

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,

v.

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, and THE STATE OF
WEST VIRGINIA,

Defendants,

and

LAINY ARMISTEAD,

Defendant-Intervenor.

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**PLAINTIFF'S MEMORANDUM OF LAW IN SUPPORT OF MOTION TO EXCLUDE
THE EXPERT TESTIMONY OF CHAD T. CARLSON**

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Plaintiff B.P.J. respectfully submits this memorandum of law in support of her motion to exclude the proffered expert testimony of Chad T. Carlson, M.D., FACSM from consideration at summary judgment or trial.

INTRODUCTION AND BACKGROUND

Plaintiff B.P.J. is a 12-year-old girl who is transgender. Because she is transgender, B.P.J. is categorically prohibited from participating with other girls on her middle school's cross-country or track and field teams as a result of H.B. 3293. B.P.J. brought this lawsuit to challenge this categorical exclusion as violating B.P.J.'s right to be free from discrimination under Title IX of the Education Amendments of 1972, 20 U.S.C. § 1681, *et seq.*, and the Equal Protection Clause of the Fourteenth Amendment.

As part of their defense of H.B. 3293, Defendants identified and disclosed an expert report from Chad T. Carlson, M.D., FACSM to support their contention that H.B. 3293 advances a governmental interest in protecting safety. In his report, Dr. Carlson states that “[m]ales exhibit large average advantages in size, weight, and physical capacity over females—often falling far outside female ranges,” and that “[f]ailure 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.” (Dkt. No. 289-32 (Carlson Rep.) ¶ 11(c).) Dr. Carlson further opines that “suppression of testosterone levels by males”—a term Dr. Carlson equates with transgender girls and women 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.” (*Id.* at ¶ 11(d).) As detailed below, these assertions are beyond Dr. Carlson's expertise, are not based on sufficient facts or data, and are not derived from sufficiently rigorous methodology, and accordingly should be excluded.

Dr. Carlson is a sports medicine physician, with no professional expertise in endocrinology and no professional education or training regarding transgender people. (Dkt. No. 289-33 (Carlson Dep.) at 24:8-12, 72:6-23.) Before writing his expert declarations in this case, Dr. Carlson had never written any publications on the topic of transgender people. (*Id.* at 44:14-45:8.) To the best of his knowledge, Dr. Carlson does not know if he has even treated a transgender patient. (*Id.* at 69:16-18.)

Dr. Carlson is a current or former member of the Christian Medical & Dental Association, which provided Dr. Carlson's name to the Alliance Defending Freedom as a person who could provide an expert declaration on sports safety. (Dkt. No. 289-33 (Carlson Dep.) 30:23-31:7, 32:21-33:14.) Dr. Carlson provided the following description of the process he went through to create his first expert declaration as follows: "I met with one of the attorneys from Alliance Defending Freedom, I outlined with him what we thought might be an appropriate take on this paper, and then both of us did literature searches. I compiled what I thought was relevant for the paper." (Dkt. No. 289-33 (Carlson Dep.) 51:17-51:22.)

As discussed below, although Dr. Carlson may have expertise in the mechanics of sports injury and in sex-based differences between cisgender men and women, Dr. Carlson ventures far beyond that expertise when he attempts to extrapolate that information to transgender girls and women. Because Dr. Carlson's testimony regarding transgender girls and women is not "based on sufficient facts or data" and is not "the product of reliable principles and methods," his proffered opinions do not qualify under Federal Rule of Evidence 702 as admissible expert testimony. The Court should exercise its "special gatekeeping obligation" and exclude his testimony from consideration at summary judgment or trial. *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 281 (4th Cir. 2021).

LEGAL STANDARD

Federal Rule of Evidence 702 “permits an expert to testify where the expert’s ‘scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue,’ so long as the expert’s opinion is ‘based on sufficient facts or data,’ ‘is the product of reliable principles and methods,’ and the expert ‘has reliably applied the principles and methods to the facts of the case.’” *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prod. Liab. Litig. (No II) MDL 2502*, 892 F.3d 624, 631 (4th Cir. 2018) (quoting Fed. R. Evid. 702). “Rule 702 thus imposes a special gatekeeping obligation on the trial judge to ensure that an expert’s testimony both rests on a *reliable* foundation and is *relevant* to the task at hand.” *Sardis*, 10 F.4th at 281 (internal quotation marks and citations omitted). If an expert’s testimony is “alleged to be unreliable, then the trial judge must determine whether the testimony has a reliable basis in the knowledge and experience of the relevant discipline. While district courts have broad discretion in analyzing reliability, such discretion does not include the decision to abandon the gatekeeping function.” *Id.* at 282 (internal quotation marks and citations omitted).

