EXHIBIT

5

The New York Times

Danica Roem Wins Virginia Race, Breaking a Barrier for Transgender People

By Maggie Astor

Nov. 7, 2017

She campaigned on everyday issues, like reducing traffic on a congested state highway. But her victory on Tuesday was a social breakthrough that brought seasoned advocates to tears.

In a local election in Northern Virginia, Danica Roem, 33, defeated a Republican who had served in the state's House of Delegates for a quarter of a century — and, in doing so, Ms. Roem became the first transgender person to be elected to the Virginia legislature.

Only one other openly transgender person has been elected to a state legislature anywhere in the United States: Stacie Laughton, a Democrat who won a seat in the New Hampshire House in 2012 but never took office because of an outcry over her failure to disclose a felony conviction. Another, Althea Garrison, elected to the Massachusetts House in 1992, came out as transgender during her term in office but lost every campaign she ran after coming out.

Ms. Roem and her campaign manager, Ethan Damon, did not respond to an email requesting comment Tuesday evening. But in a recent interview with Mother Jones, Ms. Roem emphasized that her campaign was about policy, not just her identity.

"Transgender people have really good public policy ideas that span the gamut of transportation policy to health care policy to education policy, and yes, to civil rights as well," she said. "We shouldn't just be pigeonholed into the idea that we're just going to be fighting about bathrooms."

Ms. Roem will be just one state lawmaker out of more than 7,000 nationwide, but her victory resonated far beyond her legislative influence. Gay and lesbian Americans have made major strides in terms of both social acceptance and political representation, but transgender Americans are still struggling for both. There are seven openly gay members of Congress — six in the House and one in the Senate — but no openly transgender members. Many antidiscrimination laws protect people on the basis of sexual orientation but not gender identity, and killings of transgender people are on the rise.

But in January, Sarah McBride, a spokeswoman for the Human Rights Campaign, tweeted, "a trans woman will walk into the capitol built by Jefferson to take her seat in the Virginia legislature."

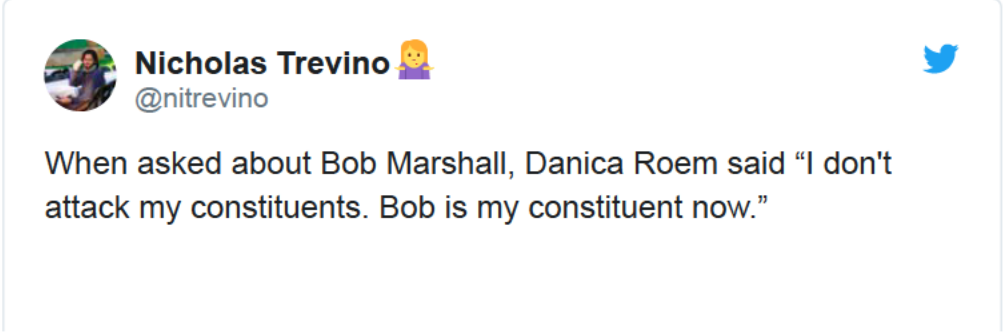
In an email on Tuesday night, Ms. McBride, herself a transgender woman, wrote: “It’s difficult to encapsulate just how powerful it is to see this particular glass ceiling shattered. Reading the history books growing up, it became clear to me that no one like me made it very far — at least no one who was out.”

“For trans youth across the country, Danica Roem’s election isn’t just a headline or even history,” she added. “It’s hope. Hope for a better tomorrow.”

Charles Clymer, a writer who identifies as genderqueer, tweeted that Ms. Roem had “inspired a generation of trans kids to believe.”

The symbolism of Ms. Roem’s victory was amplified by the fact that the man she defeated — Bob Marshall, a Republican running for his 14th term — is an outspoken opponent of transgender rights. He introduced a bill this year that would have barred transgender students from using the bathrooms of their choice and required school officials to inform the parents of any student who asked “to be recognized or treated as the opposite sex.” And during the campaign, he repeatedly used male pronouns to refer to Ms. Roem.

In a Facebook post after the race was called, Mr. Marshall thanked his supporters and wrote, “Though we all wish tonight would have turned out differently, I am deeply grateful for your support and effort over the years.” He did not mention Ms. Roem.



She has more grace and composure than I will ever have.
#virginia #DanicaRoem
103K 1:07 AM - Nov 8, 2017
23.5K people are talking about this

Ms. McBride predicted that more openly transgender candidates would run for office now that Ms. Roem has paved the way.

“And if they’re greeted by skeptical party leaders or operatives,” she said, “they can point to Roem’s victory as proof that trans candidates can win, that their candidacies can generate excitement, and that voters will judge trans candidates on their merits, not their identities.”

EXHIBIT

6

Virginia Politics

Danica Roem of Virginia to be first openly transgender person elected, seated in a U.S. statehouse

By Antonio Olivo
November 8, 2017

Virginia's most socially conservative state lawmaker was ousted from office Tuesday by Danica Roem, a Democrat who will be one of the nation's first openly transgender elected officials and who embodies much of what Del. Robert G. Marshall fought against in Richmond.

The race focused on traffic and other local issues in suburban Prince William County but also exposed the nation's fault lines over gender identity. It pitted a 33-year-old former journalist who began her physical gender transition four years ago against a 13-term incumbent who called himself Virginia's "chief homophobe" and earlier this year introduced a "bathroom bill" that died in committee.

"Discrimination is a disqualifier," a jubilant Roem said Tuesday night as her margin of victory became clear. "This is about the people of the 13th District disregarding fear tactics, disregarding phobias . . . where we celebrate you because of who you are, not despite it."

Marshall, 73, who refused to debate Roem and referred to her with male pronouns, declined an interview request but posted a concession message on Facebook.

"For 26 years I've been proud to fight for you, and fight for our future," he said. "I'm committed to continue the fight for you, but in a different role going forward."

The contest was one of dozens of state legislative races in which Democrats pushed to gain ground in the Republican-majority General Assembly, buoyed by a surge of anti-Trump sentiment among Democrats and independents, and hoping to provide an example for the nation of how to run in opposition to the unpopular Republican president. It also was the most prominent of several elections across the country in which transgender individuals won seats on city councils and a school board.

Roem outraised Marshall 3-to-1 with nearly $500,000 in donations, much of it coming from LGBT advocates and other supporters across the country. Her campaign was relentless, knocking on doors more than 75,000 times in a district with 52,471 registered voters. Roem sat for myriad public appearances and interviews and maintained a steady social media presence. Marshall kept his schedule private but also mounted a healthy ground game; his campaign said this week that staffers knocked on voters' doors about 49,000 times this fall.

The race took an ugly turn when Marshall and his supporters produced ads disparaging Roem 's transgender identity.

But in the end, that tactic failed. Roem led by nearly nine percentage points with all precincts reporting, according to preliminary, unofficial results. Advocates say she will be the first openly transgender person elected to and seated in a U.S. state legislature; a transgender candidate was elected in New Hampshire in 2012 but did not take office, and a transgender person served in the Massachusetts legislature in the early 1990s but was not openly transgender while campaigning.

"It's kind of like Barack [Obama] winning the presidential election. I'm really proud of Virginia," said Roem voter John Coughlin, 63, a Realtor in Manassas who said he had never voted for Marshall. "I don't care about religious issues. I don't care about items that are big on his agenda. He should be more mainstream."

Stephen J. Farnsworth, a political-science professor at the University of Mary Washington in Fredericksburg, said Roem's victory shows "that cultural wars don't win elections like they used to."

"Virginia has changed so rapidly over the past 20 years. It's gone from a state where no politician would dare to condemn the Confederacy to a state where a suburban district would elect a transgender candidate," Farnsworth said. "The Old Dominion gives way to a very different New Dominion."

In addition to calling Marshall "a mirror" of Trump, Roem accused him of being more concerned with advancing his conservative causes than dealing with local problems. That message resonated in communities along Route 28 — particularly Manassas Park, an area that has seen an influx of immigrants and millennials. Marshall lost there four years ago.

"I work in Tysons sometimes in the morning, and it can take up to two hours, and the main reason for that is Route 28," said Miranda Jehle, 21, a Roem voter who lives in Manassas Park. "That issue definitely resonated here."

Nat King, 50, called the congested thoroughfare "the one issue that I know has to be addressed."

"That was the primary factor in how I voted," said King, who lives in the Signal Hill area and cast his ballot for Roem. "Someone has to fix Route 28."

Marshall emphasized his record of helping constituents with individual problems.

But he also countered Roem's attacks with appeals to his conservative base, helped by last-minute donations from the state Republican Party and conservative groups outside Virginia that have long supported him.

A cable television ad by Marshall's campaign questioned Roem's moral judgment with brief footage from a five-year-old music video she appeared in with her band. A scene from the video, which did not appear fully in the ad, is suggestive of a group of people having oral sex.

A state Republican Party flier accused Roem of "wanting transgenderism taught to kindergartners" — a reference to a radio interview in which she supported the idea of addressing lesbian, gay, bisexual and transgender matters in schools "in an age-appropriate manner."

Quentin Kidd, director of the Wason Center for Public Policy at Christopher Newport University, said Marshall may have erred in making too much of Roem's gender while refusing to participate in public-policy debates.

"He got put in a box on a cultural war issue, and the irony is that he's made his living on cultural war issues," Kidd said.

But some Marshall voters said they were turned off by Roem's gender. "She's never had menstrual cramps, and she's never had a baby, and she never will be able to," said Carol Fox, a community activist in the Heritage Hunt section of Prince William, where Roem campaigned repeatedly. "She can take all the estrogen she wants, but she'll never be a woman."

Alexis Dimouro, 53, who voted for Marshall, said she was turned off by negativity on both sides, including attacks on Roem's gender and Roem's characterization of Marshall as a conservative zealot out of touch with local issues.

"Let us do the research and decide," she said. "All of that seemed like a waste of money."

At the Water's End Brewery in Lake Ridge, a crowd of supporters and news cameras awaited Roem as she drove in for a final stop in what became a victory tour of Prince William County Democratic parties.

The crowd chanted "Danica! Danica!" She raised her fist and shouted "Sí, se puede!"

Standing on a table inside the pub, Roem dedicated her win "to every person who's ever been singled out, who's ever been stigmatized, who's ever been the misfit, who's ever been the kid in the corner, who's ever needed someone to stand up for them when they didn't have a voice of their own. This one is for you."

She then reiterated her promises of alleviating traffic congestion on Route 28.

"That's why I got in this race," Roem said. "Because I'm fed up with the frickin' road over in my home town."

Read more on the race:

Five things to know about Democrat Danica Roem

'Just who I am': Roem ad highlights her transgender identity

Danica Roem: Policy wonk in a rainbow headscarf

Democrat Ralph Northam defeats Ed Gillespie in race for Virginia governor

2 Comments

Antonio Olivo
Antonio Olivo covers government, politics and other issues in Northern Virginia. He has also reported from Afghanistan and

Mexico after joining The Washington Post in 2013. Follow

EXHIBIT

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OUT POLITICS AND POLICY

Over 150 LGBTQ candidates claim victory in midterm elections

The projected winners include governors, a senator and several new members of Congress.

Sharice Davids, Jared Polis and Angie Craig

Whitney Curtis, Rick T. Wilking, Craig Lassig / Getty Images / AP Images for Human Rights Campaign

Nov. 7, 2018, 8:32 PM EST

By Julie Moreau

As the sun set on Washington on Tuesday evening, a rainbow appeared over the Capitol. LGBTQ candidates and advocates hoped it was an early sign that a figurative "rainbow wave" would sweep a historic number of lesbian, bisexual, transgender and queer candidates into office.

