. I would say that right now in 2022, it would be true to say that a transgender person does not have an identifiable genital difference almost by definition or a --- or an internal reproductive organ difference almost by definition. Chromosomal I can't say, because we actually don't check. And hormonal gets even grayer than that, because it could be the case that there are hormonal exposures, for example, in utero that explain at, least some people as being transgender.

Q. As you sit here today, you don't know of any chromosomal test that can identify an individual as transgender, do you?

A. Is there a --- there --- as I sit here today there are no tests to identify somebody who is

transgender.

Q. And that includes genetic tests?

A. There's no scan and there are no blood tests and there are no genetic tests.

Q. And no hormonal tests?

A. That's right. There are no hormonal tests right now to identify a transgender person.

Q. As you sit here today and based on your whole knowledge of the field, there is no biological test from some mental professionals, as they can do, but there is no biological test that will tell you in advance which prepubertal child who is suffering from gender dysphoria would persist and which would desist as they enter adolescence?

A. So I would have to challenge how you're stating that a little bit just so that we are cleaner in terms of how we think. So we're thinking right now in terms of identifying kids who are transgender. We use various terminologies, so that --- we've have been using the term gender dysphoria we're going to be shifting to more gender incongruence, but we're trying to identify people who are transgender and who may require intervention later.

Recognizing further that only a subset of

transgender people would require a medical or surgical intervention. And so if the question is can --- is there a test now in 2022 to determine in an prepubescent kid who says they're transgender or people who suspect may be transgender on whatever they're saying, no, there is no test to know that is true or not and to know if they'll think that later or not, and to know if they'll want treatment or not.

Q. So it is your opinion that there is consensus that there is a biological basis for transgender identification, but as of 2022 you don't know with any confidence what that biological basis is.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say that it is complicated and there may even be more --- there might be multiple explanations for people being transgender. We see that with other biological entities like diabetes, for example. So the idea that we don't know what it is, is also a little too narrow.

BY ATTORNEY BROOKS:

Q. You don't know any one identifiable biological cause with any confidence that state within a scientific knowledge?

A. No. That's not quite true. We know that --- and it's not even the biology of being transgender even though that is how I just framed it. It is even one step back which is the biology of gender identity. We all have gender identity, and how is that determined and what is that biology. And we know there --- and we know then that some transgender people have that particular biology not aligned with some of their other biology.

So going back to what you just asked, that we don't know any mechanisms is not quite true. That is people that looks to be true that exposure to androgen, male hormones in utero can have some influence on some people as to their identity.

Q. Well, if there is not yet any test that is predictive of gender identity in a prepubescent child, then as a matter of science it follows that you don't actually know any causal relationship, any biological basis, is that not true?

A. No, that wouldn't be quite sure. We can't test for somebody deemed transgender, and we can't test gender identity with a test. But like I said, that at least in some circumstances the androgen exposure in utero, in a mother's womb, could be part of the explanation for some people. Maybe isn't all the

explanation for some people.

Q. It could be, but no science has been done to prove that that is a fact, has it?

A. So it isn't really a hypothetical, that is we do have --- we do have data that support it, but it doesn't lead us to a test.

Q. If it is not testable, then it is a hypothesis, not a fact, isn't it, not of science.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, that is using testing two different ways. So in a scientific study, then a hypothesis is something that you have based on a certain --- based on certain data, but then you test to see how true it might be. But when I was using the word test, I'm talking about like a blood test or something that we could actually do on a given individual to know their circumstance with regard to their gender identity.

BY ATTORNEY BROOKS:

Q. Let me ask you to look at the paper that I've marked as Exhibit 16, Evidence Supporting the Biological Nature. Is that that which you have in front of you?

A. I do, yes.

Q. And on the first page you refer under the result

that begins by discussion of a seminal study by Meyer-Bahlburg. Do you see that? Second column, beginning of the results section.

A. Yes.

Q. And is it your contention that the Meyer-Bahlburg study provides evidence of a biological basis for transgender identification?

A. What the Meyer-Bahlburg study does is it provides evidence of a biological basis for gender identity.

Q. Well, specifically the study, the Meyer-Bahlburg study --- let me have that so we are not shooting in the dark. Exhibit 17 is a paper from 2005 from Professor Heino Meyer-Bahlburg, entitled Gender Identity Outcome in Female Raised 46, comma XY persons with penile agenesis, and it continues. It's a long document?

ATTORNEY WILKINSON: Tab 14.

(Whereupon, Exhibit 17, 2005 Paper by Professor Heino Meyer-Bahlburg, was marked for identification.)

BY ATTORNEY BROOKS:

Q. I believe the level of questions that I will be

asking, however, are the ones that you will know off the top of your head given the importance of this study in the field. The study concerned exclusively children who are born with what's referred to as a 46 XY condition.

Right?

A. Yes.

Q. And that is long recognized as a DSD?

A. No, 46 XY is the classic male chromosome pattern.

Q. Yes. Pardon me. So these are individuals with typical male pattern chromosomes?

A. Yes.

Q. Who, however, for some reason have had a developmental disorder or defect affecting their genitals?

A. Who have had some sort of alteration or development of their genitals, exactly.

Q. And the study concerns the results of efforts to raise such genetically male children as female in some cases after surgical procedures to feminize them and in some cases absent surgical procedures.

Correct?

A. The study really relates to the gender identity of those where there is an attempt to raise them as

females.

Q. And the results, if I understand the study, were mixed, that is that some of the individuals who were raised as females nevertheless came to identify as male and some of the individuals who were raised as females came --- persisted in identifying as female.

Correct?

A. It is not actually as clean as you're saying it. So we should look at some of the specifics and we might need to point out to specific sentences, but this too is a survey of --- a survey of studies, to be clear, it's not its own isolated study, and then there --- in none of these studies were they systematic or, you know, I guess I will just use the word systematic in ascertaining that all of the people who were being raised female and ascertaining all of the gender identity of those people. But what they are really observing is that the numbers that they mention of the people who they were trying to raise female who had male gender identity were whatever the numbers were. I don't know if that makes sense, but you'll follow as necessary.

Q. If you turn to page 432 it begins under the heading discussion. It begins, quote, the main findings

can be summarized as follows. One, the majority of 46 XY individuals with presumably normal male prenatal hormonal milieu, comma, non-hormonal anatomic abnormalities of the genitals, comma, and female gender assignment at birth or in early childhood have not changed gender to male. Do you see that?

A. I do see it.

Q. And one thing, and I understand the qualifications that you've just described this is not recording a carefully structured study performed by Doctor Meyer-Bahlburg but rather a review of case histories.

Right?

A. Exactly.

Q. But his conclusion from his review of those is that the majority of genetically presumably normal male individuals who were raised female, and I believe it's fair to summarize in most cases after feminizing genital surgery, adhered to a female gender identity at least to the data we have?

A. Yes, so I don't know whether they actually all had surgery or not.

Q. They did not all have surgery.

A. Right or even the larger number. I don't know.

I would have to go through.

Q. Fair enough.

A. But the --- and it was his opinion at the time he was writing this that the majority who were reared female were living as female, although we don't know their gender --- but now this is me stepping out, saying we don't know their gender identity, nobody asked. The reason why this paper is interesting is even in the circumstance where they were being so passive in how they were collecting the data, such a large fraction of these individuals were so clear in their male gender identity that they actually identified themselves against the protocols.

Q. And that seemed to be evidence that --- of a biologic basis of gender identity congruent with their male genetics.

Correct?

A. That --- for these people, that's right. That is with or --- with their chromosomes.

Q. Right.

A. Which you would predict. If we think about --- if we recognize --- if we think that by survey a half a percent or even a full percent of people are transgender that would mean that 99 percent of people are cisgender.

And so if you take a population of people with certain chromosomes, 99 percent of them are going to be cisgender and will have a gender identity incongruent with their chromosomes.

Q. The study includes no individuals who were raised with a gender identity inconsistent with their male chromosomes who came to identify or later perceived themselves as identifying as female.

Correct?

A. Well, we don't know that because they were --- they're all XY individuals who were being raised female. And somebody who had a female gender identity who is transgender among them would never be identified as transgender in this case.

Q. So my question was a little more specific. The study simply doesn't include any individual who had male chromosomes who was raised male who came to identify as female?

A. That's correct. All of these people who are XY chromosome people raised female.

Q. And you would agree with me, would you not, the study provides some evidence that external forces such as feminizing surgery or how their parents treat the child can have some influence on the formation of gender

identity?

A. I can't say that because the study really doesn't go there. The study is only passive observation and all --- the only thing I would say with some confidence is that some fraction of these individuals who are so clear in their gender identity that despite nobody even looking for that sort of thing, because that wasn't even a consideration when these --- when these cases occurred, they --- the individuals spontaneously announced to the authorities around them, parents and doctors, that they were wrong, that the parents and doctors were wrong.

Q. And that, in your view, provides at least some evidence of a genetic basis for gender identity congruent with chromosomal sex?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No. It provides some evidence of a biological basis for gender identity that can't be manipulated externally.

BY ATTORNEY BROOKS:

Q. Well, considering that the study included no examples of any individual who adopted a transgender identity inconsistent with how they were raised, the study simply can't provide any information about

biologic basis of transgender identification, can it?

A. Wait. I think say that again.

Q. The study includes no individuals who adopted a gender identity, a transgender identity apart from social transition and, therefore, can provide no information one way or the other about whether there is or is not a biologic basis for transgender identification?

A. So not quite. So the --- because remember the point is that gender identity, period, universally, has a biological basis. It's not that we --- and to be clear, I don't even know that we won't find and some people even wonder if we will find a gene that associates a gene with transgender, per se. But I'm not even saying that. If there's --- I'm only saying that we will find let's say genes associated with gender identity and not everybody will have them aligned with the rest of their biology. So I just want to preface with that.

And in this particular review, they're taking people who have XY chromosomes exclusively. So therefore, if one --- if a certain fraction of them were to have female gender identity despite assuming different development they would have had male --- they

would have had other male biology, those are the people we would have categorized as transgender using current definitions. And those individuals would not have been apparent in this study they were being raised female anyway.

Q. And my point was that, therefore, that this study can't provide any information about whether there is or isn't a biological basis for transgender identification?

A. So yes. I guess how you are framing that is where I'm pushing back. So the point of this study is as evidence of there being a biological basis of gender identity period, having nothing --- not necessarily for being transgender. In fact, I don't even know if there --- yeah, I don't even know if that would be the model. The model would be somebody who has a certain gender identity, a certain other biology, and then that combination is what we are calling transgender.

Q. You also referenced a paper by Doctor Reiner. And let me have that.

ATTORNEY BROOKS: And I will mark that as Exhibit 18, 2004 Discordant Sexual in Some Genetic Males With Cloacal Exstrophy Assigned to Female Sex at Birth.

ATTORNEY WILKINSON: Tab 71.

(Whereupon, Exhibit 18, Paper by Doctor Reiner, was marked for identification.)

BY ATTORNEY BROOKS:

Q. And Dr. Safer, you are well familiar with this paper.

Am I correct?

A. I am, yes.

Q. And this is the only other paper that you cite for the assertion that gender identity has a biological basis.

Am I correct?

A. No, there are a range of categories of papers, but these are two of my favorite papers in the first category, which is the category of attempting to manipulate gender identity externally.

Q. Dr. Bahlburg in his paper, on page 433 of Exhibit 14, in column one ---.

A. Yes. Let me get there.

Q. Yes. 433, column one.

A. 433, column one.

Q. He says about two inches off the bottom, referring to the Reiner and Gearhart paper of 2004,

which I believe is this paper, he says, quote, it has serious methodological flaws. Do you agree with that statement?

A. Let's read what he is criticizing. All these papers have their weaknesses. All right. So the remainder of that --- so the remainder of the paragraph is --- details the complaints for Doctor Meyer-Bahlburg, where his --- which I focus as a social science researcher that they didn't do various assessments that would make it --- that would make standard people doing some of this research able to replicate some of the items in the paper. And I will --- so while Doctor Meyer-Bahlburg may be frustrated and be complaining about that, he is not actually attacking the veracity of their results.

Q. Well, the point was serious methodological flaws is you are not really able to evaluate the veracity of the results.

Correct?

A. Not necessarily.

Q. Do you agree with Doctor Meyer-Bahlburg's evaluation that the methodology of the study reported by Reiner and Gearhart suffers from serious methodological flaws?

A. No.

Q. So let's summarize this study if I may. I'm turning to page 334.

A. And extending that too, part of his frustration wouldn't be my frustration because I am not looking for those particular endpoints, that is for my purposes for determining whether gender identity is a biological basis Reiner and Gearhart's paper is actually quite strong.

Q. Let's look at the first page in the summary up front. It refers to this paper dealt with 16 --- under methods, 16 genetic males.

Correct?

A. Yes.

Q. And these were all males who suffered from --- uses the word in the second line of the background as severe developmental disorders affecting their genitals.

Correct?

A. That's how it is phrased here. Where am I seeing that?

Q. The second line of the background says severe.

A. Severe phallic inadequacy, yes, I see that.

Q. Which is to say not --- absent or severely disformed penis?

A. That's what that means, yes.

Q. Okay.

But these are individuals who are genetically male, and more than that, on page 334, column two, two-thirds of the way down it says the testes were histologically normal in all 14 when examined?

A. I'm on column two.

Q. It is column two.

A. I apologize.

Q. You can kind of see where my finger is pointing here.

A. And this is under ---.

Q. Under methods and the paragraph that begins parents to be educated?

A. Testes were histologically normal in all 14. I'm there, yes.

Q. So we had individuals who were genetically male that had normal testes and had severe deprivation of their penis or it was absent?

A. Yes.

Q. And what was done to these 14 subjects, looking just above that, is that they were assigned a female sex surgically by means of orchiectomy and construction of vulva.

Right?

A. Yes.

Q. And orchiectomy is another medical term for what the layman thinks of as castration?

A. As removing the testes.

Q. And construction of the vulvi is creating a --- I'm not sure what the right term is, a pseudo vagina?

A. It wouldn't be a pseudo vagina, but creating a vagina.

Q. It says that --- just immediately following the description of the surgery 14 of these 16 --- looking back at the results paragraph and the abstract, 14 of these 16 were assigned female but later declared themselves male despite the surgery, despite being raised as female.

Right?

A. Right, 8 of the 14 who were assigned female.

Q. I'm sorry, I misread that. Thank you. Eight of the 14 who were assigned female nevertheless declared themselves male at some stage?

A. That's correct.

Q. And the two who had been raised as males, even though they suffered the same type of phallic developmental defect, remained identifying as males.

Correct?

A. Yes.

Q. There was an --- whatever assignment was made, this was made to infants. It wasn't made or based on any choice or reported sense on the part of the child?

A. That's exactly right, yes.

Q. So several of these individuals, specifically six, who were assigned female at least throughout the period identified by this study adhered to a female --- living out the female gender identity?

A. Actually it was five because one of the children refused to have contact with the surgeons when some of these conversations began to take place.

Q. So we know that five --- we don't know what that person was thinking, feeling or identifying --- but we know that five ---?

A. They were angry.

Q. They were angry. Whichever that came out, I'd be angry, so ---

A. Yes.

Q. --- so 5 of the 14 subjects who were assigned female and surgically transitioned and socially transitioned continued to at least physically identify as female?

A. As of when they wrote the paper they were still identifying as female as far as I remember. That's right.

Q. And it would be your position that visibly identifying as female doesn't necessarily mean that they were generally transgender?

A. That --- we don't know that because that wasn't asked.

Q. Is it your view that if you had these children who were surgically transitioned, socially transitioned visibly identifying as female, that if you had simply asked them you would have found out the undoubted truth about their gender identity?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So it is true that as people develop and assuming that there are good language skills and that there aren't other developmental, mental developmental reasons or other mental health reasons why people would not be clear, that people are able to articulate their gender identity. Certainly adults do so apparently quite reliably and older teenagers the same, so depending on age. But yes, there would be a point in time when you could simply ascertain that by asking.

BY ATTORNEY BROOKS:

Q. Dr. Safer is that fundamentally a medical question or a psychology/mental health question? The question of the reliability of a patient's self report?

A. I don't know that I separate it that way. I say that based on the data we slowly develop overtime of transgender people where we see that any absence of other confounding items along the lines that I said, people at a certain stage in maturity who tell you a certain thing about their gender identity are consistent in that regard.

Q. This study, the Reiner Gearhart study, Exhibit 18, concerns --- looks at the effect of trying to raise individuals in a gender identity discordant with their chromosomal sex.

Correct?

A. It is discorded with quite a number of things, but yes, chromosomal is one of your hard data points.

Q. This study does not look at the question about whether and when or how any sort of intervention might encourage development of a gender identity consistent with one's genetics sex; does it? It simply does not look at this issue?

A. Say that again, sorry.

Q. This study does not address the question of whether or how or at what developmental stage therapeutic interventions might encourage the development of a gender identity consistent with one's chromosomal sex?

A. The study is --- the way I'm interpreting the study is it's looking at our inability to manipulate gender identity. And it's just that. And I'm a little fuzzy on the rest of what you're asking me.

Q. Well, the study looks at efforts to manipulate gender identity away from chromosomal from the identity normally associated with one's chromosomal sex. In this case the male sex.

Right?

A. It does.

Q. This study simply does not look at efforts to manipulate gender identity towards alignment with the identity normally associated with a subject's chromosomal sex?

A. I think I'm following you now. So you're suggesting that if we took a transgender person and tried to manipulate their gender identity to align with some of the rest of their biology?

Q. I'm not suggesting that I'm simply saying this

study.

A. That particular instance. Yes.

ATTORNEY BROOKS: 15. It is one of the previous marked ones, if that matters. All right.

I will not show you that document. Let me ask the court reporter how many --- how much time we have left on the clock.

COURT REPORTER: I have 5:52, five hours and 52 minutes.

ATTORNEY TRYON: I didn't hear that. Could you repeat that?

ATTORNEY BROOKS: We've got an hour and eight minutes according to the clock of the court reporter here, and I believe that our friend in the ether is calculating separately.

VIDEOGRAPHER: Correct. And it sounds like the same. I have to do the math.

ATTORNEY BROOKS: Okay.

BY ATTORNEY TRYON:

Q. Are you familiar Dr. Safer with a paper recently published by Lisa Littman of Brown University looking at the surveying 100 teens or young adults --- actually surveying a hundred individuals who report having de-transitioned and gone from identifying as transgender

to identifying in a manner consistent with their genetic sex?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I'm aware of Dr. Littman having written a second paper. But I'm not facile, I guess.

BY ATTORNEY BROOKS:

Q. You haven't read that paper?

A. I have not read the paper. I probably did read it, but I would not be able to be quizzed on it.

Q. Then I won't quiz you on it. I always tell witnesses I don't know is the easiest way out of a line of questioning.

Are you --- let me ask you this, does your clinic have any procedure in place to track outcomes on patients on whom you perform gender conforming surgery long term?

A. We're actually in the --- we have a couple of processes, so I guess the short answers are yes and we're going to be more rigorous going forward.

Q. Do you have any knowledge as to how many patients on whom your clinic has performed surgery have after that surgery committed suicide?

A. I don't off the top of my head know that.

Q. Do you believe that your clinic possesses reasonably complete information on that question?

A. I actually don't think our information is sufficiently complete currently, and that actually is an area where we're going to develop more vigorously, because I would actually like to know that.

Q. Do you know whether any patients on whom your clinic has performed surgery has subsequently sought to de-transition and take on or revert to, whichever way you want to see it, a gender identity that's aligned with their chromosomal sex?

A. So it's a complicated question. And actually I just want to go back to the first part where you were talking about suicide.

To be clear, the rigor I'm talking about is not suicide focused, because I actually am not anticipating that that is --- that that is happening or is happening more than with being seen in a general population, but for all encompassing that we do definitely need that.

But back to your current question ---.

Q. Let me jump back to suicide for a moment. Are you aware of studies coming out of DeVry University and Amsterdam suggesting that post-surgical transgender populations continues to experience elevated rates of

complete suicides compared to controlled populations?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So I'm aware that transgender people have more mental health morbidity than other populations. Once corrections are made for other confounding factors I don't know that we would have --- that we're very clear yet on those data including ---.
BY ATTORNEY BROOKS:
Q. When I refer to a published study coming out of DeVry University of Amsterdam showing high rates of suicidality in postsurgical transgender patients, you believe you're familiar with that literature?
A. I guess it would fall in the same category as Littman's second paper.
Q. Okay.
A. Where I'm familiar with the fact that they're doing surveys and I'm familiar with the broad outlines, but could not ---
Q. Okay.
A. --- comment on specific studies without it being in front of me.
Q. And have any patients on whom your clinic has performed surgery subsequently decided to de-transition

and assume a gender identity aligned with their chromosomal sex?
A. I don't --- I don't know. There is absolutely the case that there are people who stop their treatment at different levels, so it has definitely been my experience that I have patients who I've put on hormone treatments who have stopped those hormone treatments. And there are also, among our patients --- I don't know if any of the patients where we performed the original surgery they actually were opting for a different surgery, but we definitely have patients who have come to us, who had a surgery done elsewhere who were looking for a degree basically what you're calling a reversal, to the degree that that's possible. So that such a thing does exist. So the point about saying that they have a different gender identity, that would --- that is not typically how the patients come saying it. They don't say, oh, it turns out my gender identity is not that. It's more often society is not treating me well, this isn't working out. That's the more --- that's the --- that's the typical scenario. I mean, yes, we definitely have seen that circumstance.
Q. Dave Tryon, who is with us remotely as Counsel for West Virginia, I have promised him an hour, so I

have to stop, even though I have so many more interesting questions.
ATTORNEY BROOKS: So Dave, I will stop and I will turn the witness over to you.
ATTORNEY BLOCK: Could we take a break now?
ATTORNEY BROOKS: Of course, it is a good time for sure.
ATTORNEY BLOCK: Thanks. Can we go off the record?
VIDEOGRAPHER: The time is 5:03 p.m. Eastern Standard Time.
OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE
VIDEOGRAPHER: We are back on the record. The current time reads 5:25 p.m. Eastern standard Time.
ATTORNEY BLOCK: This is Josh Block on behalf of the Plaintiff. We have conferred off the record, including with counsel from Mount Sinai, and Doctor Safer can answer the two questions he declined to answer before provided that we mark those portions of

the deposition transcript confidential, and all counsel for Defendants have agreed with that.
ATTORNEY BROOKS: And this is Roger Brooks, and yes, I confirm that all counsel for Defendants have agreed to that.
CONFIDENTIAL PORTION BEGINS

[redacted]

[redacted]

[redacted]

CONFIDENTIAL PORTION ENDS

EXAMINATION

BY ATTORNEY TRYON:

Q. Hello, Dr. Safer. Thanks for your time today. So I am David Tryon. I represent the State of Virginia. I'm appointed by the Attorney General's Office. And I wanted to start out by looking at --- asking you to take a look at your Rebuttal Report. I don't recall what exhibit number that is. If you could tell us what it is marked?

ATTORNEY WILKINSON: Exhibit 2.

ATTORNEY TRYON: Exhibit 2.

ATTORNEY WILKINSON: Tab 51.

THE WITNESS: I have that in front of me.

BY ATTORNEY TRYON:

Q. Could you take a look at paragraph six, please? Do you have that in front of you?

A. Yes.

Q. Great. Now, in here it says in the second or maybe third sentence as reflected in the same source cited by Doctor Brown dimorphous sexual characteristics in men and women are produced by a combination of genes, prenatal androgen exposure to sex hormones. And I'd

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like to focus on that particular clause. Can you explain what prenatal androgen exposure to sex hormones is?

A. Yes. That references --- I guess to me it's more or less exactly what it says, which is that the developing fetus is exposed to various hormones and other factors and androgen is specifically the male --- is typically what we consider to be the male sex hormone, although everyone has some. And then prenatal just means and in utero or in the mother's womb.

Q. So androgen for males is testosterone. Is that right?

A. Androgen in general is that category of hormones that we think of as typically male, even though, like I said, we all have them. And one of the androgens is testosterone. And with adults it is the one that we are talking about most of the time, of course.

Q. Okay.

So as I understand it, your suggestion is that that prenatal exposure to testosterone can have an impact even after birth.

Is that right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So all factors --- well, I don't want to overstate it, but factors that occur to which a fetus is exposed in the womb have impact on the development of that fetus, of that person when they are born, and so androgens, including testosterone, would be part of that, so yes.

BY ATTORNEY TRYON:

Q. So are you aware of studies addressing the impact of prenatal exposure to testosterone as it impacts people after their birth?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think I need you to be specific about which studies.

BY ATTORNEY TRYON:

Q. Are you aware of any study that addresses the effect of prenatal testosterone upon boys after they're born?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the ---.

BY ATTORNEY TRYON:

Q. Or men?

A. So I can --- I guess --- I have to --- kind of two answers. Exposure to prenatal androgens, kind of generally because it is not always, testosterone explain the development of what we consider to be typically male genitalia so that all babies born with what --- with a penis and with a urethra that is the part for which you urinate, that's up inside the penis and having the gonads, which would typically be testes in the scrotum, all of that happens in response to testosterone.

BY ATTORNEY TRYON:

Q. And then that also triggers a question I had. You had previously said in your original report a person's genetic makeup and internal and external reproductive anatomy are not useful indicators of athletic performance and have not been used in a league competition for decades.

My question on that is, when you say a person's genetic makeup doesn't their genetic makeup trigger whether or not they are going to --- a person's genetic makeup will determine whether or not they're a boy or a girl, and therefore if they're a boy that would trigger their generation of more testosterone than a girl.

Is that a fair statement?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, no, that's --- so I think I need to walk that back a little bit. Why don't we --- can we do it like piece by piece or have you restate parts?

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BY ATTORNEY TRYON:

Q. I will restate it. So when you say a person's genetic makeup, what does that mean?

A. Mostly in this context I'm referencing their chromosomes that's the specific that in the further past was actually being used to identify people which we no longer do. It's not sufficiently reliable.

Q. Does the --- you have an X Y chromosome that is typically considered to mean that you're a male. Correct?

A. The XY chromosome is typically considered to mean that you're a male, correct.

Q. And that would mean that you would be generating more testosterone than if you have an X chromosome. Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the presence alone of that XY pattern is insufficient to know with certainty that you're producing more testosterone and that is part of the point of I'm saying it is that biological sex is more complex, and you could have the gene for the testes that produce testosterone elsewhere, and then you wouldn't have that pattern and you still would be producing the testosterone or vice versa.

BY ATTORNEY TRYON:

Q. Okay.

Well, let's go back to prenatal testosterone. So you're not --- if I understood what you're saying before, you're not aware of any studies that show whether or not prenatal testosterone would have --- let me just start that over again.

Are you aware of any studies that address whether prenatal testosterone has impact on sporting, on athletics in children after birth?

A. Correct. That would be right to say that there are no studies of which I'm aware that can associate prenatal testosterone with athleticism. And I don't know what levels we're even talking. Like an adult level? What's your question there?

Q. My next question is, have you heard of the Journal of Sports Science and Medicine?

A. I guess you would have to show it to me.

Q. Okay.

Have you ever heard the name Jim Goldby or Jennifer Mays?

A. No.

ATTORNEY TRYON: Jake, could you bring up the Exhibit that I sent to you today, which is the

General Sports Science and Medicine?

ATTORNEY WILKINSON: Do you see anything?

THE WITNESS: I don't see anything. Oh, that'S too small. Okay. That's okay.

ATTORNEY TRYON: Okay.

And this will be Exhibit --- what Exhibit are we on Jake, do you know?

VIDEOGRAPHER: This is 19.

(Whereupon, Exhibit 19, Article, was marked for identification.)

ATTORNEY TRYON: I'm sorry, 19?

VIDEOGRAPHER: Correct.

BY ATTORNEY TRYON:

Q. Okay.

I take it from your earlier answers, you probably never seen it before.

Is that right?

A. I certainly don't recall. I don't want to state definitively I've never seen it either, but it's certainly not a paper that I'm going to know off the top of my head.

Q. Well, let me ask you to take a look at the

conclusion on page 449?

A. So can we move the pictures because they're blocking.

Q. Can you see it?

A. We're getting there. And then is there a way to move that? Oh perfect. Yes.

Q. Okay.

The conclusion says, current paper provides initial support from an association between prenatal testosterone levels and mental toughness, optimism, goal orientations, coping strategies and hostility, period. Findings tentatively suggest that the mentioned psychological characteristics may be partially biologically predetermined.

Do you see that?

A. I do see it, yes.

Q. Do you have any reason to believe whether that's true or not true?

ATTORNEY BLOCK: Objection. I just object to asking him about a conclusion when he just has a little snippet of that and hasn't reviewed the article. And I'm not even sure if it has been cited in the other expert reports.

THE WITNESS: I certainly can ---.

BY ATTORNEY TRYON:

Q. Go ahead.

A. I certainly cannot say if that conclusion has any logic to it without knowing the study.

Q. Understood. Is it possible since this particular study suggests there is an impact on adults by prenatal testosterone? Is it that prenatal testosterone could also have a DSD explanation for why should boys at 11 years old have more athletic ability than girls?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So speaking --- yeah, speaking as an expert, I can't give you an expert comment there without seeing their study.

BY ATTORNEY TRYON:

Q. Okay.

So you just can't say one way or the other. Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I mostly wouldn't want to comment on their study. I will only make the observation that the data of which I am aware do not show differences for prepubertal children, if that was part of your question.

BY ATTORNEY TRYON:

Q. And so the performance data that Dr. Handelsman pointed out showing that there are some damages given before puberty, you reject those?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So those broad cross-sectional studies don't get at input, whether they are referencing biological explanations versus societal explanations.

BY ATTORNEY TRYON:

Q. Okay.

Whether it's societal or biologic explanations, Handelsman still demonstrated that there is an advantage for pre-pubescent males over females in athletics.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, neither Dr. Handelsman in his paper --- he doesn't actually say that. And if you --- I think we looked previously at one of the figures where specifically the range of outcomes, if you were to repeat the study, included the girls doing better than the boys.

BY ATTORNEY TRYON:

Q. Well, that was only one of them. That was not

it. That was one of the charts. The other chart showed that there was an advantage, right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The other --- yeah, let me think with that one. Right. We are not getting into what the causality is, then the other charts did show the boys doing better. And again, the caveat remains what is not --- what is not demonstrated there is that there is --- that that is a biological thing versus simply the very longstanding societal and cultural environments.

BY ATTORNEY TRYON:

Q. And you've contended that there's a biological component to gender identity.

Correct?

A. Yes.

Q. Which we have not been able to identify in this deposition.

Correct?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So it is not quite --- well I actually don't know what's been identified in the deposition. The data are included in my --- in the papers that I referenced that are what are convincing to

the medical community right now. The detailed explanations for the specific biology are not known if that's where you're going.

BY ATTORNEY TRYON:

Q. Assuming there is actually a biological component, as you say, to gender identity, that says nothing about whether a biological male identifying as a female should, as a public policy matter, be allowed to participate on a girls athletic team in high school and middle school.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the way that I would say that is even if we recognize that there is a biological explanation for gender identity, that does not --- well, I don't know that then I can go on to make an expert statement, honestly, because that gets outside my purview and in terms of --- my lane is just simply to say that.

BY ATTORNEY TRYON:

Q. Got it. Can you look at your rebuttal report and look at page two?

A. I have my rebuttal in front of me and I'm on page two.

Q. Paragraph 4B?

A. I have that in front of me.

Q. You say --- great. You say circulating testosterone is the primary known biological driver of average differences in athletic performance. Do you see that?

A. I do.

Q. You say it is primary so what are the other biological drivers of average differences in athletic performance?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So when I --- so we're talking about circulating testosterone --- let me just look at this. Right. The truth is, is that it may --- that the only candidates that we have so far are testosterone at puberty and testosterone in the moment.

BY ATTORNEY TRYON:

Q. So it's --- according to you, it's testosterone at puberty and circulating testosterone are the only biological drivers of average differences in athletic performance.

Is that right?

A. So excuse me. I'm actually --- so this is the president of the hospital.

ATTORNEY BLOCK: I'm sorry. Can we go off the record for a minute and take a break. The president of the hospital is returning his previous call.

VIDEOGRAPHER: Going off the record. The current time is 5:48 Eastern Standard Time.

OFF VIDEOTAPE

- - -

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

- - -

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time reads 5:54 p.m. Eastern Standard Time.

BY ATTORNEY TRYON:

Q. My last question was according --- according to you, testosterone at puberty and circulating testosterone are the only biological drivers of average differences in athletic performance.

Is that right?

A. Right, they are the only ones that are known.

Q. And in paragraph 4C, looking on page three --- let's move over to page three, at the top of the page, your statement is there is no basis to expect that transgender girls who receive puberty delaying

medication followed by gender affirming hormones would have an athletic advantage. There's a comma. But if we just put a period there, is that your opinion?

A. That is correct. Yes, that is my opinion.

Q. Let me ask you the converse. You say there is no basis to expect that transgender girls who receive puberty delaying medication followed by gender affirming hormones would not have an athletic advantage, period. Would you agree with that statement?

A. No.

Q. Do you have any --- excuse me, any performance data from an actual athletic event that support your opinion?

A. I do not have any data from an actual athletic performance study for that. No, I do not in that context, in that specific instance.

Q. Let me ask you to look at your report. Turn to paragraph 45.

A. So my report, paragraph 45. All right. I have that in front of me.

Q. Great. Finally, unlike elite international competition, schools and colleges often provide athletic competition as part of a broader educational mission. In that context, when scholastic athletics are

components of the educational process, institutions may adopt policies designed to emphasize inclusion and to provide the most athletic opportunities to the greatest number of people. You see that.

Right?

A. I do.

Q. So these policies you referred to are designed to emphasize inclusion and to provide the most athletic opportunities to the greatest number of people, what's the source of that policy? Did you come up with that or did you see it someplace else?

ATTORNEY BLOCK: Objection to the form.

THE WITNESS: So the question is how am I aware? Yeah --- I apologize. You can hear that I'm confused on your question.

BY ATTORNEY TRYON:

Q. I'll try and do better. You said intuitions may adopt policies designed to emphasize inclusion and to provide the most athletic opportunities to embrace a number of people. And those policies that you're saying there, is that a policy that you read about somewhere or something you are just suggesting? What's the source of that?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So an operative word in this is may adopt policies, so this isn't referencing a specific policy that I would give you right this moment, if that's what you are asking.

BY ATTORNEY TRYON:

Q. So right, just aside from education --- this whole paragraph is talking about education, but you're not an expert on education or teaching methodology, are you?

A. I certainly am not.

Q. And you don't have any degrees in education or training in teaching methodology, do you?

A. I do not.

Q. And you have no degrees or training in pedagogy?

A. I have no degree in pedagogy. I will be careful how absolutely I do not, because that's not my --- that's not where I am representing myself to be an expert. I am involved in some education, but at the scholastic level not, so let's just say no.

Q. And you have no expertise as to whether sports or how sports are used as part of educational systems.

Right.

A. Correct. That is not the expertise. The how and my decisions among this are not my expertise.

Q. Do you have any idea how many schools actually have sports programs?

ATTORNEY BLOCK: Objection. I couldn't hear the full question. You cut out.

BY ATTORNEY TRYON:

Q. Sorry. Do you have any idea how many schools have sports programs?

A. I could not give you a number, no.

Q. Are you aware that some colleges do not have athletic programs?

A. I guess I'm vaguely aware. If you're asking me as an expert than I wouldn't comment on that as an expert, but as a human in society I certainly am aware that that is a thing.

Q. Okay.

And do you have any idea what percentage of kids are in athletic programs in schools versus those that are not that are still students?

A. No, I would not be your source for that data point.

Q. So when you are expressing this opinion in paragraph 45 that's not an expert opinion there, is it?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So right, I guess it's a

bit confusing here, because it's not my expert opinion that --- well, I'm certainly aware as an individual that this is a priority and when I sit on --- when I sit on committees where we discuss relative priorities, there are experts present who discuss these priorities. But if I'm speaking to you as an expert, then I --- then I can't be the representative expert in that space.

BY ATTORNEY TRYON:

Q. Right. Well, I'm just asking, in paragraph 45, given your lack of expertise and education, you are not giving an expert opinion in paragraph 45.

Is that a correct statement?

ATTORNEY BLOCK: Objection, asked and answered.

THE WITNESS: So I'm simply --- I'm raising all of the issues that we know exist, but then I'm not providing an expert opinion in terms of the relative priorities among these circumstances that exist.

BY ATTORNEY TRYON:

Q. Let me just ask you very clearly is paragraph 45 an expert opinion of yours?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't think I'm even

expressing an opinion in paragraph 45, expert or otherwise. I'm simply stating the background situation.

BY ATTORNEY TRYON:

Q. Okay.

But --- okay. I would ask you to turn to paragraph 37 of your report.

A. All right.

I have that in front of me.

Q. This is talking about the International Olympics Committee. Right? Let me move back to paragraphs 35 and 36.

A. Yes, this is the International Olympic Committee. This relates to the International Olympic Committee.

Q. So this 2021 framework, do you believe that you understand this framework?

A. I think you'll have to ask more specific questions because I might understand parts and I might have questions about parts.

Q. Very good. First of all, it says the 2021 framework further provides that, quote, any restrictions arising from eligibility criteria should be based on robust and peer-reviewed research that, A, demonstrates a consistent, unfair, disproportionate competitive

advantage with performance and/or an unpreventable risk to the physical safety of other athletes. You see that part, right?

A. I do, yes.

Q. Do you understand what the word disproportionate means in this context?

A. To a degree.

Q. Okay.

What do you understand it to mean when it says a disproportionate competitive advantage in performance?

A. The IOC is aware that there's quite a wide range of advantages with different body types and different biology, and so they use language like disproportionate when they want to talk about something that's --- that's --- that's systematically associated with one circumstance in a way that they think would violate the rules, whatever they might be, for a specific sport.

Q. That's pretty ambiguous. I have no idea what that means. Let me see if we can narrow it down. Is a disproportionate competitive advantage in performance --- would 20 percent be a disproportionate competitive advantage?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So that's --- I can't

answer that, because it depends on context, and I'm not the person who wrote the specific language in that document, so that is the quote from the document. But in terms of --- I don't --- I think we go someplace we don't want to go if we try to over define the specific word disproportionate.

BY ATTORNEY TRYON:

Q. So it's just not something that you or I could look at and reach any kind of conclusion to tell them what that means sitting here today.

Is that right?

A. I think if we look at a specific sport, I think that if it was limited to just the two of us we might need more expertise to make a decision.

Q. Well, let's say if we talked about the one mile --- running one mile, is that something that we could then determine what disproportionate competitive advantage and performance would mean?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It would depend on context. And if we're talking about at the elite level which is what the IOC references and we limited --- even then if we limit it just to you and to myself, we would want more expertise.

BY ATTORNEY TRYON:

Q. Right. Okay.

So we don't know what the IOC meant by this in any particular context do we?

ATTORNEY BLOCK: Objection to form.

ATTORNEY TRYON: Actually, let me redraw this question.

BY ATTORNEY TRYON:

Q. You as an expert would not be able to give me an expert opinion on what disproportionate competitive advantage in performance of the one mile run would be; right? You could not give me an expert opinion on that.

Fair statement?

A. If you break the words out in that --- in that fashion then it does become difficult. If you ask me what the entire statement after the letter A is referencing, I can at least explain some of the thought process for the IOC there.

Q. Well, my question is simply, you as an expert, are you able to tell me what --- able to define for me what would be a consistent, unfair disproportionate competitive advantage in performance in a one mile run for the IOC?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I, as an expert, cannot give you a blanket explanation of what would specifically consist of --- what would specifically meet that definition. When they wrote the statement they didn't actually even have specific guidance, that is simply the spirit of a guideline --- the spirit of what a specific guideline should consider when that guideline is made.

BY ATTORNEY TRYON:

Q. Do you know what they meant when they said unfair?

A. So the --- it's kind of the same circumstance. That is the purpose of this statement is to be global guidance for the experts in the specific sport when they might develop guidelines relevant to their specific sport. So for example, the group with expertise in that one mile run that you're referencing should think in this context. That's all this is doing.

Q. And some of the sporting organizations have come up with some very specific rules.

Correct?

A. Some of the sporting federations have come up with specific rules, yes.

Q. And as I recall, some of them require a certain

level of circulating testosterone.

Is that right?

A. Some of the sporting federations use a certain level of circulating hormone as part or all of their roles.

Q. And some of them use the level that you've mentioned that you were involved in setting, which was 5 Nmol --- say it for me. Nmol something.

A. Nmol/Ls per liter. Yes, some of them use that nmol/L per liter threshold.

Q. Did they --- where did they get that 5 nmol/L quantity, do you know?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I do know where that number comes from originally for World Athletics, which is the first one to put that number out. And that number comes from studies of some Olympic athletes in some races where there was for at least certain distances a demonstrable difference between people who had --- and specifically people in the female category who had lower numbers of testosterone than that and higher numbers of testosterone than that.

BY ATTORNEY TRYON:

Q. You were on that committee.

Right?

A. I was on the group that wrote that World Athletics policy, yes. Not on the group that did that study.

Q. And so how did you finally come up with the number of five as opposed to four or six or three or seven?

A. The number five discriminates in terms --- in terms of there being some demonstrated advantage or improved outcome is really what it was, for those with higher numbers versus those with lower numbers. That was not true necessarily with a lower testosterone threshold. That is a difference was not as apparent and that's really the entire logic pattern there.

Q. Well, earlier you just said it could have been --- you didn't think there was that much difference between five and six. That was your testimony earlier as I recall.

Right?

ATTORNEY BLOCK: Objection.

THE WITNESS: As an endocrinologist I can tell you that those difference --- that that's right that to --- the difference between five and six would be hard to demonstrate.

BY ATTORNEY TRYON:

Q. So how did you settle on five instead of six or five or six instead of four?

A. So I guess the inputs are that there needed to be a line so that there's ability to enforce something. There needed to be a rule. And the choice of five, mostly, is what I've been saying already, which is --- it's a clean number where there's at least some distances, there's a demonstrable difference in outcomes at that level --- above and below that level.

Q. So are you saying that there is a value of having a hard rule?

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY TRYON:

Q. Maybe I should say having a clean rule?

A. So as an expert I'm not --- that wasn't my role on the committee to determine that there needed to be a rule, but that is certainly the logic pattern of the committee that there ought to be a rule. That is not my expert opinion.

Q. Okay.

But different organizations are free to come up with different conclusions of about what their rules ought to be.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the different International Athletic Federations were to make use of data such as it exists to make their own rules for participation in their sports.

BY ATTORNEY TRYON:

Q. And different organizations came up with very different rules.

Right?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So most of the international federations still do not have rules, actually. And honestly, that's mostly a logistics situation where some of these organizations are too small to put the data together or the committees together to make rules.

BY ATTORNEY TRYON:

Q. Those that do have rules have different rules.

Correct?

A. Those that do have rules have had different conversations in the space. I don't know that I could systematically go through all of them, but there is some variation, yes.

Q. Some require --- have a Level 5 nanomoles per liter and some still have ten.

Right?

A. So I'd have to go back and look. You would have to show me. World Athletics has five for sure. And that's the one where I'm most familiar because I was actually sitting in the room helping draft that. The IOC in the past had used ten as a line, but that just sits there right now as a --- as a number someone might adopt. I actually don't know off the top of my head if anybody has adopted that for their formal rules.

Q. What was the scientific basis for the ten nanomoles per liter?

A. The logic for ten at the time is it is the bottom of the male range. That's its history.

Q. Okay.

So it sounds to me like there is room for reasonable discussion about what the appropriate rule ought to be?

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The way I would say it is as different athletic organizations obtain data, they might use those data to determine differences, including if the --- if our best measure is testosterone,

different thresholds of testosterone.
BY ATTORNEY TRYON:
Q. Would it be appropriate to use performance data as well to make those decisions?
A. The best data in my opinion are actual outcomes within a given sport.
Q. What do you mean by outcomes, performance? Are we saying the same thing?
A. I don't know if we're saying the same thing. So the studies that I reference are the Roberts study and the Harper study, where they actually look at specific athletic endeavors and measure those as opposed to the studies where they're simply sitting in a physiology lab measuring somebody move an arm back and forth and thinking that it might associate with some actual athletic performance.
Q. Somebody moving their arm back and forth with weights, that's not athletic?
A. It's --- again, it would --- right, that's --- that's only --- that's what we would call a surrogate endpoint where you are simply looking at something that might correlate with what you want, but --- but you don't know it until you test it. It ends up being what we call hypothesis generating. That is how we would say

it in a scientific way.
Q. And the same would hold true with the level of circulating testosterone, you would want to actually test that in real life to see how people's circulating testosterone actually translates into performance of an actual athletic contest.
Right?
A. That's right. So the data that were used to determine the five nanomole per liter cut point are passively collected data. And if somebody did a study looking at that threshold and found that there was, let's say, no difference, then that rule might be discarded.
Q. And so far, other than Roberts and Harper, if I recall correctly, those are the only two that you know of.
Right?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: Those are the only two studies that have gone that extra step and looked at an actual athletic activity with an outcome that is part of that athletic activity and not what I was just referencing, as a surrogate endpoint.
BY ATTORNEY TRYON:

Q. In those two studies did they check the circulating testosterone in the individuals in these studies?
A. I'd have to look. I think we did look earlier today with regard to the Harper study, and I don't think she's referencing testosterone levels at all. Again, I'd have to go back and look to be sure. We were talking about whether they were self-reported. And the --- with the Robert study I would have to go back and look at that one, too. I'm feeling like the answer is no, but we can look there if you want.
Q. Yeah, we don't need to. I'm pretty sure that we just talked about how long they had been in the therapy rather than actual measurements.
Well, let me move on. I know we don't have a lot of time left.
So you said you're familiar in your expert report you are familiar with HB-3293.
Is that right?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So yes, I'm somewhat familiar.
BY ATTORNEY TRYON:
Q. Have you read the whole thing?