Rule 702 applies with full force when ruling on a motion for summary judgment even when the case is scheduled for a bench trial. Summary judgment cannot be granted or denied based on evidentiary material that “cannot be presented in a form that would be admissible in evidence.” Fed. R. Civ. P. 56(c)(2); *see Humphreys & Partners Architects, L.P. v. Lessard Design, Inc.*, 790 F.3d 532, 538 (4th Cir. 2015). Thus, when the evidence related to a material question of fact comes in the form of expert testimony, “the propriety of summary judgment hinges on whether [the] expert evidence is admissible before this Court” under Rule 702. *Rover Pipeline LLC v. Rover Tract No(s). WV-MA-ML-056.500-ROW & WV-MA-ML-056.500-ATWS*, No. 18 Civ. 68, 2021 WL 3424270, at *3 (N.D.W. Va. Aug. 5, 2021); *accord Bellitto v. Snipes*, 302 F. Supp. 3d 1335, 1347 (S.D. Fla. 2017).

ARGUMENT

I. Dr. Carlson’s Opinions Regarding Prepubertal Children And Transgender Girls Who Receive Puberty-Delaying Medication Should Be Excluded.

The Court should exclude Dr. Carlson’s opinions regarding alleged safety implications of allowing transgender girls and women to participate on female sports teams if they have not gone through endogenous puberty as a result of puberty-delaying medication and gender-affirming hormones. As discussed below, Dr. Carlson’s newfound views on this topic are based on his own independent expertise and simply parrot the unreliable opinions of one of Defendants’ other proffered experts.

There is a broad consensus in the scientific literature that the primary biological basis for differences in athletic performance between men and women is the rise in circulating levels of testosterone beginning in endogenous male puberty. (Dkt. No. 289-25 (Safer Rep.) ¶ 25.) Accordingly, even the highly restrictive policy of World Rugby—which Dr. Carlson praises as “rooted in objective facts,” “objective risks of harm,” and “real, acknowledged, and documented physical differences”—provides that “[t]ransgender women who transitioned pre-puberty and have not experienced the biological effects of testosterone during puberty and adolescence can play women’s rugby (subject to confirmation of medical treatment and the timing thereof).” (Dkt. No. 49-8 (Ex. H - World Rugby guidelines).)

Prior to his expert report filed in support of the State’s motion for summary judgment, Dr. Carlson did not dispute this consensus. At the preliminary injunction stage of this case, Dr. Carlson filed a declaration in support of the State’s opposition to Plaintiff’s Motion for a Preliminary Injunction, which he called a “White Paper . . . Concerning Injury Risks Associated With Transgender Participation in Female Athletics.” (Dkt. No. 49-7.) In that declaration, Dr. Carlson explained that he was “offer[ing] information on his own professional opinion on the potential for

increased injury risk to females in sports when they compete against biologically male transgender athletes.” (Dkt. No. 49-7 ¶ 8.) The full extent of Dr. Carlson’s opinion on the topic focused exclusively on physiological differences that develop once circulating levels of testosterone rise during a typically male puberty. (*See* Dkt. No. 49-7 ¶ 18 (“Children don’t play contact sports with adults and, as has already been discussed, after the onset of puberty, men and women compete in categories specific to their own biological sex.”); *id.* ¶ 40 (“All of us are familiar with basic objective physiological differences between the sexes which become apparent after the onset of puberty and persist throughout adulthood.”); *id.* ¶ 79 (“As a medical doctor, I will focus on those specific sex-based characteristics of males who have undergone normal sex-determined pubertal skeletal growth and maturation that are relevant to the safety of female athletes.”).)