Their hopes were arguably fulfilled. With a number of races still too close to call, more than 150 LGBTQ candidates emerged victorious in the midterms as of Friday afternoon. For perspective, there are currently less than 600 openly LGBTQ elected officials in the U.S. – just 0.1 percent of elected officials nationwide, according to the Victory Institute.

"From the U.S. Congress to governors' mansions to state legislatures and city councils, we are making historic inroads and growing our political power in ways unimaginable even a few years ago," former Houston Mayor Annise Parker, now the president and CEO of the Victory Institute and

Victory Fund, said in a statement sent to NBC News. “We shattered lavender ceilings, achieved historic firsts and brought more LGBTQ representation to legislative bodies across the nation, which will help push equality forward.”

GOVERNOR’S RACES

Four LGBTQ candidates ran for governor, all Democrats, and two are projected to win.

In Colorado, with 99 percent of the votes in as of Friday afternoon, NBC News reported that Jared Polis is ahead of his Republican challenger, Walker Stapleton, with more than 52 percent for the vote. Polis is set to become the first openly gay man elected governor in the U.S.

Patrick Egan, a politics professor at New York University, called Polis’ victory a “remarkable turnaround” for the Centennial State, which in 1992 “was home of Amendment 2,” which prohibited recognition of homosexuals as a protected class. And just over a decade ago, the state also passed Amendment 43, which prohibited same-sex marriage.

“That says something about the transformation of that state, and of our country, when it comes to how voters think about LGBTQ candidates and LGBTQ rights,” Egan said.

Oregon Gov. Kate Brown, a bisexual Democrat who in 2016 became the first openly LGBTQ person to be elected governor, was also projected to win her race. With 99 percent of the vote in on Wednesday afternoon, Brown was 6 percentage points ahead of Republican Knute Buehler.

Lupe Valdez, a lesbian Latina running in Texas, and Christine Hallquist, a transgender woman running in Vermont, were both projected to be defeated by their Republican challengers.

“The big disappointment of the night is Christine Hallquist,” Egan said, noting that she faced a popular Republican incumbent, Gov. Phil Scott. “But I don't think it takes anything anyway from her historic candidacy.”

CONGRESSIONAL RACES

There are currently seven openly LGBTQ members in Congress: Sen. Tammy Baldwin, D-Wis.; Rep. Jared Polis, D-Colo.; Rep. David Cicilline, D-R.I.; Rep. Sean Patrick Maloney, D-N.Y.; Rep. Kyrsten Sinema, D-Ariz.; Rep. Mark Pocan, D-Wis.; and Rep. Mark Takano, D-Calif.

The incoming 116th Congress will welcome several new LGBTQ members, though the overall number of out members will only increase slightly, as some members – like Polis – have sought higher office.

Baldwin, the first openly LGBTQ person elected to the Senate, was projected to win re-election. Sinema, who is running for the Senate seat being vacated by Republican Jeff Flake, is in a tight race with Republican Martha McSally. As of Friday afternoon, the race was still too close to call: With 83

percent of precincts reporting, Sinema was ahead by nearly 10,000 votes. If she wins, she will be the first openly bisexual person elected to the Senate and the first female senator from Arizona.

Of the estimated 20 openly LGBTQ major party candidates running for the House, eight won. The incumbent winners include Rep. Mark Takano, D-Calif.; Rep. Sean Patrick Maloney, D-N.Y.; Rep. David Cicilline, D-R.I.; and Rep. Mark Pocan, D-Wis. The new LGBTQ House members include Democrats Sharice Davids of Kansas, Angie Craig of Minnesota, Chris Pappas of New Hampshire and Katie Hill of California.

When all the races are called, the number of LGBTQ members in both houses of Congress will climb slightly to nine.

“This is a historic night in the fight for equality,” Rep. Cicilline said in a statement. “We will enter the 116th Congress with an unprecedented number of LGBTQ members.”

“We are also celebrating the rise of a Democratic majority,” Cicilline continued. “Issues important to LGBTQ Americans, like the Equality Act’s protection from discrimination and equal and affordable access to health care, will now be top priorities for the People’s House. The LGBTQ members of Congress are ready to lead in the House to ensure equality for all across this country.”

The wins by LGBTQ challengers helped give control of the House to Democrats. Democrats needed to pick up 23 seats to take control of the House, and as of Thursday, they had a net gain of 31.

Pappas won his race by a landslide to hold a Democratic seat and represent New Hampshire’s 1st Congressional District, a district Trump won by 2 percentage points. With the win, Pappas becomes the first openly gay person to represent New Hampshire in Congress.

Democrat Sharice Davids flipped her district in Kansas against four-term incumbent Republican Kevin Yoder to become the first openly LGBTQ member of Congress from Kansas and one of the first two female Native Americans elected to Congress (along with newly elected Debra Haaland, Democrat of New Mexico).

“Tonight Kansas voters gave the boot to a Trump ally and replaced him with a groundbreaking LGBTQ leader who spoke her truth throughout the campaign,” former Houston Mayor Annise Parker, now the president and CEO of the LGBTQ Victory Fund, said in a statement sent to NBC News. “Sharice’s victory tonight will become a model for other LGBTQ leaders considering a run for office in red states or districts.”

Likewise, Angie Craig of Minnesota beat incumbent Rep. Jason Lewis, picking up an important seat for the Democrats. She also will be the first openly LGBTQ mother in Congress.

“Angie’s victory is a historic moment that redefines what is possible for an LGBTQ person in Minnesota, and it is made even sweeter given she defeated one of the most homophobic and transphobic incumbents in the U.S. Congress to pull it off,” Parker said.

NBC News declared Katie Hill the apparent winner in her race for California's 25th District. With nearly all districts reporting, Hill had a nearly 3-point lead over her opponent, incumbent Republican Steve Knight as of Friday afternoon.

STATE AND LOCAL RACES

State legislatures across the U.S. will elect a record-breaking number of LGBTQ representatives, according to Andrew Reynolds, professor of political science at University of North Carolina, Chapel Hill. There have never been more than 119 openly LGBTQ state representatives nationwide, but with 32 newly elected legislators as of Wednesday, the total will hit 129, according to Reynolds.

There were also several notable firsts in statehouses across the country. Kansas, Nebraska and Indiana will welcome the first-ever LGBTQ legislators.

In Kansas, Susan Ruiz and Brandon Woodard won seats in the Kansas House of Representatives. In Nebraska, Megan Hunt became the first openly LGBTQ candidate ever elected to the state legislature, and J.D. Ford defeated Republican Mike Delph, a staunch opponent of same-sex marriage, to become the first LGBTQ candidate elected to Indiana's General Assembly.

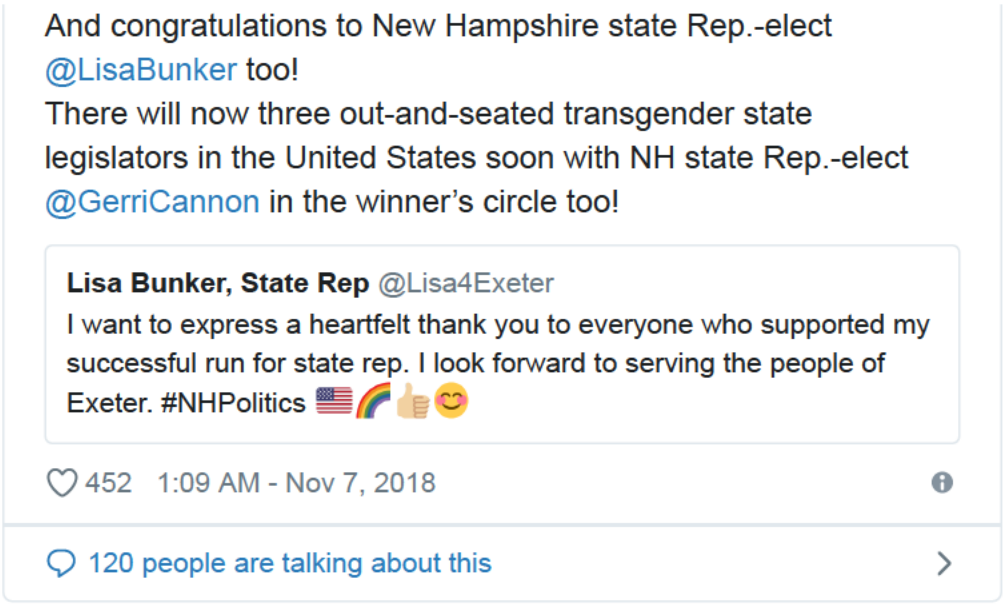
Neil Rafferty won his race in the Alabama House of Representatives, Mary Washington will become the first only LGBTQ person of color elected to the Maryland Senate, and Malcolm Kenyatta is the first openly gay black man to win a seat in the Pennsylvania legislature.

"The rainbow wave touched down in state capitals throughout the country on Election Day – with an astounding number of out LGBTQ candidates shattering long-standing political barriers and becoming historic firsts," Parker said.

"While our attention is often focused on Donald Trump and Congress, it is in our state legislatures where the most horrific attacks on LGBTQ equality are occurring. But personal relationships matter in these legislative chambers, and we know out LGBTQ officials significantly influence the votes of their colleagues on equality issues."

State-level representation matters because of the number of anti-LGBTQ bills that have been introduced in the past several years. In 2017, 129 anti-LGBTQ bills were introduced across 30 states, according to the Human Rights Campaign, 12 of which became law.

Two transgender women, Lisa Bunker and Gerri Cannon, also won their elections in New Hampshire, effectively tripling the level of transgender representation in statehouses across the U.S. Danica Roem, who in 2017 became the first transgender person elected to a state legislature, congratulated both Bunker and Cannon.



There are still more transgender candidates running in statehouse races that have yet to be decided, according to researcher Logan Casey, who tracks transgender political candidates nationally. These candidates include Everett Maroon of Washington, Amelia Marquez of Montana, Briana Titone of Colorado and Lasia Casil in Guam. A number of transgender candidates were also successful in local races for city council and school board.

Egan said that candidates' LGBTQ identities were not a significant issue in any of the races.

"The dog that didn't bark is definitely something of note, and that's definitely something good about 2018 and where we stand on these things," he said.

FOLLOW NBC OUT ON TWITTER, FACEBOOK AND INSTAGRAM

Julie Moreau

EXHIBIT

8

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

Version 7

WPATH WORLD PROFESSIONAL ASSOCIATION for TRANSGENDER HEALTH

Standards of Care

for the Health of Transsexual, Transgender, and Gender-Nonconforming People

Eli Coleman, Walter Bockting, Marsha Botzer, Peggy Cohen-Kettenis, Griet DeCuypere, Jamie Feldman, Lin Fraser, Jamison Green, Gail Knudson, Walter J. Meyer, Stan Monstrey, Richard K. Adler, George R. Brown, Aaron H. Devor, Randall Ehrbar, Randi Ettner, Evan Eyler, Rob Garofalo, Dan H. Karasic, Arlene Istar Lev, Gal Mayer, Heino Meyer-Bahlburg, Blaine Paxton Hall, Friedmann Pfäfflin, Katherine Rachlin, Bean Robinson, Loren S. Schechter, Vin Tangpricha, Mick van Trotsenburg, Anne Vitale, Sam Winter, Stephen Whittle, Kevan R. Wylie & Ken Zucker

7th Version[1] | www.wpath.org

ISBN: X-XXX-XXXXX-XX

1 This is the seventh version of the *Standards of Care* since the original 1979 document. Previous revisions were in 1980, 1981, 1990, 1998, and 2001. Version seven was published in the International Journal of Transgenderism, 13(4), 165–232. doi:10.1080/15532739.2011.700873

Table of Contents

Purpose and Use of the *Standards of Care*

The World Professional Association for Transgender Health (WPATH)[I] is an international, multidisciplinary, professional association whose mission is to promote evidence-based care, education, research, advocacy, public policy, and respect in transsexual and transgender health. The vision of WPATH is a world wherein transsexual, transgender, and gender-nonconforming people benefit from access to evidence-based health care, social services, justice, and equality.