A. I don't think I've read the whole thing, no.
Q. When did you first hear of HB-3293?
A. I probably first heard of it when the --- when I received contact from the ACLU to serve as an expert witness.
Q. Do you recall if that was before or after it was passed?
A. I don't recall. I would have to speculate that it would be after, because that would --- I mean that would make sense that that is true, but I don't recall, so I wouldn't be able to answer that.
Q. Okay.
So we would refer to this as State Women's Sports Law and there's other types of laws like this throughout the country.
Are you aware of that?
ATTORNEY BLOCK: Objection to form.
THE WITNESS: So I'm aware that there are attempts at legislation and some actual legislation passed to block transgender athletes in various permeations, including transgender women in several states. I'm aware of that, yes.
BY ATTORNEY TRYON:
Q. Are you aware then House Bill 3293 the word

transgender does not appear at all?
A. House Bill --- that's this one?
Q. That is this one.
A. I was not aware that the word transgender does not appear at all.
Q. Are you tracking the other bills out there that are similar to House Bill 3293?
A. I am not personally tracking the other bills, no.
Q. Can you take a look at the Handelsman report that you have in front of you. I don't recall the exhibit number.
ATTORNEY WILKINSON: I think Exhibit 13 --- oh, sorry, it's Exhibit 4, I think.
THE WITNESS: I don't see.
ATTORNEY WILKINSON: I can give you that.
THE WITNESS: The stack got big.
ATTORNEY TRYON: We can just bring it --- if you can't find it we can bring it up on the screen?
THE WITNESS: Okay.
I was given another copy, so we're good. I have it in front of me.
BY ATTORNEY TRYON:
Q. Okay.

On the second page?
A. On the second page.
Q. Okay.
Under fairness and segregation in sports.
Do you see that section?
A. I do.
Q. In the third full paragraph underneath there --- oh the formatting there is a little different than the copy that I have. Let's see. There's a paragraph that starts the terms sex and gender. There it is. The terms sex and gender are often confused as interchangeable. Now, I want you to focus on this next sentence. Sex is an objective specific biological state, a term with distinct fixed facets notably genetic, chromosomal, gonadal, hormonal and phenotypic including genital sex, each of which has a characteristic defined binary form. Did I read that correctly?
A. You read that correctly, yes.
Q. Do you agree with that statement?
A. I don't agree with that statement completely, no.
Q. What specifically do you find objectionable.
A. It's missing some components of sex, including,

for example gender identity. And the phrasing characteristic defined binary form is not necessarily true for each component of biological sex.
Q. So you disagree with the statement in the Handelsman report, is that --- did I state that fairly?
A. Right. I would characterize the statement as not exhaustive.
ATTORNEY TRYON: Let me ask the court reporter if I have any time.
COURT REPORTER: I have six minutes and 58 --- six hours and 58 minutes.
ATTORNEY TRYON: Well, I guess with my last two minutes I'll just say thank you for your time and I appreciate it. And I don't have any other questions. I don't know if any of the other Defendants do. I doubt it. But go ahead. If they do, go ahead. Kelly?
ATTORNEY MORGAN: This is Kelly Morgan. I don't have any questions. Thank you so much.
ATTORNEY TRYON: Roberta? Susan, you're next.
ATTORNEY GREEN: This is Roberta Green on the behalf of the SSAC. No questions. Thank you.
ATTORNEY DENIKER: Dr. Safer, this is

Susan Deniker. I have no questions. Thank you for your time today.
ATTORNEY TRYON: We are finished.
VIDEOGRAPHER: This concludes this deposition. The current time reads 6:31 p.m. Eastern Standard Time.
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VIDEOTAPED DEPOSITION CONCLUDED AT 6:31 P.M.
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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J., by her next friend and mother, HEATHER JACKSON,

Plaintiff,

vs.

WEST VIRGINIA STATE BOARD OF EDUCATION; HARRISON COUNTY BOARD OF EDUCATION; WEST VIRGINIA SECONDARY SCHOOLS ACTIVITIES COMMISSION; W. CLAYTON BURCH, in his official capacity as State Superintendent, DORA STUTLER, in her official capacity as the Harrison County Superintendent, and the STATE OF WEST VIRGINIA,

Defendants,

and

LAINEY ARMISTEAD,

Defendant-Intervenor.

Case No. 2:21-cv-00316

Hon. Joseph R. Goodwin

DECLARATION OF GREGORY A. BROWN, PH.D., FACSM

I, Dr. Gregory A. Brown, pursuant to 28 U.S. Code § 1746, declare under penalty of perjury under the laws of the United States of America that the facts contained in my Expert Declaration of Gregory A. Brown, Ph.D., FACSM in the Case of B.P.J. v. West Virginia State Board of Education, attached hereto, are true and correct to the best of my knowledge and belief, and that the opinions expressed therein represent my own expert opinions.

Executed on February 23, 2022.

Gregory A. Brown

Expert Report of

Gregory A Brown, Ph.D. FACSM

In the case of B.P.J. vs. West Virginia State Board of Education.

Table of Contents

Personal Qualifications and Disclosure

I serve as Professor of Exercise Science in the Department of Kinesiology and Sport Sciences at the University of Nebraska Kearney, where I teach classes in Exercise Physiology among other topics. I am also the Director of the General Studies program. I have served as a tenured (and nontenured) professor at universities since 2002.

In August 2002, I received a Doctor of Philosophy degree from Iowa State University, where I majored in Health and Human Performance, with an emphasis in the Biological Bases of Physical Activity. In May 1999, I received a Master of Science degree from Iowa State University, where I majored in Exercise and Sport Science, with an emphasis in Exercise Physiology.

I have received many awards over the years, including the Mortar Board Faculty Excellence Honors Award, College of Education Outstanding Scholarship / Research Award, and the College of Education Award for Faculty Mentoring of Undergraduate Student Research. I have authored more than 40 refereed publications and more than 50 refereed presentations in the field of Exercise Science. I have authored chapters for multiple books in the field of Exercise Science. And I have served as a peer reviewer for over 25 professional journals, including *The American Journal of Physiology*, the *International Journal of Exercise Science*, the *Journal of Strength and Conditioning Research*, and *The Journal of Applied Physiology*.

My areas of research have included the endocrine response to testosterone prohormone supplements in men and women, the effects of testosterone prohormone supplements on health and the adaptations to strength training in men, the effects of energy drinks on the physiological response to exercise, and assessment of various athletic training modes in males and females. Articles that I have published that are closely related to topics that I discuss in this white paper include:

- Studies of the effect of ingestion of a testosterone precursor on circulating testosterone levels in young men. Douglas S. King, Rick L. Sharp, Matthew D. Vukovich, Gregory A. Brown, et al., *Effect of Oral Androstenedione on Serum Testosterone and Adaptations to Resistance Training in Young Men: A Randomized Controlled Trial*, JAMA 281: 2020-2028 (1999); G. A. Brown, M. A. Vukovich, et al., *Effects of Anabolic Precursors on Serum Testosterone Concentrations and Adaptations to Resistance Training in Young Men*, INT J SPORT NUTR EXERC METAB 10: 340-359 (2000).

- A study of the effect of ingestion of that same testosterone precursor on circulating testosterone levels in young women. G. A. Brown, J. C. Dewey, et

al., *Changes in Serum Testosterone and Estradiol Concentrations Following Acute Androstenedione Ingestion in Young Women*, HORM METAB RES 36: 62-66 (2004.)

- A study finding (among other things) that body height, body mass, vertical jump height, maximal oxygen consumption, and leg press maximal strength were higher in a group of physically active men than comparably active women, while the women had higher percent body fat. G. A. Brown, Michael W. Ray, et al., *Oxygen Consumption, Heart Rate, and Blood Lactate Responses to an Acute Bout of Plyometric Depth Jumps in College-Aged Men And Women*, J. STRENGTH COND RES 24: 2475-2482 (2010).

- A study finding (among other things) that height, body mass, and maximal oxygen consumption were higher in a group of male NCAA Division 2 distance runners, while women NCAA Division 2 distance runners had higher percent body fat. Furthermore, these male athletes had a faster mean competitive running speed (~3.44 min/km) than women (~3.88 min/km), even though the men ran 10 km while the women ran 6 km. Katherine Semin, Alvah C. Stahlnecker, Kate A. Heelan, G. A. Brown, et al, *Discrepancy Between Training, Competition and Laboratory Measures of Maximum Heart Rate in NCAA Division 2 Distance Runners*, JOURNAL OF SPORTS SCIENCE AND MEDICINE 7: 455-460 (2008).

- A presentation at the 2021 American Physiological Society New Trends in Sex and Gender Medicine Conference entitled "Transwomen Competing in Women's Sports: What We Know and What We Don't". I have also authored an August 2021 entry for the American Physiological Society Physiology Educators Community of Practice Blog (PECOP Blog) titled "The Olympics, Sex, and Gender in the Physiology Classroom."

A list of my published scholarly work for the past 10 years appears as an Appendix.

Purpose of this Declaration

I have been asked by counsel for Defendant State of West Virginia and Intervenor Defendant Lainey Armistead in the matter of *B.P.J. by her next friend and mother Heather Jackson, v. State of West Virginia State Board of Education, et al.* to offer my opinions about the following: (a) whether males have inherent advantages in athletic performance over females, and if so the scale and physiological basis of those advantages, to the extent currently understood by science and (b) whether the sex-based performance advantage enjoyed by males is eliminated if feminizing hormones are administered to male athletes who identify as transgender (and in the case of prepubertal children, whether puberty blockers eliminate the advantage). In this declaration, when I use the terms "boy" or "male," I am referring to biological males based on the individual's reproductive biology and genetics as determined at birth. Similarly, when I use the terms "girl" or "female," I am referring to biological females based on the individual's reproductive biology and genetics as determined at birth. When I use the term transgender, I am referring to persons who are males or females, but who identify as a member of the opposite sex.

I have previously provided expert information in cases similar to this one in the form of a written declaration and a deposition in the case of *Soule vs. CIAC* in the state of Connecticut, and in the form of a written declaration in the case of *Hecox vs. Little* in the state of Idaho. I have not previously testified as an expert in any trials.

The opinions I express in this declaration are my own, and do not necessarily reflect the opinions of my employer, the University of Nebraska.

I have been compensated for my time serving as an expert in this case at the rate of $150 per hour. My compensation does not depend on the outcome in the case.

Overview

In this declaration, I explore three important questions relevant to current discussions and policy decisions concerning inclusion of transgender individuals in women's athletic competitions. Based on my professional familiarity with exercise physiology and my review of the currently available science, including that contained in the many academic sources I cite in this report, I set out and explain three basic conclusions:

- At the level of (a) elite, (b) collegiate, (c) scholastic, and (d) recreational competition, men, adolescent boys, or male children, have an advantage over equally aged, gifted, and trained women, adolescent girls, or female children in almost all athletic events;

- Biological male physiology is the basis for the performance advantage that men, adolescent boys, or male children have over women, adolescent girls, or female children in almost all athletic events; and

- The administration of androgen inhibitors and cross-sex hormones to men or adolescent boys after the onset of male puberty does not eliminate the performance advantage that men and adolescent boys have over women and adolescent girls in almost all athletic events. Likewise, there is no published scientific evidence that the administration of puberty blockers to males before puberty eliminates the pre-existing athletic advantage that prepubertal males have over prepubertal females in almost all athletic events.

In short summary, men, adolescent boys, and prepubertal male children perform better in almost all sports than women, adolescent girls, and prepubertal female children because of their inherent physiological advantages. In general, men, adolescent boys, and prepubertal male children, can run faster, output more muscular power, jump higher, and possess greater muscular endurance than women, adolescent girls, and prepubertal female children. These advantages become greater during and after male puberty, but they exist before puberty.

Further, while after the onset of puberty males are on average taller and heavier than females, a male performance advantage over females has been measured in weightlifting competitions even between males and females matched for body mass.

Male advantages in measurements of body composition, tests of physical fitness, and athletic performance have also been shown in children before puberty. These advantages are magnified during puberty, triggered in large part by the higher testosterone concentrations in men, and adolescent boys, after the onset of

male puberty. Under the influence of these higher testosterone levels, adolescent boys and young men develop even more muscle mass, greater muscle strength, less body fat, higher bone mineral density, greater bone strength, higher hemoglobin concentrations, larger hearts and larger coronary blood vessels, and larger overall statures than women. In addition, maximal oxygen consumption (VO_2max), which correlates to ~30-40% of success in endurance sports, is higher in both elite and average men and boys than in comparable women and girls when measured in regard to absolute volume of oxygen consumed and when measured relative to body mass.

Although androgen deprivation (that is, testosterone suppression) may modestly decrease some physiological advantages that men and adolescent boys have over women and adolescent girls, it cannot fully or even largely eliminate those physiological advantages once an individual has passed through male puberty.

Evidence and Conclusions

I. The scientific reality of biological sex

1. The scientific starting point for the issues addressed in this report is the biological fact of dimorphic sex in the human species. It is now well recognized that dimorphic sex is so fundamental to human development that, as stated in a recent position paper issued by the Endocrine Society, it "must be considered in the design and analysis of human and animal research. . . . Sex is dichotomous, with sex determination in the fertilized zygote stemming from unequal expression of sex chromosomal genes." (Bhargava et al. 2021 at 220). As stated by Sax (2002 at 177), "More than 99.98% of humans are either male or female." All humans who do not suffer from some genetic or developmental disorder are unambiguously male or female.

2. Although sex and gender are used interchangeably in common conversation, government documents, and in the scientific literature, the American Psychological Association defines sex as "physical and biological traits" that "distinguish between males and females" whereas gender "implies the psychological, behavioral, social, and cultural aspects of being male or female (i.e., masculinity or femininity)" (https://dictionary.apa.org, accessed January 14, 2022). The concept that sex is an important biological factor determined at conception is a well-established scientific fact that is supported by statements from a number of respected organizations including, but not limited to, the Endocrine Society (Bhargava et al. 2021 at 220), the American Physiological Society (Shah 2014), the Institute of Medicine, and the National Institutes of Health (Miller 2014 at H781-82). Collectively, these and other organizations have stated that every cell has a sex

and every system in the body is influenced by sex. Indeed, "sex often influences gender, but gender cannot influence sex." (Bhargava 2021 at 228.)

3. To further explain: "The classical biological definition of the **2 sexes** is that females have ovaries and make larger female gametes (eggs), whereas males have testes and make smaller male gametes (sperm) … the definition can be extended to the ovaries and testes, and in this way the categories—female and male—can be applied also to individuals who have gonads but do not make gametes … sex is dichotomous because of the different roles of each sex in reproduction." (Bhargava 2021 at 221.) Furthermore, "sex determination begins with the inheritance of XX or XY chromosomes" (Bhargava 2021 at 221.) And, "Phenotypic sex differences develop in XX and XY embryos as soon as transcription begins. The categories of X and Y genes that are unequally represented or expressed in male and female mammalian zygotes … cause phenotypic sex differences" (Bhargava 2021 at 222.)

4. Although disorders of sexual development (DSDs) are sometimes confused with discussions of transgender individuals, the two are different phenomena. DSDs are disorders of physical development. Many DSDs are "associated with genetic mutations that are now well known to endocrinologists and geneticists." (Bhargava 2021 at 225) By contrast, a sense of transgender identity is usually not associated with any physical disorder, and "a clear biological causative underpinning of gender identity remains to be demonstrated." (Bhargava 2021 at 226.)

5. Further demonstrating the biological importance of sex, Gershoni and Pietrokovski (2017) detail the results of an evaluation of "18,670 out of 19,644 informative protein-coding genes in men versus women" and reported that "there are over 6500 protein-coding genes with significant S[ex]D[ifferential] E[xpression] in at least one tissue. Most of these genes have SDE in just one tissue, but about 650 have SDE in two or more tissues, 31 have SDE in more than five tissues, and 22 have SDE in nine or more tissues" (Gershoni 2017 at 2-3.) Some examples of tissues identified by these authors that have SDE genes include breast mammary tissue, skeletal muscle, skin, thyroid gland, pituitary gland, subcutaneous adipose, lung, and heart left ventricle. Based on these observations the authors state "As expected, Y-linked genes that are normally carried only by men show SDE in many tissues" (Gershoni 2017 at 3.) A stated by Heydari et al. (2022, at 1), "Y chromosome harbors male-specific genes, which either solely or in cooperation with their X-counterpart, and independent or in conjunction with sex hormones have a considerable impact on basic physiology and disease mechanisms in most or all tissues development."

6. In a review of 56 articles on the topic of sex-based differences in skeletal muscle, Haizlip et al., (2015) state that "More than 3,000 genes have been

identified as being differentially expressed between male and female skeletal muscle." (Haizlip 2015 at 30.) Furthermore, the authors state that "Overall, evidence to date suggests that skeletal muscle fiber-type composition is dependent on species, anatomical location/function, and sex" (Haizlip 2015 at 30.) The differences in genetic expression between males and females influence the skeletal muscle fiber composition (i.e. fast twitch and fast twitch sub-type and slow twitch), the skeletal muscle fiber size, the muscle contractile rate, and other aspects of muscle function that influence athletic performance. As the authors review the differences in skeletal muscle between males and females they conclude, "Additionally, all of the fibers measured in men have significantly larger cross-sectional areas (CSA) compared with women." (Haizlip 2015 at 31.) The authors also explore the effects of thyroid hormone, estrogen, and testosterone on gene expression and skeletal muscle function in males and females. One major conclusion by the authors is that "The complexity of skeletal muscle and the role of sex adding to that complexity cannot be overlooked." (Haizlip 2015 at 37.) The evaluation of SDE in protein coding genes helps illustrate that the differences between men and women are intrinsically part of the chromosomal and genetic makeup of humans which can influence many tissues that are inherent to the athletic competitive advantages of men compared to women.

II. Biological men, or adolescent boys, have large, well-documented performance advantages over women and adolescent girls in almost all athletic contests.

7. It should scarcely be necessary to invoke scientific experts to "prove" that men are on average larger, stronger, and faster than women. All of us, along with our siblings and our peers and perhaps our children, have passed through puberty, and we have watched that differentiation between the sexes occur. This is common human experience and knowledge.

8. Nevertheless, these differences have been extensively studied and measured. I cited many of these studies in the first paper on this topic that I prepared, which was submitted in litigation in January 2020. Since then, in light of current controversies, several authors have compiled valuable collections or reviews of data extensively documenting this objective fact about the human species, as manifest in almost all sports, each of which I have reviewed and found informative. These include Coleman (2020), Hilton & Lundberg (2021), World Rugby (2020), Harper (2021), Hamilton (2021), and a "Briefing Book" prepared by the Women's Sports Policy Working Group (2021). The important paper by Handelsman et al. (2018) also gathers scientific evidence of the systematic and large male athletic advantage.

9. These papers and many others document that men, adolescent boys, and prepubertal male children, substantially outperform comparably aged women,

adolescent girls and prepubertal female children, in competitions involving running speed, swimming speed, cycling speed, jumping height, jumping distance, and strength (to name a few, but not all, of the performance differences). As I discuss later, it is now clear that these performance advantages for men, adolescent boys, and prepubertal male children, are inherent to the biological differences between the sexes.

10. In fact, I am not aware of any scientific evidence today that disproves that after puberty men possess large advantages in athletic performance over women–so large that they are generally insurmountable for comparably gifted and trained athletes at every level (i.e. (a) elite, (b) collegiate, (c) scholastic, and (d) recreational competition). And I am not aware of any scientific evidence today that disproves that these measured performance advantages are at least largely the result of physiological differences between men and women which have been measured and are reasonably well understood.

11. My use of the term "advantage" in this paper must not be read to imply any normative judgment. The adult female physique is simply different from the adult male physique. Obviously, it is optimized in important respects for the difficult task of childbearing. On average, women require far fewer calories for healthy survival. Evolutionary biologists can and do theorize about the survival value or "advantages" provided by these and other distinctive characteristics of the female physique, but I will leave that to the evolutionary biologists. I use "advantage" to refer merely to performance advantages in athletic competitions.

12. I find in the literature a widespread consensus that the large performance and physiological advantages possessed by males–rather than social considerations or considerations of identity–are precisely the *reason* that most athletic competitions are separated by sex, with women treated as a "protected class." To cite only a few statements accepting this as the justification:

- Handelsman et al. (2018) wrote, "Virtually all elite sports are segregated into male and female competitions. The main justification is to allow women a chance to win, as women have major disadvantages against men who are, on average, taller, stronger, and faster and have greater endurance due to their larger, stronger, muscles and bones as well as a higher circulating hemoglobin level." (803)

- Millard-Stafford et al. (2018) wrote "Current evidence suggests that women will not swim or run as fast as men in Olympic events, which speaks against eliminating sex segregation in these individual sports" (530) "Given the historical context (2% narrowing in swimming over 44 y), a reasonable assumption might be that no more than 2% of the

current performance gap could still potentially be attributed to sociocultural influences.", (533) and "Performance gaps between US men and women stabilized within less than a decade after federal legislation provided equal opportunities for female participation, but only modestly closed the overall gap in Olympic swimming by 2% (5% in running)." (533) Dr. Millard-Stafford, a full professor at Georgia Tech, holds a Ph.D. in Exercise Physiology and is a past President of the American College of Sports Medicine.

- In 2021, Hilton et al. wrote, "most sports have a female category the purpose of which is the protection of both fairness and, in some sports, safety/welfare of athletes who do not benefit from the physiological changes induced by male levels of testosterone from puberty onwards." (204)

- In 2020 the Swiss High Court ("Tribunal Fédéral") observed that "in most sports . . . women and men compete in two separate categories, because the latter possess natural advantages in terms of physiology."[1]

- The members of the Women's Sports Policy Working Group wrote that "If sports were not sex-segregated, female athletes would rarely be seen in finals or on victory podiums," and that "We have separate sex sport and eligibility criteria based on biological sex because this is the only way we can assure that female athletes have the same opportunities as male athletes not only to participate but to win in competitive sport. . . . If we did not separate athletes on the basis of biological sex–if we used any other physical criteria–we would never see females in finals or on podiums." (WSPWG Briefing Book 2021 at 5, 20.)

- In 2020, the World Rugby organization stated that "the women's category exists to ensure protection, safety and equality for those who do not benefit from the biological advantage created by these biological performance attributes." (World Rugby Transgender Women Guidelines 2020.)

- In 2021 Harper et al. stated "…the small decrease in strength in transwomen after 12–36 months of GAHT [Gender Affirming Hormone Therapy] suggests that transwomen likely retain a strength advantage

[1] "dans la plupart des sports . . . les femmes et les hommes concourent dans deux catégories séparées, ces derniers étant naturellement avantagés du point de vue physique." Tribunal Fédéral decision of August 25, 2020, Case 4A_248/2019, 4A_398/2019, at §9.8.3.3.

over cisgender women." (7) and "…observations in trained transgender individuals are consistent with the findings of the current review in untrained transgender individuals, whereby 30 months of GAHT may be sufficient to attenuate some, but not all, influencing factors associated with muscular endurance and performance." (8)

- Hamilton et al. (2021), in a consensus statement for the International Federation of Sports Medicine (FIMS) concluded that "Transwomen have the right to compete in sports. However, cisgender women have the right to compete in a protected category." (1409)

13. While the sources I mention above gather more extensive scientific evidence of this uncontroversial truth, I provide here a brief summary of representative facts concerning the male advantage in athletic performance.

A. Men are stronger.

14. Males exhibit greater strength throughout the body. Both Handelsman et al. (2018) and Hilton & Lundberg (2021) have gathered multiple literature references that document this fact in various muscle groups.

15. Men have in the neighborhood of 60%-100% greater **arm strength** than women. (Handelsman 2018 at 812.)[2] One study of elbow flexion strength (basically, bringing the fist up towards the shoulder) in a large sample of men and women found that men exhibited 109% greater isometric strength, and 89% higher strength in a single repetition. (Hilton 2021 at 204, summarizing Hubal (2005) at Table 2.)

16. **Grip strength** is often used as a useful proxy for strength more generally. In one study, men showed on average 57% greater grip strength than women. (Bohannon 2019.) A wider meta-analysis of multiple grip-strength studies not limited to athletic populations found that 18- and 19-year-old males exhibited in

[2] Handelsman expresses this as women having 50% to 60% of the "upper limb" strength of men. Handelsman cites Sale, *Neuromuscular function*, for this figure and the "lower limb" strength figure. Knox et al., *Transwomen in elite sport* (2018) are probably confusing the correct way to state percentages when they state that "differences lead to decreased trunk and lower body strength by 64% and 72% respectively, in women" (397): interpreted literally, this would imply that men have **almost 4x as much** lower body strength as do women.

the neighborhood of 2/3 greater grip strength than females. (Handelsman 2017 Figure 3, summarizing Silverman 2011 Table 1.)[3]

17. In an evaluation of maximal isometric handgrip strength in 1,654 healthy men, 533 healthy women aged 20-25 years and 60 "highly trained elite female athletes from sports known to require high hand-grip forces (judo, handball)," Leyk et al. (2007) observed that, "The results of female national elite athletes even indicate that the strength level attainable by extremely high training will rarely surpass the 50th percentile of untrained or not specifically trained men." (Leyk 2007 at 415.)

18. Men have in the neighborhood of 25%-60% greater **leg strength** than women. (Handelsman 2018 at 812.) In another measure, men exhibit 54% greater knee extension torque and this male leg strength advantage is consistent across the lifespan. (Neder 1999 at 120-121.)

19. When male and female Olympic weightlifters of the same body weight are compared, the top males lift weights between 30% and 40% greater than the females of the same body weight. But when top male and female performances are compared in powerlifting, without imposing any artificial limitations on bodyweight, the male record is 65% higher than the female record. (Hilton 2021 at 203.)

20. In another measure that combines many muscle groups as well as weight and speed, moderately trained males generated 162% greater punching power than females even though men do not possess this large an advantage in any single bio-mechanical variable. (Morris 2020.) This objective reality was subjectively summed up by women's mixed-martial arts fighter Tamikka Brents, who suffered significant facial injuries when she fought against a biological male who identified as female and fought under the name of Fallon Fox. Describing the experience, Brents said:

> "I've fought a lot of women and have never felt the strength that I felt in a fight as I did that night. I can't answer whether it's because she was born a man or not because I'm not a doctor. I can only say, I've never felt so overpowered ever in my life, and I am an abnormally strong female in my own right."[4]

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[3] Citing Silverman, *The secular trend for grip strength in Canada and the United States*, J. Ports Sci. 29:599-606 (2011).

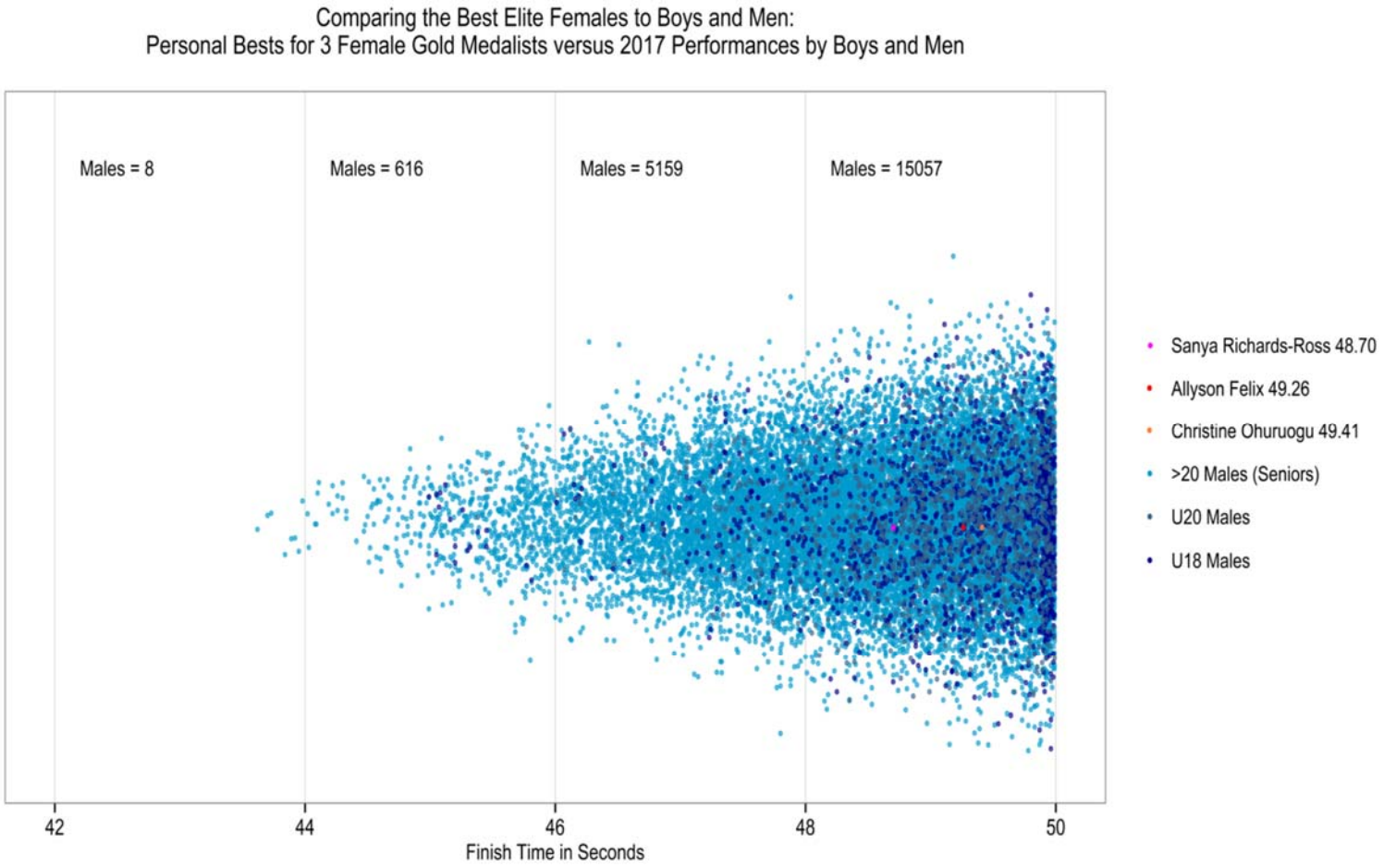
[4] http://whoatv.com/exclusive-fallon-foxs-latest-opponent-opens-up-to-whoatv/ (last accessed October 5, 2021).

B. Men run faster.

21. Many scholars have detailed the wide performance advantages enjoyed by men in running speed. One can come at this reality from a variety of angles.

22. Multiple authors report a male speed advantage in the neighborhood of 10%-13% in a variety of events, with a variety of study populations. Handelsman et al. 2018 at 813 and Handelsman 2017 at 70 both report a male advantage of about 10% by age 17. Thibault et al. 2010 at 217 similarly reported a stable 10% performance advantage across multiple events at the Olympic level. Tønnessen et al. (2015 at 1-2) surveyed the data and found a consistent male advantage of 10%-12% in running events after the completion of puberty. They document this for both short sprints and longer distances. One group of authors found that the male advantage increased dramatically in ultra-long-distance competition (Lepers & Knechtle 2013.)

23. A great deal of current interest has been focused on track events. It is worth noting that a recent analysis of publicly available sports federation and tournament records found that men enjoy the *least* advantage in running events, as compared to a range of other events and metrics, including jumping, pole vaulting, tennis serve speed, golf drives, baseball pitching speed, and weightlifting. (Hilton 2021 at 201-202.) Nevertheless, as any serious runner will recognize, the approximately 10% male advantage in running is an overwhelming difference. Dr. Hilton calculates that "approximately 10,000 males have personal best times that are faster than the current Olympic 100m female champion." (Hilton 2021 at 204.) Professors Doriane Coleman, Jeff Wald, Wickliffe Shreve, and Richard Clark dramatically illustrated this by compiling the data and creating the figure below (last accessed on February 10, 2022, at https://bit.ly/35yOyS4), which shows that the *lifetime best performances* of three female Olympic champions in the 400m event—including Team USA's Sanya Richards-Ross and Allyson Felix—would not match the performances of "literally thousands of boys and men, including thousands who would be considered second tier in the men's category" *just in 2017 alone*: (data were drawn from the International Association of Athletics Federations (IAAF) website which provides complete, worldwide results for individuals and events, including on an annual and an all-time basis).


Comparing the Best Elite Females to Boys and Men:
Personal Bests for 3 Female Gold Medalists versus 2017 Performances by Boys and Men
Males = 8
Males = 616
Males = 5159
Males = 15057
42
44
46
48
50
Finish Time in Seconds
Sanya Richards-Ross 48.70
Allyson Felix 49.26
Christine Ohuruogu 49.41
>20 Males (Seniors)
U20 Males
U18 Males

24. Professor Coleman and her colleague Wicklyffe Shreve also created the table below (last accessed on February 10, 2022, at https://bit.ly/37E1s2X), which "compares the number of men—males over 18—competing in events reported to the International Association of Athletics Federation whose results in each event in 2017 would have ranked them above the very best elite woman that year."

TABLE 2 – World's Best Woman v. Number of Men Outperforming			
Event	Best Women's Result	Best Men's Result	# of Men Outperforming
100 Meters	10.71	9.69	2,474
200 Meters	21.77	19.77	2,920
400 Meters	49.46	43.62	4,341
800 Meters	1:55.16*	1:43.10	3,992+
1500 Meters	3:56.14	3:28.80	3,216+
3000 Meters	8:23.14	7:28.73	1307+
5000 Meters	14:18.37	12:55.23	1,243
High Jump	2.06 meters	2.40 meters	777
Pole Vault	4.91 meters	6.00 meters	684
Long Jump	7.13 meters	8.65 meters	1,652
Triple Jump	14.96 meters	18.11 meters	969

25. The male advantage becomes insuperable well before the developmental changes of puberty are complete. Dr. Hilton documents that even "schoolboys"–defined as age 15 and under–have beaten the female world records in running, jumping, and throwing events. (Hilton 2021 at 204.)

26. Similarly, Coleman and Shreve created the table below (last accessed on February 10, 2022, at https://bit.ly/37E1s2X), which "compares the number of boys—males under the age of 18—whose results in each event in 2017 would rank them above the single very best elite [adult] woman that year:" data were drawn from the International Association of Athletics Federations (IAAF) website

TABLE 1 – World's Best Woman v. Under 18 Boys			
Event	Best Women's Result	Best Boys' Result	# of Boys Outperforming
100 Meters	10.71	10.15	124+
200 Meters	21.77	20.51	182
400 Meters	49.46	45.38	285
800 Meters	1:55.16*	1:46.3	201+
1500 Meters	3:56.14	3:37.43	101+
3000 Meters	8:23.14	7:38.90	30
5000 Meters	14:18.37	12:55.58	15
High Jump	2.06 meters	2.25 meters	28
Pole Vault	4.91 meters	5.31 meters	10
Long Jump	7.13 meters	7.88 meters	74
Triple Jump	14.96 meters	17.30 meters	47

27. In an analysis I have performed of running events (consisting of the 100 m, 200 m, 400 m, 800 m, 1500 m, 5000 m, and 10000 m) in the Division 1, Division 2, and Division 3 NCAA Outdoor track championships for the years of 2010-2019, the average performance across all events of the 1st place man was 14.1% faster than the 1st place woman, with the smallest difference being a 10.2% advantage for men in the Division 1 100 m race. The average 8th place man across all events (the last place to earn the title of All American) was 11.2% faster than 1st place woman, with the smallest difference being a 6.5% advantage for men in the Division 1 100 m race. (Brown et al. Unpublished observations, to be presented at the 2022 Annual Meeting of the American College of Sports Medicine.)

28. Athletic.net® is an internet-based resource providing "results, team, and event management tools to help coaches and athletes thrive." Among the resources available on Athletic.net are event records that can be searched by nationally or by state age group, school grade, and state. Higerd (2021) in an evaluation of high school track running performance records from five states(CA, FL, MN, NY, WA), over three years (2017 – 2019) observed that males were 14.38% faster than females in the 100M (at 99), 16.17% faster in the 200M (at 100), 17.62% faster in the 400M (at 102), 17.96% faster in the 800M (at 103), 17.81% faster in the 1600M (at 105), and 16.83% faster in the 3200M (at 106).

C. Men jump higher and farther.

29. Jumping involves both leg strength and speed as positive factors, with body weight of course a factor working against jump height. Despite their substantially greater body weight, males enjoy an even greater advantage in jumping than in running. Handelsman 2018 at 813, looking at youth and young adults, and Thibault 2010 at 217, looking at Olympic performances, both found male advantages in the range of 15%-20%. See also Tønnessen 2015 (approximately 19%); Handelsman 2017 (19%); Hilton 2021 at 201 (18%). Looking at the vertical jump called for in volleyball, research on elite volleyball players found that males jumped on average 50% higher during an "attack" at the net than did females. (Sattler 2015; see also Hilton 2021 at 203 (33% higher vertical jump).)

30. Higerd (2021) in an evaluation of high school high jump performance available through the track and field database athletic.net®, which included five states (CA, FL, MN, NY, WA), over three years (2017 – 2019) (at 82) observed that in 23,390 females and 26,843 males, females jumped an average of 1.35 m and males jumped an average of 1.62 m, for an 18.18% performance advantage for males (at 96). In an evaluation of long jump performance in 45,705 high school females and 54,506 high school males the females jumped an average of 4.08 m and males jumped an average of 5.20 m, for a 24.14% performance advantage for males (at 97).

31. The combined male advantage of body height and jump height means, for example, that a total of seven women in the WNBA have ever dunked a basketball in the regulation 10 foot hoop,[5] while the ability to dunk appears to be almost universal among NBA players: "Since the 1996–97 season (the earliest data is available from Basketball-Reference.com), 1,801 different [NBA] players have combined for 210,842 regular-season dunks, and 1,259 out of 1,367 players (or 92%) who have played at least 1,000 minutes have dunked at least once."[6]

D. Men throw, hit, and kick faster and farther.

32. Strength, arm-length, and speed combine to give men a large advantage over women in throwing. This has been measured in a number of studies.

33. One study of elite male and female baseball pitchers showed that men throw baseballs 35% faster than women—81 miles/hour for men vs. 60 miles/hour for women. (Chu 2009.) By age 12, "boys' throwing velocity is already between 3.5 and 4 standard deviation units higher than the girls'." (Thomas 1985 at 276.) By age seventeen, the *average* male can throw a ball farther than 99% of seventeen-year-old females. (Lombardo 2018; Chu 2009; Thomas 1985 at 268.) Looking at publicly available data, Hilton & Lundberg found that in both baseball pitching and the field hockey "drag flick," the *record* ball speeds achieved by males are more than 50% higher than those achieved by females. (Hilton 2021 at 202-203.)

34. Men achieve serve speeds in tennis more that 15% faster than women; and likewise in golf achieve ball speeds off the tee more than 15% faster than women. (Hilton 2021 at 202.)

35. Males are able to throw a javelin more than 30% farther than females. (Lombardo 2018 Table 2; Hilton 2021 at 203.)

36. Men serve and spike volleyballs with higher velocity than women, with a performance advantage in the range of 29-34%. (Hilton 2021 at 204 Fig. 1.)

37. Men are also able to kick balls harder and faster. A study comparing collegiate soccer players found that males kick the ball with an average 20% greater velocity than females. (Sakamoto 2014.)

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[5] https://www.espn.com/wnba/story/_/id/32258450/2021-wnba-playoffs-brittney-griner-owns-wnba-dunking-record-coming-more.

[6] https://www.si.com/nba/2021/02/22/nba-non-dunkers-patty-mills-tj-mcconnell-steve-novak-daily-cover

E. Males exhibit faster reaction times.

38. Interestingly, men enjoy an additional advantage over women in reaction time–an attribute not obviously related to strength or metabolism (e.g. $V0_2max$). "Reaction time in sports is crucial in both simple situations such as the gun shot in sprinting and complex situations when a choice is required. In many team sports this is the foundation for tactical advantages which may eventually determine the outcome of a game." (Dogan 2009 at 92.) "Reaction times can be an important determinant of success in the 100m sprint, where medals are often decided by hundredths or even thousandths of a second." (Tønnessen 2013 at 885.)

39. The existence of a sex-linked difference in reaction times is consistent over a wide range of ages and athletic abilities. (Dykiert 2012.) Even by the age of 4 or 5, in a ruler-drop test, males have been shown to exhibit 4% to 6% faster reaction times than females. (Latorre-Roman 2018.) In high school athletes taking a common baseline "ImPACT" test, males showed 3% faster reaction times than females. (Mormile 2018.) Researchers have found a 6% male advantage in reaction times of both first-year medical students (Jain 2015) and world-class sprinters (Tønnessen 2013).

40. Most studies of reaction times use computerized tests which ask participants to hit a button on a keyboard or to say something in response to a stimulus. One study on NCAA athletes measured "reaction time" by a criterion perhaps more closely related to athletic performance–that is, how fast athletes covered 3.3 meters after a starting signal. Males covered the 3.3 meters 10% faster than females in response to a visual stimulus, and 16% faster than females in response to an auditory stimulus. (Spierer 2010.)

41. Researchers have speculated that sex-linked differences in brain structure, as well as estrogen receptors in the brain, may be the source of the observed male advantage in reaction times, but at present this remains a matter of speculation and hypothesis. (Mormile at 19; Spierer at 962.)

III. Men have large measured physiological differences compared to women which demonstrably or likely explain their performance advantages.

42. No single physiological characteristic alone accounts for all or any one of the measured advantages that men enjoy in athletic performance. However, scientists have identified and measured a number of physiological factors that contribute to superior male performance.

A. Men are taller and heavier than women

43. In some sports, such as basketball and volleyball, height itself provides competitive advantage. While some women are taller than some men, based on data from 20 countries in North America, Europe, East Asia, and Australia, the 50th percentile for body height for women is 164.7 cm (5 ft 5 inches) and the 50th percentile for body height for men is 178.4 cm (5 ft 10 inches). Helping to illustrate the inherent height difference between men and women, from the same data analysis, the 95th percentile for body height for women is 178.9 cm (5 feet 10.43 inches), which is only 0.5 cm taller than the 50th percentile for men (178.4 cm; 5 feet 10.24 inches), while the 95th percentile for body height for men is 193.6 cm (6 feet 4.22 inches). (Roser 2013.)

44. To look at a specific athletic population, an evaluation of NCAA Division 1 basketball players compared 68 male guards and 59 male forwards to 105 female guards and 91 female forwards, and found that on average the male guards were 187.4 ± 7.0 cm tall and weighed 85.2 ± 7.4 kg while the female guards were 171.6 ± 5.0 cm tall and weighed 68.0 ± 7.4 kg. The male forwards were 201.7 ± 4.0 cm tall and weighed 105.3 ± 5.9 kg while the female forwards were 183.5 ± 4.4 cm tall and weighed 82.2 ± 12.5 kg. (Fields 2018 at 3.)

B. Males have larger and longer bones, stronger bones, and different bone configuration.

45. Obviously, males on average have longer bones. "Sex differences in height have been the most thoroughly investigated measure of bone size, as adult height is a stable, easily quantified measure in large population samples. Extensive twin studies show that adult height is highly heritable with predominantly additive genetic effects that diverge in a sex-specific manner from the age of puberty onwards." (Handelsman 2018 at 818.) "Pubertal testosterone exposure leads to an ultimate average greater height in men of 12–15 centimeters, larger bones, greater muscle mass, increased strength and higher hemoglobin levels." (Gooren 2011 at 653.)

46. "Men have distinctively greater bone size, strength, and density than do women of the same age. As with muscle, sex differences in bone are absent prior to puberty but then accrue progressively from the onset of male puberty due to the sex difference in exposure to adult male circulating testosterone concentrations." (Handelsman 2018 at 818.)

47. "[O]n average men are 7% to 8% taller with longer, denser, and stronger bones, whereas women have shorter humerus and femur cross-sectional

areas being 65% to 75% and 85%, respectively, those of men." (Handelsman 2018 at 818.)

48. Greater height, leg, and arm length themselves provide obvious advantages in several sports. But male bone geometry also provides less obvious advantages. "The major effects of men's larger and stronger bones would be manifest via their taller stature as well as the larger fulcrum with greater leverage for muscular limb power exerted in jumping, throwing, or other explosive power activities." (Handelsman 2018 at 818.)

49. Male advantage in bone size is not limited to length, as larger bones provide the mechanical framework for larger muscle mass. "From puberty onwards, men have, on average, 10% more bone providing more surface area. The larger surface area of bone accommodates more skeletal muscle so, for example, men have broader shoulders allowing more muscle to build. This translates into 44% less upper body strength for women, providing men an advantage for sports like boxing, weightlifting and skiing. In similar fashion, muscle mass differences lead to decreased trunk and lower body strength by 64% and 72%, respectively in women. These differences in body strength can have a significant impact on athletic performance, and largely underwrite the significant differences in world record times and distances set by men and women." (Knox 2019 at 397.)

50. Meanwhile, distinctive aspects of the female pelvis geometry cut against athletic performance. "[T]he widening of the female pelvis during puberty, balancing the evolutionary demands of obstetrics and locomotion, retards the improvement in female physical performance." (Handelsman 2018 at 818.) "[T]he major female hormones, oestrogens, can have effects that disadvantage female athletic performance. For example, women have a wider pelvis changing the hip structure significantly between the sexes. Pelvis shape is established during puberty and is driven by oestrogen. The different angles resulting from the female pelvis leads to decreased joint rotation and muscle recruitment ultimately making them slower." (Knox 2019 at 397.)

51. There are even sex-based differences in foot size and shape. Wunderlich & Cavanaugh (2001) observed that a "foot length of 257 mm represents a value that is … approximately the 20th percentile men's foot lengths and the 80th percentile women's foot lengths." (607) and "For a man and a woman, both with statures of 170 cm (5 feet 7 inches), the man would have a foot that was approximately 5 mm longer and 2 mm wider than the woman." (608). Based on these, and other analyses, they conclude that "female feet and legs are not simply scaled-down versions of male feet but rather differ in a number of shape characteristics, particularly at the arch, the lateral side of the foot, the first toe, and the ball of the foot." (605) Further, Fessler et al. (2005) observed that "female foot length is consistently smaller than male foot length" (44) and concludes that

"proportionate foot length is smaller in women" (51) with an overall conclusion that "Our analyses of genetically disparate populations reveal a clear pattern of sexual dimorphism, with women consistently having smaller feet proportionate to stature than men." (53)

52. Beyond simple performance, the greater density and strength of male bones provide higher protection against stresses associated with extreme physical effort: "[S]tress fractures in athletes, mostly involving the legs, are more frequent in females, with the male protection attributable to their larger and thicker bones." (Handelsman 2018 at 818.)