But after this Court granted Plaintiff’s Motion for a Preliminary Injunction and highlighted the fact that B.P.J. is receiving puberty blocking medication, Dr. Carlson was asked by Defendants to “update” his report to address prepubertal youth. (Dkt. No. 289-33 (Carlson Dep.) at 99:14-19.) The expert report Dr. Carlson ultimately filed—unlike the declaration filed in opposition to the preliminary injunction—was edited to insert new references to alleged differences in prepubertal children that Dr. Carlson had not included in his original report. (Dkt. No. 289-32 (Carlson Rep.) ¶ 11(c) (“Even before puberty, males have a performance advantage over females in most athletic events.”); *id.* at ¶ 16 (“Although most easily documented in athletes who have gone through puberty, these differences are not exclusively limited to post-pubescent athletes either.”); *id.* at ¶ 17 (“In sum, a large and unbridgeable performance gap between the sexes is well-studied and equally well-documented, beginning in many cases before puberty.”); *id.* at ¶ 25 (references “real, acknowledged, and documented physical differences between the sexes (in many cases before adolescence)”; *id.* at ¶ 42 (“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.”) (emphasis added or reflect new language.)

Dr. Carlson’s newfound views on the matter were not the product of independent expertise or rigorous, data-driven study. Rather, Dr. Carlson’s report merely cites to the separate expert report filed by another one of Defendants’ putative experts, Dr. Gregory Brown. “While an expert may rely upon another expert to form an opinion under Rule 703, an expert may not merely recite another expert’s opinion as his own.” *Member Servs., Inc. v. Sec. Mut. Life Ins. Co. of N.Y.*, No. 06 Civ. 1164, 2010 WL 3907489, at *27 (N.D.N.Y. Sept. 30, 2010). That is exactly what Dr. Carlson did here:

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.

(Dkt. No. 289-32 (Carlson Rep.) ¶ 17.) Although Dr. Carlson asserted at his deposition that he had done additional research through “PubMed” when “updating” his report, he could not recall any additional sources that he relied on during his deposition when asked. (See Dkt. No. 289-33 (Carlson Dep.) at 105:13-14, 105:25-106:4.) Because Dr. Carlson’s proffered testimony “merely

regurgitate[s]” the findings of Dr. Brown, he has no independent basis to present those opinions as separate expert testimony. *Eberli v. Cirrus Design Corp.*, 615 F. Supp. 2d 1357, 1364 (S.D. Fla. 2009).

Even if Dr. Carlson were permitted to parrot Dr. Brown’s testimony as his own, Plaintiff has filed a separate motion to exclude Dr. Brown’s testimony regarding prepubertal children because those opinions do not reflect a reliable application of scientific principles or methods. Dr. Brown’s opinions are built on cherry-picked surveys of the literature, raw data never subjected to peer review, a failure to discuss contrary studies on which Dr. Brown previously relied, and a long chain of speculation. For all the same reasons why Dr. Brown’s opinions on these issues are inadmissible under Rule 702, those opinions are also inadmissible when parroted by Dr. Carlson. “[T]heir opinions rise and fall together.” *CCM Rochester, Inc. v. Federated Invs., Inc.*, No. 14 Civ. 3600, 2016 WL 11617452, at *7 (S.D.N.Y. Aug. 31, 2016).

Dr. Carlson engaged in even more speculation during his deposition when he purported to offer an additional expert opinion not found in his report or declaration on how these assertions regarding prepubertal youth were relevant to transgender girls and women who receive puberty-delaying medication followed by gender affirming hormones. Dr. Carlson did not previously address the topic of puberty-delaying medication in either his expert report or declaration. For that reason alone, Dr. Carlson’s opinions regarding puberty-delaying medication must be excluded.

Even if Dr. Carlson’s opinions regarding puberty-delaying medication had been timely disclosed, Dr. Carlson is not qualified to offer them. Dr. Carlson is not an endocrinologist, and at his deposition he repeatedly disclaimed any basis to offer an expert opinion on the physiological effects of puberty-delaying medication followed by gender-affirming hormones. (*See* Dkt. No. 289-33 (Carlson Dep.) at 75:8-10.) But Dr. Carlson nevertheless expressed at his deposition the

alleged expert opinion that “there is retained difference in lean body mass” in transgender girls and women who receive puberty-delaying medication when compared with cisgender girls and women. (*Id.* at 116:17-24.) Dr. Carlson’s only basis for that assertion was an article from 2018 that he read for the first time when preparing for the deposition after his expert report had been submitted. (Dkt. No. 289-33 (Carlson Dep.) 116:17-117:17, 146:10-25, 150:5-151:12.)