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.[II] 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

I Formerly the Harry Benjamin International Gender Dysphoria Association

II The *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 in 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.

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 culture- 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.

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 points 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[III] and prevalence[IV] 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 countries such as Sweden (Wålinder, 1968, 1971), the United Kingdom (Hoenig & Kenna, 1974),

III **incidence**—the number of new cases arising in a given period (e.g., a year)
IV **prevalence**—the number of individuals having a condition, divided by the number of people in the general population

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 1965 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 (e.g., 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; 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 to be 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 experiences 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 are 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). Treatment 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:

- In-person and online peer support resources, groups, or community organizations that provide avenues for social support and advocacy;
- In-person 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, particularly 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.[V] 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 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.

V 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 coexisting 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 autism 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., 2012). 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 coexisting 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 coexisting 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 multidisciplinary 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 coexisting mental health concerns; and educate clients and their families about therapeutic options, if needed. Acceptance, and alleviation 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.

3. 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.

4. 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.

5. 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 might respond.

6. 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.

7. 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 have 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 coexisting 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 mineral 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 analogue 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 to give consent for medical procedures 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.

Competency of Mental Health Professionals Working with Adults Who Present with Gender Dysphoria

The training of mental health professionals competent to work with gender dysphoric adults rests upon basic general clinical competence in the assessment, diagnosis, and treatment of mental health concerns. Clinical training may occur within any discipline that prepares mental health professionals for clinical practice, such as psychology, psychiatry, social work, mental health counseling, marriage and family therapy, nursing, or family medicine with specific training in behavioral health and counseling. The following are recommended minimum credentials for mental health professionals who work with adults presenting with gender dysphoria:

1. A master's degree or its equivalent in a clinical behavioral science field. This degree, or a more advanced one, should be granted by an institution accredited by the appropriate national or regional accrediting board. The mental health professional should have documented credentials from a relevant licensing board or equivalent for that country.

2. Competence in using the *Diagnostic Statistical Manual of Mental Disorders* and/or the *International Classification of Diseases* for diagnostic purposes.

3. Ability to recognize and diagnose coexisting mental health concerns and to distinguish these from gender dysphoria.

4. Documented supervised training and competence in psychotherapy or counseling.

5. Knowledgeable about gender-nonconforming identities and expressions, and the assessment and treatment of gender dysphoria.

6. Continuing education in the assessment and treatment of gender dysphoria. This may include attending relevant professional meetings, workshops, or seminars; obtaining supervision from a mental health professional with relevant experience; or participating in research related to gender nonconformity and gender dysphoria.

In addition to the minimum credentials above, it is recommended that mental health professionals develop and maintain cultural competence to facilitate their work with transsexual, transgender, and gender-nonconforming clients. This may involve, for example, becoming knowledgeable about current community, advocacy, and public policy issues relevant to these clients and their families. Additionally, knowledge about sexuality, sexual health concerns, and the assessment and treatment of sexual disorders is preferred.

Mental health professionals who are new to the field (irrespective of their level of training and other experience) should work under the supervision of a mental health professional with established competence in the assessment and treatment of gender dysphoria.

Tasks of Mental Health Professionals Working with Adults Who Present with Gender Dysphoria

Mental health professionals may serve transsexual, transgender, and gender-nonconforming individuals and their families in many ways, depending on a client's needs. For example, mental health professionals may serve as a psychotherapist, counselor, or family therapist, or as a diagnostician/assessor, advocate, or educator.

Mental health professionals should determine a client's reasons for seeking professional assistance. For example, a client may be presenting for any combination of the following health care services: psychotherapeutic assistance to explore gender identity and expression or to facilitate a coming-out process; assessment and referral for feminizing/masculinizing medical interventions; psychological support for family members (partners, children, extended family); psychotherapy unrelated to gender concerns; or other professional services.

Below are general guidelines for common tasks that mental health professionals may fulfill in working with adults who present with gender dysphoria.

Tasks Related to Assessment and Referral

1. Assess Gender Dysphoria

Mental health professionals assess clients' gender dysphoria in the context of an evaluation of their psychosocial adjustment (Bockting et al., 2006; Lev, 2004, 2009). The evaluation includes, at a minimum, assessment of gender identity and gender dysphoria, history and development of gender dysphoric feelings, the impact of stigma attached to gender nonconformity on mental health, and the availability of support from family, friends, and peers (for example, in-person or online contact with other transsexual, transgender, or gender-nonconforming individuals or groups). The evaluation may result in no diagnosis, in a formal diagnosis related to gender dysphoria, and/or in other diagnoses that describe aspects of the client's health and psychosocial adjustment. The role

of mental health professionals includes making reasonably sure that the gender dysphoria is not secondary to, or better accounted for, by other diagnoses.

Mental health professionals with the competencies described above (hereafter called "a qualified mental health professional") are best prepared to conduct this assessment of gender dysphoria. However, this task may instead be conducted by another type of health professional who has appropriate training in behavioral health and is competent in the assessment of gender dysphoria, particularly when functioning as part of a multidisciplinary specialty team that provides access to feminizing/masculinizing hormone therapy. This professional may be the prescribing hormone therapy provider or a member of that provider's health care team.

2. Provide Information Regarding Options for Gender Identity and Expression and Possible Medical Interventions

An important task of mental health professionals is to educate clients regarding the diversity of gender identities and expressions and the various options available to alleviate gender dysphoria. Mental health professionals then may facilitate a process (or refer elsewhere) in which clients explore these various options, with the goals of finding a comfortable gender role and expression and becoming prepared to make a fully informed decision about available medical interventions, if needed. This process may include referral for individual, family, and group therapy and/or to community resources and avenues for peer support. The professional and the client discuss the implications, both short- and long-term, of any changes in gender role and use of medical interventions. These implications can be psychological, social, physical, sexual, occupational, financial, and legal (Bockting et al., 2006; Lev, 2004).

This task is also best conducted by a qualified mental health professional, but may be conducted by another health professional with appropriate training in behavioral health and with sufficient knowledge about gender-nonconforming identities and expressions and about possible medical interventions for gender dysphoria, particularly when functioning as part of a multidisciplinary specialty team that provides access to feminizing/masculinizing hormone therapy.

3. Assess, Diagnose, and Discuss Treatment Options for Coexisting Mental Health Concerns

Clients presenting with gender dysphoria may struggle with a range of mental health concerns (Gómez-Gil, Trilla, Salamero, Godás, & Valdés, 2009; Murad et al., 2010) whether related or unrelated to what is often a long history of gender dysphoria and/or chronic minority stress. Possible concerns include anxiety, depression, self-harm, a history of abuse and neglect, compulsivity, substance abuse, sexual concerns, personality disorders, eating disorders, psychotic disorders, and autistic spectrum disorders (Bockting et al., 2006; Nuttbrock et al., 2010; Robinow, 2009). Mental health professionals should screen for these and other mental health concerns and incorporate

the identified concerns into the overall treatment plan. These concerns can be significant sources of distress and, if left untreated, can complicate the process of gender identity exploration and resolution of gender dysphoria (Bockting et al., 2006; Fraser, 2009a; Lev, 2009). Addressing these concerns can greatly facilitate the resolution of gender dysphoria, possible changes in gender role, the making of informed decisions about medical interventions, and improvements in quality of life.

Some clients may benefit from psychotropic medications to alleviate symptoms or treat coexisting mental health concerns. Mental health professionals are expected to recognize this and either provide pharmacotherapy or refer to a colleague who is qualified to do so. The presence of coexisting mental health concerns does not necessarily preclude possible changes in gender role or access to feminizing/masculinizing hormones or surgery; rather, these concerns need to be optimally managed prior to, or concurrent with, treatment of gender dysphoria. In addition, clients should be assessed for their ability to provide educated and informed consent for medical treatments.

Qualified mental health professionals are specifically trained to assess, diagnose, and treat (or refer to treatment for) these coexisting mental health concerns. Other health professionals with appropriate training in behavioral health, particularly when functioning as part of a multidisciplinary specialty team providing access to feminizing/masculinizing hormone therapy, may also screen for mental health concerns and, if indicated, provide referral for comprehensive assessment and treatment by a qualified mental health professional.

4. If Applicable, Assess Eligibility, Prepare, and Refer for Hormone Therapy

The *SOC* provide criteria to guide decisions regarding feminizing/masculinizing hormone therapy (outlined in section VIII and Appendix C). Mental health professionals can help clients who are considering hormone therapy to be both psychologically prepared (e.g., client has made a fully informed decision with clear and realistic expectations; is ready to receive the service in line with the overall treatment plan; has included family and community as appropriate) and practically prepared (e.g., has been evaluated by a physician to rule out or address medical contraindications to hormone use; has considered the psychosocial implications). If clients are of childbearing age, reproductive options (section IX) should be explored before initiating hormone therapy.

It is important for mental health professionals to recognize that decisions about hormones are first and foremost a client's decisions—as are all decisions regarding healthcare. However, mental health professionals have a responsibility to encourage, guide, and assist clients with making fully informed decisions and becoming adequately prepared. To best support their clients' decisions, mental health professionals need to have functioning working relationships with their clients and sufficient information about them. Clients should receive prompt and attentive evaluation, with the goal of alleviating their gender dysphoria and providing them with appropriate medical services.

Referral for feminizing/masculinizing hormone therapy

People may approach a specialized provider in any discipline to pursue feminizing/masculinizing hormone therapy. However, transgender health care is an interdisciplinary field, and coordination of care and referral among a client's overall care team is recommended.

Hormone therapy can be initiated with a referral from a qualified mental health professional. Alternatively, a health professional who is appropriately trained in behavioral health and competent in the assessment of gender dysphoria may assess eligibility, prepare, and refer the patient for hormone therapy, particularly in the absence of significant coexisting mental health concerns and when working in the context of a multidisciplinary specialty team. The referring health professional should provide documentation—in the chart and/or referral letter—of the patient's personal and treatment history, progress, and eligibility. Health professionals who recommend hormone therapy share the ethical and legal responsibility for that decision with the physician who provides the service.

The recommended content of the referral letter for feminizing/masculinizing hormone therapy is as follows:

1. The client's general identifying characteristics;

2. Results of the client's psychosocial assessment, including any diagnoses;

3. The duration of the referring health professional's relationship with the client, including the type of evaluation and therapy or counseling to date;

4. An explanation that the criteria for hormone therapy have been met, and a brief description of the clinical rationale for supporting the client's request for hormone therapy;

5. A statement that informed consent has been obtained from the patient;

6. A statement that the referring health professional is available for coordination of care and welcomes a phone call to establish this.

For providers working within a multidisciplinary specialty team, a letter may not be necessary; rather, the assessment and recommendation can be documented in the patient's chart.