C. Males have much larger muscle mass.

53. The fact that, on average, men have substantially larger muscles than women is as well known to common observation as men's greater height. But the male advantage in muscle size has also been extensively measured. The differential is large.

54. "On average, women have 50% to 60% of men's upper arm muscle cross-sectional area and 65% to 70% of men's thigh muscle cross-sectional area, and women have 50% to 60% of men's upper limb strength and 60% to 80% of men's leg strength. Young men have on average a skeletal muscle mass of >12 kg greater than age-matched women at any given body weight." (Handelsman 2018 at 812. See also Gooren 2011 at 653, Thibault 2010 at 214.)

55. "There is convincing evidence that the sex differences in muscle mass and strength are sufficient to account for the increased strength and aerobic performance of men compared with women and is in keeping with the differences in world records between the sexes." (Handelsman 2018 at 816.)

56. Once again, looking at specific and comparable populations of athletes, an evaluation of NCAA Division 1 basketball players consisting of 68 male guards and 59 male forwards, compared to 105 female guards and 91 female forwards, reported that on average the male guards had 77.7 ± 6.4 kg of fat free mass and 7.4 ± 3.1 kg fat mass while the female guards had 54.6 ± 4.4 kg fat free mass and 13.4 ± 5.4 kg fat mass. The male forwards had 89.5 ± 5.9 kg fat free mass and 15.9 ± 5.6 kg fat mass while the female forwards had 61.8 ± 5.9 kg fat free mass and 20.5 ± 7.7 kg fat mass. (Fields 2018 at 3.)

D. Females have a larger proportion of body fat.

57. While women have smaller muscles, they have proportionately more body fat, in general a negative for athletic performance. "Oestrogens also affect body

composition by influencing fat deposition. Women, on average, have higher percentage body fat, and this holds true even for highly trained healthy athletes (men 5%–10%, women 8%–15%). Fat is needed in women for normal reproduction and fertility, but it is not performance-enhancing. This means men with higher muscle mass and less body fat will normally be stronger kilogram for kilogram than women." (Knox 2019 at 397.)

58. "[E]lite females have more (<13 vs. <5 %) body fat than males. Indeed, much of the difference in [maximal oxygen uptake] between males and females disappears when it is expressed relative to lean body mass. . . . Males possess on average 7–9 % less percent body fat than females." (Lepers 2013 at 853.)

59. Knox et al. observe that both female pelvis shape and female body fat levels "disadvantage female athletes in sports in which speed, strength and recovery are important," (Knox 2019 at 397), while Tønnessen et al. describe the "ratio between muscular power and total body mass" as "critical" for athletic performance. (Tønnessen 2015 at 7.)

E. Males are able to metabolize and release energy to muscles at a higher rate due to larger heart and lung size, and higher hemoglobin concentrations.

60. While advantages in bone size, muscle size, and body fat are easily perceived and understood by laymen, scientists also measure and explain the male athletic advantage at a more abstract level through measurements of metabolism, or the ability to deliver energy to muscles throughout the body.

61. Energy release at the muscles depends centrally on the body's ability to deliver oxygen to the muscles, where it is essential to the complex chain of biochemical reactions that make energy available to power muscle fibers. Men have multiple distinctive physiological attributes that together give them a large advantage in oxygen delivery.

62. Oxygen is taken into the blood in the lungs. Men have greater capability to take in oxygen for multiple reasons. "**[L]ung capacity** [is] larger in men because of a lower diaphragm placement due to Y-chromosome genetic determinants." (Knox 2019 at 397.) Supporting larger lung capacity, men have "greater cross-sectional area of the trachea"; that is, they can simply move more air in and out of their lungs in a given time. (Hilton 2021 at 201.)

63. More, male lungs provide superior oxygen exchange even for a given volume: "The greater lung volume is complemented by testosterone-driven **enhanced alveolar multiplication** rate during the early years of life. Oxygen exchange takes place between the air we breathe and the bloodstream at the alveoli,

so more alveoli allows more oxygen to pass into the bloodstream. Therefore, the greater lung capacity allows more air to be inhaled with each breath. This is coupled with an improved uptake system allowing men to absorb more oxygen." (Knox 2019 at 397.)

64. "Once in the blood, oxygen is carried by haemoglobin. **Haemoglobin concentrations** are directly modulated by testosterone so men have higher levels and can carry more oxygen than women." (Knox 2019 at 397.) "It is well known that levels of circulating hemoglobin are androgen-dependent and consequently higher in men than in women by 12% on average…. Increasing the amount of hemoglobin in the blood has the biological effect of increasing oxygen transport from lungs to tissues, where the increased availability of oxygen enhances aerobic energy expenditure." (Handelsman 2018 at 816.) (See also Lepers 2013 at 853; Handelsman 2017 at 71.) "It may be estimated that as a result the average maximal oxygen transfer will be ~10% greater in men than in women, which has a direct impact on their respective athletic capacities." (Handelsman 2018 at 816.)

65. But the male metabolic advantage is further multiplied by the fact that men are also able to **circulate more blood per second** than are women. "Oxygenated blood is pumped to the active skeletal muscle by the heart. The left ventricle chamber of the heart is the reservoir from which blood is pumped to the body. The larger the left ventricle, the more blood it can hold, and therefore, the more blood can be pumped to the body with each heartbeat, a physiological parameter called 'stroke volume'.The female heart size is, on average, 85% that of a male resulting in the stroke volume of women being around 33% less." (Knox 2018 at 397.) Hilton cites different studies that make the same finding, reporting that men on average can pump 30% more blood through their circulatory system per minute ("cardiac output") than can women. (Hilton 2021 at 202.)

66. Finally, at the cell where the energy release is needed, men appear to have yet another advantage. "Additionally, there is experimental evidence that testosterone increases . . . **mitochondrial biogenesis**, myoglobin expression, and IGF-1 content, which may augment energetic and power generation of skeletal muscular activity." (Handelsman 2018 at 811.)

67. "Putting all of this together, men have a much more efficient cardiovascular and respiratory system." (Knox 2019 at 397.) A widely accepted measurement that reflects the combined effects of all these respiratory, cardiovascular, and metabolic advantages is referred to as "$V0_2max$," which refers to the maximum rate at which an individual can consume oxygen during aerobic

exercise.[7] Looking at 11 separate studies, including both trained and untrained individuals, Pate et al. concluded that men have a 50% higher $V0_2$max than women on average, and a 25% higher $V0_2$max in relation to body weight. (Pate 1984 at 92. See also Hilton 2021 at 202.)

IV. The role of testosterone in the development of male advantages in athletic performance.

68. The following tables of reference ranges for circulating testosterone in males and females are presented to help provide context for some of the subsequent information regarding athletic performance and physical fitness in children, youth, and adults, and regarding testosterone suppression in transwomen and athletic regulations. These data were obtained from the Mayo Clinic Laboratories (available at https://www.mayocliniclabs.com/test-catalog/overview/83686#Clinical-and-Interpretive, accessed January 14, 2022).

Reference ranges for serum testosterone concentrations in males and females.

Age	Males	Females
0 – 5 months	2.6 – 13.9 nmol/l	0.7 – 2.8 nmol/l
6 months – 9 years	0.2 – 0.7 nmol/l	0.2 – 0.7 nmol/l
10 – 11 years	0.2 – 4.5 nmol/l	0.2 – 1.5 nmol/l
12 -13 years	0.2 – 27.7 nmol/l	0.2 – 2.6 nmol/l
14 years	0.2 – 41.6 nmol/l	0.2 – 2.6 nmol/l
15 – 16 years	3.5 – 41.6 nmol/l	0.2 – 2.6 nmol/l
17 – 18 years	10.4 – 41.6 nmol/l	0.7 – 2.6 nmol/l
19 years and older	8.3 – 32.9 nmol/l	0.3 – 2.1 nmol/l

Please note that testosterone concentrations are sometimes expressed in units of ng/dl, and 1 nmol/l = 28.85 ng/dl.

69. Tanner Stages can be used to help evaluate the onset and progression of puberty and may be more helpful in evaluating normal testosterone concentrations than age in adolescents. "Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 years and for girls

[7] $V0_2$max is "based on hemoglobin concentration, total blood volume, maximal stroke volume, cardiac size/mass/compliance, skeletal muscle blood flow, capillary density, and mitochondrial content." International Statement, *The Role of Testosterone in Athletic Performance* (January 2019), available at https://law.duke.edu/sites/default/files/centers/sportslaw/Experts_T_Statement_2019.pdf.

at a median age of 10.5 years. . . . Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18." (https://www.mayocliniclabs.com/test-catalog/overview/83686#Clinical-and-Interpretive, accessed January 14, 2022).

Reference Ranges for serum testosterone concentrations by Tanner stage

Tanner Stage	Males	Females
I (prepubertal)	0.2 – 0.7 nmol/l	0.7 – 0.7 nmol/l
II	0.3 – 2.3 nmo/l	0.2 – 1.6 nmol/l
III	0.9 – 27.7 nmol/l	0.6 – 2.6 nmol/l
IV	2.9 – 41.6 nmol/l	0.7 – 2.6 nmol/l
V (young adult)	10.4 – 32.9 nmol/	0.4 – 2.1 nmol/l

70. Senefeld et al. (2020 at 99) state that "Data on testosterone levels in children and adolescents segregated by sex are scarce and based on convenience samples or assays with limited sensitivity and accuracy." They therefore "analyzed the timing of the onset and magnitude of the divergence in testosterone in youths aged 6 to 20 years by sex using a highly accurate assay" (isotope dilution liquid chromatography tandem mass spectrometry). Senefeld observed a significant difference beginning at age 11, which is to say about fifth grade.

Serum testosterone concentrations (nmol/L) in youths aged 6 to 20 years measured using isotope dilution liquid chromatography tandem mass spectrometry (Senefeld et al. ,2020, at 99)

	Boys			Girls		
Age (y)	5th	50th	95th	5th	50th	95th
6	0.0	0.1	0.2	0.0	0.1	0.2
7	0.0	0.1	0.2	0.0	0.1	0.3
8	0.0	0.1	0.3	0.0	0.1	0.3
9	0.0	0.1	0.3	0.1	0.2	0.6
10	0.1	0.2	2.6	0.1	0.3	0.9
11	0.1	0.5	11.3	0.2	0.5	1.3
12	0.3	3.6	17.2	0.2	0.7	1.4
13	0.6	9.2	21.5	0.3	0.8	1.5
14	2.2	11.9	24.2	0.3	0.8	1.6
15	4.9	13.2	25.8	0.4	0.8	1.8
16	5.2	14.9	24.1	0.4	0.9	2.0
17	7.6	15.4	27.0	0.5	1.0	2.0
18	9.2	16.3	25.5	0.4	0.9	2.1
19	8.1	17.2	27.9	0.4	0.9	2.3
20	6.5	17.9	29.9	0.4	1.0	3.4

A. Boys exhibit advantages in athletic performance even before puberty.

71. It is often said or assumed that boys enjoy no significant athletic advantage over girls before puberty. However, this is not true. Writing in their seminal work on the physiology of elite young female athletes, McManus and Armstrong (2011) reviewed the differences between boys and girls regarding bone density, body composition, cardiovascular function, metabolic function, and other physiologic factors that can influence athletic performance. They stated, "At birth, boys tend to have a greater lean mass than girls. This difference remains small but detectable throughout childhood with about a 10% greater lean mass in boys than girls prior to puberty." (28) "Sexual dimorphism underlies much of the physiologic response to exercise," and most importantly these authors concluded that, "Young girl athletes are not simply smaller, less muscular boys." (23)

72. Certainly, boys' physiological and performance advantages increase rapidly from the beginning of puberty until around age 17-19. But much data and multiple studies show that significant physiological differences, and significant male athletic performance advantages in certain areas, exist before significant developmental changes associated with male puberty have occurred.

73. Starting at birth, girls have more body fat and less fat-free mass than boys. Davis et al. (2019) in an evaluation of 602 infants reported that at birth and age 5 months, infant boys have larger total body mass, body length, and fat-free mass while having lower percent body fat than infant girls. In an evaluation of 20 boys and 20 girls ages 3-8 years old, matched for age, height, and body weight Taylor et al. (Taylor 1997) reported that the "boys had significantly less fat, a lower % body fat and a higher bone-free lean tissue mass than the girls" when "expressed as a percentage of the average fat mass of the boys", the girls' fat mass was 52% higher than the boys "…while the bone-free lean tissue mass was 9% lower" (at 1083.) In an evaluation of 376 prepubertal [Tanner Stage 1] boys and girls, Taylor et al. (2010) observed that the boys had 21.6% more lean mass, and 13% less body fat (when expressed as percent of total body mass) than did the girls. In a review of 22 peer reviewed publications on the topic, Staiano and Katzmarzyk (2012) conclude that "… girls have more T[otal]B[ody]F[at] than boys throughout childhood and adolescence. (at 4.)

74. In the seminal textbook, *Growth, Maturation, and Physical Activity*, Malina et al. (2004) present a summary of data from Gauthier et al. (1983) which present data from "a national sample of Canadian children and youth" demonstrating that from ages 7 to17, boys have a higher aerobic power output than do girls of the same ages when exercise intensity is measured using heart rate

(Malina at 242.) That is to say, that at a heart rate of 130 beats per minute, or 150, or 170, a 7 to 17 year old boy should be able to run, bike, or swim faster than a similarly aged girl.

75. Considerable data from school-based fitness testing exists showing that prepubertal boys outperform comparably aged girls in tests of muscular strength, muscular endurance, and running speed. These sex-based differences in physical fitness are relevant to the current issue of sex-based sports categories because, as stated by Lesinski et al. (2020), in an evaluation "of 703 male and female elite young athletes aged 8–18" (1) "fitness development precedes sports specialization" (2) and further observed that "males outperformed females in C[ounter]M[ovement]J[ump], D[rop]J[ump], C[hange]o[f]D[irection speed] performances and hand grip strength." (5).

76. Tambalis et al. (2016) states that "based on a large data set comprising 424,328 test performances" (736) using standing long jump to measure lower body explosive power, sit and reach to measure flexibility, timed 30 second sit ups to measure abdominal and hip flexor muscle endurance, 10 x 5 meter shuttle run to evaluate speed and agility, and multi-stage 20 meter shuttle run test to estimate aerobic performance (738). "For each of the fitness tests, performance was better in boys compared with girls ($p < 0.001$), except for the S[it and] R[each] test ($p < 0.001$)." (739) In order to illustrate that the findings of Tambalis (2016) are not unique to children in Greece, the authors state "Our findings are in accordance with recent studies from Latvia [ ] Portugal [ ] and Australia [Catley & Tomkinson (2013)]."(744).

77. The 20-m multistage fitness test is a commonly used maximal running aerobic fitness test used in the Eurofit Physical Fitness Test Battery and the FitnessGram Physical Fitness test. It is also known as the 20-meter shuttle run test, PACER test, or beep test (among other names; this is not the same test as the shuttle run in the Presidential Fitness Test). This test involves continuous running between two lines 20 meters apart in time to recorded beeps. The participants stand behind one of the lines facing the second line and begin running when instructed by the recording. The speed at the start is quite slow. The subject continues running between the two lines, turning when signaled by the recorded beeps. After about one minute, a sound indicates an increase in speed, and the beeps will be closer together. This continues each minute (level). If the line is reached before the beep sounds, the subject must wait until the beep sounds before continuing. If the line is not reached before the beep sounds, the subject is given a warning and must continue to run to the line, then turn and try to catch up with the pace within two more 'beeps'. The subject is given a warning the first time they fail to reach the line (within 2 meters) and eliminated after the second warning.

78. To illustrate the sex-based performance differences observed by Tambalis, I have prepared the following table showing the number of laps completed in the 20 m shuttle run for children ages 6-18 years for the low, middle, and top decile (Tambalis 2016 at 740 & 742), and have calculated the percent difference between the boys and girls using the same equation as Millard-Stafford (2018).

Performance difference between boys and girls ÷ Girls performance

Number of laps completed in the 20m shuttle run for children ages 6-18 years

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
6	4	14	31	4.0	12.0	26.0	0.0%	16.7%	19.2%
7	8	18	38	8.0	15.0	29.0	0.0%	20.0%	31.0%
8	9	23	47	9.0	18.0	34.0	0.0%	27.8%	38.2%
9	11	28	53	10.0	20.0	40.0	10.0%	40.0%	32.5%
10	12	31	58	11.0	23.0	43.0	9.1%	34.8%	34.9%
11	15	36	64	12.0	26.0	48.0	25.0%	38.5%	33.3%
12	15	39	69	12.0	26.0	49.0	25.0%	50.0%	40.8%
13	16	44	76	12.0	26.0	50.0	33.3%	69.2%	52.0%
14	19	50	85	12.0	26.0	50.0	58.3%	92.3%	70.0%
15	20	53	90	12.0	25.0	47.0	66.7%	112.0%	91.5%
16	20	54	90	11.0	24.0	45.0	81.8%	125.0%	100.0%
17	18	50	86	10.0	23.0	50.0	80.0%	117.4%	72.0%
18	13	48	87	8.0	23.0	39.5	62.5%	108.7%	120.3%

79. The Presidential Fitness Test was widely used in schools in the United States from the late 1950s until 2013 (when it was phased out in favor of the Presidential Youth Fitness Program and FitnessGram, both of which focus on health-related physical fitness and do not present data in percentiles). Students participating in the Presidential Fitness Test could receive "The National Physical Fitness Award" for performance equal to the 50th percentile in five areas of the fitness test, "while performance equal to the 85th percentile could receive the Presidential Physical Fitness Award." Tables presenting the 50th and 85th percentiles for the Presidential Fitness Test for males and females ages 6 – 17, and differences in performance between males and females, for curl-ups, shuttle run, 1 mile run, push-ups, and pull-ups appear in the Appendix.

80. For both the 50th percentile (The National Physical Fitness Award) and the 85th percentile (Presidential Physical Fitness Award), with the exception of curl-ups in 6-year-old children, boys outperform girls. The difference in pull-ups for the 85th percentile for ages 7 through 17 are particularly informative with boys

outperforming girls by 100% – 1200%, highlighting the advantages in upper body strength in males.

81. A very recent literature review commissioned by the five United Kingdom governmental Sport Councils concluded that while "[i]t is often assumed that children have similar physical capacity regardless of their sex, . . . large-scale data reports on children from the age of six show that young males have significant advantage in cardiovascular endurance, muscular strength, muscular endurance, speed/agility and power tests," although they "score lower on flexibility tests." (UK Sports Councils' Literature Review 2021 at 3.)

82. Hilton et al., also writing in 2021, reached the same conclusion: "An extensive review of fitness data from over 85,000 Australian children aged 9–17 years old showed that, compared with 9-year-old females, 9-year-old males were faster over short sprints (9.8%) and 1 mile (16.6%), could jump 9.5% further from a standing start (a test of explosive power), could complete 33% more push-ups in 30 [seconds] and had 13.8% stronger grip." (Hilton 2021 at 201, summarizing the findings of Catley & Tomkinson 2013.)

83. The following data are taken from Catley & Tomkinson (2013 at 101) showing the low, middle, and top decile for 1.6 km run (1.0 mile) run time for 11,423 girls and boys ages 9-17.

1.6 km run (1.0 mile) run time for 11,423 girls and boys ages 9-17

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
9	684	522	423	769.0	609.0	499.0	11.1%	14.3%	15.2%
10	666	511	420	759.0	600.0	494.0	12.3%	14.8%	15.0%
11	646	500	416	741.0	586.0	483.0	12.8%	14.7%	13.9%
12	621	485	408	726.0	575.0	474.0	14.5%	15.7%	13.9%
13	587	465	395	716.0	569.0	469.0	18.0%	18.3%	15.8%
14	556	446	382	711.0	567.0	468.0	21.8%	21.3%	18.4%
15	531	432	373	710.0	570.0	469.0	25.2%	24.2%	20.5%
16	514	423	366	710.0	573.0	471.0	27.6%	26.2%	22.3%
17	500	417	362	708.0	575.0	471.0	29.4%	27.5%	23.1%

84. Tomkinson et al. (2018) performed a similarly extensive analysis of literally millions of measurements of a variety of strength and agility metrics from the "Eurofit" test battery on children from 30 European countries. They provide detailed results for each metric, broken out by decile. Sampling the low, middle, and top decile, 9-year-old boys performed better than 9-year-old girls by between 6.5%

and 9.7% in the standing broad jump; from 11.4% to 16.1% better in handgrip; and from 45.5% to 49.7% better in the "bent-arm hang." (Tomkinson 2018.)

85. The Bent Arm Hang test is a measure of upper body muscular strength and endurance used in the Eurofit Physical Fitness Test Battery. To perform the Bent Arm Hang, the child is assisted into position with the body lifted to a height so that the chin is level with the horizontal bar (like a pull up bar). The bar is grasped with the palms facing away from body and the hands shoulder width apart. The timing starts when the child is released. The child then attempts to hold this position for as long as possible. Timing stops when the child's chin falls below the level of the bar, or the head is tilted backward to enable the chin to stay level with the bar.

86. Using data from Tomkinson (2018; table 7 at 1452), the following table sampling the low, middle, and top decile for bent arm hang for 9- to 17-year-old children can be constructed:

Bent Arm Hang time (in seconds) for children ages 9 - 17 years

	Male			Female			Male-Female % Difference		
	10th	50th	90th	10th	50th	90th	10th	50th	90th
Age	%ile	%ile	%ile	%ile	%ile	%ile	%ile	%ile	%ile
9	2.13	7.48	25.36	1.43	5.14	16.94	48.95%	45.53%	49.70%
10	2.25	7.92	26.62	1.42	5.15	17.06	58.45%	53.79%	56.04%
11	2.35	8.32	27.73	1.42	5.16	17.18	65.49%	61.24%	61.41%
12	2.48	8.79	28.99	1.41	5.17	17.22	75.89%	70.02%	68.35%
13	2.77	9.81	31.57	1.41	5.18	17.33	96.45%	89.38%	82.17%
14	3.67	12.70	38.39	1.40	5.23	17.83	162.14%	142.83%	115.31%
15	5.40	17.43	47.44	1.38	5.35	18.80	291.30%	225.79%	152.34%
16	7.39	21.75	53.13	1.38	5.63	20.57	435.51%	286.32%	158.29%
17	9.03	24.46	54.66	1.43	6.16	23.61	531.47%	297.08%	131.51%

87. Evaluating these data, a 9-year-old boy in the 50th percentile (that is to say a 9-year-old boy of average upper body muscular strength and endurance) will perform better in the bent arm hang test than 9 through 17-year-old girls in the 50th percentile. Similarly, a 9-year-old boy in the 90th percentile will perform better in the bent arm hang test than 9 through 17-year-old girls in the 90th percentile.

88. Using data from Tomkinson et al. (2017; table 1 at 1549), the following table sampling the low, middle, and top decile for running speed in the last stage of the 20 m shuttle run for 9- to 17-year-old children can be constructed.

20 m shuttle Running speed (km/h at the last completed stage)

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
9	8.94	10.03	11.13	8.82	9.72	10.61	1.36%	3.19%	4.90%
10	8.95	10.13	11.31	8.76	9.75	10.74	2.17%	3.90%	5.31%
11	8.97	10.25	11.53	8.72	9.78	10.85	2.87%	4.81%	6.27%
12	9.05	10.47	11.89	8.69	9.83	10.95	4.14%	6.51%	8.58%
13	9.18	10.73	12.29	8.69	9.86	11.03	5.64%	8.82%	11.42%
14	9.32	10.96	12.61	8.70	9.89	11.07	7.13%	10.82%	13.91%
15	9.42	11.13	12.84	8.70	9.91	11.11	8.28%	12.31%	15.57%
16	9.51	11.27	13.03	8.71	9.93	11.14	9.18%	13.49%	16.97%
17	9.60	11.41	13.23	8.72	9.96	11.09	10.09%	14.56%	19.30%

89. Evaluating these data, a 9-year-old boy in the 50th percentile (that is to say a 9-year-old boy of average running speed) will run faster in the final stage of the 20 m shuttle run than 9 through 17-year-old girls in the 50th percentile. Similarly, a 9-year-old boy in the 90th percentile will run faster in the final stage of the 20-m shuttle run than 9 through 15, and 17-year-old girls in the 90th percentile and will be 0.01 km/h (0.01%) slower than 16-year-old girls in the 90th percentile.

90. Just using these two examples for bent arm hang and 20-m shuttle running speed (Tomkinson 2107, Tomkinson 2018) based on large sample sizes (thus having tremendous statistical power) it becomes apparent that a 9-year-old boy will be very likely to outperform similarly trained girls of his own age and older in athletic events involving upper body muscle strength and/or running speed.

91. Another report published in 2014 analyzed physical fitness measurements of 10,302 children aged 6 -10.9 years of age, from the European countries of Sweden, Germany, Hungary, Italy, Cyprus, Spain, Belgium, and Estonia. (De Miguel-Etayo et al. 2014.) The authors observed "… that boys performed better than girls in speed, lower- and upper-limb strength and cardiorespiratory fitness." (57) The data showed that for children of comparable fitness (i.e. 99th percentile boys vs. 99th percentile girls, 50th percentile boys vs. 50th percentile girls, etc.) the boys outperform the girls at every age in measurements of handgrip strength, standing long jump, 20-m shuttle run, and predicted VO_2max (pages 63 and 64, respectively). For clarification, VO_2max is the maximal oxygen consumption, which correlates to 30-40% of success in endurance sports.

92. The standing long jump, also called the Broad Jump, is a common and easy to administer test of explosive leg power used in the Eurofit Physical Fitness Test Battery and in the NFL Combine. In the standing long jump, the participant stands behind a line marked on the ground with feet slightly apart. A two-foot take-

off and landing is used, with swinging of the arms and bending of the knees to provide forward drive. The participant attempts to jump as far as possible, landing on both feet without falling backwards. The measurement is taken from takeoff line to the nearest point of contact on the landing (back of the heels) with the best of three attempts being scored.

93. Using data from De Miguel-Etayo et al. (2014, table 3 at 61), which analyzed physical fitness measurements of 10,302 children aged 6 -10.9 years of age, from the European countries of Sweden, Germany, Hungary, Italy, Cyprus, Spain, Belgium, and Estonia, the following table sampling the low, middle, and top decile for standing long jump for 6- to 9-year-old children can be constructed:

Standing Broad Jump (cm) for children ages 6-9 years

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
6-<6.5	77.3	103.0	125.3	69.1	93.8	116.7	11.9%	9.8%	7.4%
6.5-<7	82.1	108.0	130.7	73.6	98.7	121.9	11.5%	9.4%	7.2%
7-<7.5	86.8	113.1	136.2	78.2	103.5	127.0	11.0%	9.3%	7.2%
7.5-<8	91.7	118.2	141.6	82.8	108.3	132.1	10.7%	9.1%	7.2%
8-<8.5	96.5	123.3	146.9	87.5	113.1	137.1	10.3%	9.0%	7.1%
8.5-<9	101.5	128.3	152.2	92.3	118.0	142.1	10.0%	8.7%	7.1%

94. Another study of Eurofit results for over 400,000 Greek children reported similar results. "[C]ompared with 6-year-old females, 6-year-old males completed 16.6% more shuttle runs in a given time and could jump 9.7% further from a standing position." (Hilton 2021 at 201, summarizing findings of Tambalis et al. 2016.)

95. Silverman (2011) gathered hand grip data, broken out by age and sex, from a number of studies. Looking only at the nine direct comparisons within individual studies tabulated by Silverman for children aged 7 or younger, in eight of these the boys had strength advantages of between 13 and 28 percent, with the remaining outlier recording only a 4% advantage for 7-year-old boys. (Silverman 2011 Table 1.)

96. To help illustrate the importance of one specific measure of physical fitness in athletic performance, Pocek (2021) stated that to be successful, volleyball "players should distinguish themselves, besides in skill level, in terms of above-average body height, upper and lower muscular power, speed, and agility. Vertical jump is a fundamental part of the spike, block, and serve." (8377) Pocek further stated that "relative vertical jumping ability is of great importance in volleyball regardless of the players' position, while absolute vertical jump values can differentiate players not only in terms of player position and performance level but in their career trajectories." (8382)

97. Using data from Ramírez-Vélez (2017; table 2 at 994) which analyzed vertical jump measurements of 7,614 healthy Colombian schoolchildren aged 9 -17.9 years of age the following table sampling the low, middle, and top decile for vertical jump can be constructed:

Vertical Jump Height (cm) for children ages 9 - 17 years

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
9	18.0	24.0	29.5	16.0	22.3	29.0	12.5%	7.6%	1.7%
10	19.5	25.0	32.0	18.0	24.0	29.5	8.3%	4.2%	8.5%
11	21.0	27.0	32.5	19.5	25.0	31.0	7.7%	8.0%	4.8%
12	22.0	27.5	34.5	20.0	25.5	31.5	10.0%	7.8%	9.5%
13	23.0	30.5	39.0	19.0	25.5	32.0	21.1%	19.6%	21.9%
14	23.5	32.0	41.5	20.0	25.5	32.5	17.5%	25.5%	27.7%
15	26.0	35.5	43.0	20.2	26.0	32.5	28.7%	36.5%	32.3%
16	28.0	36.5	45.1	20.5	26.5	33.0	36.6%	37.7%	36.7%
17	28.0	38.0	47.0	21.5	27.0	35.0	30.2%	40.7%	34.3%

98. Similarly, using data from Taylor (2010; table 2, at 869) which analyzed vertical jump measurements of 1,845 children aged 10 -15 years in primary and secondary schools in the East of England, the following table sampling the low, middle, and top decile for vertical jump can be constructed:

Vertical Jump Height (cm) for children 10 -15 years

	Male			Female			Male-Female % Difference		
Age	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
10	16.00	21.00	29.00	15.00	22.00	27.00	6.7%	-4.5%	7.4%
11	20.00	27.00	34.00	19.00	25.00	32.00	5.3%	8.0%	6.3%
12	23.00	30.00	37.00	21.00	27.00	33.00	9.5%	11.1%	12.1%
13	23.00	32.00	40.00	21.00	26.00	34.00	9.5%	23.1%	17.6%
14	26.00	36.00	44.00	21.00	28.00	34.00	23.8%	28.6%	29.4%
15	29.00	37.00	44.00	21.00	28.00	39.00	38.1%	32.1%	12.8%

99. As can be seen from the data from Ramírez-Vélez (2017) and Taylor (2010), males consistently outperform females of the same age and percentile in vertical jump height. Both sets of data show that an 11-year-old boy in the 90th percentile for vertical jump height will outperform girls in the 90th percentile at ages 11 and 12, and will be equal to girls at ages 13, 14, and possibly 15. These data indicate that an 11-year-old would be likely to have an advantage over girls of the same age and older in sports such as volleyball where "absolute vertical jump

values can differentiate players not only in terms of player position and performance level but in their career trajectories." (Pocek 2021 at 8382.)

100. Boys also enjoy an advantage in throwing well before puberty. "Boys exceed girls in throwing velocity by 1.5 standard deviation units as early as 4 to 7 years of age. . . The boys exceed the girls [in throwing distance] by 1.5 standard deviation units as early as 2 to 4 years of age." (Thomas 1985 at 266.) This means that the average 4- to 7-year-old boy can out-throw approximately 87% of all girls of his age.

101. Record data from USA Track & Field indicate that boys outperform girls in track events even in the youngest age group for whom records are kept (age 8 and under).[8]

American Youth Outdoor Track & Field Record times in age groups 8 and under (time in seconds)

Event	Boys	Girls	Difference
100M	13.65	13.78	0.95%
200M	27.32	28.21	3.26%
400M	62.48	66.10	5.79%
800M	148.59	158.11	6.41%
1500M	308.52	314.72	2.01%
Mean			3.68%

102. Looking at the best times within a single year shows a similar pattern of consistent advantage for even young boys. I consider the 2018 USATF Region 8 Junior Olympic Championships for the youngest age group (8 and under).[9]

2018 USATF Region 8 Junior Olympic Championships for the 8 and under age group

Event	Boys	Girls	Difference
100M	15.11	15.64	3.51%
200M	30.79	33.58	9.06%
400M	71.12	77.32	8.72%
800M	174.28	180.48	3.56%
1500M	351.43	382.47	8.83%
Mean			6.74%

[8] http://legacy.usatf.org/statistics/records/view.asp?division=american&location=outdoor%20track%20%26%20field&age=youth&sport=TF

[9] https://www.athletic.net/TrackAndField/meet/384619/results/m/1/100m

[9] https://www.athletic.net/CrossCountry/Division/List.aspx?DivID=62211

103. Using Athletic.net[9], for 2021 Cross Country and Track & Field data for boys and girls in the 7-8, 9-10, and 11-12 year old age group club reports, and for 5th, 6th, and 7th grade for the whole United States I have compiled the tables for 3000 m events, and for the 100-m, 200-m, 400-m, 800-m, 1600-m, 3000-m, long jump, and high jump Track and Field data to illustrate the differences in individual athletic performance between boys and girls, all of which appear in the Appendix. The pattern of males outperforming females was consistent across events, with rare anomalies, only varying in the magnitude of difference between males and females.

104. Similarly, using Athletic.net, for 2021 Track & Field data for boys and girls in the 6th grade for the state of West Virginia, I have compiled tables, which appear in the appendix, comparing the performance of boys and girls for the 100-m, 200-m, 400-m, 800-m, 1600-m, and 3200-m running events in which the 1st place boy was consistently faster than the 1st place girl, and the average performance of the top 10 boys was consistently faster than the average performance for the top 10 girls. Based on the finishing times for the 1st place boy and girl in the 6th grade in West Virginia 1600-m race, and extrapolating the running time to a running pace, the 1st place boy would be expected to finish 273 m in front of the 1st place girl, which is 2/3 of a lap on a standard 400-m track, or almost the length of 3 football fields. In comparison, the 1st place boy would finish 66 m in front of the 2nd place boy, and the 1st place girl would finish 20 m in front of the 2nd place girl.

Top 10 West Virginia boys and girls 6th grade outdoor track for 2021 (time in seconds)

	100 m			200 m			400 m		
	Boys	**Girls**		**Boys**	**Girls**		**Boys**	**Girls**	
1	13.18	14.00	Difference	26.97	29.28	Difference	60.04	65.50	Difference
2	13.94	14.19	between #1	29.38	30.05	between #1	60.48	67.51	between #1
3	14.07	14.47	boy and # 1	30.09	30.34	boy and # 1	66.26	68.60	boy and # 1
4	14.44	14.86	girl	30.10	30.73	girl	67.12	70.43	girl
5	14.46	14.92	5.9%	30.24	31.00	7.9%	68.28	71.09	8.3%
6	14.53	15.04		30.38	31.04		68.36	71.38	
7	14.75	15.04	Average	30.54	31.10	Average	69.65	73.61	Average
8	14.78	15.20	difference	30.69	31.10	difference	69.70	73.87	difference
			boys vs			boys vs			boys vs
9	14.84	15.25	girls	30.74	31.35	girls	69.76	74.07	girls
10	14.94	15.28	2.9%	30.99	31.64	2.4%	70.63	74.21	5.6%

	800 m			1600 m			3200 m		
	Boys	**Girls**		**Boys**	**Girls**		**Boys**	**Girls**	
1	147.2	164.5	Difference	305.5	357.8	Difference	678.4	776.6	Difference
2	147.9	166.1	between #1	318.1	361.6	between #1	750.0	809.8	between #1
3	152.1	167.2	boy and # 1	322.0	379.8	boy and # 1	763.3	811.0	boy and # 1
4	153.2	170.2	girl	336.0	385.2	girl	766.3	843.0	girl
5	155.3	171.0	10.6%	342.2	390.2	14.6%	771.7	850.6	12.7%
6	159.5	171.5		348.0	392.0		782.8	852.1	
7	159.9	174.8	Average	356.6	393.3	Average	794.1	858.0	Average
8	167.8	174.9	difference	357.5	395.7	difference	803.0	862.8	difference
			boys vs			boys vs			boys vs
9	169.2	175.9	girls	362.4	398.1	girls	812.1	869.9	girls
10	172.6	177.6	7.5%	366.0	403.2	11.5%	814.3	883.3	8.1%

105. As serious runners will recognize, differences of 3%, 5%, or 8% are not easily overcome. During track competition the difference between first and second place, or second and third place, or third and fourth place (and so on) is often 0.5 - 0.7%, with some contests being determined by as little as 0.01%.

106. I performed an analysis of running events (consisting of the 100-m, 200-m, 400-m, 800-m, 1500-m, 5000-m, and 10,000-m) in the Division 1, Division 2, and Division 3 NCAA Outdoor championships for the years of 2010-2019: the mean difference between 1st and 2nd place was 0.48% for men and 0.86% for women. The mean difference between 2nd and 3rd place was 0.46% for men and 0.57% for women. The mean difference between 3rd place and 4th place was 0.31% for men and 0.44% for women. The mean difference between 1st place and 8th place (the last place to earn the title of All American) was 2.65% for men and 3.77% for women. (Brown et al. Unpublished observations, to be presented at the 2022 Annual Meeting of the American College of Sports Medicine.)

107. A common response to empirical data showing pre-pubertal performance advantages in boys is the argument that the performance of boys may

represent a social–cultural bias for boys to be more physically active, rather than representing inherent sex-based differences in pre-pubertal physical fitness. However, the younger the age at which such differences are observed, and the more egalitarian the culture within which they are observed, the less plausible this hypothesis becomes. Eiberg et al. (2005) measured body composition, VO_2max, and physical activity in 366 Danish boys and 332 Danish girls between the ages of 6 and 7 years old. Their observations indicated that VO_2max was 11% higher in boys than girls. When expressed relative to body mass the boys' VO_2max was still 8% higher than the girls. The authors stated that "…no differences in haemoglobin or sex hormones[10] have been reported in this age group," yet "… when children with the same VO_2max were compared, boys were still more active, and in boys and girls with the same P[hysical] A[ctivity] level, boys were fitter." (728). These data indicate that in pre-pubertal children, in a very egalitarian culture regarding gender roles and gender norms, boys still have a measurable advantage in regards to aerobic fitness when known physiological and physical activity differences are accounted for.

108. And, as I have mentioned above, even by the age of 4 or 5, in a ruler-drop test, boys exhibit 4% to 6% faster reaction times than girls. (Latorre-Roman 2018.)

109. When looking at the data on testosterone concentrations previously presented, along with the data on physical fitness and athletic performance presented, boys have advantages in athletic performance and physical fitness before there are marked differences in testosterone concentrations between boys and girls.

110. For the most part, the data I review above relate to pre-pubertal children. Today, we also face the question of inclusion in female athletics of males who have undergone "puberty suppression." The UK Sport Councils Literature Review notes that, "In the UK, so-called 'puberty blockers' are generally not used until Tanner maturation stage 2-3 (i.e. after puberty has progressed into early sexual maturation)." (9.) While it is outside my expertise, my understanding is that current practice with regard to administration of puberty blockers is similar in the Unites States. Tanner stages 2 and 3 generally encompass an age range from 10 to 14 years old, with significant differences between individuals. Like the authors of the UK Sports Council Literature Review, I am "not aware of research" directly addressing the implications for athletic capability of the use of puberty blockers. (UK Sport Councils Literature Review at 9.) As Handelsman documents, the male advantage begins to increase rapidly–along with testosterone levels–at about age 11, or "very closely aligned to the timing of the onset of male puberty." (Handelsman 2017.) It seems likely that males who have undergone puberty suppression will

[10] This term would include testosterone and estrogens.

have physiological and performance advantages over females somewhere between those possessed by pre-pubertal boys, and those who have gone through full male puberty, with the degree of advantage in individual cases depending on that individual's development and the timing of the start of puberty blockade.

111. Tack et al. (2018) observed that in 21 transgender-identifying biological males, administration of antiandrogens for 5-31 months (commencing at 16.3 ± 1.21 years of age), resulted in nearly, but not completely, halting of normal age-related *increases* in muscle strength. Importantly, muscle strength did not decrease after administration of antiandrogens. Rather, despite antiandrogens, these individuals retained higher muscle mass, lower percent body fat, higher body mass, higher body height, and higher grip strength than comparable girls of the same age. (Supplemental tables).

112. Klaver et al. (2018 at 256) demonstrated that the use of puberty blockers did not eliminate the differences in lean body mass between biological male and female teenagers. Subsequent use of puberty blockers combined with cross-sex hormone use (in the same subjects) still did not eliminate the differences in lean body mass between biological male and female teenagers. Furthermore, by 22 years of age, the use of puberty blockers, and then puberty blockers combined with cross sex hormones, and then cross hormone therapy alone for over 8 total years of treatment still had not eliminated the difference in lean body mass between biological males and females.

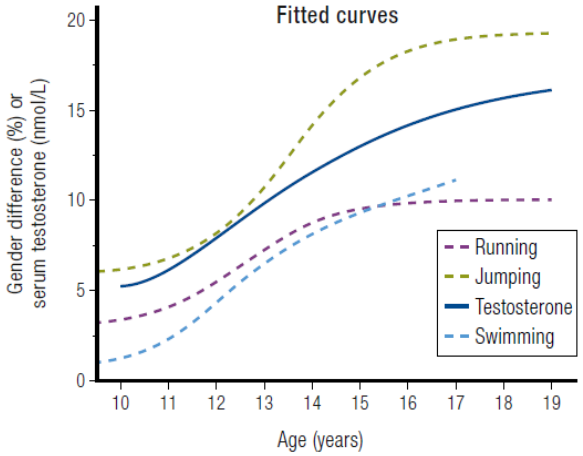
113. The effects of puberty blockers on growth and development, including muscle mass, fat mass, or other factors that influence athletic performance, have been minimally researched. Indeed, Klaver et al. (2018) is the only published research that I am aware of that has evaluated the use of puberty blockers on body composition. As stated by Roberts and Carswell (2021), "No published studies have fully characterized the impact of [puberty blockers on] final adult height or current height in an actively growing TGD youth." (1680). Likewise, "[n]o published literature provides guidance on how to best predict the final adult height for TGD youth receiving GnRHa and gender- affirming hormonal treatment." (1681). Thus, the effect of prescribing puberty blockers to a male child before the onset of puberty on the physical components of athletic performance is largely unknown. There is not any scientific evidence that such treatment eliminates the pre-existing performance advantages that prepubertal males have over prepubertal females.

B. The rapid increase in testosterone across male puberty drives characteristic male physiological changes and the increasing performance advantages.

114. While boys exhibit some performance advantage even before puberty, it is both true and well known to common experience that the male advantage

increases rapidly, and becomes much larger, as boys undergo puberty and become men. Empirically, this can be seen by contrasting the modest advantages reviewed immediately above against the large performance advantages enjoyed by men that I have detailed in Section II.

115. Multiple studies (along with common observation) document that the male performance advantage begins to increase during the early years of puberty, and then increases rapidly across the middle years of puberty (about ages 12-16). (Tønnessen 2015; Handelsman 2018 at 812-813.) Since it is well known that testosterone levels increase by more than an order of magnitude in boys across puberty, it is unsurprising that Handelsman finds that these increases in male performance advantage correlate to increasing testosterone levels, as presented in his chart reproduced below. (Handelsman 2018 at 812-13.)



116. Handelsman further finds that certain characteristic male changes including boys' increase in muscle mass do not begin at all until "circulating testosterone concentrations rise into the range of males at mid-puberty, which are higher than in women at any age." (Handelsman 2018 at 810.)

117. Knox et al. (2019) agree that "[i]t is well recognised that testosterone contributes to physiological factors including body composition, skeletal structure, and the cardiovascular and respiratory systems across the life span, with significant influence during the pubertal period. These physiological factors underpin strength, speed, and recovery with all three elements required to be competitive in almost all sports." (Knox 2019 at 397.) "High testosterone levels and prior male physiology provide an all-purpose benefit, and a substantial advantage. As the IAAF says, 'To the best of our knowledge, there is no other genetic or biological trait encountered in female athletics that confers such a huge performance advantage.'" (Knox 2019 at 399.)

118. However, the undisputed fact that high (that is, normal male) levels of testosterone drive the characteristically male physiological changes that occur across male puberty does not at all imply that artificially *depressing* testosterone levels after those changes occur will reverse all or most of those changes so as to eliminate the male athletic advantage. This is an empirical question. As it turns out, the answer is that while some normal male characteristics can be changed by means of testosterone suppression, others cannot be, and all the reliable evidence indicates that males retain large athletic advantages even after long-term testosterone suppression.

V. The available evidence shows that suppression of testosterone in a male after puberty has occurred does not substantially eliminate the male athletic advantage.

119. The 2011 "NCAA Policy on Transgender Student-Athlete Participation" requires only that males who identify as transgender be on unspecified and unquantified "testosterone suppression treatment" for "one calendar year" prior to competing in women's events. In supposed justification of this policy, the NCAA's Office of Inclusion asserts that, "It is also important to know that any strength and endurance advantages a transgender woman arguably may have as a result of her prior testosterone levels dissipate after about one year of estrogen or testosterone-suppression therapy." (NCAA 2011 at 8.)

120. Similarly, writing in 2018, Handelsman et al. could speculate that even though some male advantages established during puberty are "fixed and irreversible (bone size)," "[t]he limited available prospective evidence . . . suggests that the advantageous increases in muscle and hemoglobin due to male circulating testosterone concentrations are induced or reversed during the first 12 months." (Handelsman 2018 at 824.)

121. But these assertions or hypotheses of the NCAA and Handelsman are now strongly contradicted by the available science. In this section, I examine what is known about whether suppression of testosterone in males can eliminate the male physiological and performance advantages over females.

A. Empirical studies find that males retain a strong performance advantage even after lengthy testosterone suppression.

122. As my review in Section II indicates, a very large body of literature documents the large performance advantage enjoyed by males across a wide range of athletics. To date, only a limited number of studies have directly measured the effect of testosterone suppression and the administration of female hormones on the athletic performance of males. These studies report that testosterone suppression for a full year (and in some cases much longer) does not come close to eliminating

male advantage in strength (hand grip, leg strength, and arm strength) or running speed.

Hand Grip Strength

123. As I have noted, hand grip strength is a well-accepted proxy for general strength. Multiple separate studies, from separate groups, report that males retain a large advantage in hand strength even after testosterone suppression to female levels.