As discussed in Plaintiff’s separate memorandum in support of the motion to exclude the expert testimony of Dr. Brown, the 2018 article by Klaver et al. involved a cohort of transgender women who already experienced approximately two years of endogenous puberty before receiving puberty-blocking medication and therefore are not representative of transgender girls who—like B.P.J.—receive puberty blocking medication at the beginning of the Tanner 2 stage of pubertal development in accordance with the Endocrine Society Guidelines. Moreover, the Klaver 2018 study did not provide any data to support the assumption that the minor observed differences in percentage of lean body mass for the transgender women in the study actually translated into any athletic advantages compared with cisgender women. For all the reasons that the Klaver 2018 article forms an insufficient basis for Dr. Brown’s expert opinions, it forms an insufficient basis for Dr. Carlson’s expert opinion as well.

II. Dr. Carlson’s Opinion That The Existing Data Supports A Categorical Ban On Transgender Girls And Women Should Be Excluded.

The Court should also exclude Dr. Carlson’s opinion that the current data on injury risk is sufficient to support a categorical ban on the participation of girls and women who are transgender in contact or collision sports teams with other girls and women. “Under the regime of *Daubert* a district judge asked to admit scientific evidence must determine whether the evidence is genuinely scientific, as distinct from being unscientific speculation offered by a genuine scientist.” *See Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1316-17 (11th Cir. 1999) (quoting *Rosen v. Ciba-*

Geigy Corp., 78 F.3d 316, 318 (7th Cir.1996)) (alterations incorporated). But in the conclusion of his report, Dr. Carlson engages in precisely the sort of “unscientific speculation” that Rule 702 forbids:

[I]t 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, 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, policymakers, and legislators have a responsibility to act to protect girls and women before they get hurt.

(Dkt. No. 289-32 (Carlson Rep.) at 59-60.) These sweeping policy assertions pertain to topics on which Dr. Carlson admits he has no expertise and are based on speculative and inaccurate assumptions about the physiological characteristics of girls and women who are transgender.

As an initial matter, although Dr. Carlson purports to offer policy recommendations in his expert report, Dr. Carlson specifically and repeatedly disclaimed any expert basis for doing so during his deposition. Although Dr. Carlson asserted that the participation of transgender girls and women created an increased quantum of risk, he repeatedly testified that he could not quantify the degree of risk or compare it to the safety risks when cisgender girls compete other cisgender girls who are larger-than-average or faster-than-average. (Dkt. No. 289-33 (Carlson Dep.) at 122:22-24, 136:8-13.) When asked whether he believed that quantifying the degree of risk is relevant information when determining whether the risk justifies an exclusion of transgender girls, Dr. Carlson responded “That’s a policy issue. That’s not my job. My job is just to say is there a risk.” (*Id.* at 129:9-10.)

Dr. Carlson also disclaimed an expert basis for offering policy recommendations on related matters. When asked whether the safety risk inherent in contact and collision sports was high enough to warrant eliminating contact and collision sports altogether, Dr. Carlson stated “that’s a societal—that’s not why I was retained for this. I was retained to speak to safety issues as exist in sport, not whether a sport ought to continue.” (*Id.* at 195:22-25.) Similarly, when asked whether the participation of women with complete androgen insensitivity syndrome created safety risks that would justify their exclusion from girls’ and women’s sports teams, Dr. Carlson responded: “[M]y report speaks to safety issues and whether there are risks for (technical difficulty) faster individuals to participate in pools of athletes who don’t share those same traits. It’s not my job to create policy or decide which groups are more appropriate.” (*Id.* at 25:17-22.)

Thus, by Dr. Carlson’s own repeated admission, he has no expertise in providing recommendations on which population groups should and should not be excluded from participation based on alleged safety risks. His opinion “as a medical doctor” regarding the steps policy makers should take when addressing safety risks is “mere personal opinion and thus inadmissible.” *Hines v. Wyeth*, No. 04 Civ. 0690, 2011 WL 2680842, at *5 (S.D.W. Va. July 8, 2011), *order clarified on reconsideration*, No. 04 Civ. 0690, 2011 WL 2730908 (S.D.W. Va. July 13, 2011); *accord Ollier v. Sweetwater Union High Sch. Dist.*, 768 F.3d 843, 861 (9th Cir. 2014) (“[P]ersonal opinion testimony is inadmissible as a matter of law under Rule 702.”).