5. If Applicable, Assess Eligibility, Prepare, and Refer for Surgery

The *SOC* also provide criteria to guide decisions regarding breast/chest surgery and genital surgery (outlined in section XI and Appendix C). Mental health professionals can help clients who are

considering surgery to be both psychologically prepared (e.g., has made a fully informed decision with clear and realistic expectations; is ready to receive the service in line with the overall treatment plan; has included family and community as appropriate) and practically prepared (e.g., has made an informed choice about a surgeon to perform the procedure; has arranged aftercare). If clients are of childbearing age, reproductive options (section IX) should be explored before undergoing genital surgery.

The *SOC* do not state criteria for other surgical procedures, such as feminizing or masculinizing facial surgery; however, mental health professionals can play an important role in helping their clients to make fully informed decisions about the timing and implications of such procedures in the context of the overall coming-out or transition process.

It is important for mental health professionals to recognize that decisions about surgery are first and foremost a client's decisions—as are all decisions regarding healthcare. However, mental health professionals have a responsibility to encourage, guide, and assist clients with making fully informed decisions and becoming adequately prepared. To best support their clients' decisions, mental health professionals need to have functioning working relationships with their clients and sufficient information about them. Clients should receive prompt and attentive evaluation, with the goal of alleviating their gender dysphoria and providing them with appropriate medical services.

Referral for surgery

Surgical treatments for gender dysphoria can be initiated by a referral (one or two, depending on the type of surgery) from a qualified mental health professional. The mental health professional provides documentation—in the chart and/or referral letter—of the patient's personal and treatment history, progress, and eligibility. Mental health professionals who recommend surgery share the ethical and legal responsibility for that decision with the surgeon.

- One referral from a qualified mental health professional is needed for breast/chest surgery (e.g., mastectomy, chest reconstruction, or augmentation mammoplasty).

- Two referrals—from qualified mental health professionals who have independently assessed the patient—are needed for genital surgery (i.e., hysterectomy/salpingo-oophorectomy, orchiectomy, genital reconstructive surgeries). If the first referral is from the patient's psychotherapist, the second referral should be from a person who has only had an evaluative role with the patient. Two separate letters, or one letter signed by both (e.g., if practicing within the same clinic) may be sent. Each referral letter, however, is expected to cover the same topics in the areas outlined below.

The recommended content of the referral letters for surgery is as follows:

1. The client's general identifying characteristics;
2. Results of the client's psychosocial assessment, including any diagnoses;
3. The duration of the mental health professional's relationship with the client, including the type of evaluation and therapy or counseling to date;
4. An explanation that the criteria for surgery have been met, and a brief description of the clinical rationale for supporting the patient's request for surgery;
5. A statement about the fact that informed consent has been obtained from the patient;
6. A statement that the mental health professional is available for coordination of care and welcomes a phone call to establish this.

For providers working within a multidisciplinary specialty team, a letter may not be necessary, rather, the assessment and recommendation can be documented in the patient's chart.

Relationship of Mental Health Professionals with Hormone-Prescribing Physicians, Surgeons, and Other Health Professionals

It is ideal for mental health professionals to perform their work and periodically discuss progress and obtain peer consultation from other professionals (both in mental health care and other health disciplines) who are competent in the assessment and treatment of gender dysphoria. The relationship among professionals involved in a client's health care should remain collaborative, with coordination and clinical dialogue taking place as needed. Open and consistent communication may be necessary for consultation, referral, and management of postoperative concerns.

Tasks Related to Psychotherapy

1. Psychotherapy Is Not an Absolute Requirement for Hormone Therapy and Surgery

A mental health screening and/or assessment as outlined above is needed for referral to hormonal and surgical treatments for gender dysphoria. In contrast, psychotherapy—although highly recommended—is not a requirement.

The *SOC* do not recommend a minimum number of psychotherapy sessions prior to hormone therapy or surgery. The reasons for this are multifaceted (Lev, 2009). First, a minimum number of sessions tends to be construed as a hurdle, which discourages the genuine opportunity for personal growth. Second, mental health professionals can offer important support to clients throughout all phases of exploration of gender identity, gender expression, and possible transition—not just prior to any possible medical interventions. Third, clients and their psychotherapists differ in their abilities to attain similar goals in a specified time period.

2. Goals of Psychotherapy for Adults with Gender Concerns

The general goal of psychotherapy is to find ways to maximize a person's overall psychological well-being, quality of life, and self-fulfillment. Psychotherapy is not intended to alter a person's gender identity; rather, psychotherapy can help an individual to explore gender concerns and find ways to alleviate gender dysphoria, if present (Bockting et al., 2006; Bockting & Coleman, 2007; Fraser, 2009a; Lev, 2004). Typically, the overarching treatment goal is to help transsexual, transgender, and gender-nonconforming individuals achieve long-term comfort in their gender identity expression, with realistic chances for success in their relationships, education, and work. For additional details, see Fraser (Fraser, 2009c).

Therapy may consist of individual, couple, family, or group psychotherapy, the latter being particularly important to foster peer support.

3. Psychotherapy for Transsexual, Transgender, and Gender-Nonconforming Clients, Including Counseling and Support for Changes in Gender Role

Finding a comfortable gender role is, first and foremost, a psychosocial process. Psychotherapy can be invaluable in assisting transsexual, transgender, and gender-nonconforming individuals with all of the following: (i) clarifying and exploring gender identity and role, (ii) addressing the impact of stigma and minority stress on one's mental health and human development, and (iii) facilitating a coming-out process (Bockting & Coleman, 2007; Devor, 2004; Lev, 2004), which for some individuals may include changes in gender role expression and the use of feminizing/masculinizing medical interventions.

Mental health professionals can provide support and promote interpersonal skills and resilience in individuals and their families as they navigate a world that often is ill-prepared to accommodate and respect transgender, transsexual, and gender-nonconforming people. Psychotherapy can also aid in alleviating any coexisting mental health concerns (e.g., anxiety, depression) identified during screening and assessment.

For transsexual, transgender, and gender-nonconforming individuals who plan to change gender roles permanently and make a social gender role transition, mental health professionals can facilitate the development of an individualized plan with specific goals and timelines. While the experience of changing one's gender role differs from person to person, the social aspects of the experience are usually challenging—often more so than the physical aspects. Because changing gender role can have profound personal and social consequences, the decision to do so should include an awareness of what the familial, interpersonal, educational, vocational, economic, and legal challenges are likely to be, so that people can function successfully in their gender role.

Many transsexual, transgender, and gender-nonconforming people will present for care without ever having been related to, or accepted in, the gender role that is most congruent with their gender identity. Mental health professionals can help these clients to explore and anticipate the implications of changes in gender role, and to pace the process of implementing these changes. Psychotherapy can provide a space for clients to begin to express themselves in ways that are congruent with their gender identity and, for some clients, overcome fears about changes in gender expression. Calculated risks can be taken outside of therapy to gain experience and build confidence in the new role. Assistance with coming out to family and community (friends, school, workplace) can be provided.

Other transsexual, transgender, and gender-nonconforming individuals will present for care already having acquired experience (minimal, moderate, or extensive) living in a gender role that differs from that associated with their birth-assigned sex. Mental health professionals can help these clients to identify and work through potential challenges and foster optimal adjustment as they continue to express changes in their gender role.

4. Family Therapy or Support for Family Members

Decisions about changes in gender role and medical interventions for gender dysphoria have implications for, not only clients, but also their families (Emerson & Rosenfeld, 1996; Fraser, 2009a; Lev, 2004). Mental health professionals can assist clients with making thoughtful decisions about communicating with family members and others about their gender identity and treatment decisions. Family therapy may include work with spouses or partners, as well as with children and other members of a client's extended family.

Clients may also request assistance with their relationships and sexual health. For example, they may want to explore their sexuality and intimacy-related concerns.

Family therapy might be offered as part of the client's individual therapy and, if clinically appropriate, by the same provider. Alternatively, referrals can be made to other therapists with relevant expertise

for working with family members or to sources of peer support (e.g., in-person or offline support networks of partners or families).

5. Follow-Up Care Throughout Life

Mental health professionals may work with clients and their families at many stages of their lives. Psychotherapy may be helpful at different times and for various issues throughout the life cycle.

6. E-Therapy, Online Counseling, or Distance Counseling

Online or e-therapy has been shown to be particularly useful for people who have difficulty accessing competent in-person psychotherapeutic treatment and who may experience isolation and stigma (Derrig-Palumbo & Zeine, 2005; Fenichel et al., 2004; Fraser, 2009b). By extrapolation, e-therapy may be a useful modality for psychotherapy with transsexual, transgender, and gender-nonconforming people. E-therapy offers opportunities for potentially enhanced, expanded, creative, and tailored delivery of services; however, as a developing modality it may also carry unexpected risk. Telemedicine guidelines are clear in some disciplines in some parts of the United States (Fraser, 2009b; Maheu, Pulier, Wilhelm, McMenamin, & Brown-Connolly, 2005) but not all; the international situation is even less well-defined (Maheu et al., 2005). Until sufficient evidence-based data on this use of e-therapy is available, caution in its use is advised.

Mental health professionals engaging in e-therapy are advised to stay current with their particular licensing board, professional association, and country's regulations, as well as the most recent literature pertaining to this rapidly evolving medium. A more thorough description of the potential uses, processes, and ethical concerns related to e-therapy has been published (Fraser, 2009b).

Other Tasks of Mental Health Professionals

1. Educate and Advocate on Behalf of Clients Within Their Community (Schools, Workplaces, Other Organizations) and Assist Clients with Making Changes in Identity Documents

Transsexual, transgender, and gender-nonconforming people may face challenges in their professional, educational, and other types of settings as they actualize their gender identity and expression (Lev, 2004, 2009). Mental health professionals can play an important role by educating people in these settings regarding gender nonconformity and by advocating on behalf of their clients (Currah, Juang, & Minter, 2006; Currah & Minter, 2000). This role may involve consultation

with school counselors, teachers, and administrators, human resources staff, personnel managers and employers, and representatives from other organizations and institutions. In addition, health providers may be called upon to support changes in a client's name and/or gender marker on identity documents such as passports, driver's licenses, birth certificates, and diplomas.

2. Provide Information and Referral for Peer Support

For some transsexual, transgender, and gender-nonconforming people, an experience in peer support groups may be more instructive regarding options for gender expression than anything individual psychotherapy could offer (Rachlin, 2002). Both experiences are potentially valuable, and all people exploring gender issues should be encouraged to participate in community activities, if possible. Resources for peer support and information should be made available.

Culture and Its Ramifications for Assessment and Psychotherapy

Health professionals work in enormously different environments across the world. Forms of distress that cause people to seek professional assistance in any culture are understood and classified by people in terms that are products of their own cultures (Frank & Frank, 1993). Cultural settings also largely determine how such conditions are understood by mental health professionals. Cultural differences related to gender identity and expression can affect patients, mental health professionals, and accepted psychotherapy practice. WPATH recognizes that the *SOC* have grown out of a Western tradition and may need to be adapted depending on the cultural context.

Ethical Guidelines Related to Mental Health Care

Mental health professionals need to be certified or licensed to practice in a given country according to that country's professional regulations (Fraser, 2009b; Pope & Vasquez, 2011). Professionals must adhere to the ethical codes of their professional licensing or certifying organizations in all of their work with transsexual, transgender, and gender-nonconforming clients.

Treatment aimed at trying to change a person's gender identity and lived gender expression to become more congruent with sex assigned at birth has been attempted in the past (Gelder & Marks, 1969; Greenson, 1964), yet without success, particularly in the long-term (Cohen-Kettenis & Kuiper, 1984; Pauly, 1965). Such treatment is no longer considered ethical.