124. In a longitudinal study, Van Caenegem et al. reported that males who underwent standard testosterone suppression protocols lost only 7% hand strength after 12 months of treatment, and only a cumulative 9% after two years. (Van Caenegem 2015 at 42.) As I note above, on average men exhibit in the neighborhood of 60% greater hand grip strength than women, so these small decreases do not remotely eliminate that advantage. Van Caenegem et al. document that their sample of males who elected testosterone suppression began with less strength than a control male population. Nevertheless, after one year of suppression, their study population still had hand grip only 21% less than the control male population, and thus still far higher than a female population. (Van Caenegem 2015 at 42.)

125. Scharff et al. (2019) measured grip strength in a large cohort of male-to-female subjects from before the start of hormone therapy through one year of hormone therapy. The hormone therapy included suppression of testosterone to less than 2 nml/L "in the majority of the transwomen," (1024), as well as administration of estradiol (1021). These researchers observed a small decrease in grip strength in these subjects over that time (Fig. 2), but mean grip strength of this group remained far higher than mean grip strength of females—specifically, "After 12 months, the median grip strength of transwomen [male-to-female subjects] still falls in the 95th percentile for age-matched females." (1026).

126. Still a third longitudinal study, looking at teen males undergoing testosterone suppression, "noted no change in grip strength after hormonal treatment (average duration 11 months) of 21 transgender girls." (Hilton 2021 at 207, summarizing Tack 2018.)

127. In a fourth study, Lapauw et al. (2008) looked at the extreme case of testosterone suppression by studying a population of 23 biologically male individuals who had undergone at least two years of testosterone suppression, followed by sex reassignment surgery that included "orchidectomy" (that is, surgical castration), and then at least an additional three years before the study date. Comparing this group against a control of age- and height-matched healthy males, the researchers found that the individuals who had gone through testosterone suppression and then surgical castration had an average hand grip (41 kg) that was

24% weaker than the control group of healthy males. But this remains at least 25% *higher* than the average hand-grip strength of biological females as measured by Bohannon et al. (2019).

128. Summarizing these and a few other studies measuring strength loss (in most cases based on hand grip) following testosterone suppression, Harper et al. (2021) conclude that "strength loss with 12 months of [testosterone suppression] . . . ranged from non-significant to 7%. . . . [T]he small decrease in strength in transwomen after 12-36 months of [testosterone suppression] suggests that transwomen likely retain a strength advantage over cisgender women." (Hilton 2021 at 870.)

Arm Strength

129. Lapauw et al. (2008) found that 3 years after surgical castration, preceded by at least two years of testosterone suppression, biologically male subjects had 33% less bicep strength than healthy male controls. (Lapauw (2008) at 1018.) Given that healthy men exhibit between 89% and 109% greater arm strength than healthy women, this leaves a very large residual arm strength advantage over biological women.

130. Roberts et al. have recently published an interesting longitudinal study, one arm of which considered biological males who began testosterone suppression and cross-sex hormones while serving in the United States Air Force. (Roberts 2020.) One measured performance criterion was pushups per minute, which, while not exclusively, primarily tests arm strength under repetition. *Before* treatment, the biological male study subjects who underwent testosterone suppression could do 45% more pushups per minute than the average for all Air Force women under the age of 30 (47.3 vs. 32.5). *After* between one and two years of testosterone suppression, this group could still do 33% more pushups per minute. (Table 4.) Further, the body weight of the study group did not decline at all after one to two years of testosterone suppression (in fact rose slightly) (Table 3), and was approximately 24 pounds (11.0 kg) higher than the average for Air Force women under the age of 30. (Roberts 2020 at 3.) This means that the individuals who had undergone at least one year of testosterone suppression were not only doing 1/3 more pushups per minute, but were lifting significantly more weight with each pushup.

131. After two years of testosterone suppression, the study sample in Roberts et al. was only able to do 6% more pushups per minute than the Air Force female average. But their weight remained unchanged from their pre-treatment starting point, and thus about 24 pounds higher than the Air Force female average. As Roberts et al. explain, "as a group, transwomen weigh more than CW [cis-women]. Thus, transwomen will have a higher power output than CW when

performing an equivalent number of push-ups. Therefore, our study may underestimate the advantage in strength that transwomen have over CW." (Roberts 2020 at 4.)

Leg Strength

132. Wiik et al. (2020), in a longitudinal study that tracked 11 males from the start of testosterone suppression through 12 months after treatment initiation, found that isometric strength levels measured at the knee "were maintained over the [study period]."[11] (808) "At T12 [the conclusion of the one-year study], the absolute levels of strength and muscle volume were greater in [male-to-female subjects] than in . . . CW [women who had not undergone any hormonal therapy]." (Wiik 2020 at 808.) In fact, Wiik et al. reported that "muscle strength after 12 months of testosterone suppression was comparable to baseline strength. As a result, transgender women remained about 50% stronger than . . . a reference group of females." (Hilton 2021 at 207, summarizing Wiik 2020.)

133. Lapauw et al. (2008) found that 3 years after surgical castration, preceded by at least two years of testosterone suppression, subjects had peak knee torque only 25% lower than healthy male controls. (Lapauw 2008 at 1018.) Again, given that healthy males exhibit 54% greater maximum knee torque than healthy females, this leaves these individuals with a large average strength advantage over females even years after sex reassignment surgery.

Running speed

134. The most striking finding of the recent Roberts et al. study concerned running speed over a 1.5 mile distance–a distance that tests midrange endurance. Before suppression, the MtF study group ran 21% faster than the Air Force female average. After at least 2 year of testosterone suppression, these subjects still ran 12% faster than the Air Force female average. (Roberts 2020 Table 4.)

135. The specific experience of the well-known case of NCAA athlete Cece Telfer is consistent with the more statistically meaningful results of Roberts et al., further illustrating that male-to-female transgender treatment does not negate the inherent athletic performance advantages of a post-pubertal male. In 2016 and 2017 Cece Telfer competed as Craig Telfer on the Franklin Pierce University men's track team, being ranked 200th and 390th (respectively) against other NCAA Division 2 men. "Craig" Telfer did not qualify for the National Championships in any events. Telfer did not compete in the 2018 season while undergoing testosterone

[11] Isometric strength measures muscular force production for a given amount of time at a specific joint angle but with no joint movement.

suppression (per NCAA policy). In 2019 Cece Telfer competed on the Franklin Pierce University *women's* team, qualified for the NCAA Division 2 Track and Field National Championships, and placed 1st in the women's 400 meter hurdles and placed third in the women's 100 meter hurdles. (For examples of the media coverage of this please see https://www.washingtontimes.com/news/2019/jun/3/cece-telfer-franklin-pierce-transgenderhurdler-wi/ last accessed May 29, 2020. https://www.newshub.co.nz/home/sport/2019/06/athletics-transgender-woman-cece-telfer-whopreviously-competed-as-a-man-wins-ncaa-track-championship.html (last accessed May 29, 2020.)

136. The table below shows the best collegiate performance times from the combined 2015 and 2016 seasons for Cece Telfer when competing as a man in men's events, and the best collegiate performance times from the 2019 season when competing as a woman in women's events. Comparing the times for the running events (in which male and female athletes run the same distance) there is no statistical difference between Telfer's "before and after" times. Calculating the difference in time between the male and female times, Telfer performed an average of 0.22% *faster* as a female. (Comparing the performance for the hurdle events (marked with H) is of questionable validity due to differences between men's and women's events in hurdle heights and spacing, and distance for the 110m vs. 100 m.) While this is simply one example, and does not represent a controlled experimental analysis, this information provides some evidence that male-to-female transgender treatment does not negate the inherent athletic performance advantages of a postpubertal male. (These times were obtained from https://www.tfrrs.org/athletes/6994616/Franklin_Pierce/CeCe_Telfer.html and https://www.tfrrs.org/athletes/5108308.html, last accessed May 29, 2020).

As Craig Telfer (male athlete)		**As Cece Telfer (female athlete)**	
Event	Time (seconds)	Event	Time (seconds)
55	7.01	55	7.02
60	7.67	60	7.63
100	12.17	100	12.24
200	24.03	200	24.30
400	55.77	400	54.41
55 H †	7.98	55 H†	7.91
60 H †	8.52	60 H†	8.33
110 H†	15.17	100 H†	13.41*
400 H‡	57.34	400 H‡	57.53**

* women's 3rd place, NCAA Division 2 National Championships
** women's 1st place, NCAA Division 2 National Championships
† men's hurdle height is 42 inches with differences in hurdle spacing between men and women
‡ men's hurdle height is 36 inches, women's height is 30 inches with the same spacing between hurdles

137. Similarly, University of Pennsylvania swimmer Lia Thomas began competing in the women's division in the fall of 2021, after previously competing for U. Penn. in the men's division. Thomas has promptly set school, pool, and/or league women's records in 200 yard freestyle, 500 yard freestyle, and 1650 yard freestyle competitions, beating the nearest female in the 1650 yard by an unheard-of 38 seconds.

138. In a pre-peer review article, Senefeld, Coleman, Hunter, and Joyner (doi: https://doi.org/10.1101/2021.12.28.21268483, accessed January 12, 2022) "compared the gender-related differences in performance of a transgender swimmer who competed in both the male and female NCAA (collegiate) categories to the sex-related differences in performance of world and national class swimmers" and observed that this athlete [presumably Lia Thomas based on performance times and the timing of this article] was unranked in 2018-2019 in the 100-yard, ranked 551st in the 200-yard, 65th in the 500-yard 32nd in the 1650-yards men's freestyle. After following the NCAA protocol for testosterone suppression and competing as a woman in 2021-2022, this swimmer was ranked 94th in the 100-yard, 1st in the 200-yard, 1st in the 500-yard, and 6th in the 1650-yard women's freestyle. The performance times swimming as a female, when compared to swimming as a male, were 4.6% slower in the 100-yard, 2.6% slower in the 200-yard, 5.6% slower in the 500-yard, and 6.8% slower in the 1650-yard events than when swimming as a male. *It is important to note that these are mid-season race times and do not represent season best performance times or in a championship event where athletes often set their personal record times*. The authors concluded "…that for middle distance events (100, 200 and 400m or their imperial equivalents) lasting between about one and five minutes, the decrements in performance of the transgender woman swimmer are less than expected on the basis of a comparison of a large cohort of world and national class performances by female and male swimmers" and "it is possible that the relative improvements in this swimmer's rankings in the women's category relative to the men's category are due to legacy effects of testosterone on a number of physiological factors that can influence athletic performance."

139. Harper (2015) has often been cited as "proving" that testosterone suppression eliminates male advantage. And indeed, hedged with many disclaimers, the author in that article does more or less make that claim with respect to "distance races," while emphasizing that "the author makes no claims as to the equality of performances, pre and post gender transition, in any other sport." (Harper 2015 at 8.) However, Harper (2015) is in effect a collection of unverified anecdotes, not science. It is built around self-reported race times from just eight self-selected transgender runners, recruited "mostly" online. How and on what websites the subjects were recruited is not disclosed, nor is anything said about how those not recruited online were recruited. Thus, there is no information to tell us whether these eight runners could in any way be representative, and the

recruitment pools and methodology, which could bear on ideological bias in their self-reports, is not disclosed.

140. Further, the self-reported race times relied on by Harper (2015) *span 29 years*. It is well known that self-reported data, particularly concerning emotionally or ideologically fraught topics, is unreliable, and likewise that memory of distant events is unreliable. Whether the subjects were responding from memory or from written records, and if so what records, is not disclosed, and does not appear to be known to the author. For six of the subjects, the author claims to have been able to verify "approximately half" of the self-reported times. Which scores these are is not disclosed. The other two subjects responded only anonymously, so nothing about their claims could be or was verified. In short, neither the author nor the reader knows whether the supposed "facts" on which the paper's analysis is based are true.

141. Even if we could accept them at face value, the data are largely meaningless. Only two of the eight study subjects reported (undefined) "stable training patterns," and even with consistent training, athletic performance generally declines with age. As a result, when the few data points span 29 years, it is not possible to attribute declines in performance to asserted testosterone suppression. Further, distance running is usually not on a track, and race times vary significantly depending on the course and the weather. Only one reporting subject who claimed a "stable training pattern" reported "before and after" times on the same course within three years' time," which the author acknowledges would "represent the best comparison points."

142. Harper (2015) to some extent acknowledges its profound methodological flaws, but seeks to excuse them by the difficulty of breaking new ground. The author states that, "The first problem is how to formulate a study to create a meaningful measurement of athletic performance, both before and after testosterone suppression. No methodology has been previously devised to make meaningful measurements." (2) This statement was not accurate at the time of publication, as there are innumerable publications with validated methodology for comparing physical fitness and/or athletic performance between people of different ages, sexes, and before and after medical treatment, any of which could easily have been used with minimal or no adaptation for the purposes of this study. Indeed, well before the publication of Harper (2015), several authors that I have cited in this review had performed and published disciplined and methodologically reliable studies of physical performance and physiological attributes "before and after" testosterone suppression.

143. More recently, and to her credit, Harper has acknowledged the finding of Roberts (2020) regarding the durable male advantage in running speed in the 1.5 mile distance, even after two years of testosterone suppression. She joins with co-

authors in acknowledging that this study of individuals who (due to Air Force physical fitness requirements) "could at least be considered exercise trained," agrees that Roberts' data shows that "transwomen ran significantly faster during the 1.5 mile fitness test than ciswomen," and declares that this result is "consistent with the findings of the current review in untrained transgender individuals" that even 30 months of testosterone suppression does not eliminate all male advantages "associated with muscle endurance and performance." (Harper 2021 at 8.) The Harper (2021) authors conclude overall "that strength may be well preserved in transwomen during the first 3 years of hormone therapy," and that [w]hether transgender and cisgender women can engage in meaningful sport [in competition with each other], even after [testosterone suppression], is a highly debated question." (Harper 2021 at 1, 8.)

144. Higerd (2021) "[a]ssess[ed] the probability of a girls' champion being biologically male" by evaluating 920,11 American high school track and field performances available through the track and field database Athletic.net in five states (CA, FL, MN, NY, WA), over three years (2017 – 2019),in eight events; high jump, long jump, 100M, 200M, 400M, 800M, 1600M, and 3200M and estimated that "there is a simulated 81%-98% probability of transgender dominance occurring in the female track and field event" and further concluded that "in the majority of cases, the entire podium (top of the state) would be MTF [transgender athletes]" (at xii).

B. Testosterone suppression does not reverse important male physiological advantages.

145. We see that, once a male has gone through male puberty, later testosterone suppression (or even castration) leaves large strength and performance advantages over females in place. It is not surprising that this is so. What is now a fairly extensive body of literature has documented that many of the specific male physiological advantages that I reviewed in Section II are not reversed by testosterone suppression after puberty, or are reduced only modestly, leaving a large advantage over female norms still in place.

146. Handelsman has well documented that the large increases in physiological and performance advantages characteristic of men develop in tandem with, and are likely driven by, the rapid and large increases in circulating testosterone levels that males experience across puberty, or generally between the ages of about 12 through 18. (Handelsman 2018.) Some have misinterpreted Handelsman as suggesting that all of those advantages are and remain entirely dependent–on an ongoing basis–on *current* circulating testosterone levels. This is a misreading of Handelsman, who makes no such claim. As the studies reviewed above demonstrate, it is also empirically false with respect to multiple measures of

performance. Indeed, Handelsman himself, referring to the Roberts et al. (2020) study which I describe below, has recently written that "transwomen treated with estrogens after completing male puberty experienced only minimal declines in physical performance over 12 months, substantially surpassing average female performance for up to 8 years." (Handelsman 2020.)

147. As to individual physiological advantages, the more accurate and more complicated reality is reflected in a statement titled "The Role of Testosterone in Athletic Performance," published in 2019 by several dozen sports medicine experts and physicians from many top medical schools and hospitals in the U.S. and around the world. (Levine et al. 2019.) This expert group concurs with Handelsman regarding the importance of testosterone to the male advantage, but recognizes that those advantages depend not only on *current* circulating testosterone levels in the individual, but on the "exposure in biological males to much higher levels of testosterone during growth, development, and throughout the athletic career." (*Emphasis added*.) In other words, both past and current circulating testosterone levels affect physiology and athletic capability.

148. Available research enables us to sort out, in some detail, which specific physiological advantages are immutable once they occur, which can be reversed only in part, and which appear to be highly responsive to later hormonal manipulation. The bottom line is that very few of the male physiological advantages I have reviewed in Section II above are largely reversible by testosterone suppression once an individual has passed through male puberty.

Skeletal Configuration

149. It is obvious that some of the physiological changes that occur during "growth and development" across puberty cannot be reversed. Some of these irreversible physiological changes are quite evident in photographs that have recently appeared in the news of transgender competitors in female events. These include skeletal configuration advantages including:

- Longer and larger bones that give height, weight, and leverage advantages to men;
- More advantageous hip shape and configuration as compared to women.

Cardiovascular Advantages

150. Developmental changes for which there is no apparent means of reversal, and no literature suggesting reversibility, also include multiple

contributors to the male cardiovascular advantage, including diaphragm placement, lung and trachea size, and heart size and therefore pumping capacity.[12]

151. On the other hand, the evidence is mixed as to hemoglobin concentration, which as discussed above is a contributing factor to $V0_2$ max. Harper (2021) surveyed the literature and found that "Nine studies reported the levels of Hgb [hemoglobin] or HCT [red blood cell count] in transwomen before and after [testosterone suppression], from a minimum of three to a maximum of 36 months post hormone therapy. Eight of these studies. . . found that hormone therapy led to a significant (4.6%–14.0%) decrease in Hgb/HCT ($p<0.01$), while one study found no significant difference after 6 months," but only one of those eight studies returned results at the generally accepted 95% confidence level. (Harper 2021 at 5-6 and Table 5.)

152. I have not found any study of the effect of testosterone suppression on the male advantage in mitochondrial biogenesis.

Muscle mass

153. Multiple studies have found that muscle mass decreases modestly or not at all in response to testosterone suppression. Knox et al. report that "healthy young men did not lose significant muscle mass (or power) when their circulating testosterone levels were reduced to 8.8 nmol/L (lower than the 2015 IOC guideline of 10 nmol/L) for 20 weeks." (Knox 2019 at 398.) Gooren found that "[i]n spite of muscle surface area reduction induced by androgen deprivation, after 1 year the mean muscle surface area in male-to- female transsexuals remained significantly greater than in untreated female-to-male transsexuals." (Gooren 2011 at 653.) An earlier study by Gooren found that after one year of testosterone suppression, muscle mass at the thigh was reduced by only about 10%, exhibited "no further reduction after 3 years of hormones," and "remained significantly greater" than in his sample of untreated women. (Gooren 2004 at 426-427.) Van Caenegem et al. found that muscle cross section in the calf and forearm decreased only trivially (4% and 1% respectively) after two years of testosterone suppression. (Van Caenegem 2015 Table 4.)

154. Taking measurements one month after start of testosterone suppression in male-to-female (non-athlete) subjects, and again 3 and 11 months after start of feminizing hormone replacement therapy in these subjects, Wiik et al.

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[12] "[H]ormone therapy will not alter … lung volume or heart size of the transwoman athlete, especially if [that athlete] transitions postpuberty, so natural advantages including joint articulation, stroke volume and maximal oxygen uptake will be maintained." (Knox 2019 at 398.)

found that total lean tissue (i.e. primarily muscle) did not decrease significantly across the entire period. Indeed, "some of the [subjects] did not lose any muscle mass at all." (Wiik 2020 at 812.) And even though they observed a small decrease in thigh muscle mass, they found that isometric strength levels measured at the knee "were maintained over the [study period]." (808) "At T12 [the conclusion of the one-year study], the absolute levels of strength and muscle volume were greater in [male-to-female subjects] than in [female-to-male subjects] and CW [women who had not undergone any hormonal therapy]." (808)

155. Hilton & Lundberg summarize an extensive survey of the literature as follows:

> "12 longitudinal studies have examined the effects of testosterone suppression on lean body mass or muscle size in transgender women. The collective evidence from these studies suggests that 12 months, which is the most commonly examined intervention period, of testosterone suppression to female typical reference levels results in a modest (approximately− 5%) loss of lean body mass or muscle size. . . .
>
> "Thus, given the large baseline differences in muscle mass between males and females (Table 1; approximately 40%), the reduction achieved by 12 months of testosterone suppression can reasonably be assessed as small relative to the initial superior mass. We, therefore, conclude that the muscle mass advantage males possess over females, and the performance implications thereof, are not removed by the currently studied durations (4 months, 1, 2 and 3 years) of testosterone suppression in transgender women. (Hilton 2021 at 205-207.)

156. When we recall that "women have 50% to 60% of men's upper arm muscle cross-sectional area and 65% to 70% of men's thigh muscle cross-sectional area" (Handelsman 2018 at 812), it is clear that Hilton's conclusion is correct. In other words, biologically male subjects possess substantially larger muscles than biologically female subjects after undergoing a year or even three years of testosterone suppression.

157. I note that outside the context of transgender athletes, the testosterone-driven increase in muscle mass and strength enjoyed by these male-to-female subjects would constitute a disqualifying doping violation under all league anti-doping rules with which I am familiar.

C. Responsible voices internationally are increasingly recognizing that suppression of testosterone in a male after puberty has occurred does not substantially reverse the male athletic advantage.

158. The previous very permissive NCAA policy governing transgender participation in women's collegiate athletics was adopted in 2011, and the previous IOC guidelines were adopted in 2015. At those dates, much of the scientific analysis of the actual impact of testosterone suppression had not yet been performed, much less any wider synthesis of that science. In fact, a series of important peer-reviewed studies and literature reviews have been published only very recently, since I prepared my first paper on this topic, in early 2020.

159. These new scientific publications reflect a remarkably consistent consensus: once an individual has gone through male puberty, testosterone suppression does not substantially eliminate the physiological and performance advantages that that individual enjoys over female competitors.

160. Importantly, I have found no peer-reviewed scientific paper, nor any respected scientific voice, that is now asserting the contrary–that is, that testosterone suppression can eliminate or even largely eliminate the male biological advantage once puberty has occurred.

161. I excerpt the key conclusions from important recent peer-reviewed papers below.

162. Roberts 2020: "In this study, we confirmed that . . . the pretreatment differences between transgender and cis gender women persist beyond the 12-month time requirement currently being proposed for athletic competition by the World Athletics and the IOC." (6)

163. Wiik 2020: The muscular and strength changes in males undergoing testosterone suppression "were modest. The question of when it is fair to permit a transgender woman to compete in sport in line with her experienced gender identity is challenging." (812)

164. Harper 2021: "[V]alues for strength, LBM [lean body mass], and muscle area in transwomen remain above those of cisgender women, even after 36 months of hormone therapy." (1)

165. Hilton & Lundberg 2021: "evidence for loss of the male performance advantage, established by testosterone at puberty and translating in elite athletes to a 10–50% performance advantage, is lacking. . . . These data significantly

undermine the delivery of fairness and safety presumed by the criteria set out in transgender inclusion policies . . .” (211)

166. Hamilton et al. 2020, “Response to the United Nations Human Rights Council’s Report on Race and Gender Discrimination in Sport: An Expression of Concern and a Call to Prioritize Research”: “There is growing support for the idea that development influenced by high testosterone levels may result in retained anatomical and physiological advantages . . . . If a biologically male athlete self-identifies as a female, legitimately with a diagnosis of gender dysphoria or illegitimately to win medals, the athlete already possesses a physiological advantage that undermines fairness and safety. This is not equitable, nor consistent with the fundamental principles of the Olympic Charter.”

167. Hamilton et al. 2021, “Consensus Statement of the Fédération Internationale de Médecine du Sport” (International Federation of Sports Medicine, or FIMS), signed by more than 60 sports medicine experts from prestigious institutions around the world: The available studies “make it difficult to suggest that the athletic capabilities of transwomen individuals undergoing HRT or GAS are comparable to those of cisgender women.” The findings of Roberts et al. “question the required testosterone suppression time of 12 months for transwomen to be eligible to compete in women’s sport, as most advantages over ciswomen were not negated after 12 months of HRT.”

168. Outside the forum of peer-reviewed journals, respected voices in sport are reaching the same conclusion.

169. The **Women’s Sports Policy Working Group** identifies among its members and “supporters” many women Olympic medalists, former women’s tennis champion and LGBTQ activist Martina Navratilova, Professor Doriane Coleman, a former All-American women’s track competitor, transgender athletes Joanna Harper and Dr. Renee Richards, and many other leaders in women’s sports and civil rights. I have referenced other published work of Joanna Harper and Professor Coleman. In early 2021 the Women’s Sports Policy Working Group published a “Briefing Book” on the issue of transgender participation in women’s sports,[13] in which they reviewed largely the same body of literature I have reviewed above, and analyzed the implications of that science for fairness and safety in women’s sports.

170. Among other things, the Women’s Sports Policy Working Group concluded:

[13] https://womenssportspolicy.org/wp-content/uploads/2021/02/Congressional-Briefing-WSPWG-Transgender-Women-Sports-2.27.21.pdf

- "[T]he evidence is increasingly clear that hormones do not eliminate the legacy advantages associated with male physical development" (8) due to "the considerable size and strength advantages that remain even after hormone treatments or surgical procedures." (17)

- "[T]here is convincing evidence that, depending on the task, skill, sport, or event, trans women maintain male sex-linked (legacy) advantages even after a year on standard gender-affirming hormone treatment." (26, citing Roberts 2020.)

- "[S]everal peer-reviewed studies, including one based on data from the U.S. military, have confirmed that trans women retain their male sex-linked advantages even after a year on gender affirming hormones. . . . Because of these retained advantages, USA Powerlifting and World Rugby have recently concluded that it isn't possible fairly and safely to include trans women in women's competition." (32)

171. As has been widely reported, in 2020, after an extensive scientific consultation process, the **World Rugby** organization issued its Transgender Guidelines, finding that it would not be consistent with fairness or safety to permit biological males to compete in World Rugby women's matches, no matter what hormonal or surgical procedures they might have undergone. Based on their review of the science, World Rugby concluded:

- "Current policies regulating the inclusion of transgender women in sport are based on the premise that reducing testosterone to levels found in biological females is sufficient to remove many of the biologically-based performance advantages described above. However, peer-reviewed evidence suggests that this is not the case."

- "Longitudinal research studies on the effect of reducing testosterone to female levels for periods of 12 months or more do not support the contention that variables such as mass, lean mass and strength are altered meaningfully in comparison to the original male-female differences in these variables. The lowering of testosterone removes only a small proportion of the documented biological differences, with large, retained advantages in these physiological attributes, with the safety and performance implications described previously."

- ". . . given the size of the biological differences prior to testosterone suppression, this comparatively small effect of testosterone reduction allows substantial and meaningful differences to remain. This has significant implications for the risk of injury . . . ."

- " . . . bone mass is typically maintained in transgender women over the course of at least 24 months of testosterone suppression, ... Height and other skeletal measurements such as bone length and hip width have also not been shown to change with testosterone suppression, and nor is there any plausible biological mechanism by which this might occur, and so sporting advantages due to skeletal differences between males and females appear unlikely to change with testosterone reduction.

172. In September 2021 the government-commissioned Sports Councils of the United Kingdom and its subsidiary parts (the five Sports Councils responsible for supporting and investing in sport across England, Wales, Scotland and Northern Ireland) issued a formal "Guidance for Transgender Inclusion in Domestic Sport" (UK Sport Councils 2021), following an extensive consultation process, and a commissioned "International Research Literature Review" prepared by the Carbmill Consulting group (UK Sport Literature Review 2021). The UK Sport Literature Review identified largely the same relevant literature that I review in this paper, characterizes that literature consistently with my own reading and description, and based on that science reaches conclusions similar to mine.

173. The UK Sport Literature Review 2021 concluded:

- "Sexual dimorphism in relation to sport is significant and the most important determinant of sporting capacity. The challenge to sporting bodies is most evident in the inclusion of transgender people in female sport." "[The] evidence suggests that parity in physical performance in relation to gender-affected sport cannot be achieved for transgender people in female sport through testosterone suppression. Theoretical estimation in contact and collision sport indicate injury risk is likely to be increased for female competitors." (10)

- "From the synthesis of current research, the understanding is that testosterone suppression for the mandated one year before competition will result in little or no change to the anatomical differences between the sexes, and a more complete reversal of some acute phase metabolic pathways such as haemoglobin levels although the impact on running performance appears limited, and a modest change in muscle mass and strength: The average of around 5% loss of muscle mass and strength will not reverse the average 40-50% difference in strength that typically exists between the two sexes." (7)

- "These findings are at odds with the accepted intention of current policy in sport, in which twelve months of testosterone suppression is

expected to create equivalence between transgender women and females." (7)

174. Taking into account the science detailed in the UK Sport Literature Review 2021, the UK Sports Councils have concluded:

- "[T]he latest research, evidence and studies made clear that there are retained differences in strength, stamina and physique between the average woman compared with the average transgender woman or non-binary person registered male at birth, with or without testosterone suppression." (3)

- "Competitive fairness cannot be reconciled with self-identification into the female category in gender-affected sport." (7)

- "As a result of what the review found, the Guidance concludes that the inclusion of transgender people into female sport cannot be balanced regarding transgender inclusion, fairness and safety in gender-affected sport where there is meaningful competition. This is due to retained differences in strength, stamina and physique between the average woman compared with the average transgender woman or non-binary person assigned male at birth, with or without testosterone suppression." (6)

- "Based upon current evidence, testosterone suppression is unlikely to guarantee fairness between transgender women and natal females in gender-affected sports. . . . Transgender women are on average likely to retain physical advantage in terms of physique, stamina, and strength. Such physical differences will also impact safety parameters in sports which are combat, collision or contact in nature." (7)

175. On January 15, 2022 the American Swimming Coaches Association (ASCA) issued a statement stating, "The American Swimming Coaches Association urges the NCAA and all governing bodies to work quickly to update their policies and rules to maintain fair competition in the women's category of swimming. ASCA supports following all available science and evidenced-based research in setting the new policies, and we strongly advocate for more research to be conducted" and further stated "The current NCAA policy regarding when transgender females can compete in the women's category can be unfair to cisgender females and needs to be reviewed and changed in a transparent manner." (https://swimswam.com/asca-issues-statement-calling-for-ncaa-to-review-transgender-rules/; Accessed January 16, 2022.)

176. On January 19, 2022, the NCAA Board of Governors approved a change to the policy on transgender inclusion in sport and stated that "…the updated NCAA policy calls for transgender participation for each sport to be determined by the policy for the national governing body of that sport, subject to ongoing review and recommendation by the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports to the Board of Governors. If there is no N[ational]G[overning]B[ody] policy for a sport, that sport's international federation policy would be followed. If there is no international federation policy, previously established IOC policy criteria would be followed" (https://www.ncaa.org/news/2022/1/19/media-center-board-of-governors-updates-transgender-participation-policy.aspx; Accessed January 20, 2022.)

177. On February 1, 2022, because "…a competitive difference in the male and female categories and the disadvantages this presents in elite head-to-head competition … supported by statistical data that shows that the top-ranked female in 2021, on average, would be ranked 536th across all short course yards (25 yards) male events in the country and 326th across all long course meters (50 meters) male events in the country, among USA Swimming members," USA Swimming released its Athlete Inclusion, Competitive Equity and Eligibility Policy. The policy is intended to "provide a level-playing field for elite cisgender women, and to mitigate the advantages associated with male puberty and physiology." (USA Swimming Releases Athlete Inclusion, Competitive Equity and Eligibility Policy, available at https://www.usaswimming.org/news/2022/02/01/usa-swimming-releases-athlete-inclusion-competitive-equity-and-eligibility-policy.) The policy states:

- For biologically male athletes seeking to compete in the female category in certain "elite" level events, the athlete has the burden of demonstrating to a panel of independent medical experts that:
    - "From a medical perspective, the prior physical development of the athlete as Male, as mitigated by any medical intervention, does not give the athlete a competitive advantage over the athlete's cisgender Female competitors" and
    - There is a presumption that the athlete is not eligible unless the athlete "demonstrates that the concentration of testosterone in the athlete's serum has been less than 5 nmol/L . . . continuously for a period of at least thirty-six (36) months before the date of the Application." This presumption may be rebutted "if the Panel finds, in the unique circumstances of the case, that [the athlete's prior physical development does not give the athlete a competitive advantage] notwithstanding the athlete's serum testosterone results (e.g., the athlete has a medical condition

which limits bioavailability of the athlete's free testosterone)." (USA Swimming Athlete Inclusion Procedures at 43.)

Conclusions

The research and actual observed data show the following:

- At the level of (a) elite, (b) collegiate, (c) scholastic, and (d) recreational competition, men, adolescent boys, or male children, have an advantage over equally gifted, aged and trained women, adolescent girls, or female children in almost all athletic events;

- Biological male physiology is the basis for the performance advantage that men, adolescent boys, or male children have over women, adolescent girls, or female children in almost all athletic events; and

- The administration of androgen inhibitors and cross-sex hormones to men or adolescent boys after the onset of male puberty does not eliminate the performance advantage that men and adolescent boys have over women and adolescent girls in almost all athletic events. Likewise, there is no published scientific evidence that the administration of puberty blockers to males before puberty eliminates the pre-existing athletic advantage that prepubertal males have over prepubertal females in almost all athletic events.

For over a decade sports governing bodies (such as the IOC and NCAA) have wrestled with the question of transgender inclusion in female sports. The previous polices implemented by these sporting bodies had an underlying "premise that reducing testosterone to levels found in biological females is sufficient to remove many of the biologically-based performance advantages." (World Rugby 2020 at 13.) Disagreements centered around what the appropriate threshold for testosterone levels must be–whether the 10nmol/liter value adopted by the IOC in 2015, or the 5nmol/liter value adopted by the IAAF.

But the science that has become available within just the last few years contradicts that premise. Instead, as the UK Sports Councils, World Rugby, the FIMS Consensus Statement, and the Women's Sports Policy Working Group have all recognized the science is now sharply "at odds with the accepted intention of current policy in sport, in which twelve months of testosterone suppression is expected to create equivalence between transgender women and females" (UK Sports Literature Review 2021 at 7), and it is now "difficult to suggest that the athletic capabilities of transwomen individuals undergoing HRT or GAS are comparable to those of cisgender women." (Hamilton, FIMS Consensus Statement 2021.) It is important to note that while the 2021 "IOC Framework on Fairness,

Inclusion, and Non-Discrimination on the Basis of Gender Identity and Sex Variations" calls for an "evidence-based approach," that Framework does not actually reference *any* of the now extensive scientific evidence relating to the physiological differences between the sexes, and the inefficacy of hormonal intervention to eliminate male advantages relevant to most sports. Instead, the IOC calls on other sporting bodies to define criteria for transgender inclusion, while demanding that such criteria simultaneously ensure fairness, safety, and inclusion for all. The recently updated NCAA policy on transgender participation also relies on other sporting bodies to establish criteria for transgender inclusion while calling for fair competition and safety.

But what we currently know tells us that these policy goals—fairness, safety, and full transgender inclusion—are irreconcilable for many or most sports. Long human experience is now joined by large numbers of research papers that document that males outperform females in muscle strength, muscular endurance, aerobic and anaerobic power output, VO_2max, running speed, swimming speed, vertical jump height, reaction time, and most other measures of physical fitness and physical performance that are essential for athletic success. The male advantages have been observed in fitness testing in children as young as 3 years old, with the male advantages increasing immensely during puberty. To ignore what we know to be true about males' athletic advantages over females, based on mere hope or speculation that cross sex hormone therapy (puberty blockers, androgen inhibitors, or cross-sex hormones) might neutralize that advantage, when the currently available evidence says it does not, is not science and is not "evidence-based" policy-making.

Because of the recent research and analysis in the general field of transgender athletics, many sports organizations have revised their policies or are in the process of doing so. As a result, there is not any universally recognized policy among sports organizations, and transgender inclusion policies are in a state of flux, likely because of the increasing awareness that the goals of fairness, safety, and full transgender inclusion are irreconcilable.

Sports have been separated by sex for the purposes of safety and fairness for a considerable number of years. The values of safety and fairness are endorsed by numerous sports bodies, including the NCAA and IOC. The existing evidence of durable physiological and performance differences based on biological sex provides a strong evidence-based rationale for keeping rules and policies for such sex-based separation in place (or implementing them as the case may be).

As set forth in detail in this report, there are physiological differences between males and females that result in males having a significant performance advantage over similarly gifted, aged, and trained females in nearly all athletic events before, during, and after puberty. There is not scientific evidence that any

amount or duration of cross sex hormone therapy (puberty blockers, androgen inhibitors, or cross-sex hormones) eliminates all physiological advantages that result in males performing better than females in nearly all athletic events. Males who have received such therapy retain sufficient male physiological traits that enhance athletic performance vis-à-vis similarly aged females and are thus, from a physiological perspective, more accurately categorized as male and not female.

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Appendix 1 – Data Tables

Presidential Physical Fitness Results[14]

Curl-Ups (# in 1 minute)

	Male		Female			Male-Female % Difference	
Age	50th %ile	85th %ile	50th %ile	85th %ile	Age	50th %ile	85th %ile
6	22	33	23	32	6	-4.3%	3.1%
7	28	36	25	34	7	12.0%	5.9%
8	31	40	29	38	8	6.9%	5.3%
9	32	41	30	39	9	6.7%	5.1%
10	35	45	30	40	10	16.7%	12.5%
11	37	47	32	42	11	15.6%	11.9%
12	40	50	35	45	12	14.3%	11.1%
13	42	53	37	46	13	13.5%	15.2%
14	45	56	37	47	14	21.6%	19.1%
15	45	57	36	48	15	25.0%	18.8%
16	45	56	35	45	16	28.6%	24.4%
17	44	55	34	44	17	29.4%	25.0%

[14] This data is available from a variety of sources. including: https://gilmore.gvsd.us/documents/Info/Forms/Teacher%20Forms/Presidentialchallengetest.pdf

Shuttle Run (seconds)

	Male		Female			Male-Female % Difference	
Age	50th %ile	85th %ile	50th %ile	85th %ile	Age	50th %ile	85th %ile
6	13.3	12.1	13.8	12.4	6	3.6%	2.4%
7	12.8	11.5	13.2	12.1	7	3.0%	5.0%
8	12.2	11.1	12.9	11.8	8	5.4%	5.9%
9	11.9	10.9	12.5	11.1	9	4.8%	1.8%
10	11.5	10.3	12.1	10.8	10	5.0%	4.6%
11	11.1	10	11.5	10.5	11	3.5%	4.8%
12	10.6	9.8	11.3	10.4	12	6.2%	5.8%
13	10.2	9.5	11.1	10.2	13	8.1%	6.9%
14	9.9	9.1	11.2	10.1	14	11.6%	9.9%
15	9.7	9.0	11.0	10.0	15	11.8%	10.0%
16	9.4	8.7	10.9	10.1	16	13.8%	13.9%
17	9.4	8.7	11.0	10.0	17	14.5%	13.0%

1 mile run (seconds)

	Male		Female			Male-Female % Difference	
Age	50th %ile	85th %ile	50th %ile	85th %ile	Age	50th %ile	85th %ile
6	756	615	792	680	6	4.5%	9.6%
7	700	562	776	636	7	9.8%	11.6%
8	665	528	750	602	8	11.3%	12.3%
9	630	511	712	570	9	11.5%	10.4%
10	588	477	682	559	10	13.8%	14.7%
11	560	452	677	542	11	17.3%	16.6%
12	520	431	665	503	12	21.8%	14.3%
13	486	410	623	493	13	22.0%	16.8%
14	464	386	606	479	14	23.4%	19.4%
15	450	380	598	488	15	24.7%	22.1%
16	430	368	631	503	16	31.9%	26.8%
17	424	366	622	495	17	31.8%	26.1%

Pull Ups (# completed)

	Male		Female			Male-Female % Difference	
Age	50th %ile	85th %ile	50th %ile	85th %ile	Age	50th %ile	85th %ile
6	1	2	1	2	6	0.0%	0.0%
7	1	4	1	2	7	0.0%	100.0%
8	1	5	1	2	8	0.0%	150.0%
9	2	5	1	2	9	100.0%	150.0%
10	2	6	1	3	10	100.0%	100.0%
11	2	6	1	3	11	100.0%	100.0%
12	2	7	1	2	12	100.0%	250.0%
13	3	7	1	2	13	200.0%	250.0%
14	5	10	1	2	14	400.0%	400.0%
15	6	11	1	2	15	500.0%	450.0%
16	7	11	1	1	16	600.0%	1000.0%
17	8	13	1	1	17	700.0%	1200.0%

Data Compiled from Athletic.Net

2021 National 3000 m cross country race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	691.8	728.4	Difference	607.7	659.8	Difference	608.1	632.6	Difference
2	722.5	739.0	#1 boy vs #	619.6	674.0	#1 boy vs #	608.7	639.8	#1 boy vs #
3	740.5	783.0	1 girl	620.1	674.7	1 girl	611.3	664.1	1 girl
4	759.3	783.5	5.0%	643.2	683.7	7.9%	618.6	664.4	3.9%
5	759.6	792.8		646.8	685.0		619.7	671.6	
6	760.0	824.1		648.0	686.4		631.2	672.1	
7	772.0	825.7	Average	648.8	687.0	Average	631.7	672.3	Average
8	773.0	832.3	difference	658.0	691.0	difference	634.9	678.4	difference
9	780.7	834.3	boys vs girls	659.5	692.2	boys vs girls	635.0	679.3	boys vs girls
10	735.1	844.4	6.2%	663.9	663.3	5.6%	635.1	679.4	6.3%

2021 National 3000 m cross country race time in seconds

	5th grade			6th grade			7th grade		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	625.5	667.0	Difference	545.3	582.0	Difference	534.0	560.7	Difference
2	648.8	685.0	#1 boy vs #	553.2	584.3	#1 boy vs #	541.0	567.0	#1 boy vs #
3	653.5	712.9	1 girl	562.3	585.1	1 girl	542.6	581.8	1 girl
4	658.4	719.2	6.2%	562.9	599.8	6.3%	544.6	583.0	4.8%
5	675.3	725.2		571.5	612.9		546.0	595.0	
6	677.4	727.7		588.0	622.0		556.0	599.0	
7	677.6	734.0	Average	591.3	624.9	Average	556.0	604.3	Average
8	679.1	739.4	difference	593.0	626.0	difference	556.0	606.0	difference
9	686.4	739.4	boys vs girls	593.8	628.0	boys vs girls	558.6	606.8	boys vs girls
10	686.4	746.4	7.3%	594.1	645.6	5.8%	563.2	617.0	7.1%

2021 National 100 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	13.06	14.24	Difference #1	10.87	12.10	Difference #1	11.37	12.08	Difference #1
2	13.54	14.41	boy vs # 1	10.91	12.24	boy vs # 1	11.61	12.43	boy vs # 1
3	13.73	14.44	girl	11.09	12.63	girl	11.73	12.51	girl
4	14.10	14.48	8.3%	11.25	12.70	10.2%	11.84	12.55	5.9%
5	14.19	14.49		11.27	12.75		11.89	12.57	
6	14.31	14.58		11.33	12.80		11.91	12.62	
7	14.34	14.69	Average	11.42	12.83	Average	11.94	12.65	Average
8	14.35	14.72	difference	11.43	12.84	difference	11.97	12.71	difference
9	14.41	14.77	boys vs girls	11.44	12.88	boys vs girls	12.08	12.71	boys vs girls
10	14.43	14.86	3.6%	11.51	12.91	11.1%	12.12	12.75	5.7%

2021 National 200 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	24.02	28.72	Difference #1	21.77	25.36	Difference #1	20.66	25.03	Difference #1
2	24.03	28.87	boy vs # 1	22.25	25.50	boy vs # 1	22.91	25.18	boy vs # 1
3	28.07	29.92	girl	22.48	25.55	girl	23.14	25.22	girl
4	28.44	29.95	16.4%	22.57	25.70	14.2%	23.69	25.49	17.5%
5	28.97	30.04		22.65	26.08		23.84	25.78	
6	29.26	30.09		22.77	26.22		24.23	25.89	
7	29.34	30.27	Average	23.11	26.79	Average	24.35	26.03	Average
8	29.38	30.34	difference	23.16	26.84	difference	24.58	26.07	difference
9	29.65	30.41	boys vs girls	23.28	26.91	boys vs girls	24.59	26.10	boys vs girls
10	29.78	30.54	6.1%	23.47	26.85	13.1%	24.61	26.13	7.9%

2021 National 400 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	66.30	67.12	Difference #1	49.29	56.80	Difference #1	51.96	55.70	Difference #1
2	66.88	67.67	boy vs # 1	50.47	58.57	boy vs # 1	55.52	57.08	boy vs # 1
3	67.59	67.74	girl	52.28	60.65	girl	55.58	57.60	girl
4	68.16	68.26	1.2%	52.44	61.45	13.2%	55.59	57.79	6.7%
5	68.51	68.37		53.31	61.81		55.72	58.02	
6	69.13	71.02		53.65	62.03		55.84	58.25	
7	69.75	72.73	Average	53.78	62.32	Average	55.92	59.25	Average
8	69.80	73.25	difference	54.51	62.33	difference	57.12	59.27	difference
9	69.81	73.31	boys vs girls	55.84	62.34	boys vs girls	57.18	59.40	boys vs girls
10	70.32	73.48	2.4%	55.90	62.40	13.0%	57.22	59.49	4.2%

2021 National 800 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	152.2	157.9	Difference #1	120.8	141.4	Difference #1	127.8	138.5	Difference #1
2	155.2	164.6	boy vs # 1	124.0	142.2	boy vs # 1	129.7	143.1	boy vs # 1
3	161.0	164.9	girl	125.1	148.8	girl	130.5	144.2	girl
4	161.1	165.9	3.6%	125.6	151.3	14.5%	133.2	144.2	7.7%
5	161.2	168.5		126.5	151.6		136.2	144.9	
6	161.6	169.9		136.5	152.5		136.5	145.0	
7	161.8	171.5	Average	137.1	153.1	Average	136.7	145.2	Average
8	162.2	173.1	difference	138.5	153.7	difference	136.7	145.6	difference
9	165.3	173.4	boys vs girls	139.5	153.8	boys vs girls	137.0	145.6	boys vs girls
10	166.9	174.7	4.5%	140.2	154.2	12.6%	137.9	145.8	6.9%