Moreover, even if he had a basis to offer an expert opinion, Dr. Carlson’s recommendations are premised on uninformed speculation and guesswork. Dr. Carlson acknowledges that there are intra-sex differentiations among cisgender women in terms of size, speed, and strength that could lead to increased safety risks for other athletes. (Dkt. No. 289-32 (Carlson Rep.) ¶ 78.) If the presence of an athlete above a certain threshold height or body weight were to pose an

unacceptably heightened risk to safety in particular contact or collision sports, then there is no logical reason to exclude all transgender girls (even when they fall below that threshold) while allowing a potentially greater number of cisgender girls to participate (even when they fall above that threshold). Sporting organizations can provide generally applicable limitations on height or weight for all girls and women—whether transgender or cisgender—without using transgender status as an inaccurate proxy. (*See* Dkt. No. 289-26 (Safer Rebuttal) ¶ 27.)

To justify excluding transgender girls and women, but not cisgender girls and women, Dr. Carlson reasons that “within sex-specific pools, size differential is somewhat predictable and bounded, even considering outliers,” but when people assigned male at birth participate on girls’ and women’s teams, “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 [cisgender] female pool.” (Dkt. No. 289-32 (Carlson Rep.) ¶ 78.) Yet Dr. Carlson provides no evidence that there actually is a greater statistical likelihood of cisgender athletes encountering a “statistical outlier” who is transgender than encountering a “statistical outlier” who is cisgender, and such a result is questionable in light of the small percentage of the population that is transgender and the smaller percentage of transgender students participating in team sports. Contrary to his uninformed speculation about the risks posed by transgender girls and women, Dr. Carlson acknowledges that some transgender girls and women “have indeed competed in a variety of girls’ and women’s contact sports,” (*id.* at 59), and that he is not aware of any evidence that the participation of those transgender girls and women actually led to an increase in the rate or severity of injury for cisgender girls and women participating with them. (Dkt. No. 289-33 (Carlson Dep.) at 156:9-16.) “While scientific testimony need not be known to a certainty, *Daubert* does require that assertions be derived from ‘scientific knowledge,’” which must be “more than subjective

belief or unsupported speculation.” *Allison*, 184 F.3d at 1319 n.23. But Dr. Carlson presents no data other than his own intuition.

Dr. Carlson also speculates that injuries will increase because the number of transgender participants “up till now have been small” and “recent studies have reported very large increases in the number of children and young people identifying as transgender compared to historical experience.” (Dkt. No. 289-32 (Carlson Rep.) at 59.) But he admitted during his deposition that the source he cited for that proposition, a survey of high school students in Minnesota, reported the number of students who identified as transgender *or gender-nonconforming*, a term defined in the study as people who do “not follow stereotypical conventions of masculinity and femininity and who may or may not identify as transgender.” (Dkt. No. 289-33 (Carlson Dep.) at 215:14-216:5.) The Minnesota study—in addition to being an unduly small sample size—does not show a “very large increase[] in the number of children and young people identifying as transgender,” (Dkt. No. 289-32 (Carlson Rep.) at 63), nor does it have as its aim data collection or analysis about how many of those children might participate in school sports.

Dr. Carlson’s speculations about epidemiology, and his mistaken use of an article that does not support his claims, do not qualify as “sufficient facts or data” or “reliable principles and methods” for presenting expert testimony under Rule 702. To the contrary, Dr. Carlson’s opinions represent “exactly the sort of unscientific speculation that *Daubert* was designed to exclude.” *Eberli*, 615 F. Supp. 2d at 1365. Dr. Carlson’s statement that “policy makers have an important and pressing duty to act when” when “[f]aced with this rapid social change,” (Dkt. No. 289-32 (Carlson Rep.) at 60), is simply the product of his own “belief or speculation,” and not based on the “scientific, technical, or other specialized *knowledge*” that Rule 702 demands. *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir. 1999).

CONCLUSION

For the foregoing reasons, the Court should enter an order excluding the proffered expert testimony of Chad T. Carlson, M.D., FACSM from consideration at summary judgment or trial.

Dated: May 12, 2022

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IN THE UNITED STATES DISTRICT COURT
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Defendant-Intervenor.

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

CERTIFICATE OF SERVICE

I, Loree Stark, do hereby certify that on this 12th day of May, 2022, I electronically filed a true and exact copy of *Plaintiff's Memorandum of Law in Support of Motion To Exclude the Expert Testimony of Chad T. Carlson* with the Clerk of Court and all parties using the CM/ECF System.

/s/ Loree Stark

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