If mental health professionals are uncomfortable with, or inexperienced in, working with transsexual, transgender, and gender-nonconforming individuals and their families, they should refer clients to a competent provider or, at minimum, consult with an expert peer. If no local practitioners are available, consultation may be done via telehealth methods, assuming local requirements for distance consultation are met.

Issues of Access to Care

Qualified mental health professionals are not universally available; thus, access to quality care might be limited. WPATH aims to improve access and provides regular continuing education opportunities to train professionals from various disciplines to provide quality, transgender-specific health care. Providing mental health care from a distance through the use of technology may be one way to improve access (Fraser, 2009b).

In many places around the world, access to health care for transsexual, transgender, and gender-nonconforming people is also limited by a lack of health insurance or other means to pay for needed care. WPATH urges health insurance companies and other third-party payers to cover the medically necessary treatments to alleviate gender dysphoria (American Medical Association, 2008; Anton, 2009; The World Professional Association for Transgender Health, 2008).

When faced with a client who is unable to access services, referral to available peer support resources (offline and online) is recommended. Finally, harm-reduction approaches might be indicated to assist clients with making healthy decisions to improve their lives.

VIII
Hormone Therapy

Medical Necessity of Hormone Therapy

Feminizing/masculinizing hormone therapy—the administration of exogenous endocrine agents to induce feminizing or masculinizing changes—is a medically necessary intervention for many transsexual, transgender, and gender-nonconforming individuals with gender dysphoria

(Newfield, Hart, Dibble, & Kohler, 2006; Pfäfflin & Junge, 1998). Some people seek maximum feminization/masculinization, while others experience relief with an androgynous presentation resulting from hormonal minimization of existing secondary sex characteristics (Factor & Rothblum, 2008). Evidence for the psychosocial outcomes of hormone therapy is summarized in Appendix D.

Hormone therapy must be individualized based on a patient's goals, the risk/benefit ratio of medications, the presence of other medical conditions, and consideration of social and economic issues. Hormone therapy can provide significant comfort to patients who do not wish to make a social gender role transition or undergo surgery, or who are unable to do so (Meyer III, 2009). Hormone therapy is a recommended criterion for some, but not all, surgical treatments for gender dysphoria (see section XI and Appendix C).

Criteria for Hormone Therapy

Initiation of hormone therapy may be undertaken after a psychosocial assessment has been conducted and informed consent has been obtained by a qualified health professional, as outlined in section VII of the *SOC*. A referral is required from the mental health professional who performed the assessment, unless the assessment was done by a hormone provider who is also qualified in this area.

The criteria for hormone therapy are as follows:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* outlined in section VI);
4. If significant medical or mental health concerns are present, they must be reasonably well-controlled.

As noted in section VII of the *SOC*, the presence of coexisting mental health concerns does not necessarily preclude access to feminizing/masculinizing hormones; rather, these concerns need to be managed prior to, or concurrent with, treatment of gender dysphoria.

In selected circumstances, it can be acceptable practice to provide hormones to patients who have not fulfilled these criteria. Examples include facilitating the provision of monitored therapy using hormones of known quality as an alternative to illicit or unsupervised hormone use or to patients

who have already established themselves in their affirmed gender and who have a history of prior hormone use. It is unethical to deny availability or eligibility for hormone therapy solely on the basis of blood seropositivity for blood-borne infections such as HIV or hepatitis B or C.

In rare cases, hormone therapy may be contraindicated due to serious individual health conditions. Health professionals should assist these patients with accessing nonhormonal interventions for gender dysphoria. A qualified mental health professional familiar with the patient is an excellent resource in these circumstances.

Informed Consent

Feminizing/masculinizing hormone therapy may lead to irreversible physical changes. Thus, hormone therapy should be provided only to those who are legally able to provide informed consent. This includes people who have been declared by a court to be emancipated minors, incarcerated people, and cognitively impaired people who are considered competent to participate in their medical decisions (Bockting et al., 2006). Providers should document in the medical record that comprehensive information has been provided and understood about all relevant aspects of the hormone therapy, including both possible benefits and risks and the impact on reproductive capacity.

Relationship Between the *Standards of Care* and Informed Consent Model Protocols

A number of community health centers in the United States have developed protocols for providing hormone therapy based on an approach that has become known as the Informed Consent Model (Callen Lorde Community Health Center, 2000, 2011; Fenway Community Health Transgender Health Program, 2007; Tom Waddell Health Center, 2006). These protocols are consistent with the guidelines presented in the WPATH *Standards of Care, Version 7*. The *SOC* are flexible clinical guidelines; they allow for tailoring of interventions to the needs of the individual receiving services and for tailoring of protocols to the approach and setting in which these services are provided (Ehrbar & Gorton, 2010).

Obtaining informed consent for hormone therapy is an important task of providers to ensure that patients understand the psychological and physical benefits and risks of hormone therapy, as well as its psychosocial implications. Providers prescribing the hormones or health professionals recommending the hormones should have the knowledge and experience to assess gender

dysphoria. They should inform individuals of the particular benefits, limitations, and risks of hormones, given the patient's age, previous experience with hormones, and concurrent physical or mental health concerns.

Screening for and addressing acute or current mental health concerns is an important part of the informed consent process. This may be done by a mental health professional or by an appropriately trained prescribing provider (see section VII of the *SOC*). The same provider or another appropriately trained member of the health care team (e.g., a nurse) can address the psychosocial implications of taking hormones when necessary (e.g., the impact of masculinization/feminization on how one is perceived and its potential impact on relationships with family, friends, and coworkers). If indicated, these providers will make referrals for psychotherapy and for the assessment and treatment of coexisting mental health concerns such as anxiety or depression.

The difference between the Informed Consent Model and *SOC, Version 7,* is that the *SOC* puts greater emphasis on the important role that mental health professionals can play in alleviating gender dysphoria and facilitating changes in gender role and psychosocial adjustment. This may include a comprehensive mental health assessment and psychotherapy, when indicated. In the Informed Consent Model, the focus is on obtaining informed consent as the threshold for the initiation of hormone therapy in a multidisciplinary, harm-reduction environment. Less emphasis is placed on the provision of mental health care until the patient requests it, unless significant mental health concerns are identified that would need to be addressed before hormone prescription.

Physical Effects of Hormone Therapy

Feminizing/masculinizing hormone therapy will induce physical changes that are more congruent with a patient's gender identity.

- In FtM patients, the following physical changes are expected to occur: deepened voice, clitoral enlargement (variable), growth in facial and body hair, cessation of menses, atrophy of breast tissue, and decreased percentage of body fat compared to muscle mass.

- In MtF patients, the following physical changes are expected to occur: breast growth (variable), decreased erectile function, decreased testicular size, and increased percentage of body fat compared to muscle mass.

Most physical changes, whether feminizing or masculinizing, occur over the course of two years. The amount of physical change and the exact timeline of effects can be highly variable. Tables 1a and 1b outline the approximate time course of these physical changes.

TABLE 1A: EFFECTS AND EXPECTED TIME COURSE OF MASCULINIZING HORMONES [A]

Effect	Expected onset[B]	Expected maximum effect[B]
Skin oiliness/acne	1–6 months	1–2 years
Facial/body hair growth	3–6 months	3–5 years
Scalp hair loss	>12 months[C]	Variable
Increased muscle mass/strength	6–12 months	2–5 years[D]
Body fat redistribution	3–6 months	2–5 years
Cessation of menses	2–6 months	n/a
Clitoral enlargement	3–6 months	1–2 years
Vaginal atrophy	3–6 months	1–2 years
Deepened voice	3–12 months	1–2 years

A Adapted with permission from Hembree et al.(2009). Copyright 2009, The Endocrine Society.
B Estimates represent published and unpublished clinical observations.
C Highly dependent on age and inheritance; may be minimal.
D Significantly dependent on amount of exercise.

TABLE 1B: EFFECTS AND EXPECTED TIME COURSE OF FEMINIZING HORMONES [A]

Effect	Expected onset[B]	Expected maximum effect[B]
Body fat redistribution	3–6 months	2–5 years
Decreased muscle mass/ strength	3–6 months	1–2 years[C]
Softening of skin/decreased oiliness	3–6 months	Unknown
Decreased libido	1–3 months	1–2 years
Decreased spontaneous erections	1–3 months	3–6 months
Male sexual dysfunction	Variable	Variable
Breast growth	3–6 months	2–3 years
Decreased testicular volume	3–6 months	2–3 years
Decreased sperm production	Variable	Variable
Thinning and slowed growth of body and facial hair	6–12 months	> 3 years[D]
Male pattern baldness	No regrowth, loss stops 1–3 months	1–2 years

[A] Adapted with permission from Hembree et al. (2009). Copyright 2009, The Endocrine Society.
[B] Estimates represent published and unpublished clinical observations.
[C] Significantly dependent on amount of exercise.
[D] Complete removal of male facial and body hair requires electrolysis, laser treatment, or both.

The degree and rate of physical effects depends in part on the dose, route of administration, and medications used, which are selected in accordance with a patient's specific medical goals (e.g., changes in gender role expression, plans for sex reassignment) and medical risk profile. There is no current evidence that response to hormone therapy—with the possible exception of voice deepening in FtM persons—can be reliably predicted based on age, body habitus, ethnicity, or family appearance. All other factors being equal, there is no evidence to suggest that any medically approved type or method of administering hormones is more effective than any other in producing the desired physical changes.

Risks of Hormone Therapy

All medical interventions carry risks. The likelihood of a serious adverse event is dependent on numerous factors: the medication itself, dose, route of administration, and a patient's clinical characteristics (age, comorbidities, family history, health habits). It is thus impossible to predict whether a given adverse effect will happen in an individual patient.

The risks associated with feminizing/masculinizing hormone therapy for the transsexual, transgender, and gender-nonconforming population as a whole are summarized in Table 2. Based on the level of evidence, risks are categorized as follows: (i) likely increased risk with hormone therapy, (ii) possibly increased risk with hormone therapy, or (iii) inconclusive or no increased risk. Items in the last category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Additional detail about these risks can be found in Appendix B, which is based on two comprehensive, evidence-based literature reviews of masculinizing/feminizing hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009), along with a large cohort study (Asscheman et al., 2011). These reviews can serve as detailed references for providers, along with other widely recognized, published clinical materials (Dahl, Feldman, Goldberg, & Jaberi, 2006; Ettner, Monstrey, & Eyler, 2007).

TABLE 2: RISKS ASSOCIATED WITH HORMONE THERAPY. BOLDED ITEMS ARE CLINICALLY SIGNIFICANT

Risk Level	Feminizing hormones	Masculinizing hormones
Likely increased risk	Venous thromboembolic disease[A] Gallstones Elevated liver enzymes Weight gain Hypertriglyceridemia	Polycythemia Weight gain Acne Androgenic alopecia (balding) Sleep apnea
Likely increased risk with presence of additional risk factors[B]	Cardiovascular disease	
Possible increased risk	Hypertension Hyperprolactinemia or prolactinoma	Elevated liver enzymes Hyperlipidemia
Possible increased risk with presence of additional risk factors[B]	Type 2 diabetes[A]	Destabilization of certain psychiatric disorders[C] Cardiovascular disease Hypertension Type 2 diabetes
No increased risk or inconclusive	Breast cancer	Loss of bone density Breast cancer Cervical cancer Ovarian cancer Uterine cancer

* **Note:** Risk is greater with oral estrogen administration than with transdermal estrogen administration.

A Risk is greater with oral estrogen administration than with transdermal estrogen administration.