2021 National 1600 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	372.4	397.6	Difference #1	307.4	319.3	Difference #1	297.3	313.8	Difference #1
2	378.3	400.9	boy vs # 1	313.7	322.2	boy vs # 1	298.4	317.1	boy vs # 1
3	378.4	405.6	girl	315.0	322.6	girl	307.0	319.9	girl
4	402.0	435.2	6.3%	318.2	337.5	3.7%	313.9	323.3	5.2%
5	406.4	445.0		318.4	345.2		319.2	325.3	
6	413.4	457.0		320.5	345.7		320.4	326.2	
7	457.4	466.0	Average	327.0	345.9	Average	321.1	327.0	Average
8	473.3	466.8	difference	330.3	347.1	difference	321.9	330.0	difference
9	498.3	492.3	boys vs girls	333.4	347.5	boys vs girls	325.5	331.1	boys vs girls
10	505.0	495.0	4.0%	347.0	355.6	4.7%	327.1	332.5	2.9%

2021 National 3000 m Track race time in seconds

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	794.2	859.9	Difference #1	602.3	679.2	Difference #1	556.6	623.7	Difference #1
2	856.3		boy vs # 1	644.9	709.7	boy vs # 1	591.6	649.5	boy vs # 1
3			girl	646.6	714.2	girl	600.8	651.6	girl
4			7.6%	648.2	741.9	11.3%	607.1	654.9	10.8%
5	No further data	No Further Data		648.4	742.7		609.1	662.9	
6				652.8	756.6		611.5	664.1	
7			Average	658.9	760.2	Average	615.7	666.3	Average
8			difference	660.1	762.5	difference	617.3	666.8	difference
9			boys vs girls	662.7	780.2	boys vs girls	618.4	673.2	boys vs girls
10			NA%	671.6	792.3	12.7%	620.6	674.4	8.2%

2021 National Long Jump Distance (in inches)

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	156.0	176.0	Difference #1	256.8	213.8	Difference #1	224.0	201.3	Difference #1
2	156.0	163.8	boy vs # 1	247.0	212.0	boy vs # 1	222.5	197.3	boy vs # 1
3	155.0	153.0	girl	241.0	210.8	girl	220.5	195.8	girl
4	154.3	152.0	-11.4%	236.3	208.8	20.1%	210.3	193.5	11.3%
5	154.0	149.5		231.5	207.0		210.0	193.3	
6	152.8	146.0		225.0	204.8		206.8	192.5	
7	151.5	144.5	Average	224.0	194.5	Average	206.0	192.3	Average
8	150.8	137.5	difference	224.0	192.5	difference	205.5	192.0	difference
9	150.5	137.0	boys vs girls	221.8	192.3	boys vs girls	205.0	191.3	boys vs girls
10		No Further Data	1.4%			13.2%			9.1%
	150.5			219.0	187.5		204.5	189.0	

2021 National High Jump Distance (in inches)

	7-8 years old			9-10 years old			11-12 year old		
Rank	Boys	Girls		Boys	Girls		Boys	Girls	
1	38.0	37.5	Difference #1	72.0	58.0	Difference #1	63.0	56.0	Difference #1
2	38.0	34.0	boy vs # 1	70.0	58.0	boy vs # 1	61.0	56.0	boy vs # 1
3	36.0	32.0	girl	65.8	57.0	girl	60.0	57.0	girl
4	36.0	32.0	1.3	62.0	56.0	24.1%	59.0	56.0	12.5%
5	35.8	32.0		62.0	56.0		59.0	56.0	
6	35.5			62.0	55.0		59.0	55.0	
7	34.0		Average	61.0	54.0	Average	59.0	54.0	Average
8	32.0	No further Data	difference	60.0	54.0	difference	58.0	54.0	difference
9	59.0		boys vs girls	59.0	No	boys vs girls	57.8	56.0	boys vs girls
10			21.6%		Further	12.5%			6.9%
	56.0			56.0	Data		57.8	56.0	

Appendix 2 – Scholarly Publications in Past 10 Years

Refereed Publications

1. Brown GA, Shaw BS, Shaw I. How much water is in a mouthful, and how many mouthfuls should I drink? A laboratory exercise to help students understand developing a hydration plan. Adv Physiol Educ 45: 589–593, 2021.
2. Schneider KM and Brown GA (as Faculty Mentor). What's at Stake: Is it a Vampire or a Virus? International Journal of Undergraduate Research and Creative Activities. 11, Article 4. 2019.
3. Christner C and Brown GA (as Faculty Mentor). Explaining the Vampire Legend through Disease. UNK Undergraduate Research Journal. 23(1), 2019. (*This is an on-campus publication.)
4. Schneekloth B and Brown GA. Comparison of Physical Activity during Zumba with a Human or Video Game Instructor. 11(4):1019-1030. International Journal of Exercise Science, 2018.
5. Bice MR, Hollman A, Bickford S, Bickford N, Ball JW, Wiedenman EM, Brown GA, Dinkel D, and Adkins M. Kinesiology in 360 Degrees. International Journal of Kinesiology in Higher Education, 1: 9-17, 2017
6. Shaw I, Shaw BS, Brown GA, and Shariat A. Review of the Role of Resistance Training and Musculoskeletal Injury Prevention and Rehabilitation. Gavin Journal of Orthopedic Research and Therapy. 1: 5-9, 2016
7. Kahle A, Brown GA, Shaw I, & Shaw BS. Mechanical and Physiological Analysis of Minimalist versus Traditionally Shod Running. J Sports Med Phys Fitness. 56(9):974-9, 2016
8. Bice MR, Carey J, Brown GA, Adkins M, and Ball JW. The Use of Mobile Applications to Enhance Learning of the Skeletal System in Introductory Anatomy & Physiology Students. Int J Kines Higher Educ 27(1) 16-22, 2016
9. Shaw BS, Shaw I, & Brown GA. Resistance Exercise is Medicine. Int J Ther Rehab. 22: 233-237, 2015.
10. Brown GA, Bice MR, Shaw BS, & Shaw I. Online Quizzes Promote Inconsistent Improvements on In-Class Test Performance in Introductory Anatomy & Physiology. Adv. Physiol. Educ. 39: 63-6, 2015
11. Brown GA, Heiserman K, Shaw BS, & Shaw I. Rectus abdominis and rectus femoris muscle activity while performing conventional unweighted and weighted seated abdominal trunk curls. Medicina dello Sport. 68: 9-18. 2015
12. Botha DM, Shaw BS, Shaw I & Brown GA. Role of hyperbaric oxygen therapy in the promotion of cardiopulmonary health and rehabilitation. African Journal for

Physical, Health Education, Recreation and Dance (AJPHERD). Supplement 2 (September), 20: 62-73, 2014

13. Abbey BA, Heelan KA, Brown, GA, & Bartee RT. Validity of HydraTrend™ Reagent Strips for the Assessment of Hydration Status. J Strength Cond Res. 28: 2634-9. 2014

14. Scheer KC, Siebrandt SM, Brown GA, Shaw BS, & Shaw I. Wii, Kinect, & Move. Heart Rate, Oxygen Consumption, Energy Expenditure, and Ventilation due to Different Physically Active Video Game Systems in College Students. International Journal of Exercise Science: 7: 22-32, 2014

15. Shaw BS, Shaw I, & Brown GA. Effect of concurrent aerobic and resistive breathing training on respiratory muscle length and spirometry in asthmatics. African Journal for Physical, Health Education, Recreation and Dance (AJPHERD). Supplement 1 (November), 170-183, 2013

16. Adkins M, Brown GA, Heelan K, Ansorge C, Shaw BS & Shaw I. Can dance exergaming contribute to improving physical activity levels in elementary school children? African Journal for Physical, Health Education, Recreation and Dance (AJPHERD). 19: 576-585, 2013

17. Jarvi MB, Brown GA, Shaw BS & Shaw I. Measurements of Heart Rate and Accelerometry to Determine the Physical Activity Level in Boys Playing Paintball. International Journal of Exercise Science: 6: 199-207, 2013

18. Brown GA, Krueger RD, Cook CM, Heelan KA, Shaw BS & Shaw I. A prediction equation for the estimation of cardiorespiratory fitness using an elliptical motion trainer. West Indian Medical Journal. 61: 114-117, 2013.

19. Shaw BS, Shaw I, & Brown GA. Body composition variation following diaphragmatic breathing. African Journal for Physical, Health Education, Recreation and Dance (AJPHERD). 18: 787-794, 2012.

Refereed Presentations

1. Brown GA. Transwomen competing in women's sports: What we know, and what we don't. American Physiological Society New Trends in Sex and Gender Medicine conference. Held virtually due to Covid-19 pandemic. October 19 - 22, 2021, 2021.

2. Shaw BS, Boshoff VE, Coetzee S, Brown GA, Shaw I. A Home-based Resistance Training Intervention Strategy To Decrease Cardiovascular Disease Risk In Overweight Children Med Sci Sport Exerc. 53(5), 742. 68th Annual Meeting of the American College of Sports Medicine. Held virtually due to Covid-19 pandemic. June 1-5, 2021.

3. Shaw I, Cronje M, Brown GA, Shaw BS. Exercise Effects On Cognitive Function And Quality Of Life In Alzheimer's Patients In Long-term Care. Med

Sci Sport Exerc. 53(5), 743. 68th Annual Meeting of the American College of Sports Medicine. Held virtually due to Covid-19 pandemic. June 1-5, 2021.

4. Brown GA, Escalera M, Oleena A, Turek T, Shaw I, Shaw BS. Relationships between Body Composition, Abdominal Muscle Strength, and Well Defined Abdominal Muscles. Med Sci Sport Exerc. 53(5), 197. 68th Annual Meeting of the American College of Sports Medicine. Held virtually due to Covid-19 pandemic. June 1-5, 2021.
5. Brown GA, Jackson B, Szekely B, Schramm T, Shaw BS, Shaw I. A Pre-Workout Supplement Does Not Improve 400 M Sprint Running or Bicycle Wingate Test Performance in Recreationally Trained Individuals. Med Sci Sport Exerc. 50(5), 2932. 65th Annual Meeting of the American College of Sports Medicine. Minneapolis, MN. June 2018.
6. Paulsen SM, Brown GA. Neither Coffee Nor A Stimulant Containing "Pre-workout" Drink Alter Cardiovascular Drift During Walking In Young Men. Med Sci Sport Exerc. 50(5), 2409. 65th Annual Meeting of the American College of Sports Medicine. Minneapolis, MN. June 2018.
7. Adkins M, Bice M, Bickford N, Brown GA. Farm to Fresh! A Multidisciplinary Approach to Teaching Health and Physical Activity. 2018 spring SHAPE America central district conference. Sioux Falls, SD. January 2018.
8. Shaw I, Kinsey JE, Richards R, Shaw BS, and Brown GA. Effect Of Resistance Training During Nebulization In Adults With Cystic Fibrosis. International Journal of Arts & Sciences' (IJAS). International Conference for Physical, Life and Health Sciences which will be held at FHWien University of Applied Sciences of WKW, at Währinger Gürtel 97, Vienna, Austria, from 25-29 June 2017.
9. Bongers M, Abbey BM, Heelan K, Steele JE, Brown GA. Nutrition Education Improves Nutrition Knowledge, Not Dietary Habits In Female Collegiate Distance Runners. Med Sci Sport Exerc. 49(5), 389. 64th Annual Meeting of the American College of Sports Medicine. Denver, CO. May 2017.
10. Brown GA, Steele JE, Shaw I, Shaw BS. Using Elisa to Enhance the Biochemistry Laboratory Experience for Exercise Science Students. Med Sci Sport Exerc. 49(5), 1108. 64th Annual Meeting of the American College of Sports Medicine. Denver, CO. May 2017.
11. Brown GA, Shaw BS, and Shaw I. Effects of a 6 Week Conditioning Program on Jumping, Sprinting, and Agility Performance In Youth. Med Sci Sport Exerc. 48(5), 3730. 63rd Annual Meeting of the American College of Sports Medicine. Boston, MA. June 2016.
12. Shaw I, Shaw BS, Boshoff VE, Coetzee S, and Brown GA. Kinanthropometric Responses To Callisthenic Strength Training In Children. Med Sci Sport Exerc.

48(5), 3221. 63rd Annual Meeting of the American College of Sports Medicine. Boston, MA. June 2016.

13. Shaw BS, Shaw I, Gouveia M, McIntyre S, and Brown GA. Kinanthropometric Responses To Moderate-intensity Resistance Training In Postmenopausal Women. Med Sci Sport Exerc. 48(5), 2127. 63rd Annual Meeting of the American College of Sports Medicine. Boston, MA. June 2016.
14. Bice MR, Cary JD, Brown GA, Adkins M, and Ball JW. The use of mobile applications to enhance introductory anatomy & physiology student performance on topic specific in-class tests. National Association for Kinesiology in Higher Education National Conference. January 8, 2016.
15. Shaw I, Shaw BS, Lawrence KE, Brown GA, and Shariat A. Concurrent Resistance and Aerobic Exercise Training Improves Hemodynamics in Normotensive Overweight and Obese Individuals. Med Sci Sport Exerc. 47(5), 559. 62nd Annual Meeting of the American College of Sports Medicine. San Diego, CA. May 2015.
16. Shaw BS, Shaw I, McCrorie C, Turner S., Schnetler A, and Brown GA. Concurrent Resistance and Aerobic Training in the Prevention of Overweight and Obesity in Young Adults. Med Sci Sport Exerc. 47(5), 223. 62nd Annual Meeting of the American College of Sports Medicine. San Diego, CA. May 2015.
17. Schneekloth B, Shaw I, Shaw BS, and Brown GA. Physical Activity Levels Using Kinect™ Zumba Fitness versus Zumba Fitness with a Human Instructor. Med Sci Sport Exerc. 46(5), 326. 61st Annual Meeting of the American College of Sports Medicine. Orlando, FL. June 2014.
18. Shaw I, Lawrence KE, Shaw BS, and Brown GA. Callisthenic Exercise-related Changes in Body Composition in Overweight and Obese Adults. Med Sci Sport Exerc. 46(5), 394. 61st Annual Meeting of the American College of Sports Medicine. Orlando, FL June 2014.
19. Shaw BS, Shaw I, Fourie M, Gildenhuys M, and Brown GA. Variances In The Body Composition Of Elderly Woman Following Progressive Mat Pilates. Med Sci Sport Exerc. 46(5), 558. 61st Annual Meeting of the American College of Sports Medicine. Orlando, FL June 2014.
20. Brown GA, Shaw I, Shaw BS, and Bice M. Online Quizzes Enhance Introductory Anatomy & Physiology Performance on Subsequent Tests, But Not Examinations. Med Sci Sport Exerc. 46(5), 1655. 61st Annual Meeting of the American College of Sports Medicine. Orlando, FL June 2014.
21. Kahle, A. and Brown, G.A. Electromyography in the Gastrocnemius and Tibialis Anterior, and Oxygen Consumption, Ventilation, and Heart Rate During Minimalist versus Traditionally Shod Running. 27th National Conference on Undergraduate Research (NCUR). La Crosse, Wisconsin USA. April 11-13, 2013

22. Shaw, I., Shaw, B.S., and Brown, G.A. Resistive Breathing Effects on Pulmonary Function, Aerobic Capacity and Medication Usage in Adult Asthmatics Med Sci Sports Exerc 45 (5). S1602 2013. 60th Annual Meeting of the American College of Sports Medicine, Indianapolis, IN USA, May 26-30 3013
23. Shaw, B.S. Gildenhuys, G.A., Fourie, M. Shaw I, and Brown, G.A. Function Changes In The Aged Following Pilates Exercise Training. Med Sci Sports Exerc 45 (5). S1566 60th Annual Meeting of the American College of Sports Medicine, Indianapolis, IN USA, May 26-30 2013
24. Brown, G.A., Abbey, B.M., Ray, M.W., Shaw B.S., & Shaw, I. Changes in Plasma Free Testosterone and Cortisol Concentrations During Plyometric Depth Jumps. Med Sci Sports Exerc 44 (5). S598, 2012. 59th Annual Meeting of the American College of Sports Medicine. May 29 - June 2, 2012; San Francisco, California
25. Shaw, I., Fourie, M., Gildenhuys, G.M., Shaw B.S., & Brown, G.A. Group Pilates Program and Muscular Strength and Endurance Among Elderly Woman. Med Sci Sports Exerc 44 (5). S1426. 59th Annual Meeting of the American College of Sports Medicine. May 29 - June 2, 2012; San Francisco, California
26. Shaw B.S., Shaw, I., & Brown, G.A. Concurrent Inspiratory-Expiratory and Aerobic Training Effects On Respiratory Muscle Strength In Asthmatics. Med Sci Sports Exerc 44 (5). S2163. 59th Annual Meeting of the American College of Sports Medicine. May 29 - June 2, 2012; San Francisco, California
27. Scheer, K., Siebrandt, S., Brown, G.A, Shaw B.S., & Shaw, I. Heart Rate, Oxygen Consumption, and Ventilation due to Different Physically Active Video Game Systems. Med Sci Sports Exerc 44 (5). S1763. 59th Annual Meeting of the American College of Sports Medicine. May 29 - June 2, 2012; San Francisco, California
28. Jarvi M.B., Shaw B.S., Shaw, I., & Brown, G.A. (2012) Paintball Is A Blast, But Is It Exercise? Heart Rate and Accelerometry In Boys Playing Paintball. Med Sci Sports Exerc 44 (5). S3503. 59th Annual Meeting of the American College of Sports Medicine. May 29 - June 2, 2012; San Francisco, California

Book Chapters

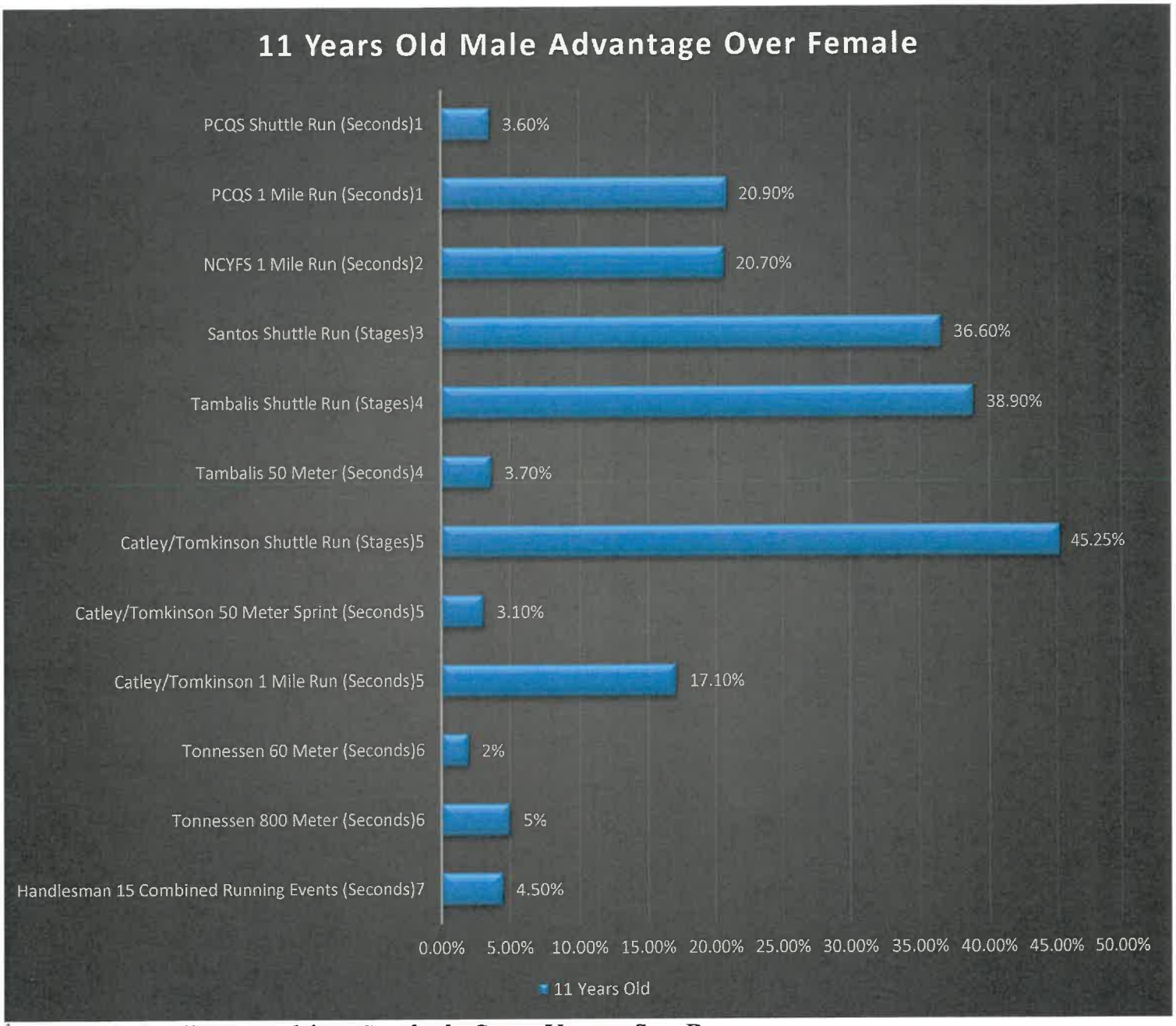
1. Shaw BS, Shaw I, Brown G.A. Importance of resistance training in the management of cardiovascular disease risk. In Cardiovascular Risk Factors. IntechOpen, 2021.

2. Brown, G.A. Chapters on Androstenedione and DHEA. In: Nutritional Supplements in Sport, Exercise and Health an A-Z Guide. edited by Linda M. Castell, Samantha J. Stear, Louise M. Burke. Routledge 2015.

Refereed Web Content

1. Brown GA. Looking back and moving forward. The importance of reflective assessment in physiology education. (January 13, 2022) https://blog.lifescitrc.org/pecop/2022/01/13/looking-back-and-moving-forward-the-importance-of-reflective-assessment-in-physiology-education/
2. Brown GA. The Olympics, sex, and gender in the physiology classroom. Physiology Educators Community of Practice, managed by the Education group of the American Physiological Society (August 18, 2021) https://blog.lifescitrc.org/pecop/2021/08/18/the-olympics-sex-and-gender-in-the-physiology-classroom/

A complete CV is available at
https://www.unk.edu/academics/hperls/bio_pages/current-vita-gab.pdf



[1] *President's Challenge Qualifying Standards*, GRASS VALLEY SCH. DIST., https://gilmore.gvsd.us/documents/Info/Forms/Teacher%20Forms/Presidentialchallengetest.pdf.

[2] James G. Ross & Glen G. Gilbert, *National Children and Youth Fitness Study*, 56 J. OF PHYSICAL EDUC., RECREATION AND DANCE 45, *45-50* (1985).

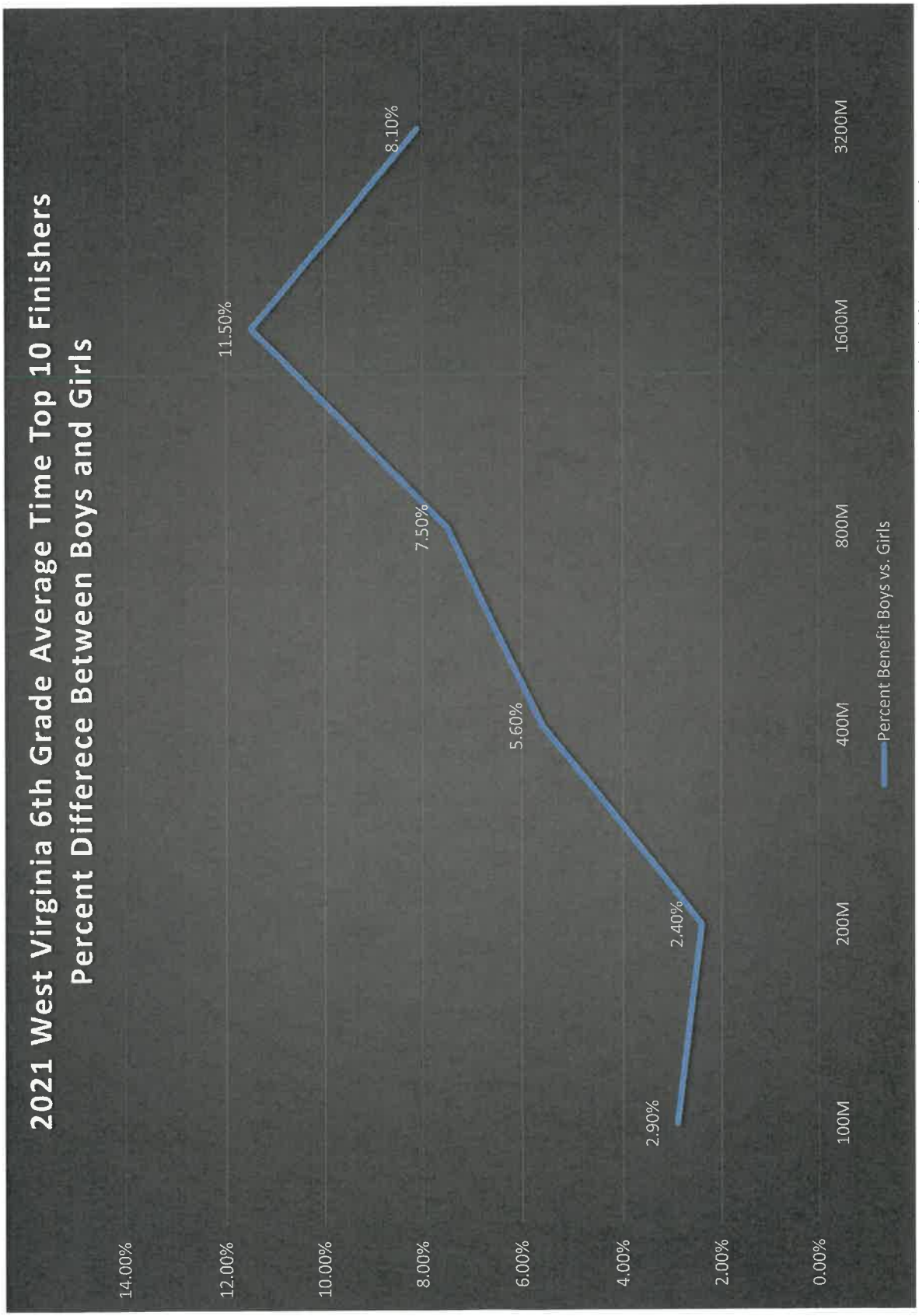
[3] Rute Santos et al., *Physical Fitness Percentiles for Portuguese Children and Adolescents Aged 10-18 Years*, 32 J. OF SPORT SCI., 1, ** (2014).

[4] Konstantinos D. Tambalis et al., *Physical Fitness Normative Values for 6-18-Year-Old Greek Boys and Girls, Using the Empirical Distribution and the Lambda, Mu, and Sigma Statistical Method*, 16 EUR. J. OF SPORTS SCI.736, *736-46* (2015).

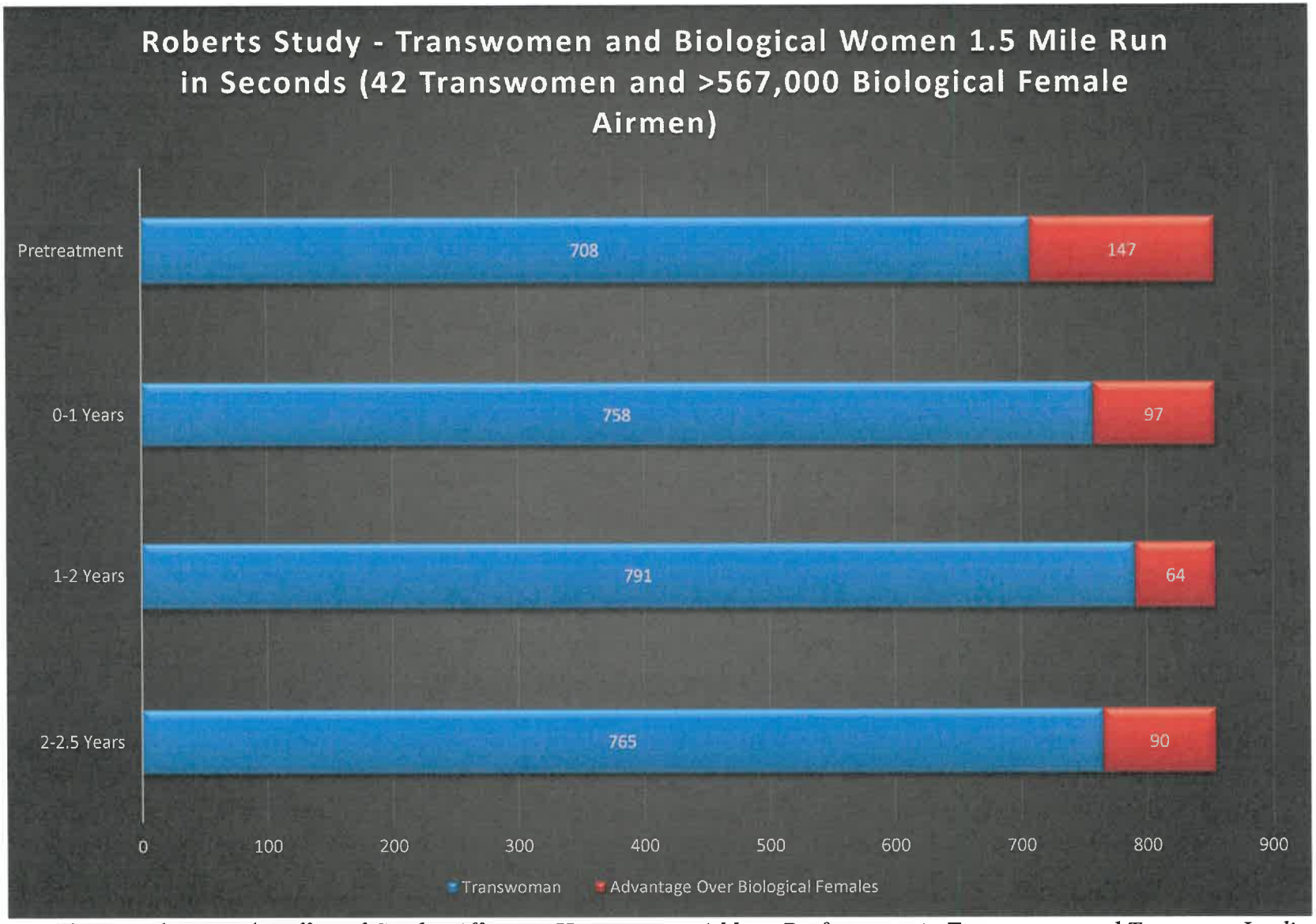
[5] Mark Jon Catley & Grant Tomkinson, *Normative Health-Related Fitness Values For Children: Analysis of 85347 Test Results on 9-17-Year-Old Australians since 1985*, 47 BRIT. J. OF SPORTS MED. 98, ** (2013).

[6] Espen Tonnessen et al., *Performance Development in Adolescent Track and Field Athletes According to Age, Sex and Sport Discipline*, 10 PLOS ONE 1, 1-10 (2015).

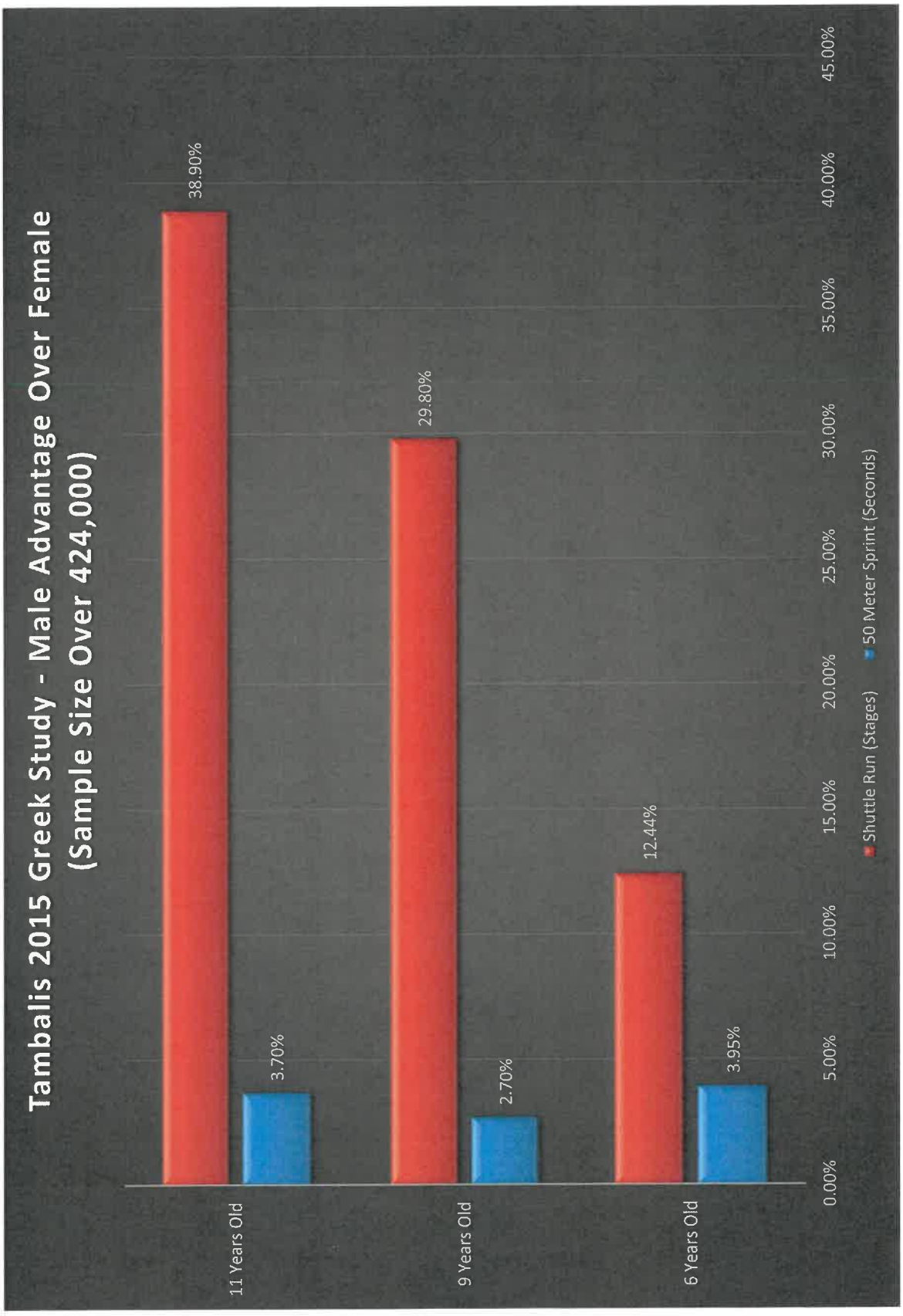
[7] David J. Handelsman, *Sex Differences in Athletic Performance Emerge Coinciding with the Onset of Male Puberty*, 87 CLINICAL ENDOCRINOLOGY 68, ** (2017)



West Virginia High School 2021 Outdoor Track & Field, ATHLETICNET, athletic.net/TrackAndField/WestVirginia (last visited Nov. 8, 2021).



Timothy A. Roberts et al., *Effect of Gender Affirming Hormones on Athletic Performance in Transwomen and Transmen: Implications for Sporting Organisations and Legislators*, 55 BRIT. J. OF SPORTS MEDICINE 577, *577-83* (2020).



Konstantinos D. Tambalis et al., *Physical Fitness Normative Values for 6-18-Year-Old Greek Boys and Girls, Using the Empirical Distribution and the Lambda, Mu, and Sigma Statistical Method*, 16 EUR. J. OF SPORTS SCI.736, *736-46* (2015).

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON DIVISION

* * * * * * * * *

B.P.J., by her next friend and Mother, HEATHER JACKSON, Plaintiff	*	Case No.
vs.	*	2:21-CV-00316
WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official Capacity as State Superintendent, DORA STUTLER in her official Capacity as Harrison County Superintendent, PATRICK MORRISEY In his official capacity as Attorney General, and THE STATE OF WEST VIRGINIA, Defendants	*	CONFIDENTIAL VIDEOTAPED VIDEOCONFERENCE DEPOSITION OF KACIE KIDD, M.D. February 21, 2022

CONFIDENTIAL VIDEOTAPED VIDEOCONFERENCE DEPOSITION

OF

KACIE KIDD, M.D., taken on behalf of the Defendant, State of West Virginia herein, pursuant to the Rules of Civil Procedure, taken before me, the undersigned, Nicole Montagano, a Court Reporter and Notary Public in and for the State of West Virginia, on Monday, February 21, 2022, beginning at 10:16 a.m.

A P P E A R A N C E S

JOSHUA BLOCK, ESQUIRE
American Civil Liberties Union Foundation
125 Broad Street
New York, NY 10004
COUNSEL FOR PLAINTIFF

KATHLEEN R. HARTNETT, ESQUIRE
ANDREW BARR, ESQUIRE
KATELYN KANG, ESQUIRE
ZOE HELSTROM, ESQUIRE
ELIZABETH REINHARDT, ESQUIRE
Cooley, LLP
3 Embarcadero Center
20th Floor
San Francisco, CA 94111-4004
COUNSELS FOR PLAINTIFF

A P P E A R A N C E S (cont'd)

SRUTI SWAMINATHAN, ESQUIRE
Lambda Legal
120 Wall Street
19th Floor
New York, NY 10005-3919
COUNSEL FOR PLAINTIFF

DAVID TRYON, ESQUIRE
CURTIS R.A. CAPEHART, ESQUIRE
State Capitol Complex
Building 1, Room E-26
Charleston, WV 25305
COUNSEL FOR STATE OF WEST VIRGINIA

ROBERTA F. GREEN, ESQUIRE
Shuman McCuskey Slicer, PLLC
1411 Virginia Street East
Suite 200
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

A P P E A R A N C E S (cont'd)

SUSAN DENIKER, ESQUIRE
JEFFREY M. CROPP, ESQUIRE
Steptoe & Johnson
400 White Oaks Boulevard
Bridgeport, WV 26330
COUNSEL FOR HARRISON COUNTY BOARD OF EDUCATION and HARRISON COUNTY SUPERINTENDENT DORA STUTLER

KELLY C. MORGAN, ESQUIRE
MICHAEL W. TAYLOR, ESQUIRE
Bailey Wyant
500 Virginia Street East
Suite 600
Charleston, WV 25301
COUNSEL FOR WEST VIRGINIA BOARD OF EDUCATION and SUPERINTENDANT W. CLAYTON BURCH

CHRISTIANA HOLCOMB, ESQUIRE
Alliance Defending Freedom
15100 North 90th Street
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

A P P E A R A N C E S (cont'd)

TIMOTHY D. DUCAR, ESQUIRE
Law Office of Timothy D. Ducar
7430 East Butherus Drive, Suite E
Scottsdale, AZ 85260
COUNSEL FOR INTERVENOR, LAINEY ARMISTEAD

TIMOTHY R. LINKOUS, ESQUIRE
Lindous Law, PLLC
10 Cheat Landing
Suite 200
Morgantown, WV 26508
COUNSEL FOR KACIE KIDD, M.D.

I N D E X

EXHIBIT PAGE

OBJECTION PAGE

S T I P U L A T I O N

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not waived.)

P R O C E E D I N G S

VIDEOGRAPHER: We are now on the record. My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is February 21st, 2022, and the current time is 10:16 a.m. Eastern Standard Time. This deposition is being taken remotely by videoconferencing. The caption of this case in the United States District Court for the Southern District of West Virginia, Charleston Division. BPJ by her next friend and mother, Heather Jackson v. West Virginia State Board of Education, et al. Case number 2:21-CV-00316. The name of the witness is Kacie Kidd, M.D. Will the attorneys present state their names and the parties they represent?

ATTORNEY LINKOUS: This is Tim Linkous on

behalf of Kacie Kidd, M.D.

ATTORNEY TRYON: This is David Tryon on behalf of the State of West Virginia.

ATTORNEY DENIKER: This is Susan Deniker on behalf of Defendants Harrison County Board of Education and Superintendant Dora Stutler.

ATTORNEY GREEN: This is Roberta Green on behalf of West Virginia Secondary School Activities Commission.

ATTORNEY MORGAN: This is Kelly Morgan on behalf of West Virginia Board of Education and Superintendant Burch.

ATTORNEY HOLCOMB: This is Christiana Holcomb on behalf of Intervenor, Lainey Armistead.

ATTORNEY HARTNETT: And sorry, I think I was on mute before. This is Kathleen Hartnett from Cooley for Plaintiff. And there are several others on the line for Plaintiff from Cooley.

ATTORNEY BARR: Yes. Good morning. This is Andrew Barr from Cooley on behalf of Plaintiff.

ATTORNEY KANG: Good morning. This is Katelyn Kang from Cooley on behalf of the Plaintiff.

ATTORNEY REINHARDT: Good morning. This is Elizabeth Reinhardt on behalf of Plaintiff.

ATTORNEY HELSTROM: Good morning. This is Zoe Helstrom from Cooley on behalf of Plaintiff.

ATTORNEY SWAMINATHAN: Good morning. This is Sruti Swaminathan from Lambda Legal on behalf of Plaintiff.

ATTORNEY BLOCK: Good morning. This is Josh Block from the ACLU on behalf of Plaintiff.

VIDEOGRAPHER: If that's everybody, the court reporter can swear in the witness, and we can begin.

ATTORNEY TRYON: Two things. So first of all, I went to mention that my colleague, Curtis Capehart, is on this call. And I wanted to take care of a housekeeping matter before we get started. I wonder if we could do that, if we could exclude Dr. Kidd for just a moment.

VIDEOGRAPHER:

Yes, give me one second.

ATTORNEY TRYON:

Thank you. So I just wanted to --- we had previously in other depositions we've talked about how we're going to handle objections. And Mr. Linkous, in some other depositions, we've said that we are going to handle by stating objection for form of the question

or directing the witness not to answer for privilege issues. And Kathleen, are you going to be handling this deposition?

ATTORNEY HARTNETT: Yes, David. And would you like to discuss this off the record first and then we can put our agreements on the record?

ATTORNEY TRYON: Okay.

ATTORNEY HARTNETT: Can we go off the record?

VIDEOGRAPHER: Yes. Going off the record. The current time is 10:20 a.m.

OFF VIDEOTAPE

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time is 10:24 a.m.

ATTORNEY TRYON: Thank you. So while we were off the record we had a discussion and we've come to an agreement on how to handle objections, that primarily we would be handling objections by stating one of three things, either objection to form, objection as to technology --- or terminology, excuse me, or

objection to any privileges or scope. So I guess that's four. And Mr. Linkous has said he will strive for that, but has not specifically addressed --- agreed to that. And finally, the counsel for Defendants have indicated that they will --- if there is an objection by counsel for Dr. Kidd, then they will be included within that objection. So they don't have to object as well. Is that a fair summary of our discussion?

ATTORNEY HARTNETT: Just on the last point, it was objections by the witness to Counsel.

ATTORNEY TRYON: Thank you for correcting me.

ATTORNEY LINKOUS: Hey, Dave, can I ask a quick question?

ATTORNEY TRYON: Yes.

ATTORNEY LINKOUS: Ms. Holcomb, who was on just a second ago, I heard her say she represents an intervenor, and I didn't know there was an intervenor, so who intervened and what's the story there?

ATTORNEY TRYON: The intervenor is Lainey Armistead, I think that's how you say her last name, who is a colleague student, a female college student who has intervened.

ATTORNEY LINKOUS:

Okay. Thank you. I appreciate that.

ATTORNEY HARTNETT: And Tim, that's a gender college student who is seeking to intervene to defend the state law.

ATTORNEY LINKOUS: I see. Thank you.

COURT REPORTER: Josh, one second. It's the court reporter. Can you go off the record, please, Josh?

VIDEOGRAPHER: Going off the record, 10:26 a.m.

OFF VIDEOTAPE

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

ON VIDEOTAPE

VIDEOGRAPHER: Back on the record. The current time reads 10:32 a.m.

ATTORNEY DUCAR: My name is Tim Ducar. I'm entering an appearance on behalf of the intervenor, Lainey Armistead.

VIDEOGRAPHER: The court reporter can swear in the witness and we can begin.

- - -

KACIE KIDD, M.D.,

CALLED AS A WITNESS IN THE FOLLOWING PROCEEDINGS, HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS FOLLOWS:

- - -

EXAMINATION

BY ATTORNEY TRYON:

Q. Dr. Kidd, my name is David Tryon. I represent the State of West Virginia. Can you, first of all, tell me how you would prefer that I address you?

A. Hi, I'm Kacie Kidd. I use she/her pronouns. You're welcome to address me as Kacie or Dr. Kidd.

Q. Very good. So Kacie --- well, let me call you Dr. Kidd. Dr. Kidd, are you represented by counsel today?

A. I am.

Q. And who is that?

A. Mr. Linkous.

Q. And how long has he represented you?

A. Well, I can't recall our exact first email exchange. I think it's been over a month.

Q. Okay.

Have you ever been deposed before?

A. I have not.

Q. Have you ever testified at trial before?

A. I have not.
Q. Excuse me. Sorry about that. Have you ever been sued before?
A. I have not.
Q. Have you ever been retained as an expert either as a testifying or consulting expert in any litigation or otherwise?
A. I have not.
Q. We are in Federal Court, so the Federal Rules of Procedure apply here. And under the Federal Rules of Procedures 30(c)(2) it provides for objections by your counsel or other counsel. And while we were off the record or before --- we have agreed to certain ways to make objections. And then even if there are objections, you'll still need to answer questions unless your counsel directs you to not do so.
Understand?
A. Yes.
Q. Do you have any questions about that?
A. No.
Q. Okay.
So when you answer, as you're doing now, please answer verbally rather than a nod or a shake. The court reporter, especially since she is not currently watching

us, will not be able to detect anything other than your actual words.

Okay?

A. Yes.

Q. Now, if you don't understand my questions, please say so, and I will try to reframe them or say it in a different way.

All right?

A. Okay.

Q. And if you need a break, let us know and we'll make --- we'll try and accommodate that. The only thing you can't do is take a break after I've asked a question. So we need to do it before I ask a question. And I'll also note that this deposition is being conducted as upon Cross Examination.

Now, are you familiar with the lawsuit that's involved here?

A. I know of the lawsuit loosely. I don't know significant details.

Q. Okay.

Just briefly, the Plaintiff in the case is BPJ. Are you aware of who BPJ is?

A. I am.

Q. And BPJ is suing various Defendants asserting

that a law known as HB-3293 is invalid at least as it pertains to BPJ. Were you aware of that much?

A. Not the numbers and name of that law, but loosely, yes.

Q. Okay.

Have you heard of the law, loosely known --- well, it is known as HB-3293, sometimes called the Women's Sports --- Save Women's Sports Act, and maybe there's other names for it, too. Have you heard of the law?

ATTORNEY HARTNETT: Objection to the form.

THE WITNESS: In lay media, yes.

BY ATTORNEY TRYON:

Q. You haven't actually seen the lawsuit.

Is that right?

A. That's correct.

Q. Have you read that law?

A. I can't recall if I read the actual law that passed.

Q. Okay.

Have you brought any documents to the deposition with you today?

A. I was told to have the two --- I think they're

called exhibits, the WPATH Guidelines and my clinical record.

Q. Okay.

And do you have those in hard copy or just electronically?

A. Both.

Q. Okay.

And have you reviewed any documents in preparation for this deposition?

A. Yes.

Q. Which documents are those?

A. They were documents provided by my lawyer telling me about depositions because I add ---.

ATTORNEY LINKOUS: Stop right there, Dr. Kidd. Communications from me to you and the substance of those communications are privileged. You don't have to talk about the substance of those.

BY ATTORNEY TRYON:

Q. Yes. All I need to know and I don't want to know what you and your lawyer talked about. I just want to know what documents you've looked at in preparation for your deposition today.

A. Sure. So those documents certainly.

Q. Okay.

So those are the medical records you mentioned, as well as the WPATH standards?

A. Yes.

Q. Anything else?

A. I've certainly reviewed the medical literature in this case but that is an ongoing process that I'm always engaged in.

Q. Okay.

Now, on Saturday we received some additional documents from your office, which appear to be similar to what's previously been marked as Exhibit 16. Do you have those in front of you as well?

A. I'm not familiar with what Exhibit 16 includes.

ATTORNEY LINKOUS: Mr. Tryon, I will just interrupt and say that those records didn't really come from her office, they came from me. And I sent them to Plaintiff's Counsel, who then provided them to you.

ATTORNEY TRYON: Got it. And do you know if Dr. Kidd has those in front of her as well?

ATTORNEY LINKOUS: She should, yes.

ATTORNEY TRYON: Okay.

BY ATTORNEY TRYON:

Q. So having gone through those --- excuse me one moment. So just some quick background. Can you give me

your full name and address, please?

A. My home address or my work address?

Q. Both, please.

A. My full name is Kacie Marie Kidd. My work address is --- depends on if you're looking at my office or clinical practice, but my office is 1 Medical Center Drive, Morgantown, West Virginia, 26506, I believe. And my home address ---.

Q. Can you slow down just a little bit, please?

A. Sure.

Q. Go ahead.

A. Do you need me to repeat? My home address is 106 Canyon Ridge Drive, Morgantown, West Virginia, 26508.

Q. And can you give me your work phone number, please?

A. I would need to check my business card. Is it okay if I do that?

Q. Yes.

A. My work phone (304) 293-6307.

Q. And I would also like to ask you for your personal phone number, which I would use only in the event that for some reason you were no longer represented by counsel. Otherwise, I would contact you

through counsel.

ATTORNEY LINKOUS: I would --- I just object and instruct her not to answer on that. I will accept subpoenas and you can contact me through her. I will continue representing her. And if not, there will be new counsel assigned and you will be informed of that.

ATTORNEY TRYON: Well, I've never had anyone instruct a witness not to do that before, but I'll move on.

BY ATTORNEY TRYON:

Q. Can you tell me where you went to --- about your education, your undergraduate education first, please?

A. Sure. I received my Bachelor's Degree in biology and women's studies from West Virginia University. I then went to medical school at West Virginia University School of Medicine. After that I completed a four-year residency in internal medicine and pediatrics at West Virginia University School of Medicine. I then completed a three-year fellowship in adolescent medicine at the University of Pittsburgh.

Q. What was your major in your pre-Bachelor's Degree?

A. It was biology and women's studies.

Q. And when did you get your Bachelor's Degree?
A. I graduated with my Bachelor's in 2010.
Q. And medical school, when did you graduate there?
A. 2014.
Q. Did you have any particular emphasis at the West Virginia School of Medicine?
A. It's not customary for people to have emphasis in medical school but instead in residency.
Q. Okay.
And in your residency what was your specialty or emphasis?
A. I did a dual residency in internal medicine and pediatrics.
Q. And when did you get that? When did you complete your residency?
A. In 2018.
Q. And then your fellowship, what was that in?
A. Adolescent medicine.
Q. And when did you complete that?
A. In 2021.
Q. Any particular reason that you chose adolescent medicine?
A. Supporting adolescents and young adults is my favorite part of medicine.

Q. Have you had any other specialized training other than what you just discussed?
A. Within adolescent medicine there are several ways to have additional training and I did pursue one of those ways.
Q. And what was that?
A. Gender affirming care.
Q. And in what way did you pursue that?
A. I dedicated much of my clinical training to learning under experts in this space. I also dedicated my research training in a similar vein, and I engaged in organizations and groups and additional educational opportunities to round out that training.
Q. What experts are you referring to?
A. Doctor Gerald Montano, Doctor Selma Witchell among others.
Q. I'm sorry. Montano and who is the other one?
A. Selma Witchell.
Q. Can you spell that, please?
A. W-I-T-C-H-E-L-L.
Q. And what was the first name?
A. Selma, S-E-L-M-A.
Q. And where is Selma Witchell?
A. The University of Pittsburgh.

Q. Do you have a license to practice medicine?
A. I do.
Q. Where?
A. In the State of West Virginia.
Q. Any others?
A. I previously held a training license in the State of Pennsylvania when I was a trainee there.
Q. But currently you do not?
A. I do not.
Q. And do you have any --- you may have answered this, but do you have any specific specialties?
A. My specialties are pediatrics, internal medicine, adolescent medicine and gender affirming care.
Q. I was wondering if that was my computer dinging or someone else's.
A. I think it may be mine. Give me a second. I'll sign out of my email.
Q. Okay.
A. Okay.
Q. Do you have Board Certifications?
A. I do.
Q. What are those?
A. I'm Board Certified in Internal Medicine and Pediatrics.

Q. What was necessary to get Board Certification for internal medicine?

A. I was trained in internal medication and many of my patients are adults by legal definition.

Q. I'm sorry. You broke up. Can you repeat that please?

A. Sure. I was trained in internal medicine and eligible to sit that Board Examination. Additionally, a lot of my patients are over the age of 18.

Q. So you had to sit for a Board Examination.

Is that right?

A. I sat for two Board Examinations in Pediatrics and Internal Medicine as well as numerous Board Examinations to be allowed to get to that point.

Q. Okay.

And you passed those boards?

A. I did.

Q. Are you a member of any medical societies?

A. I am.

Q. What are those?

A. I am currently a member of the American Academy of Pediatrics. I'm a member of the Society for Adolescent Health and Medicine. I am also a member of the World Professional Association for Transgender

Health.

Q. Any others?

A. Not that I can recall.

Q. When you said the Society for Adolescent Medicine, did I hear that right?

A. The Society for Adolescent Health and Medicine, abbreviated SAHM, S-A-H-M.

Q. And what do you need to be a member of that, what do you need to do?

A. Most of these organizations have membership tiers for a variety of persons and you need to pay a fee. But for the purpose of my membership, it's as a physician. And for the American Academy of Pediatrics I have a special notation in my membership as someone who has passed the board exam for that field.

Q. For WPATH, what do you need to do to be a member there?

A. You need to sign up and pay a fee and check your membership category. Mine, again, is physician and although I think I may be still listed as a student member based on my training time at the University of Pittsburgh for that membership, but I am also part of their global education initiative, which is an additional training on top of being a member.

Q. I'm sorry, global what initiative?
A. Education initiative.
Q. Are you a member of the ---?
A. I am not.
Q. Are you a member or on the board of any educational organizations?
A. I think it depends on what you mean by educational organization.
Q. Any organizations that try and educate on any issues?
A. Well, broadly, I'm faculty at West Virginia School of Medicine and I routinely educate a variety of learners at a variety of levels. I'm also part of something called the Tri-State Gender Collaborative, which is a community-based organization that does provide education.
Q. And do you have privileges at any hospitals?
A. I do have privileges at Ruby Memorial Hospital in Morgantown, West Virginia.
Q. Any others?
A. No.
Q. So tell me of your work experience, your professional work experience.
A. Can you restate your question?

Q. Yes. So I'm interested to learn your work experience, where you have worked and what you have done starting --- I'm not sure exactly --- you've told me about your internship and then I know that you are doing some other things. So after your internship, did you have any professional --- did you start working right away or did you just do the fellowship or is fellowship considered work? Help me out, understand your work history.

ATTORNEY HARTNETT: Objection to the form.

THE WITNESS: Medicine training is complicated, and so the internship is part of residency. That was part of the four years that I spent in internal medicine and pediatrics training. During that time I was working in a variety of settings to obtain training in both of those fields.

After that was completed I was also doing training at the University of Pittsburgh. One could consider all of those work. And I was a paid employee during that time when I was a trainee as well.

BY ATTORNEY TRYON:

Q. What's the first job in which you were actually treating patients?

A. I have been treating patients since I was a medical student.

Q. Okay.

And your first paid job where you were treating patients?

A. That would have been the beginning of my residency, which is often called an internship in internal medicine and pediatrics.

Q. And then how about your fellowship, were you treating patients during your fellowship?

A. Yes.

Q. What is your current --- I don't know what the right term would be profession --- excuse me, profession or your work status?

A. I am currently an assistant professor in the Department of Pediatrics at the WVU School of Medicine. I am also the Medical Director of the WVU Medicine Children's Gender and Sexual Development Clinic.

Q. And then do you have a separate practice where you diagnose and treat patients?

A. Under those titles, yes.

Q. Okay.

So it's not separate from those?

A. No.

Q. Do you get paid directly by the patients or just only get paid by the West Virginia University?

A. I am dual employed as is the customary practice for physicians who are working at the WV School of Medicine, and so my dual employment goes both through West Virginia University as well as --- I believe it's called UHA, the University Health Associates, but I may need to clarify that.

Q. Okay.

As assistant professor what do you do?

A. Assistant professor is my title in my tenure track of employment, and so it's fairly traditional for assistant professors to be the entry point of tenure track position, if that makes sense. And my role in that is to provide medical care as well as to conduct research and to provide teaching.

Q. So I understood conduct research and also teaching. What was the first thing you said?

A. To provide clinical care.

Q. What do you teach?

A. I teach a variety of learner types and topics, but they typically center adolescent medicine and gender affirming care or both.

Q. Are there classes specifically on those topics

or is it part of a more general class?

A. Most often my teaching is as a guest lecturer for a medical student class or a residency training program or something called grand rounds, which is a teaching opportunity for faculty-level positions.

Q. What types of research do you do?

A. I conduct mix methods research, including qualitative and quantitative analyses, centering gender adversity in people and their experiences as well as the experiences of their family.

Q. How many papers have you published?

A. I don't know that I could give you a complete answer to that question. I suspect --- I know that it is more than 12. I suspect less than 20. It also depends on what you mean by paper.

Q. Okay.

When you say provide clinical care --- well, let me come back to that in a minute. As Medical Director of the West Virginia University --- excuse me, West Virginia University Medicine Children's Gender and Sexual Development --- do I have that title right?

A. Almost. It's the WVU Medicine Children's Gender and Sexual Development Clinic.

Q. And what is your role? What do you do in that

role?

A. I direct the clinical care of gender diverse intersex and questioning youth, ages approximately 3 through 26 in our multi-disciplinary team.

Q. So how is that different then from where you provide clinical care as an assistant professor?

A. Those two jobs descriptions overlap quite a bit.

Q. Are there any parts that do not overlap?

A. I would argue that it's outside of my role as an assistant professor but definitely in my role as the Medical Director of the clinic to have meetings where we discuss the care we provide, to meet with our DEI head more promptly, diversity, equity and inclusion, those sorts of things.

Q. Do you supervise anyone in either of your roles?

A. I often precept trainees, residents and medical students.

Q. Could you repeat that?

A. I often precept trainees, including residents and medical students.

Q. You said preset?

A. Precept, P-R-E-C-E-P-T. It's a word used in medical care to discuss supervision of trainees. I'm their preceptor.

Q. And do you supervise them as they are giving medical care?
A. Yes.
Q. Would it be fair to say that you are currently a treating physician?
A. Yes.
Q. And just so I have it right rather than me trying to restate it, in what areas do you treat patients?
A. I provide care for adolescents and young adults.
Q. In what areas?
A. In adolescent medicine, in gender affirming care.
Q. Do you provide general --- are you a pediatrician as well?
A. It's complicated. Adolescent medicine is a complicated --- and there are many adolescent specialists who do provide well child care for young people. I do that infrequently. And so for example, if a young person wishes for me to be their primary care provider, I can do that on a limited basis, but the majority of my care is subspecialty care and consultation.
Q. When patients need to come to you do they come

to you directly or through the University?

A. Can you restate the question?

Q. So it's my understanding that you do treat patients. And so my question is do they come to you directly or do they go through the University?

A. I'm not understanding what you mean by coming through the University.

Q. How do you --- how do patients come to you?

A. They can call our scheduling line that is available on our website or they can be referred from another physician or provider.

Q. How much of your time is spent with patients versus your time in doing research and teaching and other things?

A. I am 20 percent clinical and 80 percent research.

Q. So when a new patient comes in what is the --- let me back up for a second. Have you been --- one second. When you have a new patient come in --- I'm sorry, let me go back to my other question. Have you been asked to be an expert witness in this case?

A. No.

Q. Tell me about the intake process for a new patient.

A. Well, depending on how a new patient finds us, either through direct scheduling or referral, once they have the visit they usually meet with us for a longer than perhaps expected visit to compare to other pediatric practices. New patients visit with my team are usually between two and two and a half hours. An hour of that is typically spent with me and we have a fairly long conversation with the young person, with family members together and separately and then we work together to help support that young person together.

Q. When you say your team, who is on your team?

A. Our team, from my practice, currently includes myself, a child and adolescent psychiatrist, whose name is Dr. Deci, and a clinical therapist, whose name is Ms. Brianna Hayes.

Q. Doctor Steven --- what is his last name?

A. Deci, D-E-C-I.

Q. And Brianna Hayes, what is ---?

A. H-A-Y-E-S.

Q. What's her practice?

A. She is a clinical therapist.

Q. And Doctor Deci, what's the practice?

A. He is a child and adolescent psychiatrist.

Q. When the patient first is coming in --- let me

back up just a little bit for some more nuts and bolts in my question. Do they first meet with a secretary or nurse or fill out papers online? How does that process --- let's start with someone who is just direct scheduling.

A. And so if someone calls our scheduling line, they are scheduled for a visit. And they would arrive at their visit time, they would check in. They would sit in the waiting room. A nurse would call them back, take their vital signs and they would be put in an exam room with their family. They arrive with family. And then our team would see them.

Q. As far as the initial record, setting up the initial record of who this person is and what they're coming in for, who does that?

A. The family when they call when to make a visit will ask for a gender visit, and that's the only questioning that happens at that time.

Q. And then everything else that is input into the patient's records would either be from the nurse or from you or your team?

A. For those who are directly scheduling. If someone has been referred, it may be that they're referring provider or a scheduler from their referral

team put additional documentation in.

Q. Is there any --- okay.

So when you meet with the patients, is it initially just you or is it with the entire team first?

A. So it depends. We like to do a greeting where we all pile in these exam rooms and say hello and introduce ourselves so young people and families know our names and faces. Sometimes that is not possible for a variety of reasons. And also sometimes families don't need all of us and may or may not be interested in seeing all of us. Sometimes families just want to see me or sometimes they just want to see the mental health providers, and we try to accommodate that where we can.

Q. Do you gather their past medical history?

A. Yes.

Q. And is their medical history important?

A. I think that every patient's medical history, medication list, allergies, things like that can be important to their care.

Q. Can you explain to me why? I mean it may seem obvious to you, but I would like to just understand it.

A. Okay.

And so, someone's past medical history could certainly impact their present health, and so part of my

routine practice is to ask young people and their families what kind of diagnoses they have had in the past, including things like asthma, allergies, if they've broken their arm before, a whole host of questions.

Q. Are those things relevant to gender care?

A. They could be.

Q. How would allergies be related to gender care?

A. If you had an allergy to a medication that was related or the same as a medication that I could provide, that would be a concern to me.

Q. And do you typically take the history just from the patient or do you reach out to other healthcare providers?

A. I take my history from the patient and parent or guardian in front of me, but I also have access to our electronic health record and I review that as well for meeting new patients.

Q. Tell me about the electronic health record.

A. Our health system uses an electronic health record called Epic.

Q. And what is located in the Epic system?

A. A variety of things, including vital signs from previous visits, notes from prior visits and prior

providers, information about the family address and phone number, should we need to mail anything or call them, things like that.

Q. Does the Epic system --- let me back up. So the Epic system is a system used by West Virginia University.

Is that right?

A. WV Medicine specifically and UHA uses Epic I believe in most, if not all, of their hospitals. I think a couple hospitals are going live with Epic soon. I think it's an incredibly common electronic health record in this country and others I believe.

Q. I've heard of it. I don't know a lot about it. So tell me, would Epic system that WVU Medicine is using, does it just have information from within the WVU Medicine medical system or does it expand out to all providers in the country, for example?

A. It would be wonderful if it did that if an effective way. There's a bit of capitalism involved there I suspect, but we do have something called Care Everywhere, which is a tab that you can select and for some circumstances it allows you to see notes from other Epics systems outside of WVU Medicine.

Q. So what is the WVU medical system? Where else

are they tied into?

A. Can you restate your question?

Q. First of all, let me make sure I get my terminology correct. It's WVU Medical?

A. WVU Medicine. I think that's the brand name for the UHA health family of hospitals and clinics and that sort of thing.

Q. So WVU Medicine uses the Epic system and also you can utilize Care Everywhere. So my question is, Care Everywhere ties you into what other systems?

A. I don't know the comprehensive list. It's kind of a bit of luck I think sometimes navigating Care Everywhere. It's a little bit of what I would consider a clunky system, but Care Everywhere is within Epic. It is not itself a separate system.

Q. Understood. But can you recall any other organizations that you can access through Care Everywhere?

A. I know that I can access the University of Pittsburgh in some capacity. I previously worked in that system, and so I wasn't seeing exactly what it looked like if I was in their system, but I can't really speak to other systems that are connected.

Q. And if a patient comes in and they've had prior

medical providers, do they typically bring in any copies of medical records?

A. That would be wonderful, but it doesn't happen very often.

Q. Is the intake process any different for when someone comes in as a referral patient?

A. It depends on how they've been referred. So for example, sometimes providers will reach out to me through secure communication within Epic and say they have a patient they wish to refer and they might have questions about how to make that happen. So there may be an additional layer of communication there. I often ask questions about urgency of need. Sometimes patients are needing to see me sooner for a variety of reasons, maybe mental health concerns, that may be just stress about getting a visit, and so I can accommodate those things.

Q. So if the referred physician had information, they can send that to you through the Epic system?

A. They can send me a communication and that may include information that they feel is relevant for me to know about the patient they're sending me.

Q. When they send that communication, what does that look like? Is that email, texting?

A. It's --- it's neither. It's actually a communication system within Epic. It's called Inbasket.
Q. And does Inbasket provide for just communications or also sending documents?
A. I believe you can attach documents within those, but I have very intermittent luck of doing so and most folks do not use that feature.
Q. Anything else different about when you receive a referral as opposed to a direct contact?
ATTORNEY HARTNETT: Objection to form.
THE WITNESS: Not that I can think of.
BY ATTORNEY TRYON:
Q. Let me ask you generally what types of information do you need to diagnose a problem?
ATTORNEY HARTNETT: Objection to form.
THE WITNESS: Can you restate the question?
BY ATTORNEY TRYON:
Q. Yes. So in your field, are you --- do you diagnose patients?
A. If it is within my scope of practice, yes.
Q. And what type of --- what information do you need to make a diagnosis of your patients?
A. It depends on the patient and the diagnoses I'm

considering.

Q. Is there something called objective versus subjective symptoms?

A. Yes.

Q. Can you explain what those are and the difference?

A. Objective tends to refer to things like vital signs or labs, things that we measure. Subjective tends to refer to things that patients tell us, like that they have headaches or the severity of their headaches.

Q. How do you measure subjective symptoms?

A. You talk with your patient.

Q. Anything else?

A. That's the primary way to diagnose most things is to have a conversation with your patient.

Q. Is there a --- an objective way to measure the subjective symptoms?

A. We have a lot of scales for a lot of things. We have a lot of diagnostic criteria for a lot of things, but most of medicine would not exist in my opinion if we didn't talk with our patients.

Q. I understand that. So it sounds like there's not a good way to actually put a measurement on subjective symptoms.

Is that a fair statement?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: They are by nature subjective.

BY ATTORNEY TRYON:

Q. So when someone comes to you for gender dysphoria issues as opposed to other types of medical issues --- actually, let me start that all over again. Do you ever treat patients or diagnose patients for things other than gender dysphoria issues?

A. Yes.

Q. What other medical issues do you diagnose or treat?

A. It's a very extensive list.

Q. Okay.

Then I won't make you go through it, but can you give me some just general ideas?

A. Dysmenorrhea is an incredibly common thing that I treat and diagnose.

Q. Can you repeat that or spell that, please?

A. Dysmenorrhea, D-Y-S-M-E-N-O-R-R-H-E-A. Dysmenorrhea.

Q. What is that?

A. Dysmenorrhea is difficult periods. It's a whole

host of things that lead to heavy bleeding, uncomfortable bleeding, pain with bleeding, and can really impact live experience with young people.

Q. Okay.

Anything else?

A. As I said, there are many things that I diagnose and treat.

Q. Give me a few examples just so I sort of understand your practice.

A. Okay.

Sexually transmitted infections. I'm an adolescent medicine doctor, so really anything in the pubertal period or young period is in my practice. But I often screen and treat for sexually-transmitted infections. I also manage contraception. I also talk about mood, anxiety, depression. Would you like more?

Q. I think I'm getting the sense of it. So let me ask you about gender dysphoria. Can you give me your definition for what gender dysphoria is?

A. My definition is loosely based on the DSM-V, which has criteria for the diagnosis of gender dysphoria, but it is stress, significant distress often associated with the inconference between one's sex assigned at birth and gender identity lasting longer

than six months with accompanying things like seeking to present one's self gender expression in line with one's affirmed gender and in opposition to one's sex assigned at birth as well as some other criteria.

Q. Is the actual intake process that we have discussed for someone coming to you for gender dysphoria different than some of these other issues that you've mentioned to me?

A. Can you restate the question?

Q. Sure.

When someone comes to you, you have given me sort of the --- explained to me how the intake process works in general. And my question is, is it any different in general than with respect to someone coming to you with gender dysphoria specifically?

A. In some ways. I ask a whole lot more questions about gender when we are talking about gender dysphoria, although I ask all of my patients about gender identity.

Q. Why do you ask all of your patients about gender identity?

A. It's important that I'm respectful of them and their name and pronouns, and also we know that gender diverse young people, and by my definition that is anyone who's sex assigned at birth and gender identity

do not fully align, we know that those young people face health disparities and inequities associated with mental health, and I want to make sure I can address those if they are present.

ATTORNEY TRYON: Let me just ask the court reporter if you're able to keep up with this?

COURT REPORTER: Attorney Tryon, if the doctor could speak a little bit slower because I'm --- yeah, a little bit slower, Doctor, please.

THE WITNESS: Absolutely.

ATTORNEY HARTNETT: She is doing a great time on the real time, though, but appreciate the point.

BY ATTORNEY TRYON:

Q. What is --- what percentage of your practice involves gender dysphoria or gender identity issues?

A. I couldn't give you an exact number, but my guess would be 80 percent.

Q. Now, you mention there's --- this may not be your word, but there's a process for diagnosing gender dysphoria.

Is that right?

A. There are diagnostic criteria, yes.

Q. And can you list those for me again? You started to go through that a little bit, but if you

could go through that I would appreciate it.

A. These are located in the DSM-V, and I cannot recite them by memory.

Q. Well, as best as you can, can you tell me what they are?

A. Loosely, the definition of gender dysphoria by my interpretation is that there is distress, often significant distress, associated with an incongruent between one's sex assigned at birth and one's gender identity lasting for at least six months and also inclusive of some other criteria, which include things like desiring to align one's gender expression with one's affirmed gender and in opposition to one's assigned sex.

Q. About how many people have come to you to get an initial diagnosis of gender dysphoria?

A. I want to clarify that most folks, at least a substantial portion of folks don't come to me asking for that diagnosis specifically, but more broadly to have conversations about means of support, although I am able to provide that diagnosis.

Q. Okay.

And about how many people have you given that diagnosis to?

A. I couldn't give you an exact number. I can approximate and say that I have seen well over a hundred patients in my clinic.

Q. And in which or for which you've given a diagnosis or gone through that --- let me start that over. Of those hundreds, those are the --- those you've actually gone through the process to make a diagnosis of gender dysphoria?

A. I've certainly asked all of the relevant questions. Sometimes young people and their families don't desire to have that diagnosis listed in their chart due to fear of discrimination.

Q. But you would say you've given that diagnosis for over a hundred patients?

A. I've certainly asked the questions associated with that diagnosis, yes.

Q. Okay.

But I'm asking where you've done the actual initial diagnose --- given actual diagnosis of that gender dysphoria, would you say over a hundred or not?

A. It's really hard to say because there is no --- there is no way that one gives a formal diagnosis kind of as a here it is. It's more of a you meet these criteria. Let's explore what that means. Does that

feel in line with your life experience. Sometimes I have to write it in the chart for the purpose of insurance coverage, for medication for example. But it's a bit more complicated than just saying you checked the boxes, here is your diagnosis.

Q. Okay.

Have you ever had a patient that came to you and you discussed gender dysphoria with that patient and ultimately you concluded that the patient did not have gender dysphoria?

A. I have.

Q. Are those patients who initially thought they had gender dysphoria and you concluded they did not?

A. Not usually, no. Those are more often patients who are questioning this part of themselves and exploring their identities as a normal part of adolescent development.

Q. For any of the patients that have come to you and said they thought they had gender dysphoria, have you arrived at a different diagnosis of what was causing their concerns?

A. I can't recall an occasion like that.

Q. Are you familiar with the concept of watchful waiting?

A. I am.
Q. Have you ever recommended that to a patient?
A. I have not because it is not recommended by the American Academy of Pediatrics.
Q. Tell me how you are familiar with that.
A. I'm familiar with it through the policy statement on the care of this population of young people from the American Academy of Pediatrics by Rafferty, et al., 2018.
Q. Have you --- tell me that citation again.
A. Sure. Rafferty, et al., 2018, the American Academy of Pediatrics.

ATTORNEY LINKOUS: Mr. Tryon, I know we've been going about an hour-and-a-half. When you get to a logical breaking point, I could use three minutes.

ATTORNEY TRYON: Okay.

Give me just another couple of minutes and then we will break.

BY ATTORNEY TRYON:
Q. Have you read any literature other than that about watchful waiting?
A. That is the literature that most specifically sticks out in my mind. I'm sure I've read countless articles that discuss this in one form or another.

Q. Are you aware that there are other articles that do recommend watchful waiting?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: I am not familiar with articles like that from highly-respected medical organizations.

BY ATTORNEY TRYON:

Q. Are you aware of any, whether or not they are from highly-respected medical organizations?

A. Not off the top of my head, no.

Q. Have you read their studies? I mean, this is a Dutch concept.

Right?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: I'm not familiar with what you're talking about.

BY ATTORNEY TRYON:

Q. It's called the Dutch Approach, and you're not --- you haven't heard that?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: I certainly am familiar about the Netherlands and the Dutch and the work they've been doing in this space for more than a decade.

BY ATTORNEY TRYON:

Q. And over there watchful waiting is considered an appropriate recommendation.

Right?

A. I can't speak to that. I know from their literature they've demonstrated that the approach we take here in this country when done in their country was very helpful and reduced mental health concerns in their young people. I believe that's a DeVry study from more than ten years ago.

Q. What is the difference between gender dysphoria and gender nonconformity?

ATTORNEY TRYON: You know what, I will withdraw that question. We can take a break right now. When we come back we can talk about that. Okay?

ATTORNEY LINKOUS: We can go off the record.

VIDEOGRAPHER: Going off the record. The current time reads 11:26 a.m.

OFF VIDEOTAPE

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record.

The current time reads 11:37 a.m.

BY ATTORNEY TRYON:

Q. Dr. Kidd, when we concluded, when we took our break we were just finishing up talking about watchful waiting. Let me ask you just one or two more questions about that. Is watchful waiting something that --- is the only reason that you don't ever recommend that is because of the Rafferty study?

A. So Rafferty is not a study. It's a policy statement from the American Academy of Pediatrics that summarizes best practice guidelines for gender diverse young people. And so in that it does not recommend watchful waiting.

Additionally, based on my own literature view conducted over the course of my career thus far I have never seen medical literature that supports the use of that practice and is associated with positive mental health outcomes for youth.

Q. Okay.

Let me ask you about gender dysphoria versus gender non-conformity. You're familiar with both those terms.

Right?

A. I am.

Q. What's the difference between those two things?
A. Gender conformity is simply someone rejecting some tenet of what society presumes they should look like, act like, think like as it pertains to gender. And so that could be someone who, like myself, was assigned female but who is very interested in building and construction, right. Typically, that is considered a more masculine pursuit. And so that could be gender non-conformity, and that could extend through my expression. Perhaps I would want to present myself in a way that is more masculine or more androgenous. That would also be reflective of gender nonconformity.

Where this enters into the territory of gender dysphoria is when you have that significant distress associated with that encumbrance between my sex assignment and my gender identity. That is the difference.

Q. Could you repeat that last part again?
A. From where?

ATTORNEY TRYON: Can I ask the court reporter to read back that answer?

COURT REPORTER: It is simply someone rejecting of what society presumed they should look like, act like, think like as it pertains to gender.

And so that could be someone, who like myself, was assigned female but who is very interested in building and construction, right. Typically that is considered a more masculine pursuit, and so that could be gender non-conformity and that could express through my expression perhaps. I would want to perhaps myself in --- want to present myself in a way that is perhaps more masculine or androgenous, where this enters into the area of territory of gender dysphoria where you have that significant distress encumbrance in between my gender society. That is the difference. That's the part I messed up.

BY ATTORNEY TRYON:

Q. Isn't there always some level of anxiety or distress when someone has a gender non-conformity?

A. No, not always.

Q. So then in every event where there is some level of stress or anxiety does it then turn into gender dysphoria?

A. No. The word that I use is significant or severe, and I believe that language is also echoed in diagnostic criteria.

Q. So when I use the name BPJ, do you know who that is?

A. I do.
Q. Who is that?
A. That is [redacted], my patient.
Q. Last name [redacted]?
A. I believe it's a hyphenated last name, [redacted], but yes.
Q. Very good. Thank you for correcting me on that. Any --- prior to --- strike that.
Do you have any personal relationship with either BPJ or BPJ's family?
A. I am a physician caring for this young person. That is the extent of my relationship with this family and this young person.
Q. When did you first hear of BPJ, with that --- those initials or any other name?
A. I believe the first time I heard about [redacted] was when Dr. Someshwar, an adolescent medicine specialist who i work with, recommended that she see me.
Q. Remind me how to spell that doctor's name?
A. S-O-M-E-S-C-H-W-A-R (sic), Someshwar.
Q. And how did that come about?
A. So Dr. Someshwar is the division head of Division of Adolescent Medicine and WVU Medicine Children's and my direct supervisor in my current

position, but also Dr. Someshwar provides care for gender diverse people, as I do, but she does not provide care for those who are interested in or have received pubertal blockers.

Q. Why not?

A. That is outside of her scope but well within my own, and that is why she wished for me to see [redacted].

Q. And how did --- and I'm also going to use BPJ because that's the name on the Complaint, number one, and number two, since BPJ is a minor, that's my practice is to refer to people in court proceedings by their initials, all minors.

ATTORNEY HARTNETT: And if I could just --- for the record, this is Kathleen Hartnett for Plaintiff. It's acceptable to us for you to refer to her as [redacted] or BPJ in this deposition. We marked the Complaint BPJ per rules of Court, and we'll mark the parts of this deposition about her medical records, if any, confidential, but Plaintiff has no objection to referring to her in either way. Thank you.

ATTORNEY TRYON: Well, to be clear, I'm going to continue doing that because if I make the mistake elsewhere, I can be sanctioned by a court, so I'm going to stay with that.

BY ATTORNEY TRYON:

Q. So how did BPJ come to the attention to Dr. Someshwar?

A. It is my understanding that Dr. Someshwar had provided care to [redacted].

Q. Do you know what care?

A. I had seen a note from Dr. Someshwar.

Q. And what did that note say?

A. I can't recall the contents of that note, simply that I do remember seeing one.

Q. Is that in the records that you mentioned before or the Epic records?

A. It would be in the Epic record, yes.

Q. Do you remember when you had your first contact with BPJ and BPJ's family?

A. I know from my records the exact date. But without I could easily tell you it was in the fall. I can look at my records to get you the exact date if that would be helpful.

Q. Before we go there, let me ask you if you have a specific recollection of meeting with BPJ and Heather Jackson.

A. I do.

Q. What do you remember right now about that

encounter?

A. I have a mental picture of where [redacted] and her mom were sitting in the exam room. That's most of the extent of what I recall just from my own memory and not reviewing the note.

Q. Do you have a mental memory of the discussions you had with BPJ and BPJ's mother?

A. That would certainly refresh from my review of my own note but also my practice is to have fairly similar structured conversations with families, and so I have a rough template in my brain of what we would have talked about.

Q. Tell me about that template.

A. It involves asking lots of questions about young people, their interests, their journey with gender identity, their family. Sometimes I ask about pets. It's a whole host of things to get to know the young person and their family.

Q. What does that term mean journey with gender identity?

A. We are all forever growing and evolving and changing as humans. It's part of the human experience, but particularly as it relates to gender for my patients that's often a bit of a long journey, and so that may be

starting from when they are young children. It may be starting from when they are adolescents. But regardless, there is always much to talk about with regard to a young person's experience of their own gender identity over time.

Q. And is that gender identity sometimes fluid?

A. It absolutely can be.

Q. Somebody may be for one period of time have a gender identity as one gender and then that can change?

A. Yes.

ATTORNEY HARTNETT: Object to form.

BY ATTORNEY TRYON:

Q. How many genders are there?

A. There are more genders than we understand, can conceptualize or can count.

Q. So over a hundred?

A. Gender is a spectrum. There is no solid number. It's someone's lived experience. It's much more complicated than we try to make it by binarizing people.

Q. So setting aside binder --- how do you say that, binderizing?

A. Binarizing people. Forcing folks into a binary.

Q. I've read some place there's 27 genders. Would you agree with that or not?

ATTORNEY HARTNETT: Object to the form.

THE WITNESS: I'm certainly not familiar with that particular study, but I would dispute it as I could probably list more than 27 myself.

BY ATTORNEY TRYON:

Q. And when someone is gender fluid what does that mean?

A. It depends on the individual, and so these terms tend to be applied to folks but what matters to me is the individual's definition of themselves.

Q. Have you had any --- well, let me move on to Exhibit 16.

ATTORNEY TRYON: And let me try to bring this up. This is going to be a first for me on doing this on the system.

VIDEOGRAPHER: And I'm here if you need some help or I can pull it up as well.

ATTORNEY TRYON: So Jacob, when I pull up exhibits file sharing, it wants me to enter a password.

VIDEOGRAPHER: Did you join with a new link when you rejoined after we got everything fixed?

ATTORNEY TRYON: I attempted to join with the same link.

VIDEOGRAPHER: I can set that new one or

I can just pull it up for you, either/or.

ATTORNEY TRYON: Why don't you do that. Can you pull up Exhibit 16, please?

VIDEOGRAPHER: Yes, just give me one second.

ATTORNEY TRYON: No, I had uploaded. Maybe you can't access them. I had uploaded three documents. One was Exhibit 16 just so we would only have to look at that one.

VIDEOGRAPHER: Got you. If you have them uploaded, then I would not have access to them unless you share them as host and share them with me.

ATTORNEY TRYON: Let me see if I can do this.

VIDEOGRAPHER: Also, when you upload if you check mark any of the boxes --- like if you check mark like Defendant's Counsel, they would also all have access to that as well.

ATTORNEY TRYON: Well, it's now rejecting my password.

VIDEOGRAPHER: It might be since it's a probably a different link that you joined the meeting with you might have to hit the forget password and set up a new one. That one --- the old one that you made

might be tied to the old link.

ATTORNEY TRYON: Let's go off the record for a second so I can get this straightened out.

VIDEOGRAPHER: Going off the record. The current time reads 11:52.

OFF VIDEOTAPE

- - -

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

- - -

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 11:59 a.m.

BY ATTORNEY TRYON:

Q. Dr. Kidd, this is what we've marked as Exhibit 16. Do you recognize this?

A. I'm not able to read any of it due to size.

Q. Okay.

I'm trying to blow it up. Does that help?

A. I have not seen it change. I may be able to do --- I can do it on my end specifically. Let me do that. I can only see the first page so far, but this does look familiar, yes.

Q. I believe you can click the different pages, 1 through 9.

A. I see that now. Yes. This looks like my note.
Q. Do you have a hard copy of that in front of you as well?
A. I do.
Q. Feel free to use either one, just to go through this.
A. Yes.
Q. So my first question is simply what is this document?
A. So certainly there are pages associated with this packet that I'm not familiar with. I think they are part from the pull from the health system. But specifically as it relates to the section that begins [redacted] is a 11-year-old patient, that is the beginning of my clinical note from our patient visit.
Q. How is the information in here populated into this document?
A. The note itself?
Q. Well, everything in here. I'm just trying to understand how this document is created.
A. I can't speak to the ancillary information outside of my patient note. I can tell you how my note was created.
Q. Well, let's start with that then.

A. Okay.

I use a note template that has spaces for me to fill in information, as well as some information that is already populated that I can adjust accordingly.

Q. Is that note template in Epic?

A. It is.

Q. And then Epic takes that information and would populate it into a document that looks like what we have before us?

A. Specifically the section that begins [redacted] is an 11-year-old patient, yes.

Q. The other information in here, for example, the visit date, the name, those sorts of things, do you know how those are populated into this document?

A. So let me --- I don't know that you can see where I am in the document, but this portion here that has the WVU Medicine Children's logo, I think it copied poorly. But from this section down, this is my note template. Above that ---.

Q. I cannot see where you're at.

ATTORNEY TRYON: Jacob, can you enable her to show that?

ATTORNEY LINKOUS: Jacob, you're on mute.

VIDEOGRAPHER: I have you enabled to mark

up the document. You should be able to put in highlights or drag us around. Whatever you do we should see.

THE WITNESS: Okay.

VIDEOGRAPHER: If you highlighted that right there, that's --- I see the highlight. Does everyone else see that highlight?

ATTORNEY TRYON: No, I can't see it.

VIDEOGRAPHER: On page three, around the it looks like the logo.

ATTORNEY LINKOUS: I see it.

ATTORNEY HARTNETT: This is Kathleen Hartnett. Just to make sure I'm clear, is the witness able to move the exhibit in the window but the others who see it cannot?

VIDEOGRAPHER: Right now I have the witness set to move it. I can give anybody permission to alter it and move it around and stuff. And it does that for everybody. So right now I just have the witness with the permission for that. Does that make sense?

ATTORNEY TYRON: Yes.

ATTORNEY HARTNETT: Yes.

ATTORNEY TYRON: Yes.

BY ATTORNEY TRYON:

Q. Is it highlighted in color?

A. It is yellow.

ATTORNEY LINKOUS: Mr. Tryon, she is also on BPJ099. I don't know if you're on that same page or not. I think she moved us down to that page.

VIDEOGRAPHER: Let me try something to synch it back up for you, Mr. Tryon.

ATTORNEY TRYON: Okay.

VIDEOGRAPHER: Do you see it now?

ATTORNEY TRYON: I see the document. I don't see any yellow highlighting.

BY ATTORNEY TRYON:

Q. Well, go ahead and describe where you're at.

A. Sure. There's a logo on one of these pages that has some cookie-cutter people holding hands and it says WV Medicine Children's, although I think the photocopy did not do that logo any justice. But that is the logo located on the top of my note. And that logo and everything beneath it is part of my note template. I am not familiar with how Epic aggregates the additional information in this packet.

Q. Okay.

Do you know who enters in the information, for

example, the date of birth and the visit date?

A. That information is likely entered at the time of the visit being scheduled, although that is not part of my role and so I cannot be certain.

Q. At the very top of that page, I think it's the same page, do you see it's got a number --- MRN number. Is that the patient's number that's assigned?

A. I have an E number on my screen that's below the date of the visit encounter. That is in my note template. That is the patient's medical record number, that E number.

Q. So I'm seeing MRN: E2003446?

A. Yes. And I know that you're having trouble seeing my highlighting, and I don't know if you can see that piece. I pulled that number into my notes. I'm not sure where you're referring to it, but that is the number.

Q. Right at the top, I'm looking at the very top of this page, page --- it's labeled BPJ099, and it's page one.

A. I can see it here.

Q. Yes. Now I see you're highlighting, although it's not yellow. Okay. So then if you move over to the right and it says sex M. Does that stand for male?

A. It does.
Q. And who would input that that BPJ's sex is male?
A. I cannot speak with certainty, but my guess would be the person who collected the insurance information.
Q. And why would --- if BPJ identifies as a female, as I think you say later on, why would that be put there as male?
A. The sex marker has to line up with the insurance for the purposes of billing in the medical system.
Q. Is that the only reason?
A. That's the reason that I'm familiar with.
Q. So you did not put that information in there?
A. I did not.
Q. If you can scroll down where it says desired to be treated as other gender.
A. Sure.
Q. It shows the name pronouns of she and her.
Right?
A. Yes.
Q. And if I scroll down further I look at and I see under gender dysphoria patient describes this experience for themselves as --- why do you use a different pronoun down there?

A. That's part of my standard note template. The things before the colons in these sections are part of a note template.

Q. Okay.

Then back up to desire to be rid of secondary sex characteristics. It says expectations for today's visit. That's part of the template?

A. It is before the colon.

Q. Right. And so that template is something that's created by Epic or by someone else?

A. That's a note template that I created within Epic.

Q. I see. And so it says want to establish care. That seems obvious to me, but can you explain that?

A. This was my first time seeing [redacted]. And as part of my first visit with all of my patients I ask, you know, what are their expectations or goals for today's visit. And when I asked that question, [redacted] and her mom responded that they wanted to establish care today. I'm not sure exactly who said that. I suspect it was mom.

Q. And next it says has [redacted] since June 2020 placed by Dr. Montano at UPMC. And you put that in there?

A. I did.
Q. And how did you know about that [redacted]?
A. I suspect that mom told me. That information was provided to me during this visit. But also it was in the medical record that I would have briefly reviewed prior to this visit.
Q. What medical record is that?
A. The notes that are available for me in Epic.
Q. So you're telling me that in Epic there would be some notes that stated that there was an [redacted], a [redacted]?
A. I believe Dr. Someshwar's note referred to it, yes.
Q. Did you ever ask Dr. Montano if he had placed that [redacted]?
A. I don't recall specifically asking Dr. Montano if he placed the [redacted], no.
Q. Did you do anything to confirm that the [redacted] was in place?
A. I examined [redacted]'s arm. I palpated the [redacted]. I noted the small scar at the insertion site. I also confirmed it based on lab testing.
Q. Next, under desire to gain secondary sex characteristics of other gender, slash --- other gender,

colon, that was part of the form?

A. That was part of my note template, yes.

Q. And you created that?

A. I did. I should note it's based off of a template from those that taught me.

Q. Which would be whom?

A. Dr. Montano.

Q. Under there it has --- under severity, wanting to be other gender, other gender is based on the following, hair style and clothing and desire for hormone therapy, which you created that template.

Right.

A. Yes, everything before the colon.

Q. And you inputted feminine, feminine in the future.

Right?

A. I did, based on our conversation during this visit.

Q. Are those the things upon which you made a determination --- strike that.

Did you make a determination that [redacted] was gender dysphoric?

A. If you review the criteria for diagnosis for gender dysphoria it's that essentially insistent,

persistent, consistent, incongruence associated with significant distress, as I discussed earlier, plus two or more of a list of criteria. This note outlines those criteria. And so based on the responses to questions that I asked in relation to my documentation here, yes, [redacted] does meet the diagnostic criteria for gender dysphoria.

Q. Did you actually make a diagnosis?

A. [redacted] already had that diagnosis prior to seeing me.

Q. And that was --- who made that diagnosis?

A. I suspect the first person was Dr. Montano, although I don't know that for sure.

Q. And who told you that she already --- that BPJ already had such a diagnosis?

A. The medical record.

Q. And that medical record which was from Dr. Someshwar?

A. And Doctor Someshwar would have had one of those notes, yes.

Q. Any other notes that would have said that?

A. Likely notes from [redacted]'s therapist.

Q. And you have access to [redacted]'s therapist's --- excuse me, BPJ's therapist --- let me start that over.

You had information from BPJ's therapist?

A. I had documentation.

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Of her record.

BY ATTORNEY TRYON:

Q. Is that also on Epic?

A. Yes.

Q. So I want to go back to this part where it says desire to gain secondary sex characteristics. So are hairstyle and clothing the only bases to determine if someone is gender dysphoric?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: No.

BY ATTORNEY TRYON:

Q. What other?

A. Potential criteria, potential things that we look for. There's no one single criterion.

Q. But those are the only things that are listed in this form.

Right?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: In that particular section.