B Additional risk factors include age.

C Includes bipolar, schizoaffective, and other disorders that may include manic or psychotic symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone.

Competency of Hormone-Prescribing Physicians, Relationship with Other Health Professionals

Feminizing/masculinizing hormone therapy is best undertaken in the context of a complete approach to health care that includes comprehensive primary care and a coordinated approach to psychosocial issues (Feldman & Safer, 2009). While psychotherapy or ongoing counseling is not required for the initiation of hormone therapy, if a therapist is involved, then regular communication among health professionals is advised (with the patient's consent) to ensure that the transition process is going well, both physically and psychosocially.

With appropriate training, feminizing/masculinizing hormone therapy can be managed by a variety of providers, including nurse practitioners, physician assistants, and primary care physicians (Dahl et al., 2006). Medical visits relating to hormone maintenance provide an opportunity to deliver broader care to a population that is often medically underserved (Clements, Wilkinson, Kitano, & Marx, 1999; Feldman, 2007; Xavier, 2000). Many of the screening tasks and management of comorbidities associated with long-term hormone use, such as cardiovascular risk factors and cancer screening, fall more uniformly within the scope of primary care rather than specialist care (American Academy of Family Physicians, 2005; Eyler, 2007; World Health Organization, 2008), particularly in locations where dedicated gender teams or specialized physicians are not available.

Given the multidisciplinary needs of transsexual, transgender, and gender-nonconforming people seeking hormone therapy, as well as the difficulties associated with fragmentation of care in general (World Health Organization, 2008), WPATH strongly encourages the increased training and involvement of primary care providers in the area of feminizing/masculinizing hormone therapy. If hormones are prescribed by a specialist, there should be close communication with the patient's primary care provider. Conversely, an experienced hormone provider or endocrinologist should be involved if the primary care physician has no experience with this type of hormone therapy, or if the patient has a pre-existing metabolic or endocrine disorder that could be affected by endocrine therapy.

While formal training programs in transgender medicine do not yet exist, hormone providers have a responsibility to obtain appropriate knowledge and experience in this field. Clinicians can increase their experience and comfort in providing feminizing/masculinizing hormone therapy by co-managing care or consulting with a more experienced provider, or by providing more limited types of hormone therapy before progressing to initiation of hormone therapy. Because this field of medicine is evolving, clinicians should become familiar and keep current with the medical literature, and discuss emerging issues with colleagues. Such discussions might occur through networks established by WPATH and other national/local organizations.

Responsibilities of Hormone-Prescribing Physicians

In general, clinicians who prescribe hormone therapy should engage in the following tasks:

1. Perform an initial evaluation that includes discussion of a patient's physical transition goals, health history, physical examination, risk assessment, and relevant laboratory tests.

2. Discuss with patients the expected effects of feminizing/masculinizing medications and the possible adverse health effects. These effects can include a reduction in fertility (Feldman & Safer, 2009; Hembree et al., 2009). Therefore, reproductive options should be discussed with patients before starting hormone therapy (see section IX).

3. Confirm that patients have the capacity to understand the risks and benefits of treatment and are capable of making an informed decision about medical care.

4. Provide ongoing medical monitoring, including regular physical and laboratory examination to monitor hormone effectiveness and side effects.

5. Communicate as needed with a patient's primary care provider, mental health professional, and surgeon.

6. If needed, provide patients with a brief written statement indicating that they are under medical supervision and care that includes feminizing/masculinizing hormone therapy. Particularly during the early phases of hormone treatment, a patient may wish to carry this statement at all times to help prevent difficulties with the police and other authorities.

Depending on the clinical situation for providing hormones (see below), some of these responsibilities are less relevant. Thus, the degree of counseling, physical examinations, and laboratory evaluations should be individualized to a patient's needs.

Clinical Situations for Hormone Therapy

There are circumstances in which clinicians may be called upon to provide hormones without necessarily initiating or maintaining long-term feminizing/masculinizing hormone therapy. By acknowledging these different clinical situations (see below, from least to highest level of complexity), it may be possible to involve clinicians in feminizing/masculinizing hormone therapy who might not otherwise feel able to offer this treatment.

1. Bridging

Whether prescribed by another clinician or obtained through other means (e.g., purchased over the Internet), patients may present for care already on hormone therapy. Clinicians can provide a limited (1–6 month) prescription for hormones while helping patients find a provider who can prescribe long-term hormone therapy. Providers should assess a patient's current regimen for safety and drug interactions and substitute safer medications or doses when indicated (Dahl et al., 2006; Feldman & Safer, 2009). If hormones were previously prescribed, medical records should be requested (with the patient's permission) to obtain the results of baseline examinations and laboratory tests and any adverse events. Hormone providers should also communicate with any mental health professional who is currently involved in a patient's care. If a patient has never had a psychosocial assessment as recommended by the *SOC* (see section VII), clinicians should refer the patient to a qualified mental health professional if appropriate and feasible (Feldman & Safer, 2009). Providers who prescribe bridging hormones need to work with patients to establish limits as to the duration of bridging therapy.

2. Hormone Therapy Following Gonad Removal

Hormone replacement with estrogen or testosterone is usually continued lifelong after an oophorectomy or orchiectomy, unless medical contraindications arise. Because hormone doses are often decreased after these surgeries (Basson, 2001; Levy, Crown, & Reid, 2003; Moore, Wisniewski, & Dobs, 2003) and only adjusted for age and comorbid health concerns, hormone management in this situation is quite similar to hormone replacement in any hypogonadal patient.

3. Hormone Maintenance Prior to Gonad Removal

Once patients have achieved maximal feminizing/masculinizing benefits from hormones (typically two or more years), they remain on a maintenance dose. The maintenance dose is then adjusted for changes in health conditions, aging, or other considerations such as lifestyle changes (Dahl et al., 2006). When a patient on maintenance hormones presents for care, the provider should assess the patient's current regimen for safety and drug interactions and substitute safer medications or doses when indicated. The patient should continue to be monitored by physical examinations and laboratory testing on a regular basis, as outlined in the literature (Feldman & Safer, 2009; Hembree et al., 2009). The dose and form of hormones should be revisited regularly with any changes in the patient's health status and available evidence on the potential long-term risks of hormones (See *Hormone Regimens,* below).

4. Initiating Hormonal Feminization/Masculinization

This clinical situation requires the greatest commitment in terms of provider time and expertise. Hormone therapy must be individualized based on a patient's goals, the risk/benefit ratio of medications, the presence of other medical conditions, and consideration of social and economic issues. Although a wide variety of hormone regimens have been published (Dahl et al., 2006; Hembree et al., 2009; Moore et al., 2003), there are no published reports of randomized clinical trials comparing safety and efficacy. Despite this variation, a reasonable framework for initial risk assessment and ongoing monitoring of hormone therapy can be constructed, based on the efficacy and safety evidence presented above.

Risk Assessment and Modification for Initiating Hormone Therapy

The initial evaluation for hormone therapy assesses a patient's clinical goals and risk factors for hormone-related adverse events. During the risk assessment, the patient and clinician should develop a plan for reducing risks wherever possible, either prior to initiating therapy or as part of ongoing harm reduction.

All assessments should include a thorough physical exam, including weight, height, and blood pressure. The need for breast, genital, and rectal exams, which are sensitive issues for most transsexual, transgender, and gender-nonconforming patients, should be based on individual risks and preventive health care needs (Feldman & Goldberg, 2006; Feldman, 2007).

Preventive Care

Hormone providers should address preventive health care with patients, particularly if a patient does not have a primary care provider. Depending on a patient's age and risk profile, there may be appropriate screening tests or exams for conditions affected by hormone therapy. Ideally, these screening tests should be carried out prior to the start of hormone therapy.

Risk Assessment and Modification for Feminizing Hormone Therapy (MtF)

There are no absolute contraindications to feminizing therapy per se, but absolute contraindications exist for the different feminizing agents, particularly estrogen. These include previous venous thrombotic events related to an underlying hypercoagulable condition, history of estrogen-sensitive neoplasm, and end-stage chronic liver disease (Gharib et al., 2005).

Other medical conditions, as noted in Table 2 and Appendix B, can be exacerbated by estrogen or androgen blockade, and therefore should be evaluated and reasonably well controlled prior to starting hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009). Clinicians should particularly attend to tobacco use, as it is associated with increased risk of venous thrombosis, which is further increased with estrogen use. Consultation with a cardiologist may be advisable for patients with known cardio- or cerebrovascular disease.

Baseline laboratory values are important to both assess initial risk and evaluate possible future adverse events. Initial labs should be based on the risks of feminizing hormone therapy outlined in Table 2, as well as individual patient risk factors, including family history. Suggested initial lab panels have been published (Feldman & Safer, 2009; Hembree et al., 2009). These can be modified for patients or health care systems with limited resources, and in otherwise healthy patients.

Risk Assessment and Modification for Masculinizing Hormone Therapy (FtM)

Absolute contraindications to testosterone therapy include pregnancy, unstable coronary artery disease, and untreated polycythemia with a hematocrit of 55% or higher (Carnegie, 2004). Because the aromatization of testosterone to estrogen may increase risk in patients with a history of breast or other estrogen dependent cancers (Moore et al., 2003), consultation with an oncologist may be indicated prior to hormone use. Comorbid conditions likely to be exacerbated by testosterone use should be evaluated and treated, ideally prior to starting hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009). Consultation with a cardiologist may be advisable for patients with known cardio- or cerebrovascular disease. (Dhejne et al., 2011).

An increased prevalence of polycystic ovarian syndrome (PCOS) has been noted among FtM patients even in the absence of testosterone use (Baba et al., 2007; Balen, Schachter, Montgomery, Reid, & Jacobs, 1993; Bosinski et al., 1997). While there is no evidence that PCOS is related to the development of a transsexual, transgender, or gender-nonconforming identity, PCOS is associated with increased risk of diabetes, cardiac disease, high blood pressure, and ovarian and endometrial cancers (Cattrall & Healy, 2004). Signs and symptoms of PCOS should be evaluated prior to initiating testosterone therapy, as testosterone may affect many of these conditions. Testosterone can affect the developing fetus (*Physicians' Desk Reference,* 2010), and patients at risk of becoming pregnant require highly effective birth control.

Baseline laboratory values are important to both assess initial risk and evaluate possible future adverse events. Initial labs should be based on the risks of masculinizing hormone therapy outlined in Table 2, as well as individual patient risk factors, including family history. Suggested initial lab panels have been published (Feldman & Safer, 2009; Hembree et al., 2009). These can be modified for patients or health care systems with limited resources, and in otherwise healthy patients.

Clinical Monitoring During Hormone Therapy for Efficacy and Adverse Events

The purpose of clinical monitoring during hormone use is to assess the degree of feminization/masculinization and the possible presence of adverse effects of medication. However, as with the monitoring of any long-term medication, monitoring should take place in the context of comprehensive health care. Suggested clinical monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009). Patients with comorbid medical conditions may need to be monitored more frequently. Healthy patients in geographically remote or resource-poor areas may be able to use alternative strategies, such as telehealth, or cooperation with local providers such as nurses and physician assistants. In the absence of other indications, health professionals may prioritize monitoring for those risks that are either likely to be increased by hormone therapy or possibly increased by hormone therapy but clinically serious in nature.

Efficacy and Risk Monitoring During Feminizing Hormone Therapy (MtF)

The best assessment of hormone efficacy is clinical response: Is a patient developing a feminized body while minimizing masculine characteristics, consistent with that patient's gender goals? In order to more rapidly predict the hormone dosages that will achieve clinical response, one can measure testosterone levels for suppression below the upper limit of the normal female range and estradiol levels within a premenopausal female range but well below supraphysiologic levels (Feldman & Safer, 2009; Hembree et al., 2009).