BY ATTORNEY TRYON:

Q. And desire for hormone therapy in the future.

What additional hormone therapy was desired?
A. Estrogen.
Q. And were you told why?
A. I can't recall our exact conversation, but it is my typical practice to have pretty detailed conversations about where a young person is in their chem thought process and understanding of what estrogen could mean for them.
Q. And what could it mean for them?
A. It could meaning gaining secondary sex characteristics of the other gender.
Q. Such as?
A. Breast growth.
Q. Any others?
A. Several others.
Q. What are those?
A. Thinning of hair follicles, softening of skin. Those are the primary.
Q. I'm sorry. What did you say about hair follicles?
A. Thinning, making the hair follicles less apparent on the body especially.
Q. And do you recall discussing those with BPJ and BPJ's mother?

A. I can't recall the specifics of that encounter, but is my standard practice to have those discussions.

Q. Up at the top of that page, do you see at the very top where it says [redacted], comma, and it's blocked out?

A. Yes.

Q. So --- let me back up. This document was produced to Plaintiff's Counsel then gave it to us. Were you involved in that production to Plaintiff's Counsel?

A. I was not.

Q. Okay.

Let me move on to the next page. And let me ask you, during this conversation was BPJ joined by Heather the entire time?

A. It is my standard practice to talk to young people alone for at least a portion of their visit, and so I suspect I did that during this visit.

Q. Do you recall during this visit anyone other than you were involved as far as healthcare providers?

A. It is often that I have trainees with me, most often in the role of shadows to witness how I talk to patients, how I gather this information, that sort of thing, how I provide care. I do not recall having a

trainee with me that day, but my memory could be mistaken there.

Q. And in your memory was anyone else from WVU in that meeting?

A. From WV Medicine?

Q. Yes.

A. I don't think so because I know that the other members of my multidisciplinary team were not a part of this conversation as [redacted] was already established with a mental health therapist.

Q. Under past medical history --- and I'm now on page two of this document, it shows mental health HX. What is that? What does HX stand for?

A. It's a common medical abbreviation for the word history.

Q. In this past medical history that you have put here, the source is --- what was the source?

A. This source was very likely [redacted]'s mother.

Q. Under social history do you see that?

A. I do.

Q. Is there anything in there that affects or would affect a determination or a diagnosis of BPJ having gender dysphoria?

A. These items in the social history are really

about getting to know [redacted] and her family dynamic and more about her generally. These are not directly related to her gender identity.

Q. And let me just confirm up at the top of the page it says --- it shows the date being 9/16/2021. Was that the date of the visit?

A. To the best of my recollection, yes.

Q. On the next page it shows patient active problem list. Do you see that?

A. I do.

Q. And what --- it says WCC well check. Is that something that you inputted?

A. It is not. So this is a problem list that is maintained in Epic usually by the patient's primary care provider.

Q. Who is this patient's primary care provider?

A. I do not recall.

Q. Is there anything on this form that would tell you?

A. On this particular form, no, although in the Epic record that would likely be noted, at least to the extent of my note. It is not written in my notes. It may have been in some of these ancillary pages that I'm not as familiar with.

Q. During the visit did you discuss any of these items under the diagnosis --- well, excuse me, under the patient active problem list?

A. Not to my recollection, no.

Q. I'm sorry. Let me finish my question. The six bullet points that are listed there, you did not input any of those?

A. That is correct.

Q. And you didn't discuss any of those with BPJ or BPJ's mother?

A. Not to my recollection, no.

Q. Now, the next paragraph of notes, was that something that you inputted?

A. It is.

Q. And you ordered labs to confirm that the [redacted] was likely to release medication. Do I understand that correctly?

A. I ordered labs to confirm that the [redacted] was continuing to release the medication, as I suspected it would be, yes.

Q. Why do you do that?

A. It's routine and to make sure that the [redacted] is functioning as we expect it to. And for my practice I usually check those labs every 6 to 12 months.

Q. How is the [redacted] supposed to function?
A. So the [redacted] has a medication called [redacted]. [redacted] is a gonadotropin-releasing hormone agonist, or abbreviated a GRNHA. A GRNHA works at the level of a hypervolemic pituitary gonadal access to suppress that access and subsequent release of sex hormones, either testosterone or estrogen, depending on the sex assigned at birth.
Q. Is it the same medication for both to stop either testosterone or estrogen or is it different?
A. It is the same medication. It works in the same way.
Q. And did you also discuss that a [redacted] scan be done?
A. I had a discussion with [redacted] and her mother about why I thought a [redacted] scan could be helpful and they opted to get one.
Q. It says I shared resources with mom to connect her to local parents support programs. Who were those resources?
A. I am connected to community organizations run by parents wherein parents can talk with other parents of gender diverse people. My abbreviation for the program I referred [redacted]'s mom to is, in fact, next to [redacted]'s

mom's email. It's abbreviated POT for the Parent Outreach Program.

Q. At the bottom it says on the day of the encounter a total of 60 minutes was spent on this patient encounter, including review of historical information, examination, documentation of post activities. And my question is what was the historical information?

A. That would have been the conversation with [redacted] and her mom talking about the medical history as well as my pre-review of the chart prior to this visit.

Q. And then the examination, what would that entail?

A. For [redacted], to my memory, that included making sure that [redacted]'s heart and lungs sounded normal and generally evaluating how she was able to communicate, how she moved about the room, those sorts of things are the aspects of my physical exam.

Q. And when it refers to documentation, what is that referring to?

A. The actual writing of this note.

Q. Anything that is not in this note?

A. It would have also involved me ordering the labs and the [redacted] scan, writing why I was ordering the [redacted]

scan, things of that nature.

Q. And what would the post visit activities refer to?

A. That could be things like reviewing the labs if they came back the same day. This is a billing statement and only includes the time spent during that same day.

ATTORNEY LINKOUS: I'm sorry. Can you repeat that?

THE WITNESS: It is a billing statement and so it is referring to activities that were undertaken on that day.

BY ATTORNEY TRYON:

Q. In your discussion with BPJ and BPJ's mother was there any indication that BPJ had ever had any suicidal ideations, suicide plans, threats or attempts?

A. Not to my recollection.

Q. Did you ask?

A. I likely did. That is part of my standard practice.

Q. Why do you ask that?

A. Because gender diverse young people like [redacted] base health inequities particularly as it relates to mental health, although that's at population level and

does not necessarily apply to [redacted].

Q. Why wouldn't it apply to [redacted]?

A. That's a population statistic, and so [redacted] is her own person and may or may not be in line population statistics more promptly.

Q. And now I understand. Do you know if BPJ has ever been hospitalized for anything?

A. I reviewed the chart and don't recall a specific example of hospitalization. I think there may have been notes from emergency sorts of visits, but I don't remember an inpatient hospitalization.

Q. Before this visit had BPJ ever been diagnosed with any mental or emotional illnesses?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Mom specifically mentioned gender dysphoria, which is a diagnosis within the DSM-V, which is a diagnostic and statistical manual and so I suppose that could count.

BY ATTORNEY TRYON:

Q. Well, is that a mental or emotional illness?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: It depends on your interpretation. It is a diagnosis in the DSM-V.

BY ATTORNEY TRYON:

Q. Okay.

It is a diagnosis. Is it a diagnosis of mental illness?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: That is a very challenging question, and so the short answer is gender dysphoria is significant distress, and it is that distress that can be considered a mental health concern. Being gender diverse or transgender is not a pathology.

BY ATTORNEY TRYON:

Q. Can you define then for our purposes what you consider --- or based on DSM-V, what is a mental illness?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Can you rephrase the question?

BY ATTORNEY TRYON:

Q. Yes. So you referred to the DSM-V.

Right?

A. I mentioned it, yes.

Q. Does that define what a mental illness is?

A. The DSM-V is the diagnostic and statistical manual of essentially all of the things that the American Psychiatric Association considers in their

wheelhouse for diagnoses. And so things like depression and anxiety are certainly in there but also things like gender dysphoria.

Q. Does it define the term mental illness?

A. I can't recall. It's a very broad term.

Q. Other than gender dysphoria, were there any other mental or emotional issues or problems that you were aware that BPJ had been diagnosed with?

A. Not that I can ---.

ATTORNEY HARTNETT: Object to the form.

ATTORNEY TRYON: Jacob, can you pull up Exhibit 33, please? Actually, I take that back. Let's stick with this exhibit a little bit longer.

VIDEOGRAPHER: You got it.

ATTORNEY TRYON: I apologize for that.

BY ATTORNEY TRYON:

Q. So turning to page six of this exhibit?

A. I'm unable to do that on my end.

Q. I can.

A. I can now, yeah.

Q. Okay.

If you can go down to where it shows --- sorry, it would be on actually page eight, eight of nine, I believe. And this was part of the testing that you

would have requested.

Is that right?

A. This is one of those forms that Epic has compiled for you, but it does look like it is of the labs that I ordered, yes.

Q. When this came back did you review it?

A. I did.

Q. And it shows under components testosterone total serum. Do you see that?

A. Let me highlight and make sure we're looking at the same thing. Here?

Q. Yes.

A. Yes.

Q. And if you go lower it shows the total serum and it shows value of less than 7.0.

Right?

A. Yes.

Q. And down below it shows the Tanner reference stages and for prepubertal, 7-20 for Stage 1.

Right?

A. I can see that.

Q. So does that testosterone level indicate that BPJ was at Tanner Stage 1?

A. No, that is not a correct interpretation.

Q. Could you please interpret it for me?

A. Sure. So the testosterone level demonstrates that it is suppressed, actually below a detectable threshold of 7.0 for the purposes of this lab. It is important to note that all bodies, unless they are too young or being blocked, make testosterone and that includes people who are assigned female. And so I myself right now very likely, in fact I'm extremely confident, have a level much higher than seven of testosterone because that is normal for an adult female. And so [redacted]'s testosterone based on this level is fully suppressed. The reason that the Tanner stage reference guidelines are in this record is that other folks use this lab to monitor pubertal progression. [redacted] was Tanner stage prior to the rod and was at Tanner 2 at that time. And so this table is not relevant to [redacted], just a refresh in the lab that her testosterone is fully suppressed.

ATTORNEY TRYON: Okay.

Now let's turn to Exhibit 33.

VIDEOGRAPHER: Before I show it, you said 33.

ATTORNEY TRYON: I didn't hear you.

VIDEOGRAPHER: Before I show it, you said

33.

Correct?

ATTORNEY TRYON: Right. I sent you two other forms.

VIDEOGRAPHER: I just wanted to make sure before I showed it.

ATTORNEY TRYON: Yes.

VIDEOGRAPHER: And does everybody see that.

THE WITNESS: Yes.

ATTORNEY TRYON: I do.

BY ATTORNEY TRYON:

Q. Great. So if we could go forward into page 11. Sorry, it's going to be page 11 of the document itself, so it looks like that will be page --- I'm not sure.

And Dr. Kidd, if you have the hard copy it might be easier to read. It depends on which one you want to look at. So the first two sentences of this read through --- actually maybe the first three sentences. Why don't you go ahead and read them to yourself. We don't need to read them out loud.

VIDEOGRAPHER: While she's reading that, Mr. Tryon, I also gave you permission to mark the document as well if you need to highlight something or

guide the witness.

ATTORNEY TRYON: Thank you.

VIDEOGRAPHER: You're welcome.

BY ATTORNEY TRYON:

Q. Have you finished?

A. I have.

Q. Great. So this indicates that gender dysphoria during childhood is not evidently continued to childhood rather than the dysphoria persists and resulted for only 6 to 23 percent of the children.

Right?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I believe, which are a bit dated, but yes, that is what it says.

BY ATTORNEY TRYON:

Q. Do you think that percentage has changed?

A. I think our understanding of diagnostic criteria, for example many of those studies were from when we used GID, a different diagnostic criteria, that has evolved additional these guidelines from WV are from 2012, I believe. There is a new version that is set to come out in the I think late winter of this coming year that I was involved in giving feedback for.

Q. Yes. That version has not yet been accepted or

issued, has it?

A. Not yet. It's expected like within the winter.

Q. Assuming that's accepted, since it's still out for comment, but assuming it's accepted, how does it change in the eighth version, how does it change this language?

A. To be clear, it's still not out for comment. The comment period has ended and it's now back with its writing committee. But there is more space given, to my recollection, for exploring those differences by diagnostic criteria that we did inform this prior studies. I think it's important, though, to center [redacted] in this conversation. [redacted] is an adolescent, meaning that the second paragraph discussing the likelihood of her gender identity is more relevant.

Q. And under these guidelines what is the percentage of persistence for adolescents?

A. I couldn't cite a specific number because again it's complicated, but it is the majority is my understanding.

Q. So when BPJ originally identified as being a girl, BPJ was a child.

Right?

A. I believe social transition was in third grade,

so into adolescence but perhaps not quite there yet depending on your definition of adolescence.

Q. How do you define adolescence?

A. It depends. The World Health Organization puts numbers on young people, and so I believe they say age 10 to 19. But that's not necessarily reflective of pubertal changes, which is how I would define adolescence. And it's normal for pubertal changes to begin at age nine.

Q. And for --- well, let me just ask you, so since this is the current and existing guideline and --- or excuse me, standard of care, which you said you subscribe to.

Right?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Well, I think it is important to note if I may in this document.

BY ATTORNEY TRYON:

Q. I apologize. I didn't hear that.

A. It's possible, I would like to point out on page two, page number two on that part of it where it lists the standards of care are flexible clinical guidelines, that's a critical piece of all of this. And so they are not a kind of rule book but instead a

guideline and there are many circumstances to deviate based on an individual patient circumstance.

Q. So you pick and choose what you agree with?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Not at all. I follow numerous guidelines, including those from the American Academy of Pediatrics, but I also shape them to fit the needs of the patient.

BY ATTORNEY TRYON:

Q. Do you share with BPJ and BPJ's mother the statistics that 6 to 23 percent of children due to dysphoria --- excuse me, that the dysphoria persists into adulthood for only 6 to 23 percent of children? Did you share that with BPJ or BPJ's mother?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I believe the comment was not relevant to the patient in front of me.

BY ATTORNEY TRYON:

Q. Did you share with BPJ or BPJ's mother the fact that not all adolescents persist into adulthood?

A. I create space for people to explore their gender identities. I do not assume that any of us will wake up tomorrow feeling the way we feel today about our gender identity.

Q. So the answer is no, you did not share that with them?

A. I create space to have that conversation.

Q. Did you have a discussion in which you told BPJ or BPJ's mother that BPJ's gender dysphoria may not persist into adulthood?

A. I specifically in my practice make space to have conversations about fluidity and gender identity.

Q. That doesn't mean anything to me. What do you mean create space?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: We have a conversation where I explain to young people that I don't expect them to be the same person every day for the rest of their lives. And if they feel that circumstances have changed or if their family feels that circumstances have changed the rod that [redacted] has is fully reversible and it's always an option to remove that rod if it was in [redacted]'s best interest, which I did not feel it was at the time of our encounter.

BY ATTORNEY TRYON:

Q. Did you tell BPJ or BPJ's mother that gender dysphoria does not always persist for adolescents into adulthood?

A. I don't think I said that exact thing, no.
Q. As I understand it --- well, let me back up. Did BPJ or BPJ's mother tell you how it came about that BPJ identified as being a girl instead of a boy?
A. I can't remember our exact conversation, but it is my standard practice to ask questions relative to that point and so I suspect, yes, we had that conversation.
Q. You don't remember anything about that conversation relative what I just asked you?
A. Not beyond what is documented in my note.
Q. In your notes it says that patient has identified gender diverse since, and then you inserted around age two. Does that refresh your recollection at all as far as what happened at around age two?
A. I document what is talked about during the visit, and so yes, that would have been the conversation.
Q. Do you remember anything else about BPJ identifying as a girl around age two?
ATTORNEY HARTNETT: Object to reading from the document that is not before the witness.
ATTORNEY TRYON: She has a hard copy.
ATTORNEY HARTNETT: I don't know where

you're reading from. Can you tell us where you are reading from?

ATTORNEY TRYON: Sure. It's on page one of the --- well, it's on page three of the actual exhibit and page one of Dr. Kidd's office notes.

ATTORNEY LINKOUS: It's okay. I think Dr. Kidd has her office notes in front of her. Go ahead, Doctor.

BY ATTORNEY TRYON:

Q. So I'm just asking when it says patient has identified as gender diverse since and then you inputted around age two, comma, she said she was a girl around age three, does that refresh your recollection about your conversation about how that came about?

A. Somewhat, yes.

Q. Okay.

And what do you remember now?

A. Specifically that [redacted] and her mom more likely in this conversation would have told me that for me to write it down and so likely [redacted]'s mom said that she identified as gender diverse in some capacity, be that a girl or otherwise, but first said she was a girl at age three. And that's a common differentiation. It's often children exhibit behaviors and interests that are

gendered in a direction parents may not expect. And that aligns with that question you had earlier about non-conformity.

Q. Do you remember anything else about that conversation relating to that?

A. Well, my next line is that third grade was when she started to wear girl clothes comfortably. I think I had a typo there. I meant to write comfortably instead of comfortable. And that social transition was the summer before third grade.

Q. And you have no other recollection about the conversation?

A. I do not.

Q. Very good.

ATTORNEY HARTNETT: I object to form on the last question. Sorry.

BY ATTORNEY TRYON:

Q. Was the father, Wesley Pepper, in this meeting?

A. No. My appointment with [redacted] was with [redacted] and her mom.

Q. Did you ever talk to Wesley Pepper?

A. I have not yet, though I expect to in the future.

ATTORNEY TRYON: Let's take a quick ---

off the record for just one moment.

VIDEOGRAPHER: We are going off the record. The current time reads 12:48 p.m.

OFF VIDEOTAPE

- - -

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

- - -

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 12:48 p.m.

BY ATTORNEY TRYON:

Q. So back in Exhibit 33, if we go to what's at the bottom of the page, page 15 of the document itself. And I have a question for you on paragraph two. If you can take some time and review that and then I will ask you a question.

A. Beginning with assessment of gender dysphoria?

Q. Correct.

A. Okay.

Q. Are you ready?

A. Yes.

Q. Great. So the second sentence says a psychodiagnostic and psychiatric assessment covering the areas of emotional functioning, peer and other social

relationships and intellectual functioning, slash, school achievement should be performed.

Did I read that correctly?

A. I believe so.

Q. Do you know if a psychodiagnostic and psychiatric assessment was performed?

A. And so during my visit, portions of that were absolutely performed. But [redacted] had those kinds of discussions previously based on my review of the notes and my experience working with Dr. Montano.

Q. So and --- okay.

I understand you have had experience with Dr. Montano, but how do you know that those were performed for BPJ specifically?

A. I know Dr. Montano's routine practice because he is one of my teachers and I'm very confident in his skills.

Q. I understand that. But for BPJ specifically, are you aware if it was done?

A. Based on my review of the chart, I had every indication that --- and I want to quote this, a psychodiagnostic assessment covering areas of emotional functioning, peer and other social relationships and intellectual functioning and school achievement was

performed.

Q. By whom?

A. By Dr. Montano.

Q. Okay.

And there was something in the records that shows that?

A. I was able to see portions of Dr. Montano's note. It's that Care Everywhere thing we were talking about before, that they're not complete notes. But based on my understanding of what I was reading, Dr. Montano had the same conversation with [redacted] that he had with all of the patients that I have witnessed him talking to.

Q. What were in his notes that said that since we don't have those?

A. And so I can't recall exactly what was in his notes, but his notes are templated very similarly to my notes in that they explore things like mental health concerns, like school functioning, like peer support and family support, things of that nature.

Q. And what does --- what's his title or his specialty?

A. So Dr. Montano is the Clinical Director of the Gender and Sexual Development Clinic at the Children's

Hospital of Pittsburgh. He is Board Certified in Pediatrics and he is an expert in pediatric gender affirming care.

Q. Is he a psychologist or a psychiatrist?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: He is an adolescent medicine specialist. And adolescent medicine specialists have extensive training and experience in mental health support for young people.

BY ATTORNEY TRYON:

Q. Is that a qualification --- does he have qualifications that you don't?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I am not aware. He may well. But he certainly had tons of training in the space as have I.

BY ATTORNEY TRYON:

Q. Okay.

But you are not a psychiatrist or a psychologist.

Right?

A. I am neither of those two things. That is correct.

Q. So when it says psychiatric assessments, what

qualifications do you believe is necessary to do a psychiatric assessment?

A. Someone who has extensive training and background in psychiatric diagnoses like anxiety, depression, and for these purposes gender dysphoria.

Q. And you're asserting you have that qualification?

A. I do have that qualification, yes.

Q. Now, if we wanted these notes out of Epic that you referenced, how would we get those?

A. I honestly am not sure how that system works or the process of you getting those notes works.

Q. Who has control over those?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: I don't know.

ATTORNEY LINKOUS: Mr. Tryon, I can be of benefit if you would like.

ATTORNEY TRYON: Sure.

ATTORNEY LINKOUS: Health Information Management at West Virginia University Hospitals, Inc. is the owner of the Epic medical records. I can also send you an address for that.

ATTORNEY TRYON: That would be wonderful if you would do that.

ATTORNEY LINKOUS: I would be happy to.

ATTORNEY TRYON: Can you email that to me?

ATTORNEY LINKOUS: Yes, absolutely.

ATTORNEY TRYON: You have either mine or ---?

ATTORNEY LINKOUS: Yes.

ATTORNEY TRYON: If not, you have Curtis'.

Right?

ATTORNEY LINKOUS: I do, yes.

ATTORNEY TRYON: That would be wonderful. Thanks.

ATTORNEY HARTNETT: This is Kathleen Hartnett. Are you asking for the full Epic records for Dr. Kidd or --- I just was unclear of what records you're asking for.

ATTORNEY TRYON: Well, I'm a little unclear what exactly there is in Epic, so it's hard for me to ask. So I guess I would be probably asking for all of the records in Epic for BPJ.

ATTORNEY HARTNETT: Okay.

Just for the record, as you know, the Plaintiff has requested BPJ's records from WV Medical,

produced what we have and this Saturday --- and maybe Mr. Linkous can speak to it further, we produced additional records that were apparently the printout that Dr. Kidd was able to see, even though that's not what the records department produced. Just for the record, we produced all records that we received from WVU Medical, which was in our requests were all records that exist.

ATTORNEY LINKOUS: Sure. And to expedite things, I can certainly --- if counsel agree, I can certainly produce to Kathleen the records I have obtained from WVU, because I represent WVU, obviously, and then Kathleen can redact and send them on.

ATTORNEY HARTNETT: We have done that. Is that the records that you sent this weekend.

ATTORNEY LINKOUS: That is Dr. Kidd's office visit. I have access to BPJ's records from the health system that go beyond Dr. Kidd's visit.

ATTORNEY HARTNETT: Okay.

I mean, obviously whatever you would like to do would be helpful, but I guess for the record to be clear we've asked for and to our knowledge received all documents related to BPJ's treatment by WVU Medical. And that's what we produced to the other parties. And

then we understood this weekend that you were able to --- Dr. Kidd is able to see something different in her interphase, and so --- which appeared to be largely additional administrative information, and we produced that document as soon as we received it from you on Saturday.

ATTORNEY LINKOUS: That's correct. I can do it however you would like.

ATTORNEY TRYON: So Mr. Linkous, we would like to get the rest of the documents that are in the Epic system that we don't already have. And we will go over the other documents that I got over the weekend next. But if there are additional documents in the Epic system, we'd like to obtain those.

ATTORNEY LINKOUS: Okay.

ATTORNEY HARTNETT: Just to be clear, are you asking for the --- sorry, the documents from the Epic system from WVU Medical?

ATTORNEY TRYON: Are you asking me?

ATTORNEY HARTNETT: Yes, just because I think what the witness has stated is that the Epic system is used by different institutions, and so I think --- I'm just trying to be clear if you are asking Mr. Linkous for the documents from WVU Medical's Epic system

or you are trying to seek more broadly all of the documents about BPJ that may be out there in the, you know, in the Epic systems of other institutions, which it doesn't sound like he is the person that would be able to get that for you.

ATTORNEY TRYON: Right. That's my understanding. So whatever Mr. Linkous has access to, including Epic and the Care System, which is part of Epic.

ATTORNEY LINKOUS: I only have access to West Virginia University records, and that would include these --- what was the tab called again, Care Everywhere tab. And I can certainly produce that. I would prefer to produce that in a link to Kathleen and then let Kathleen look at it. It may be duplicative of what she already has and then she can produce.

ATTORNEY TRYON: I will agree to that.

ATTORNEY HARTNETT: And I will just make a representation for the record that we'll produce it even if it's duplicative just to make clear to the Defendants that we are producing everything we have. And I would expect that those --- any records that were referred to in a different institution have been sought and received from that institution, such as Dr. Montano.

ATTORNEY LINKOUS: And just, Mr. Tryon, I want to be completely transparent with you so when you get the records you can understand any distinction or differences that might be in them. When I get records from West Virginia University I have my nursing staff organize them, Bates stamp them and bookmark them in a PDF document so they're in a format that I typically use for case by case by case. So for instance, the exhibit you are about to use will have my unique Bates stamp number on it at the bottom center. I can produce them certainly in that Bates stamped organized, bookmarked fashion to Kathleen or I can produce the native documents as they came to me, however you would like. Does that make sense?

ATTORNEY TRYON: Native, you mean without the Bates stamp?

ATTORNEY LINKOUS: Yes. So for instance, West Virginia University may end me --- I'm making it up --- a thousand pages of medical records for a patient. I give that to my nursing staff who organizes it by provider, by date, and they bookmark it so you can go to this date, this date, this date, this lab result, this admission, this ER, this pediatrician and you can navigate the records quickly. So I have my nursing

staff do that for me.

ATTORNEY TRYON: That's great.

ATTORNEY LINKOUS: I can produce that if you'd like. That way there's a Bates stamp and it shows you every one through how many ever there are.

ATTORNEY TRYON: That's fantastic. I appreciate it.

ATTORNEY LINKOUS: Sure.

ATTORNEY TRYON: So I would like to now turn to Exhibit 35. If you could pull that up, Jacob.

VIDEOGRAPHER: Can you see that?

ATTORNEY TRYON: Yes.

ATTORNEY TYRON: Yes.

VIDEOGRAPHER: And again, the witness and Mr. Tryon, you have permission to move to pages, highlight that, et cetera.

ATTORNEY TRYON: Thank you.

BY ATTORNEY TRYON:

Q. So Dr. Kidd, my first question simply, do you recognize this document?

A. I recognize that it is a face sheet, and I think this may have been part of the packet that I was sent.

ATTORNEY HARTNETT: Could I ask for the record what --- we can only see one page at a time and I

don't have this exhibit. So I'd be happy to pull the document that Mr. Linkous gave us and that we produced to you, but what Bates numbers are on this document?

ATTORNEY TRYON: Sure. They got cut off because the Bates number is so close to the bottom that when I printed it out ---.

VIDEOGRAPHER: And Attorney Hartnett, I did submit this document, which basically means it is now shared with everybody. If you go to the top and click on files, then that --- exhibit file sharing, you should be able to see it off to the right.

ATTORNEY HARTNETT: I do.

VIDEOGRAPHER: And you should be able to download that yourself.

ATTORNEY HARTNETT: Appreciate it. Thank you.

VIDEOGRAPHER: You're welcome.

ATTORNEY TRYON: And Mr. Linkous' Bates numbers are 101103 through 101137.

ATTORNEY HARTNETT: And these were, just for the record, the documents that we produced on Saturday from Mr. Linkous with Bates BPJ 02510 to BPJ 02545.

BY ATTORNEY TRYON:

Q. Okay.

Dr. Kidd, I'm not sure I understood your answer. What do you understand this document to be?

A. I just scrolled through it and it looks like some supportive documentation around my note.

Q. Would there be any information in this document that's not in Exhibit 16?

A. Is Exhibit 16 the document we reviewed previously.

Q. Yes, it is the --- it's your notes and the lab information.

A. I can't speak to the nuance in this ancillary documentation. I'm sure that there is information on the face sheet if it was not present in the prior packet, Exhibit 16, but my notes should be the same in both packets.

Q. Now, there are places where there have been redactions of names.

Do you see that?

A. Are you referring to --- let me use my highlighter again.

Q. On the very first page that you look at there are three places where information is blocked out, which yeah, you've highlighted it.

A. Yes, I can see that.
Q. Did you have any involvement in that --- in blocking that out or redacting it?
A. No, no, I did not.
ATTORNEY HARTNETT: For the record, Plaintiff produced these to you with that information redacted at the request of Mr. Linkous.
BY ATTORNEY TRYON:
Q. On the second page of this exhibit, if you can go there, under the organs inventory, none of that is filled out. Is there a reason for that?
A. So this is a form that is optional to complete in Epic and is not part of my standard practice for adolescents.
Q. So underneath admission diagnosis, slash, and reasons for visits, do you see that?
A. I do not --- oh, down here at the bottom, yes, I see that now.
Q. What is ICD-10-CM?
A. That is the system that we use for billing codes ICD-10 specifically, I'm not sure what the -CM refers to.
Q. And under it, it says long-term, parentheses, current, closed paren, use of other agents affecting

estrogen receptors and estrogen levels. And that's under the admission diagnosis and reason for visit. So tell me what that means.

A. I have to assume because I myself did not enter in that code I believe that that is an umbrella code that the code I actually entered falls under. But again, I can't be positive about that. The code I would have ---.

Q. Go ahead.

A. The code I would have entered was likely something along the lines of long-term use of a gonadotropin-releasing hormone agonist or GRNHA.

Q. And is that a diagnosis or reason for visit?

A. So that is a reason to get the labs and the [redacted] scan that I subsequently ordered. And so when you order labs or imaging you have to tell insurance why it is medically relevant. And so that is the purpose of that code.

Q. During your visit with BPJ and BPJ's mother, did you actually make any diagnoses?

ATTORNEY HARTNETT: Objection to form.

THE WITNESS: To my recollection, no new diagnoses that had not already been made.

BY ATTORNEY TRYON:

Q. On the fourth page, which at the bottom center is 101 to 106, do you see --- let's see. I'm blowing it up on my screen. Does it get any larger on yours?

A. No, but I have it zoomed in on mine.

VIDEOGRAPHER: Mr. Tryon, if you highlight or write with the pencil tool, that will share it with everybody. But the zoom feature --- or the zooming is specific to each person. So each person can zoom in on the page that whatever their preference is.

BY ATTORNEY TRYON:

Q. Okay.

So I tried to highlight this one part that says it says gender dysphoria. Did it highlight on your screen?

A. Where patient describes this experience for themselves as?

Q. Yes.

A. Yes.

Q. So before the colon that's part of the form.

Is that right?

A. That's correct.

Q. And then the rest of that language you added?

A. That language came from [redacted] and I typed it in to this note.

Q. Do you remember any more about the conversation with BPJ about those words?

A. I can't speak more to what other words were said, but I try to write these as directly as the young person provides them to me, and I didn't make any additional notation. I make additional notation if the young person's experience is unexpected or different from my experience in working with gender diverse young people. And so in my practice this would suggest that this was what [redacted] said and that her experience she described was very similar to other young people that I have cared for.

Q. What does it mean angel, slash, devil on shoulder kind of feeling?

A. To my recollection, [redacted] kind of described that what you often see depicted in media, that there were kind of parts of who she was that were in conflict. And my interpretation based on my memory was that those parts of her were her gender identity and what society kind of expects of her because of her sex assignment. That's that distress that is associated with the gender dysphoria diagnostic code.

Q. What did society expect from BPJ?

A. Typically when babies are assigned male at birth

we expect them to identify as boys and eventually men and to live their lives as such.

Q. Do you remember anything specifically about BPJ, though, about what BPJ thought society expected of BPJ?

A. I can't recall specifically if [redacted] spoke to that.

Q. What does society expect of boys and men?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Can you restate that question?

BY ATTORNEY TRYON:

Q. Well, I'm just going back to what you said, you said society expects certain things of boys and I think you used the terminology of those that are assigned male at birth and they expect certain things of boys and certain things when they grow up to be men.

A. Society.

ATTORNEY HARTNETT: Object to form.

THE WITNESS: To be very clear on this, society expects --- in my experience if someone is assigned male that they identify as male, simply put.

BY ATTORNEY TRYON:

Q. Okay.

Well, what specifically does society expect of

men?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Can you rephrase that?

BY ATTORNEY TRYON:

Q. Well, you're telling me that society expects certain things of boys and men. I want to know what you are saying that society expects from them.

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I'm simply stating is that folks who are assigned male are expected to identify as male. That is what society expects.

BY ATTORNEY TRYON:

Q. And what does that mean to identify as male?

A. To have one's sense of gender for one's self be on the masculine spectrum.

Q. What's on the masculine spectrum?

A. There is a very helpful tool for this that I often use in talking about gender identity. It's called the gender unicorn, and it diagrams this out really nicely. But essentially there are masculine and feminine and nonbinary and other gender components in all of us to some varying degree. And when I say masculine I mean that the masculine component is dominant.

Q. What are masculine components?
A. It's a bit of a cultural and time, so temporally associated sort of thing, and I talk about this with patients and families, but it's often how we communicate, how we carry ourselves, what our place and role in society is, lots of expectations. But when we're talking about gender identity, it's this inherent sense of self as it relates to gender.
ATTORNEY TRYON: I would ask the court reporter to read back my question, please.
COURT REPORTER: What are the masculine components?
BY ATTORNEY TRYON:
Q. Please answer that question.
ATTORNEY HARTNETT: Object to form.
THE WITNESS: They are not specific components but instead a sense of self.
BY ATTORNEY TRYON:
Q. So there are no masculine components?
ATTORNEY HARTNETT: Object to form.
THE WITNESS: There is not a checkbox for masculinity, although society does impose ideas on us.
BY ATTORNEY TRYON:
Q. Well, you used term masculine components. I

didn't. What were you referring to?
A. Those thoughts that society has about what is masculine.
Q. Which are what?
A. I think it depends on the society in question.
Q. Okay.
Our society here in West Virginia?
ATTORNEY HARTNETT: Object to form.
THE WITNESS: Here in West Virginia one may masculine things are --- things like I gave the example earlier of interest in construction, right, and what we were discussing earlier, interest in hunting. While there are many folks who consider those things feminine as well, they stereotypically masculine in our society by my interpretation.
BY ATTORNEY TRYON:
Q. So that would be your stereotype?
ATTORNEY HARTNETT: Object to form.
THE WITNESS: The stereotype that I observe in our society as part of my job.
BY ATTORNEY TRYON:
Q. So how have you reported your observations as to what constitutes a masculine component?
ATTORNEY HARTNETT: Object to form.

ATTORNEY TRYON: Do you have a list?

THE WITNESS: Could you repeat the question?

BY ATTORNEY TRYON:

Q. Do you have a list of what you've observed to be masculine components in our society here in West Virginia?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I do not have a list, no.

BY ATTORNEY TRYON:

Q. So just when you're talking to a young person how do you know what constitutes a masculine component?

A. I think that's irrelevant for the purposes of discussing someone's gender identity as they see it themselves and instead more relevant to conversations about society's expectations of them.

Q. You say it's relevant or irrelevant?

A. It is relevant in some ways as to how they see themselves certainly. The primary thing we focus on is how the young person experiences their gender identity.

Q. How did BPJ experience BPJ's identity?

A. She identified as a girl.

Q. And what does that mean then?

A. It means that in her own mind and her own sense

of self she is a girl. She sees herself as a girl. Her relationships with people are based on her own internal sense of self as a girl.

Q. Did BPJ tell her what components constitute being a girl?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: Not to my recollection.

BY ATTORNEY TRYON:

Q. So just the fact that BPJ said I identify as a girl, that was enough?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: No one knows their own lived experience better than the individual themselves. And so when young people tell me how they identify, I explore what that mean for them. But [redacted] identifies as a girl and so she is a girl.

BY ATTORNEY TRYON:

Q. So you explored that with BPJ. Can you tell me about that exploration, what it meant for BPJ to be a girl?

A. Only to the extent that I documented it and based on my standard practice. I don't recall the specifics of our conversation beyond that.

Q. So if someone comes to you and says --- who is a

girl who was, as you say, assigned the sex of female at birth, that says I identify as a male, but all outward appearances --- let me rephrase that. Let me just start over. If a young woman of any age comes to you and says I identify as a male, is that in and of itself enough to establish gender --- now I'm forgetting the terminology, sorry, gender dysphoria?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: It is not because, as we discussed, there are specific diagnostic criteria for that diagnosis.

BY ATTORNEY TRYON:

Q. And that is they have to identify as such for six months?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I'm happy to review based on my memory, but I would refer to the DSM-V and that specific diagnostic criteria.

BY ATTORNEY TRYON:

Q. What if that persons says I don't care about DSM-V, you know, I was assigned girl at birth, but I identify as a girl, that's not good enough?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I think you are confusing

the difference between gender dysphoria, the diagnosis, and gender identity, the experience.

BY ATTORNEY TRYON:

Q. Thank you for clarifying. So for someone to have a gender identity different than what they are quote assigned at birth, they just simply need to say that they have a different gender identity.

Is that right?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: They also don't have to say it. It's something they know in their own minds for themselves and for them to share or not.

BY ATTORNEY TRYON:

Q. But if they share that, is it your view that that person needs to accept that, that other folks need to accept that?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: It's my view that no one can know inside someone's else's mind better than that person themselves.

BY ATTORNEY TRYON:

Q. Do others --- should others be required to accept that or not?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I can't speak to that more broadly. All I can talk about is [redacted] and what she told me.

BY ATTORNEY TRYON:

Q. Okay.

If we could turn now to page --- okay. I'm looking at what is page 18 of 36. Do you see that?

A. I do.

Q. Okay. So ---.

ATTORNEY HARTNETT: Could I just say for the record it's the document with the 101120 at the bottom?

ATTORNEY TRYON: Correct.

ATTORNEY HARTNETT: Thank you.

BY ATTORNEY TRYON:

Q. And it says --- under messages sent it shows delivery and it shows on 10/25/2021 it looks like a message was sent to Matthew Bunner. Is that a correct interpretation of that?

A. That would be my guess, although I'm not familiar with that exact message nor is this kind of usually how I see this report. So outside of this setting, I wouldn't necessarily have access to this view.

Q. Do you remember talking to or sending a message to Mr. Bunner on 10/25/2021?
A. No, I don't have recollection of that and I suspect it was not me who sent the message.
Q. Okay.
Then down below further it says call information and it references Steven Deci and you and --- that's all. It references a call apparently on 9/16/2021. Do you know what that is about?
A. I don't. I don't recall receiving a phone call. I do know that is the date of the visit and the time of the visit, and so this may be what it is referring to.
Q. Okay.
Now, I'm on page 21, which is at the bottom of the page. The bottom is 101123. And under here it shows today's visit. There's a box there. Do you see that?
A. I do.
Q. And who inputted this information?
A. It depends on what information you're referring to, and I only know partial answers to that question.
Q. Okay.
The blood pressure?
A. It is our standard practice that the nurse takes

the blood pressure and then enters it into the chart.

Q. The same thing with the BMI and the weight?

A. So the nurse would take a weight and measure height and then the computer would automatically calculate a BMI.

Q. Okay.

And the temperature, the nurse does that as well?

A. Yes.

Q. And the pulse?

A. Yes.

Q. And it says under that percentiles calculated using cc, paren, boys 2, dash, 20 years, closed paren. Do you see that there?

A. I do.

Q. And so why is that percentage using the boys chart as opposed to a girls chart?

A. Because in Epic the sex designation carries over to the gender marker, and so that is what chart is used.

Q. Is there a reason to determine percentiles for the child?

A. The BMI percentiles are important for youth as BMI itself is a poor measure and so BMI percentile is the standard based on my training that is used.

Q. And why is that important?
A. It's important to look at growth and development throughout childhood. Children are not fixed as adults often are in their height, for example.
Q. So if BPJ identifies as a female, why not use the female chart?
ATTORNEY HARTNETT: Object to the form.
THE WITNESS: It's a question and it's a limitation of our health system and our health record.
BY ATTORNEY TRYON:
Q. So you don't think it matters which chart is used, whether it's a male or female?
ATTORNEY HARTNETT: Object to form.
THE WITNESS: I certainly think it matters.
BY ATTORNEY TRYON:
Q. And why does it matter?
A. It matters because these charts are slightly different and based on a child's growth trajectory it may be better to use one chart over the other or even both to make sure that a child growth trajectory is on target.
Q. Did you prescribe any treatment for BPJ?
ATTORNEY HARTNETT: Object to form.

THE WITNESS: No new treatment. I did continue with [redacted]. For example, we did not discontinue the [redacted] during my visit.

BY ATTORNEY TRYON:

Q. Is --- let me see if I can pronounce this right. [redacted] hormone, what is that?

A. [redacted] hormone or LH is a hormone that is downregulated by the presence of the [redacted]. It is a hormone that goes on to stimulate a secretion of sex hormone in the body throughout.

Q. Do you anticipate any of --- prescribing any further treatment?

A. So I think I have a visit with [redacted] coming up next month and at that point we will be discussing [redacted] and her family's goals and discussing options like [redacted]. We began that conversation at our first visit.

Q. And what about options such as surgery?

A. I'm not a surgeon, and in my experience, [redacted] is very young to be making kind of long-term plans in that direction, although if she has questions I will answer them to the best of my ability.

Q. So if that's something that BPJ wanted, is there something that you would --- is that something you would

refer BPJ to someone else?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: When appropriate.

BY ATTORNEY TRYON:

Q. Do you have someone in particular --- well, have you ever referred anybody to another specialist for surgery?

A. Yes.

Q. Who have you referred them to?

A. Well, there are usually surgical centers as well as individual surgeons, but it depends on what the young person is seeking and what their insurance coverage is, where their family is located, and a host of other factors.

Q. How many referrals have you made for surgery?

ATTORNEY HARTNETT: Object to form, scope. Go ahead.

THE WITNESS: I couldn't speak to that specifically. I don't know off the top of my head.

BY ATTORNEY TRYON:

Q. More than one?

A. Yes.

ATTORNEY HARTNETT: Same objection.

BY ATTORNEY TRYON:

Q. Can you just give me the names of a couple of folks who do this type of --- do surgery for gender transition?

ATTORNEY HARTNETT: Objection, form, scope.

THE WITNESS: What type of surgery are we talking about?

BY ATTORNEY TRYON:

Q. Sex reassignment surgery.

ATTORNEY HARTNETT: Objection. This deposition concerns the diagnosis and treatment of Plaintiff, BPJ aka [redacted]. I would like to understand how this line of questioning is at all relevant to that.

ATTORNEY TRYON: To understand the future of possible treatments.

ATTORNEY HARTNETT: She has not testified to any such future possible treatment with BPJ or --- I just don't understand why having her list the names of providers to conduct surgeries has anything at all to do with BPJ's diagnosis or treatment.

BY ATTORNEY TRYON:

Q. You can answer the question.

A. Can you restate the question?

Q. Can you give me a list of providers for a sex reassignment surgery that you've referred people to?

ATTORNEY HARTNETT: Object to the form and scope.

THE WITNESS: Sex reassignment surgery is very broad, and so I'm not able to give you a specific list of surgeons without further clarity.

BY ATTORNEY TRYON:

Q. Then I guess I need to ask you what is included within sex reassignment surgery.

A. It's a rather long list, but none of this pertains to [redacted] right now and may not in the future.

Q. But you have referred folks out for some form of sex reassignment surgery or not?

ATTORNEY HARTNETT: Object to form.

THE WITNESS: I have referred patients for a variety of needs outside of my scope of practice, yes.

BY ATTORNEY TRYON:

Q. Can you recall the name of even one of the surgeons you've referred people to?

ATTORNEY HARTNETT: Same objection and asked and answered.

THE WITNESS: John Pang.

BY ATTORNEY TRYON:

Q. How do you spell the last name?

A. P-A-N-G.

Q. Give me two more and we will be done.

ATTORNEY HARTNETT: Objection to scope and form and harassing the witness.

ATTORNEY LINKOUS: If you can recall, you can tell him.

THE WITNESS: And there are usually teams and not individual surgeons, but Toby Meltzer is someone whose name I had mentioned previously. And I'm thinking of centers, and so there's lots of folks in centers.

BY ATTORNEY TRYON:

Q. Give me a center name?

A. The Hopkins Clinic.

Q. Is that in West Virginia?

A. It is not. In fact, none of these providers are.

Q. I see. Okay.

ATTORNEY TRYON: Let's go off the record. Let me take just a very short break and see if there are any other questions that I have.

VIDEOGRAPHER: Going off the record. The current time reads 1:32 p.m.

OFF VIDEOTAPE

- - -

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

- - -

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. The current time reads 1:41 p.m.

ATTORNEY TRYON: Dr. Kidd, I want to thank you very much for your time. I have no further questions for you at this time. In the rare event that, unlikely I will say, event that the Epic records somehow show something that we need to reconvene this for, then I would want to reconvene this. Otherwise, I have no further questions. And you have the option to --- well, your counsel will advise you you have the option to read this or waive reading. So that's all I have. Thanks again.

ATTORNEY HARTNETT: And this is Kathleen Hartnett for Plaintiff. I just would like to provisionally mark the transcript as confidential in light of the discussion of medical records. And we'll do a more specific designation when we review.

And I also just wanted to state from the Plaintiff's perspective, the deposition is closed

because we made the production requested of us, but we will, as I noted, review with what Mr. Linkous sent and we will send to Defendants anything responsive to RFP-1 per the way we have responded to date in this litigation.

ATTORNEY LINKOUS: If there are no more questions, we will read and sign. And you may send her deposition transcript to me and I will facilitate the errata process to the doctor.

ATTORNEY TRYON: Any other Defendants have any other questions?

ATTORNEY CROPP: This is Jeff Cropp for Defendant Harrison County Board of Education and Doris Stutler. I came on for Susan Deniker who had to leave early. We have no questions today.

ATTORNEY GREEN: This is Roberta Green here on behalf of West Virginia Secondary School Activities Commission. No questions.

ATTORNEY TAYLOR: This is Michael Taylor on behalf of the West Virginia State Board of Education. Kelly Morgan had to step off, so I jumped on, and we have no questions.

ATTORNEY TRYON: Mr. Ducar, you are muted.

ATTORNEY DUCAR: Thank you. Timothy Ducar on behalf of the Intervenor Lainey Armistead. We have no questions.