Monitoring for adverse events should include both clinical and laboratory evaluation. Follow-up should include careful assessment for signs of cardiovascular impairment and venous thromboembolism (VTE) through measurement of blood pressure, weight, and pulse; heart and lung exams; and examination of the extremities for peripheral edema, localized swelling, or pain (Feldman & Safer, 2009). Laboratory monitoring should be based on the risks of hormone therapy described above, a patient's individual comorbidities and risk factors, and the specific hormone regimen itself. Specific lab-monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009).

Efficacy and Risk Monitoring During Masculinizing Hormone Therapy (FtM)

The best assessment of hormone efficacy is clinical response: Is a patient developing a masculinized body while minimizing feminine characteristics, consistent with that patient's gender goals? Clinicians can achieve a good clinical response with the least likelihood of adverse events by maintaining testosterone levels within the normal male range while avoiding supraphysiological

levels (Dahl et al., 2006; Hembree et al., 2009). For patients using intramuscular (IM) testosterone cypionate or enanthate, some clinicians check trough levels while others prefer midcycle levels (Dahl et al., 2006; Hembree et al., 2009; Tangpricha, Turner, Malabanan, & Holick, 2001; Tangpricha, Ducharme, Barber, & Chipkin, 2003).

Monitoring for adverse events should include both clinical and laboratory evaluation. Follow-up should include careful assessment for signs and symptoms of excessive weight gain, acne, uterine break-through bleeding, and cardiovascular impairment, as well as psychiatric symptoms in at-risk patients. Physical examinations should include measurement of blood pressure, weight, and pulse; and heart, lung, and skin exams (Feldman & Safer, 2009). Laboratory monitoring should be based on the risks of hormone therapy described above, a patient's individual comorbidities and risk factors, and the specific hormone regimen itself. Specific lab monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009).

Hormone Regimens

To date, no controlled clinical trials of any feminizing/masculinizing hormone regimen have been conducted to evaluate safety or efficacy in producing physical transition. As a result, wide variation in doses and types of hormones have been published in the medical literature (Moore et al., 2003; Tangpricha et al., 2003; van Kesteren, Asscheman, Megens, & Gooren, 1997). In addition, access to particular medications may be limited by a patient's geographical location and/or social or econonomic situations. For these reasons, WPATH does not describe or endorse a particular feminizing/masculinizing hormone regimen. Rather, the medication classes and routes of administration used in most published regimens are broadly reviewed.

As outlined above, there are demonstrated safety differences in individual elements of various regimens. The Endocrine Society Guidelines (Hembree et al., 2009) and Feldman and Safer (2009) provide specific guidance regarding the types of hormones and suggested dosing to maintain levels within physiologic ranges for a patient's desired gender expression (based on goals of full feminization/masculinization). It is strongly recommend that hormone providers regularly review the literature for new information and use those medications that safely meet individual patient needs with available local resources.

Regimens for Feminizing Hormone Therapy (MtF)

Estrogen

Use of oral estrogen, and specifically ethinyl estradiol, appears to increase the risk of VTE. Because of this safety concern, ethinyl estradiol is not recommended for feminizing hormone therapy. Transdermal estrogen is recommended for those patients with risks factors for VTE. The risk of adverse events increases with higher doses, particular doses resulting in supraphysiologic levels (Hembree et al., 2009). Patients with co-morbid conditions that can be affected by estrogen should avoid oral estrogen if possible and be started at lower levels. Some patients may not be able to safely use the levels of estrogen needed to get the desired results. This possibility needs to be discussed with patients well in advance of starting hormone therapy.

Androgen-reducing medications ("anti-androgens")

A combination of estrogen and "anti-androgens" is the most commonly studied regimen for feminization. Androgen-reducing medications, from a variety of classes of drugs, have the effect of reducing either endogenous testosterone levels or testosterone activity, and thus diminishing masculine characteristics such as body hair. They minimize the dosage of estrogen needed to suppress testosterone, thereby reducing the risks associated with high-dose exogenous estrogen (Prior, Vigna, Watson, Diewold, & Robinow, 1986; Prior, Vigna, & Watson, 1989).

Common anti-androgens include the following:

- Spironolactone, an antihypertensive agent, directly inhibits testosterone secretion and androgen binding to the androgen receptor. Blood pressure and electrolytes need to be monitored because of the potential for hyperkalemia.

- Cyproterone acetate is a progestational compound with anti-androgenic properties. This medication is not approved in the United States because of concerns over potential hepatotoxicity, but it is widely used elsewhere (De Cuypere et al., 2005).

- GnRH agonists (e.g., goserelin, buserelin, triptorelin) are neurohormones that block the gonadtropin-releasing hormone receptor, thus blocking the release of follicle stimulating hormone and luteinizing hormone. This leads to highly effective gonadal blockade. However, these medications are expensive and only available as injectables or implants.

- 5-alpha reductase inhibitors (finasteride and dutasteride) block the conversion of testosterone to the more active agent, 5-alpha-dihydrotestosterone. These medications have beneficial effects on scalp hair loss, body hair growth, sebaceous glands, and skin consistency.

Cyproterone and spironolactone are the most commonly used anti-androgens and are likely the most cost-effective.

Progestins

With the exception of cyproterone, the inclusion of progestins in feminizing hormone therapy is controversial (Oriel, 2000). Because progestins play a role in mammary development on a cellular level, some clinicians believe that these agents are necessary for full breast development (Basson & Prior, 1998; Oriel, 2000). However, a clinical comparison of feminization regimens with and without progestins found that the addition of progestins neither enhanced breast growth nor lowered serum levels of free testosterone (Meyer et al., 1986). There are concerns regarding potential adverse effects of progestins, including depression, weight gain, and lipid changes (Meyer et al., 1986; Tangpricha et al., 2003). Progestins (especially medroxyprogesterone) are also suspected to increase breast cancer risk and cardiovascular risk in women (Rossouw et al., 2002). Micronized progesterone may be better tolerated and have a more favorable impact on the lipid profile than medroxyprogesterone does (de Lignières, 1999; Fitzpatrick, Pace, & Wiita, 2000).

Regimens for Masculinizing Hormone Therapy (FtM)

Testosterone

Testosterone generally can be given orally, transdermally, or parenterally (IM), although buccal and implantable preparations are also available. Oral testosterone undecanoate, available outside the United States, results in lower serum testosterone levels than nonoral preparations and has limited efficacy in suppressing menses (Feldman, 2005, April; Moore et al., 2003). Because intramuscular testosterone cypionate or enanthate are often administered every 2–4 weeks, some patients may notice cyclic variation in effects (e.g., fatigue and irritability at the end of the injection cycle, aggression or expansive mood at the beginning of the injection cycle), as well as more time outside the normal physiologic levels (Jockenhövel, 2004). This may be mitigated by using a lower but more frequent dosage schedule or by using a daily transdermal preparation (Dobs et al., 1999; Jockenhövel, 2004; Nieschlag et al., 2004). Intramuscular testosterone undecanoate (not currently available in the United States) maintains stable, physiologic testosterone levels over approximately 12 weeks and has been effective in both the setting of hypogonadism and in FtM individuals (Mueller, Kiesewetter, Binder, Beckmann, & Dittrich, 2007; Zitzmann, Saad, & Nieschlag, 2006). There is evidence that transdermal and intramuscular testosterone achieve similar masculinizing results, although the timeframe may be somewhat slower with transdermal preparations (Feldman, 2005, April). Especially as patients age, the goal is to use the lowest dose needed to maintain the desired clinical result, with appropriate precautions being made to maintain bone density.

Other agents

Progestins, most commonly medroxyprogesterone, can be used for a short period of time to assist with menstrual cessation early in hormone therapy. GnRH agonists can be used similarly, as well as for refractory uterine bleeding in patients without an underlying gynecological abnormality.

Bioidentical and Compounded Hormones

As discussion surrounding the use of bioidentical hormones in postmenopausal hormone replacement has heightened, interest has also increased in the use of similar compounds in feminizing/masculinizing hormone therapy. There is no evidence that custom compounded bioidentical hormones are safer or more effective than government agency-approved bioidentical hormones (Sood, Shuster, Smith, Vincent, & Jatoi, 2011). Therefore, it has been advised by the North American Menopause Society (2010) and others to assume that, whether the hormone is from a compounding pharmacy or not, if the active ingredients are similar, it should have a similar side-effect profile. WPATH concurs with this assessment.

IX
Reproductive Health

Many transgender, transsexual, and gender-nonconforming people will want to have children. Because feminizing/masculinizing hormone therapy limits fertility (Darney, 2008; Zhang, Gu, Wang, Cui, & Bremner, 1999), it is desirable for patients to make decisions concerning fertility before starting hormone therapy or undergoing surgery to remove/alter their reproductive organs. Cases are known of people who received hormone therapy and genital surgery and later regretted their inability to parent genetically related children (De Sutter, Kira, Verschoor, & Hotimsky, 2002).

Health care professionals—including mental health professionals recommending hormone therapy or surgery, hormone-prescribing physicians, and surgeons—should discuss reproductive options with patients prior to initiation of these medical treatments for gender dysphoria. These discussions should occur even if patients are not interested in these issues at the time of treatment, which may be more common for younger patients (De Sutter, 2009). Early discussions are desirable, but not always possible. If an individual has not had complete sex reassignment surgery, it may be possible to stop hormones long enough for natal hormones to recover, allowing

the production of mature gametes (Payer, Meyer, & Walker, 1979; Van den Broecke, Van der Elst, Liu, Hovatta, & Dhont, 2001).

Besides debate and opinion papers, very few research papers have been published on the reproductive health issues of individuals receiving different medical treatments for gender dysphoria. Another group who faces the need to preserve reproductive function in light of loss or damage to their gonads are people with malignancies that require removal of reproductive organs or use of damaging radiation or chemotherapy. Lessons learned from that group can be applied to people treated for gender dysphoria.

MtF patients, especially those who have not already reproduced, should be informed about sperm-preservation options and encouraged to consider banking their sperm prior to hormone therapy. In a study examining testes that were exposed to high-dose estrogen (Payer et al., 1979), findings suggest that stopping estrogen may allow the testes to recover. In an article reporting on the opinions of MtF individuals towards sperm freezing (De Sutter et al., 2002), the vast majority of 121 survey respondents felt that the availability of freezing sperm should be discussed and offered by the medical world. Sperm should be collected before hormone therapy or after stopping the therapy until the sperm count rises again. Cryopreservation should be discussed even if there is poor semen quality. In adults with azoospermia, a testicular biopsy with subsequent cryopreservation of biopsied material for sperm is possible, but may not be successful.

Reproductive options for FtM patients might include oocyte (egg) or embryo freezing. The frozen gametes and embryo could later be used with a surrogate woman to carry to pregnancy. Studies of women with polycystic ovarian disease suggest that the ovary can recover in part from the effects of high testosterone levels (Hunter & Sterrett, 2000). Stopping the testosterone briefly might allow for ovaries to recover enough to release eggs; success likely depends on the patient's age and duration of testosterone treatment. While not systematically studied, some FtM individuals are doing exactly that, and some have been able to become pregnant and deliver children (More, 1998).

Patients should be advised that these techniques are not available everywhere and can be very costly. Transsexual, transgender, and gender-nonconforming people should not be refused reproductive options for any reason.