ATTORNEY TRYON: Thank you, everyone.

VIDEOGRAPHER: That concludes this deposition. The current time reads 1:43 p.m. Thank you, Counsel.

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VIDEOTAPED VIDEOCONFERENCE DEPOSITION

CONCLUDED AT 1:43 P.M.

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STATE OF WEST VIRGINIA)

CERTIFICATE

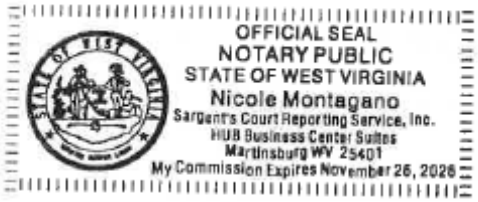
I, Nicole Montagano, a Notary Public in and for the State of West Virginia, do hereby certify:

That the witness whose testimony appears in the foregoing deposition, was duly sworn by me on said date, and that the transcribed deposition of said witness is a true record of the testimony given by said witness;

That the proceeding is herein recorded fully and accurately;

That I am neither attorney nor counsel for, nor related to any of the parties to the action in which these depositions were taken, and further that I am not a relative of any attorney or counsel employed by the parties hereto, or financially interested in this action.

I certify that the attached transcript meets the requirements set forth within article twenty-seven, chapter forty-seven of the West Virginia.



Nicole Montagano,

Court Reporter

WPATH WORLD PROFESSIONAL ASSOCIATION for TRANSGENDER HEALTH

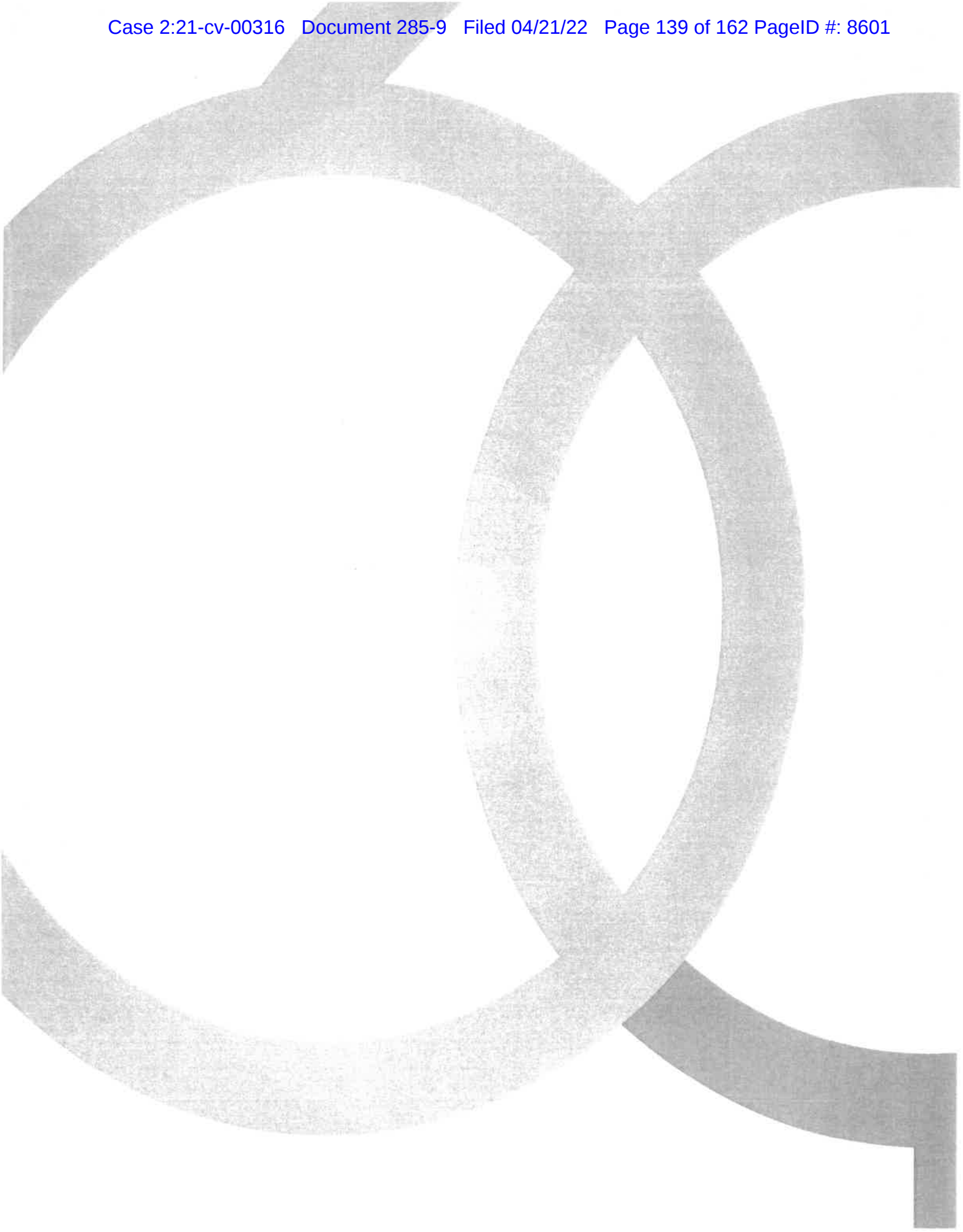
www.wpath.org

Standards of Care

for the Health of Transsexual, Transgender, and Gender Nonconforming People

The World Professional Association for Transgender Health

7th Version



WPATH WORLD PROFESSIONAL ASSOCIATION for TRANSGENDER HEALTH

Standards of Care

for the Health of Transsexual, Transgender, and Gender Nonconforming People

The World Professional Association for Transgender Health

7th Version[1] | www.wpath.org

1 This is the seventh version of the Standards of Care. The original SOC were published in 1979. Previous revisions were in 1980, 1981, 1990, 1998, and 2001.

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Purpose and Use of the Standards of Care

The World Professional Association for Transgender Health (WPATH)[1] is an international, multidisciplinary, professional association whose mission is to promote evidence-based care, education, research, advocacy, public policy, and respect for transgender health. The vision of WPATH is to bring together diverse professionals dedicated to developing best practices and supportive policies worldwide that promote health, research, education, respect, dignity, and equality for transsexual, transgender, and gender nonconforming people in all cultural settings.

One of the main functions of WPATH is to promote the highest standards of health care for individuals through the articulation of *Standards of Care (SOC) for the Health of Transsexual, Transgender, and Gender Nonconforming People*. The *SOC* are based on the best available science and expert professional consensus.[2] Most of the research and experience in this field comes from a North American and Western European perspective; thus, adaptations of the *SOC* to other parts of the world are necessary. Suggestions for ways of thinking about cultural relativity and cultural competence are included in this version of the *SOC*.

The overall goal of the *SOC* is to provide clinical guidance for health professionals to assist transsexual, transgender, and gender nonconforming people with safe and effective pathways to achieving lasting personal comfort with their gendered selves, in order to maximize their overall health, psychological well-being, and self-fulfillment. This assistance may include primary care, gynecologic and urologic care, reproductive options, voice and communication therapy, mental health services (e.g., assessment, counseling, psychotherapy), and hormonal and surgical treatments. While this is primarily a document for health professionals, the *SOC* may also be used by individuals, their families, and social institutions to understand how they can assist with promoting optimal health for members of this diverse population.

WPATH recognizes that health is dependent upon not only good clinical care but also social and political climates that provide and ensure social tolerance, equality, and the full rights of citizenship. Health is promoted through public policies and legal reforms that promote tolerance and equity

1 Formerly the Harry Benjamin International Gender Dysphoria Association

2 *Standards of Care (SOC), Version 7* represents a significant departure from previous versions. Changes in this version are based upon significant cultural shifts, advances in clinical knowledge, and appreciation of the many health care issues that can arise for transsexual, transgender, and gender nonconforming people beyond hormone therapy and surgery (Coleman, 2009a, b, c, d).

for gender and sexual diversity and that eliminate prejudice, discrimination, and stigma. WPATH is committed to advocacy for these changes in public policies and legal reforms.

The Standards of Care Are Flexible Clinical Guidelines

The *SOC* are intended to be flexible in order to meet the diverse health care needs of transsexual, transgender, and gender nonconforming people. While flexible, they offer standards for promoting optimal health care and guiding the treatment of people experiencing gender dysphoria – broadly defined as discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics) (Fisk, 1974; Knudson, De Cuypere, & Bockting, 2010b).

As for all previous versions of the *SOC*, the criteria put forth in this document for hormone therapy and surgical treatments for gender dysphoria are clinical guidelines; individual health professionals and programs may modify them. Clinical departures from the *SOC* may come about because of a patient's unique anatomic, social, or psychological situation; an experienced health professional's evolving method of handling a common situation; a research protocol; lack of resources in various parts of the world; or the need for specific harm reduction strategies. These departures should be recognized as such, explained to the patient, and documented through informed consent for quality patient care and legal protection. This documentation is also valuable for the accumulation of new data, which can be retrospectively examined to allow for health care – and the *SOC* – to evolve.

The *SOC* articulate standards of care but also acknowledge the role of making informed choices and the value of harm reduction approaches. In addition, this version of the *SOC* recognizes and validates various expressions of gender that may not necessitate psychological, hormonal, or surgical treatments. Some patients who present for care will have made significant self-directed progress towards gender role changes, transition, or other resolutions regarding their gender identity or gender dysphoria. Other patients will require more intensive services. Health professionals can use the *SOC* to help patients consider the full range of health services open to them, in accordance with their clinical needs and goals for gender expression.

11

Global Applicability of the Standards of Care

While the *SOC* are intended for worldwide use, WPATH acknowledges that much of the recorded clinical experience and knowledge in this area of health care is derived from North American and Western European sources. From place to place, both across and within nations, there are differences in all of the following: social attitudes towards transsexual, transgender, and gender nonconforming people; constructions of gender roles and identities; language used to describe different gender identities; epidemiology of gender dysphoria; access to and cost of treatment; therapies offered; number and type of professionals who provide care; and legal and policy issues related to this area of health care (Winter, 2009).

It is impossible for the *SOC* to reflect all of these differences. In applying these standards to other cultural contexts, health professionals must be sensitive to these differences and adapt the *SOC* according to local realities. For example, in a number of cultures, gender nonconforming people are found in such numbers and living in such ways as to make them highly socially visible (Peletz, 2006). In settings such as these, it is common for people to initiate a change in their gender expression and physical characteristics while in their teens, or even earlier. Many grow up and live in a social, cultural, and even linguistic context quite unlike that of Western cultures. Yet almost all experience prejudice (Peletz, 2006; Winter, 2009). In many cultures, social stigma towards gender nonconformity is widespread and gender roles are highly prescriptive (Winter et al., 2009). Gender nonconforming people in these settings are forced to be hidden, and therefore may lack opportunities for adequate health care (Winter, 2009).

The *SOC* are not intended to limit efforts to provide the best available care to all individuals. Health professionals throughout the world – even in areas with limited resources and training opportunities – can apply the many core principles that undergird the *SOC*. These principles include the following: Exhibit respect for patients with nonconforming gender identities (do not pathologize differences in gender identity or expression); provide care (or refer to knowledgeable colleagues) that affirms patients' gender identities and reduces the distress of gender dysphoria, when present; become knowledgeable about the health care needs of transsexual, transgender, and gender nonconforming people, including the benefits and risks of treatment options for gender dysphoria; match the treatment approach to the specific needs of patients, particularly their goals for gender expression and need for relief from gender dysphoria; facilitate access to appropriate care; seek patients' informed consent before providing treatment; offer continuity of care; and be prepared to support and advocate for patients within their families and communities (schools, workplaces, and other settings).

Terminology is culturally and time-dependent and is rapidly evolving. It is important to use respectful language in different places and times, and among different people. As the *SOC* are translated into other languages, great care must be taken to ensure that the meanings of terms are accurately translated. Terminology in English may not be easily translated into other languages, and vice versa. Some languages do not have equivalent words to describe the various terms within this document; hence, translators should be cognizant of the underlying goals of treatment and articulate culturally applicable guidance for reaching those goals.

III

The Difference Between Gender Nonconformity and Gender Dysphoria

Being Transsexual, Transgender, or Gender Nonconforming Is a Matter of Diversity, Not Pathology

WPATH released a statement in May 2010 urging the de-psychopathologization of gender nonconformity worldwide (WPATH Board of Directors, 2010). This statement noted that "the expression of gender characteristics, including identities, that are not stereotypically associated with one's assigned sex at birth is a common and culturally-diverse human phenomenon [that] should not be judged as inherently pathological or negative."

Unfortunately, there is stigma attached to gender nonconformity in many societies around the world. Such stigma can lead to prejudice and discrimination, resulting in "minority stress" (I. H. Meyer, 2003). Minority stress is unique (additive to general stressors experienced by all people), socially based, and chronic, and may make transsexual, transgender, and gender nonconforming individuals more vulnerable to developing mental health concerns such as anxiety and depression (Institute of Medicine, 2011). In addition to prejudice and discrimination in society at large, stigma can contribute to abuse and neglect in one's relationships with peers and family members, which in turn can lead to psychological distress. However, these symptoms are socially induced and are not inherent to being transsexual, transgender, or gender nonconforming.

Gender Nonconformity Is Not the Same as Gender Dysphoria

Gender nonconformity refers to the extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex (Institute of Medicine, 2011). *Gender dysphoria* refers to discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics) (Fisk, 1974; Knudson, De Cuypere, & Bockting, 2010b). Only *some* gender nonconforming people experience gender dysphoria at *some* point in their lives.

Treatment is available to assist people with such distress to explore their gender identity and find a gender role that is comfortable for them (Bockting & Goldberg, 2006). Treatment is individualized: What helps one person alleviate gender dysphoria might be very different from what helps another person. This process may or may not involve a change in gender expression or body modifications. Medical treatment options include, for example, feminization or masculinization of the body through hormone therapy and/or surgery, which are effective in alleviating gender dysphoria and are medically necessary for many people. Gender identities and expressions are diverse, and hormones and surgery are just two of many options available to assist people with achieving comfort with self and identity.

Gender dysphoria can in large part be alleviated through treatment (Murad et al., 2010). Hence, while transsexual, transgender, and gender nonconforming people may experience gender dysphoria at some point in their lives, many individuals who receive treatment will find a gender role and expression that is comfortable for them, even if these differ from those associated with their sex assigned at birth, or from prevailing gender norms and expectations.

Diagnoses Related to Gender Dysphoria

Some people experience gender dysphoria at such a level that the distress meets criteria for a formal diagnosis that might be classified as a mental disorder. Such a diagnosis is not a license for stigmatization or for the deprivation of civil and human rights. Existing classification systems such as the *Diagnostic Statistical Manual of Mental Disorders (DSM)* (American Psychiatric Association, 2000) and the *International Classification of Diseases* (*ICD*) (World Health Organization, 2007) define hundreds of mental disorders that vary in onset, duration, pathogenesis, functional disability, and treatability. All of these systems attempt to classify clusters of symptoms and conditions, not the individuals themselves. A disorder is a description of something with which a person might struggle, not a description of the person or the person's identity.

Thus, transsexual, transgender, and gender nonconforming individuals are not inherently disordered. Rather, the distress of gender dysphoria, when present, is the concern that might be diagnosable and for which various treatment options are available. The existence of a diagnosis for such dysphoria often facilitates access to health care and can guide further research into effective treatments.

Research is leading to new diagnostic nomenclatures, and terms are changing in both the *DSM* (Cohen-Kettenis & Pfäfflin, 2010; Knudson, De Cuypere, & Bockting, 2010b; Meyer-Bahlburg, 2010; Zucker, 2010) and the *ICD*. For this reason, familiar terms are employed in the *SOC* and definitions are provided for terms that may be emerging. Health professionals should refer to the most current diagnostic criteria and appropriate codes to apply in their practice areas.

IV
Epidemiologic Considerations

Formal epidemiologic studies on the incidence[3] and prevalence[4] of transsexualism specifically or transgender and gender nonconforming identities in general have not been conducted, and efforts to achieve realistic estimates are fraught with enormous difficulties (Institute of Medicine, 2011; Zucker & Lawrence, 2009). Even if epidemiologic studies established that a similar proportion of transsexual, transgender, or gender nonconforming people existed all over the world, it is likely that cultural differences from one country to another would alter both the behavioral expressions of different gender identities and the extent to which gender dysphoria – distinct from one's gender identity – is actually occurring in a population. While in most countries, crossing normative gender boundaries generates moral censure rather than compassion, there are examples in certain cultures of gender nonconforming behaviors (e.g., in spiritual leaders) that are less stigmatized and even revered (Besnier, 1994; Bolin, 1988; Chiñas, 1995; Coleman, Colgan, & Gooren, 1992; Costa & Matzner, 2007; Jackson & Sullivan, 1999; Nanda, 1998; Taywaditep, Coleman, & Dumronggittigule, 1997).

For various reasons, researchers who have studied incidence and prevalence have tended to focus on the most easily counted subgroup of gender nonconforming individuals: transsexual individuals who experience gender dysphoria and who present for gender-transition-related care at specialist gender clinics (Zucker & Lawrence, 2009). Most studies have been conducted in European

3 **incidence**—the number of new cases arising in a given period (e.g., a year)
4 **prevalence**—the number of individuals having a condition, divided by the number of people in the general population

countries such as Sweden (Wålinder, 1968, 1971), the United Kingdom (Hoenig & Kenna, 1974), the Netherlands (Bakker, Van Kesteren, Gooren, & Bezemer, 1993; Eklund, Gooren, & Bezemer, 1988; van Kesteren, Gooren, & Megens, 1996), Germany (Weitze & Osburg, 1996), and Belgium (De Cuypere et al., 2007). One was conducted in Singapore (Tsoi, 1988).

De Cuypere and colleagues (2007) reviewed such studies, as well as conducted their own. Together, those studies span 39 years. Leaving aside two outlier findings from Pauly in 1968 and Tsoi in 1988, ten studies involving eight countries remain. The prevalence figures reported in these ten studies range from 1:11,900 to 1:45,000 for male-to-female individuals (MtF) and 1:30,400 to 1:200,000 for female-to-male (FtM) individuals. Some scholars have suggested that the prevalence is much higher, depending on the methodology used in the research (for example, Olyslager & Conway, 2007).

Direct comparisons across studies are impossible, as each differed in their data collection methods and in their criteria for documenting a person as transsexual (e.g., whether or not a person had undergone genital reconstruction, versus had initiated hormone therapy, versus had come to the clinic seeking medically-supervised transition services). The trend appears to be towards higher prevalence rates in the more recent studies, possibly indicating increasing numbers of people seeking clinical care. Support for this interpretation comes from research by Reed and colleagues (2009), who reported a doubling of the numbers of people accessing care at gender clinics in the United Kingdom every five or six years. Similarly, Zucker and colleagues (2008) reported a four- to five-fold increase in child and adolescent referrals to their Toronto, Canada clinic over a 30-year period.

The numbers yielded by studies such as these can be considered minimum estimates at best. The published figures are mostly derived from clinics where patients met criteria for severe gender dysphoria and had access to health care at those clinics. These estimates do not take into account that treatments offered in a particular clinic setting might not be perceived as affordable, useful, or acceptable by all self-identified gender dysphoric individuals in a given area. By counting only those people who present at clinics for a specific type of treatment, an unspecified number of gender dysphoric individuals are overlooked.

Other clinical observations (not yet firmly supported by systematic study) support the likelihood of a higher prevalence of gender dysphoria: (i) Previously unrecognized gender dysphoria is occasionally diagnosed when patients are seen with anxiety, depression, conduct disorder, substance abuse, dissociative identity disorders, borderline personality disorder, sexual disorders, and disorders of sex development (Cole, O'Boyle, Emory, & Meyer III, 1997). (ii) Some crossdressers, drag queens/kings or female/male impersonators, and gay and lesbian individuals may be experiencing gender dysphoria (Bullough & Bullough, 1993). (iii) The intensity of some people's gender dysphoria fluctuates below and above a clinical threshold (Docter, 1988). (iv) Gender nonconformity among FtM individuals tends to be relatively invisible in many cultures, particularly to Western health

professionals and researchers who have conducted most of the studies on which the current estimates of prevalence and incidence are based (Winter, 2009).

Overall, the existing data should be considered a starting point, and health care would benefit from more rigorous epidemiologic study in different locations worldwide.

V

Overview of Therapeutic Approaches for Gender Dysphoria

Advancements in the Knowledge and Treatment of Gender Dysphoria

In the second half of the 20th century, awareness of the phenomenon of gender dysphoria increased when health professionals began to provide assistance to alleviate gender dysphoria by supporting changes in primary and secondary sex characteristics through hormone therapy and surgery, along with a change in gender role. Although Harry Benjamin already acknowledged a spectrum of gender nonconformity (Benjamin, 1966), the initial clinical approach largely focused on identifying who was an appropriate candidate for sex reassignment to facilitate a physical change from male to female or female to male as completely as possible (e.g., Green & Fleming, 1990; Hastings, 1974). This approach was extensively evaluated and proved to be highly effective. Satisfaction rates across studies ranged from 87% of MtF patients to 97% of FtM patients (Green & Fleming, 1990), and regrets were extremely rare (1-1.5% of MtF patients and <1% of FtM patients; Pfäfflin, 1993). Indeed, hormone therapy and surgery have been found to be medically necessary to alleviate gender dysphoria in many people (American Medical Association, 2008; Anton, 2009; The World Professional Association for Transgender Health, 2008).

As the field matured, health professionals recognized that while many individuals need both hormone therapy and surgery to alleviate their gender dysphoria, others need only one of these treatment options and some need neither (Bockting & Goldberg, 2006; Bockting, 2008; Lev, 2004). Often with the help of psychotherapy, some individuals integrate their trans- or cross-gender feelings into the gender role they were assigned at birth and do not feel the need to feminize or masculinize their body. For others, changes in gender role and expression are sufficient to alleviate

gender dysphoria. Some patients may need hormones, a possible change in gender role, but not surgery; others may need a change in gender role along with surgery, but not hormones. In other words, treatment for gender dysphoria has become more individualized.

As a generation of transsexual, transgender, and gender nonconforming individuals has come of age – many of whom have benefitted from different therapeutic approaches – they have become more visible as a community and demonstrated considerable diversity in their gender identities, roles, and expressions. Some individuals describe themselves not as gender nonconforming but as unambiguously cross-sexed (i.e., as a member of the other sex; Bockting, 2008). Other individuals affirm their unique gender identity and no longer consider themselves either male or female (Bornstein, 1994; Kimberly, 1997; Stone, 1991; Warren, 1993). Instead, they may describe their gender identity in specific terms such as transgender, bigender, or genderqueer, affirming their unique experience that may transcend a male/female binary understanding of gender (Bockting, 2008; Ekins & King, 2006; Nestle, Wilchins, & Howell, 2002). They may not experience their process of identity affirmation as a "transition," because they never fully embraced the gender role they were assigned at birth or because they actualize their gender identity, role, and expression in a way that does not involve a change from one gender role to another. For example, some youth identifying as genderqueer have always experienced their gender identity and role as such (genderqueer). Greater public visibility and awareness of gender diversity (Feinberg, 1996) has further expanded options for people with gender dysphoria to actualize an identity and find a gender role and expression that is comfortable for them.

Health professionals can assist gender dysphoric individuals with affirming their gender identity, exploring different options for expression of that identity, and making decisions about medical treatment options for alleviating gender dysphoria.

Options for Psychological and Medical Treatment of Gender Dysphoria

For individuals seeking care for gender dysphoria, a variety of therapeutic options can be considered. The number and type of interventions applied and the order in which these take place may differ from person to person (e.g., Bockting, Knudson, & Goldberg, 2006; Bolin, 1994; Rachlin, 1999; Rachlin, Green, & Lombardi, 2008; Rachlin, Hansbury, & Pardo, 2010). Treatments options include the following:

- Changes in gender expression and role (which may involve living part time or full time in another gender role, consistent with one's gender identity);
- Hormone therapy to feminize or masculinize the body;

- Surgery to change primary and/or secondary sex characteristics (e.g., breasts/chest, external and/or internal genitalia, facial features, body contouring);
- Psychotherapy (individual, couple, family, or group) for purposes such as exploring gender identity, role, and expression; addressing the negative impact of gender dysphoria and stigma on mental health; alleviating internalized transphobia; enhancing social and peer support; improving body image; or promoting resilience.

Options for Social Support and Changes in Gender Expression

In addition (or as an alternative) to the psychological and medical treatment options described above, other options can be considered to help alleviate gender dysphoria, for example:

- Offline and online peer support resources, groups, or community organizations that provide avenues for social support and advocacy;
- Offline and online support resources for families and friends;
- Voice and communication therapy to help individuals develop verbal and non-verbal communication skills that facilitate comfort with their gender identity;
- Hair removal through electrolysis, laser treatment, or waxing;
- Breast binding or padding, genital tucking or penile prostheses, padding of hips or buttocks;
- Changes in name and gender marker on identity documents.

VI

Assessment and Treatment of Children and Adolescents with Gender Dysphoria

There are a number of differences in the phenomenology, developmental course, and treatment approaches for gender dysphoria in children, adolescents, and adults. In children and adolescents, a rapid and dramatic developmental process (physical, psychological, and sexual) is involved and

there is greater fluidity and variability in outcomes, particular in prepubertal children. Accordingly, this section of the *SOC* offers specific clinical guidelines for the assessment and treatment of gender dysphoric children and adolescents.

Differences between Children and Adolescents with Gender Dysphoria

An important difference between gender dysphoric children and adolescents is in the proportion for whom dysphoria persists into adulthood. Gender dysphoria during childhood does not inevitably continue into adulthood.[5] Rather, in follow-up studies of prepubertal children (mainly boys) who were referred to clinics for assessment of gender dysphoria, the dysphoria persisted into adulthood for only 6-23% of children (Cohen-Kettenis, 2001; Zucker & Bradley, 1995). Boys in these studies were more likely to identify as gay in adulthood than as transgender (Green, 1987; Money & Russo, 1979; Zucker & Bradley, 1995; Zuger, 1984). Newer studies, also including girls, showed a 12-27% persistence rate of gender dysphoria into adulthood (Drummond, Bradley, Peterson-Badali, & Zucker, 2008; Wallien & Cohen-Kettenis, 2008).

In contrast, the persistence of gender dysphoria into adulthood appears to be much higher for adolescents. No formal prospective studies exist. However, in a follow-up study of 70 adolescents who were diagnosed with gender dysphoria and given puberty suppressing hormones, all continued with the actual sex reassignment, beginning with feminizing/masculinizing hormone therapy (de Vries, Steensma, Doreleijers, & Cohen-Kettenis, 2010).

Another difference between gender dysphoric children and adolescents is in the sex ratios for each age group. In clinically referred, gender dysphoric children under age 12, the male/female ratio ranges from 6:1 to 3:1 (Zucker, 2004). In clinically referred, gender dysphoric adolescents older than age 12, the male/female ratio is close to 1:1 (Cohen-Kettenis & Pfäfflin, 2003).

As discussed in section IV and by Zucker and Lawrence (2009), formal epidemiologic studies on gender dysphoria – in children, adolescents, and adults – are lacking. Additional research is needed to refine estimates of its prevalence and persistence in different populations worldwide.

5 Gender nonconforming behaviors in children may continue into adulthood, but such behaviors are not necessarily indicative of gender dysphoria and a need for treatment. As described in section III, gender dysphoria is not synonymous with diversity in gender expression.

Phenomenology in Children

Children as young as age two may show features that could indicate gender dysphoria. They may express a wish to be of the other sex and be unhappy about their physical sex characteristics and functions. In addition, they may prefer clothes, toys, and games that are commonly associated with the other sex and prefer playing with other-sex peers. There appears to be heterogeneity in these features: Some children demonstrate extremely gender nonconforming behavior and wishes, accompanied by persistent and severe discomfort with their primary sex characteristics. In other children, these characteristics are less intense or only partially present (Cohen-Kettenis et al., 2006; Knudson, De Cuypere, & Bockting, 2010a).

It is relatively common for gender dysphoric children to have co-existing internalizing disorders such as anxiety and depression (Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003; Wallien, Swaab, & Cohen-Kettenis, 2007; Zucker, Owen, Bradley, & Ameeriar, 2002). The prevalence of autistic spectrum disorders seems to be higher in clinically referred, gender dysphoric children than in the general population (de Vries, Noens, Cohen-Kettenis, van Berckelaer-Onnes, & Doreleijers, 2010).

Phenomenology in Adolescents

In most children, gender dysphoria will disappear before or early in puberty. However, in some children these feelings will intensify and body aversion will develop or increase as they become adolescents and their secondary sex characteristics develop (Cohen-Kettenis, 2001; Cohen-Kettenis & Pfäfflin, 2003; Drummond et al., 2008; Wallien & Cohen-Kettenis, 2008; Zucker & Bradley, 1995). Data from one study suggest that more extreme gender nonconformity in childhood is associated with persistence of gender dysphoria into late adolescence and early adulthood (Wallien & Cohen-Kettenis, 2008). Yet many adolescents and adults presenting with gender dysphoria do not report a history of childhood gender nonconforming behaviors (Docter, 1988; Landén, Wålinder, & Lundström, 1998). Therefore, it may come as a surprise to others (parents, other family members, friends, and community members) when a youth's gender dysphoria first becomes evident in adolescence.

Adolescents who experience their primary and/or secondary sex characteristics and their sex assigned at birth as inconsistent with their gender identity may be intensely distressed about it. Many, but not all, gender dysphoric adolescents have a strong wish for hormones and surgery. Increasing numbers of adolescents have already started living in their desired gender role upon entering high school (Cohen-Kettenis & Pfäfflin, 2003).

Among adolescents who are referred to gender identity clinics, the number considered eligible for early medical treatment – starting with GnRH analogues to suppress puberty in the first Tanner stages – differs among countries and centers. Not all clinics offer puberty suppression. If such treatment is offered, the pubertal stage at which adolescents are allowed to start varies from Tanner stage 2 to stage 4 (Delemarre-van de Waal & Cohen-Kettenis, 2006; Zucker et al., in press). The percentages of treated adolescents are likely influenced by the organization of health care, insurance aspects, cultural differences, opinions of health professionals, and diagnostic procedures offered in different settings.

Inexperienced clinicians may mistake indications of gender dysphoria for delusions. Phenomenologically, there is a qualitative difference between the presentation of gender dysphoria and the presentation of delusions or other psychotic symptoms. The vast majority of children and adolescents with gender dysphoria are not suffering from underlying severe psychiatric illness such as psychotic disorders (Steensma, Biemond, de Boer, & Cohen-Kettenis, published online ahead of print January 7, 2011).

It is more common for adolescents with gender dysphoria to have co-existing internalizing disorders such as anxiety and depression, and/or externalizing disorders such as oppositional defiant disorder (de Vries et al., 2010). As in children, there seems to be a higher prevalence of autistic spectrum disorders in clinically referred, gender dysphoric adolescents than in the general adolescent population (de Vries et al., 2010).

Competency of Mental Health Professionals Working with Children or Adolescents with Gender Dysphoria

The following are recommended minimum credentials for mental health professionals who assess, refer, and offer therapy to children and adolescents presenting with gender dysphoria:

1. Meet the competency requirements for mental health professionals working with adults, as outlined in section VII;

2. Trained in childhood and adolescent developmental psychopathology;

3. Competent in diagnosing and treating the ordinary problems of children and adolescents.

Roles of Mental Health Professionals Working with Children and Adolescents with Gender Dysphoria

The roles of mental health professionals working with gender dysphoric children and adolescents may include the following:

1. Directly assess gender dysphoria in children and adolescents (see general guidelines for assessment, below).

2. Provide family counseling and supportive psychotherapy to assist children and adolescents with exploring their gender identity, alleviating distress related to their gender dysphoria, and ameliorating any other psychosocial difficulties.

3. Assess and treat any co-existing mental health concerns of children or adolescents (or refer to another mental health professional for treatment). Such concerns should be addressed as part of the overall treatment plan.

4. Refer adolescents for additional physical interventions (such as puberty suppressing hormones) to alleviate gender dysphoria. The referral should include documentation of an assessment of gender dysphoria and mental health, the adolescent's eligibility for physical interventions (outlined below), the mental health professional's relevant expertise, and any other information pertinent to the youth's health and referral for specific treatments.

5. Educate and advocate on behalf of gender dysphoric children, adolescents, and their families in their community (e.g., day care centers, schools, camps, other organizations). This is particularly important in light of evidence that children and adolescents who do not conform to socially prescribed gender norms may experience harassment in school (Grossman, D'Augelli, & Salter, 2006; Grossman, D'Augelli, Howell, & Hubbard, 2006; Sausa, 2005), putting them at risk for social isolation, depression, and other negative sequelae (Nuttbrock et al., 2010).

6. Provide children, youth, and their families with information and referral for peer support, such as support groups for parents of gender nonconforming and transgender children (Gold & MacNish, 2011; Pleak, 1999; Rosenberg, 2002).

Assessment and psychosocial interventions for children and adolescents are often provided within a multi-disciplinary gender identity specialty service. If such a multidisciplinary service is not available, a mental health professional should provide consultation and liaison arrangements with a pediatric endocrinologist for the purpose of assessment, education, and involvement in any decisions about physical interventions.

Psychological Assessment of Children and Adolescents

When assessing children and adolescents who present with gender dysphoria, mental health professionals should broadly conform to the following guidelines:

1. Mental health professionals should not dismiss or express a negative attitude towards nonconforming gender identities or indications of gender dysphoria. Rather, they should acknowledge the presenting concerns of children, adolescents, and their families; offer a thorough assessment for gender dysphoria and any co-existing mental health concerns; and educate clients and their families about therapeutic options, if needed. Acceptance and removal of secrecy can bring considerable relief to gender dysphoric children/adolescents and their families.

2. Assessment of gender dysphoria and mental health should explore the nature and characteristics of a child's or adolescent's gender identity. A psychodiagnostic and psychiatric assessment – covering the areas of emotional functioning, peer and other social relationships, and intellectual functioning/school achievement – should be performed. Assessment should include an evaluation of the strengths and weaknesses of family functioning. Emotional and behavioral problems are relatively common, and unresolved issues in a child's or youth's environment may be present (de Vries, Doreleijers, Steensma, & Cohen-Kettenis, 2011; Di Ceglie & Thümmel, 2006; Wallien et al., 2007).

3. For adolescents, the assessment phase should also be used to inform youth and their families about the possibilities and limitations of different treatments. This is necessary for informed consent, but also important for assessment. The way that adolescents respond to information about the reality of sex reassignment can be diagnostically informative. Correct information may alter a youth's desire for certain treatment, if the desire was based on unrealistic expectations of its possibilities.

Psychological and Social Interventions for Children and Adolescents

When supporting and treating children and adolescents with gender dysphoria, health professionals should broadly conform to the following guidelines:

1. Mental health professionals should help families to have an accepting and nurturing response to the concerns of their gender dysphoric child or adolescent. Families play an important role in the psychological health and well-being of youth (Brill & Pepper, 2008; Lev, 2004). This also applies to peers and mentors from the community, who can be another source of social support.

2. Psychotherapy should focus on reducing a child's or adolescent's distress related to the gender dysphoria and on ameliorating any other psychosocial difficulties. For youth pursuing sex reassignment, psychotherapy may focus on supporting them before, during, and after reassignment. Formal evaluations of different psychotherapeutic approaches for this situation have not been published, but several counseling methods have been described (Cohen-Kettenis, 2006; de Vries, Cohen-Kettenis, & Delemarre-van de Waal, 2006; Di Ceglie & Thümmel, 2006; Hill, Menvielle, Sica, & Johnson, 2010; Malpas, in press; Menvielle & Tuerk, 2002; Rosenberg, 2002; Vanderburgh, 2009; Zucker, 2006).

Treatment aimed at trying to change a person's gender identity and expression to become more congruent with sex assigned at birth has been attempted in the past without success (Gelder & Marks, 1969; Greenson, 1964), particularly in the long term (Cohen-Kettenis & Kuiper, 1984; Pauly, 1965). Such treatment is no longer considered ethical.

1. Families should be supported in managing uncertainty and anxiety about their child's or adolescent's psychosexual outcomes and in helping youth to develop a positive self-concept.

2. Mental health professionals should not impose a binary view of gender. They should give ample room for clients to explore different options for gender expression. Hormonal or surgical interventions are appropriate for some adolescents, but not for others.

3. Clients and their families should be supported in making difficult decisions regarding the extent to which clients are allowed to express a gender role that is consistent with their gender identity, as well as the timing of changes in gender role and possible social transition. For example, a client might attend school while undergoing social transition only partly (e.g., by wearing clothing and having a hairstyle that reflects gender identity) or completely (e.g., by also using a name and pronouns congruent with gender identity). Difficult issues include whether and when to inform other people of the client's situation, and how others in their lives should respond.

4. Health professionals should support clients and their families as educators and advocates in their interactions with community members and authorities such as teachers, school boards, and courts.

5. Mental health professionals should strive to maintain a therapeutic relationship with gender nonconforming children/adolescents and their families throughout any subsequent social changes or physical interventions. This ensures that decisions about gender expression and the treatment of gender dysphoria are thoughtfully and recurrently considered. The same reasoning applies if a child or adolescent has already socially changed gender role prior to being seen by a mental health professional.

Social Transition in Early Childhood

Some children state that they want to make a social transition to a different gender role long before puberty. For some children, this may reflect an expression of their gender identity. For others, this could be motivated by other forces. Families vary in the extent to which they allow their young children to make a social transition to another gender role. Social transitions in early childhood do occur within some families with early success. This is a controversial issue, and divergent views are held by health professionals. The current evidence base is insufficient to predict the long-term outcomes of completing a gender role transition during early childhood. Outcomes research with children who completed early social transitions would greatly inform future clinical recommendations.

Mental health professionals can help families to make decisions regarding the timing and process of any gender role changes for their young children. They should provide information and help parents to weigh the potential benefits and challenges of particular choices. Relevant in this respect are the previously described relatively low persistence rates of childhood gender dysphoria (Drummond et al., 2008; Wallien & Cohen-Kettenis, 2008). A change back to the original gender role can be highly distressing and even result in postponement of this second social transition on the child's part (Steensma & Cohen-Kettenis, 2011). For reasons such as these, parents may want to present this role change as an exploration of living in another gender role, rather than an irreversible situation. Mental health professionals can assist parents in identifying potential in-between solutions or compromises (e.g., only when on vacation). It is also important that parents explicitly let the child know that there is a way back.

Regardless of a family's decisions regarding transition (timing, extent), professionals should counsel and support them as they work through the options and implications. If parents do not allow their young child to make a gender role transition, they may need counseling to assist them with meeting their child's needs in a sensitive and nurturing way, ensuring that the child has ample possibilities to explore gender feelings and behavior in a safe environment. If parents do allow their young child to make a gender role transition, they may need counseling to facilitate a positive experience for their child. For example, they may need support in using correct pronouns, maintaining a safe and supportive environment for their transitioning child (e.g., in school, peer group settings), and communicating with other people in their child's life. In either case, as a child nears puberty, further assessment may be needed as options for physical interventions become relevant.

Physical Interventions for Adolescents

Before any physical interventions are considered for adolescents, extensive exploration of psychological, family, and social issues should be undertaken, as outlined above. The duration of this exploration may vary considerably depending on the complexity of the situation.

Physical interventions should be addressed in the context of adolescent development. Some identity beliefs in adolescents may become firmly held and strongly expressed, giving a false impression of irreversibility. An adolescent's shift towards gender conformity can occur primarily to please the parents and may not persist or reflect a permanent change in gender dysphoria (Hembree et al., 2009; Steensma et al., published online ahead of print January 7, 2011).

Physical interventions for adolescents fall into three categories or stages (Hembree et al., 2009):

1. *Fully reversible interventions.* These involve the use of GnRH analogues to suppress estrogen or testosterone production and consequently delay the physical changes of puberty. Alternative treatment options include progestins (most commonly medroxyprogesterone) or other medications (such as spironolactone) that decrease the effects of androgens secreted by the testicles of adolescents who are not receiving GnRH analogues. Continuous oral contraceptives (or depot medroxyprogesterone) may be used to suppress menses.

2. *Partially reversible interventions.* These include hormone therapy to masculinize or feminize the body. Some hormone-induced changes may need reconstructive surgery to reverse the effect (e.g., gynaecomastia caused by estrogens), while other changes are not reversible (e.g., deepening of the voice caused by testosterone).

3. *Irreversible interventions.* These are surgical procedures.

A staged process is recommended to keep options open through the first two stages. Moving from one stage to another should not occur until there has been adequate time for adolescents and their parents to assimilate fully the effects of earlier interventions.

Fully Reversible Interventions

Adolescents may be eligible for puberty suppressing hormones as soon as pubertal changes have begun. In order for adolescents and their parents to make an informed decision about pubertal delay, it is recommended that adolescents experience the onset of puberty to at least Tanner Stage 2. Some children may arrive at this stage at very young ages (e.g., 9 years of age). Studies

evaluating this approach only included children who were at least 12 years of age (Cohen-Kettenis, Schagen, Steensma, de Vries, & Delemarre-van de Waal, 2011; de Vries, Steensma et al., 2010; Delemarre-van de Waal, van Weissenbruch, & Cohen Kettenis, 2004; Delemarre-van de Waal & Cohen-Kettenis, 2006).

Two goals justify intervention with puberty suppressing hormones: (i) their use gives adolescents more time to explore their gender nonconformity and other developmental issues; and (ii) their use may facilitate transition by preventing the development of sex characteristics that are difficult or impossible to reverse if adolescents continue on to pursue sex reassignment.

Puberty suppression may continue for a few years, at which time a decision is made to either discontinue all hormone therapy or transition to a feminizing/masculinizing hormone regimen. Pubertal suppression does not inevitably lead to social transition or to sex reassignment.

Criteria for puberty suppressing hormones

In order for adolescents to receive puberty suppressing hormones, the following minimum criteria must be met:

1. The adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed);

2. Gender dysphoria emerged or worsened with the onset of puberty;

3. Any co-existing psychological, medical, or social problems that could interfere with treatment (e.g., that may compromise treatment adherence) have been addressed, such that the adolescent's situation and functioning are stable enough to start treatment;

4. The adolescent has given informed consent and, particularly when the adolescent has not reached the age of medical consent, the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process.

Regimens, monitoring, and risks for puberty suppression

For puberty suppression, adolescents with male genitalia should be treated with GnRH analogues, which stop luteinizing hormone secretion and therefore testosterone secretion. Alternatively, they may be treated with progestins (such as medroxyprogesterone) or with other medications that block testosterone secretion and/or neutralize testosterone action. Adolescents with female genitalia should be treated with GnRH analogues, which stop the production of estrogens and

progesterone. Alternatively, they may be treated with progestins (such as medroxyprogesterone). Continuous oral contraceptives (or depot medroxyprogesterone) may be used to suppress menses. In both groups of adolescents, use of GnRH analogues is the preferred treatment (Hembree et al., 2009), but their high cost is prohibitive for some patients

During pubertal suppression, an adolescent's physical development should be carefully monitored – preferably by a pediatric endocrinologist – so that any necessary interventions can occur (e.g., to establish an adequate gender appropriate height, to improve iatrogenic low bone marrow density) (Hembree et al., 2009).

Early use of puberty suppressing hormones may avert negative social and emotional consequences of gender dysphoria more effectively than their later use would. Intervention in early adolescence should be managed with pediatric endocrinological advice, when available. Adolescents with male genitalia who start GnRH analogues early in puberty should be informed that this could result in insufficient penile tissue for penile inversion vaginoplasty techniques (alternative techniques, such as the use of a skin graft or colon tissue, are available).

Neither puberty suppression nor allowing puberty to occur is a neutral act. On the one hand, functioning in later life can be compromised by the development of irreversible secondary sex characteristics during puberty and by years spent experiencing intense gender dysphoria. On the other hand, there are concerns about negative physical side effects of GnRH analog use (e.g., on bone development and height). Although the very first results of this approach (as assessed for adolescents followed over 10 years) are promising (Cohen-Kettenis et al., 2011; Delemarre-van de Waal & Cohen-Kettenis, 2006), the long-term effects can only be determined when the earliest treated patients reach the appropriate age.

Partially Reversible Interventions

Adolescents may be eligible to begin feminizing/masculinizing hormone therapy, preferably with parental consent. In many countries, 16-year-olds are legal adults for medical decision-making and do not require parental consent. Ideally, treatment decisions should be made among the adolescent, the family, and the treatment team.

Regimens for hormone therapy in gender dysphoric adolescents differ substantially from those used in adults (Hembree et al., 2009). The hormone regimens for youth are adapted to account for the somatic, emotional, and mental development that occurs throughout adolescence (Hembree et al., 2009).

Irreversible Interventions

Genital surgery should not be carried out until (i) patients reach the legal age of majority in a given country, and (ii) patients have lived continuously for at least 12 months in the gender role that is congruent with their gender identity. The age threshold should be seen as a minimum criterion and not an indication in and of itself for active intervention.

Chest surgery in FtM patients could be carried out earlier, preferably after ample time of living in the desired gender role and after one year of testosterone treatment. The intent of this suggested sequence is to give adolescents sufficient opportunity to experience and socially adjust in a more masculine gender role, before undergoing irreversible surgery. However, different approaches may be more suitable, depending on an adolescent's specific clinical situation and goals for gender identity expression.

Risks of Withholding Medical Treatment for Adolescents

Refusing timely medical interventions for adolescents might prolong gender dysphoria and contribute to an appearance that could provoke abuse and stigmatization. As the level of gender-related abuse is strongly associated with the degree of psychiatric distress during adolescence (Nuttbrock et al., 2010), withholding puberty suppression and subsequent feminizing or masculinizing hormone therapy is not a neutral option for adolescents.

VII
Mental Health

Transsexual, transgender, and gender nonconforming people might seek the assistance of a mental health professional for any number of reasons. Regardless of a person's reason for seeking care, mental health professionals should have familiarity with gender nonconformity, act with appropriate cultural competence, and exhibit sensitivity in providing care.

This section of the *SOC* focuses on the role of mental health professionals in the care of adults seeking help for gender dysphoria and related concerns. Professionals working with gender dysphoric children, adolescents, and their families should consult section VI.