A special group of individuals are prepubertal or pubertal adolescents who will never develop reproductive function in their natal sex due to blockers or cross-gender hormones. At this time there is no technique for preserving function from the gonads of these individuals.

X

Voice and Communication Therapy

Communication, both verbal and nonverbal, is an important aspect of human behavior and gender expression. Transsexual, transgender, and gender-nonconforming people might seek the assistance of a voice and communication specialist to develop vocal characteristics (e.g., pitch, intonation, resonance, speech rate, phrasing patterns) and non-verbal communication patterns (e.g., gestures, posture/movement, facial expressions) that facilitate comfort with their gender identity. Voice and communication therapy may help to alleviate gender dysphoria and be a positive and motivating step towards achieving one's goals for gender role expression.

Competency of Voice and Communication Specialists Working with Transsexual, Transgender, and Gender-Nonconforming Clients

Specialists may include speech-language pathologists, speech therapists, and speech-voice clinicians. In most countries the professional association for speech-language pathologists requires specific qualifications and credentials for membership. In some countries the government regulates practice through licensing, certification, or registration processes (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia).

The following are recommended minimum credentials for voice and communication specialists working with transsexual, transgender, and gender-nonconforming clients:

1. Specialized training and competence in the assessment and development of communication skills in transsexual, transgender, and gender-nonconforming clients.

2. A basic understanding of transgender health, including hormonal and surgical treatments for feminization/masculinization and trans-specific psychosocial issues as outlined in the *SOC*; and familiarity with basic sensitivity protocols such as the use of preferred gender pronoun and name (Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia).

3. Continuing education in the assessment and development of communication skills in transsexual, transgender, and gender-nonconforming clients. This may include attendance at professional meetings, workshops, or seminars; participation in research related to gender identity issues; independent study; or mentoring from an experienced, certified clinician.

Other professionals such as vocal coaches, theatre professionals, singing teachers, and movement experts may play a valuable adjunct role. Such professionals will ideally have experience working with, or be actively collaborating with, speech-language pathologists.

Assessment and Treatment Considerations

The overall purpose of voice and communication therapy is to help clients adapt their voice and communication in a way that is both safe and authentic, resulting in communication patterns that clients feel are congruent with their gender identity and that reflect their sense of self (Adler, Hirsch, & Mordaunt, 2006). It is essential that voice and communication specialists be sensitive to individual communication preferences. Communication—style, voice, choice of language, etc.—is personal. Individuals should not be counseled to adopt behaviors with which they are not comfortable or which do not feel authentic. Specialists can best serve their clients by taking the time to understand a person's gender concerns and goals for gender-role expression (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia).

Individuals may choose the communication behaviors that they wish to acquire in accordance with their gender identity. These decisions are also informed and supported by the knowledge of the voice and communication specialist and by the assessment data for a specific client (Hancock, Krissinger, & Owen, 2010). Assessment includes a client's self-evaluation and a specialist's evaluation of voice, resonance, articulation, spoken language, and non-verbal communication (Adler et al., 2006; Hancock et al., 2010).

Voice-and-communication treatment plans are developed by considering the available research evidence, the clinical knowledge and experience of the specialist, and the client's own goals and values (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia). Targets of treatment typically include pitch, intonation, loudness and stress patterns, voice quality, resonance, articulation, speech rate and phrasing, language, and nonverbal communication (Adler et al., 2006; Davies & Goldberg, 2006; de Bruin, Coerts, & Greven, 2000; Gelfer, 1999; McNeill, 2006; Oates & Dacakis, 1983). Treatment may involve individual and/or group sessions. The frequency and duration of treatment will vary according to a client's needs. Existing protocols for voice-and-communication treatment can be considered in

developing an individualized therapy plan (Carew, Dacakis, & Oates, 2007; Dacakis, 2000; Davies & Goldberg, 2006; Gelfer, 1999; McNeill, Wilson, Clark, & Deakin, 2008; Mount & Salmon, 1988).

Feminizing or masculinizing the voice involves non-habitual use of the voice production mechanism. Prevention measures are necessary to avoid the possibility of vocal misuse and long-term vocal damage. All voice and communication therapy services should therefore include a vocal health component (Adler et al., 2006).

Vocal Health Considerations After Voice Feminization Surgery

As noted in section XI, some transsexual, transgender, and gender-nonconforming people will undergo voice feminization surgery. (Voice deepening can be achieved through masculinizing hormone therapy, but feminizing hormones do not have an impact on the adult MtF voice.) There are varying degrees of satisfaction, safety, and long-term improvement in patients who have had such surgery. It is recommended that individuals undergoing voice feminization surgery also consult a voice and communication specialist to maximize the surgical outcome, help protect vocal health, and learn nonpitch related aspects of communication. Voice surgery procedures should include follow-up sessions with a voice and communication specialist who is licensed and/or credentialed by the board responsible for speech therapists/speech-language pathologists in that country (Kanagalingam et al., 2005; Neumann & Welzel, 2004).

XI
Surgery

Sex Reassignment Surgery Is Effective and Medically Necessary

Surgery – particularly genital surgery – is often the last and the most considered step in the treatment process for gender dysphoria. While many transsexual, transgender, and gender-nonconforming individuals find comfort with their gender identity, role, and expression without surgery, for many others surgery is essential and medically necessary to alleviate their gender dysphoria (Hage & Karim, 2000). For the latter group, relief from gender dysphoria cannot be achieved

without modification of their primary and/or secondary sex characteristics to establish greater congruence with their gender identity. Moreover, surgery can help patients feel more at ease in the presence of sex partners or in venues such as physicians' offices, swimming pools, or health clubs. In some settings, surgery might reduce risk of harm in the event of arrest or search by police or other authorities.

Follow-up studies have shown an undeniable beneficial effect of sex reassignment surgery on postoperative outcomes such as subjective well-being, cosmesis, and sexual function (De Cuypere et al., 2005; Gijs & Brewaeys, 2007; Klein & Gorzalka, 2009; Pfäfflin & Junge, 1998). Additional information on the outcomes of surgical treatments are summarized in Appendix D.

Ethical Questions Regarding Sex Reassignment Surgery

In ordinary surgical practice, pathological tissues are removed to restore disturbed functions, or alterations are made to body features to improve a patient's self image. Some people, including some health professionals, object on ethical grounds to surgery as a treatment for gender dysphoria, because these conditions are thought not to apply.

It is important that health professionals caring for patients with gender dysphoria feel comfortable about altering anatomically normal structures. In order to understand how surgery can alleviate the psychological discomfort and distress of individuals with gender dysphoria, professionals need to listen to these patients discuss their symptoms, dilemmas, and life histories. The resistance against performing surgery on the ethical basis of "above all do no harm" should be respected, discussed, and met with the opportunity to learn from patients themselves about the psychological distress of having gender dysphoria and the potential for harm caused by denying access to appropriate treatments.

Genital and breast/chest surgical treatments for gender dysphoria are not merely another set of elective procedures. Typical elective procedures involve only a private mutually consenting contract between a patient and a surgeon. Genital and breast/chest surgeries as medically necessary treatments for gender dysphoria are to be undertaken only after assessment of the patient by qualified mental health professionals, as outlined in section VII of the *SOC*. These surgeries may be performed once there is written documentation that this assessment has occurred and that the person has met the criteria for a specific surgical treatment. By following this procedure, mental health professionals, surgeons, and patients share responsibility for the decision to make irreversible changes to the body.

It is unethical to deny availability or eligibility for sex reassignment surgeries solely on the basis of blood seropositivity for blood-borne infections such as HIV or hepatitis C or B.

Relationship of Surgeons with Mental Health Professionals, Hormone-Prescribing Physicians (if Applicable), and Patients (Informed Consent)

The role of a surgeon in the treatment of gender dysphoria is not that of a mere technician. Rather, conscientious surgeons will have insight into each patient's history and the rationale that led to the referral for surgery. To that end, surgeons must talk at length with their patients and have close working relationships with other health professionals who have been actively involved in their clinical care.

Consultation is readily accomplished when a surgeon practices as part of an interdisciplinary health care team. In the absence of this, a surgeon must be confident that the referring mental health professional(s), and if applicable the physician who prescribes hormones, is/are competent in the assessment and treatment of gender dysphoria, because the surgeon is relying heavily on his/her/their expertise.

Once a surgeon is satisfied that the criteria for specific surgeries have been met (as outlined below), surgical treatment should be considered and a preoperative surgical consultation should take place. During this consultation, the procedure and postoperative course should be extensively discussed with the patient. Surgeons are responsible for discussing all of the following with patients seeking surgical treatments for gender dysphoria:

- The different surgical techniques available (with referral to colleagues who provide alternative options);
- The advantages and disadvantages of each technique;
- The limitations of a procedure to achieve "ideal" results; surgeons should provide a full range of before-and-after photographs of their own patients, including both successful and unsuccessful outcomes;
- The inherent risks and possible complications of the various techniques; surgeons should inform patients of their own complication rates with each procedure.

These discussions are the core of the informed consent process, which is both an ethical and legal requirement for any surgical procedure. Ensuring that patients have a realistic expectation of outcomes is important in achieving a result that will alleviate their gender dysphoria.

All of this information should be provided to patients in writing, in a language in which they are fluent, and in graphic illustrations. Patients should receive the information in advance (possibly

via the Internet) and be given ample time to review it carefully. The elements of informed consent should always be discussed face-to-face prior to the surgical intervention. Questions can then be answered and written informed consent can be provided by the patient. Because these surgeries are irreversibile, care should be taken to ensure that patients have sufficient time to absorb information fully before they are asked to provide informed consent. A minimum of 24 hours is suggested.

Surgeons should provide immediate aftercare and consultation with other physicians serving the patient in the future. Patients should work with their surgeon to develop an adequate aftercare plan for the surgery.

Overview of Surgical Procedures for the Treatment of Patients with Gender Dysphoria

For the Male-to-Female (MtF) Patient, Surgical Procedures May Include the Following:

1. Breast/chest surgery: augmentation mammoplasty (implants/lipofilling);

2. Genital surgery: penectomy, orchiectomy, vaginoplasty, clitoroplasty, vulvoplasty;

3. Nongenital, nonbreast surgical interventions: facial feminization surgery, liposuction, lipofilling, voice surgery, thyroid cartilage reduction, gluteal augmentation (implants/lipofilling), hair reconstruction, and various aesthetic procedures.

For the Female-to-Male (FtM) Patient, Surgical Procedures May Include the Following:

1. Breast/chest surgery: subcutaneous mastectomy, creation of a male chest;

2. Genital surgery: hysterectomy/salpingo-oophorectomy, reconstruction of the fixed part of the urethra, which can be combined with a metoidioplasty or with a phalloplasty (employing a pedicled or free vascularized flap), vaginectomy, scrotoplasty, and implantation of erection and/or testicular prostheses;

3. Nongenital, nonbreast surgical interventions: voice surgery (rare), liposuction, lipofilling, pectoral implants, and various aesthetic procedures.

Reconstructive Versus Aesthetic Surgery

The question of whether sex reassignment surgery should be considered "aesthetic" surgery or "reconstructive" surgery is pertinent not only from a philosophical point of view, but also from a financial point of view. Aesthetic or cosmetic surgery is mostly regarded as not medically necessary and therefore is typically paid for entirely by the patient. In contrast, reconstructive procedures are considered medically necessary—with unquestionable therapeutic results—and thus paid for partially or entirely by national health systems or insurance companies.

Unfortunately, in the field of plastic and reconstructive surgery (both in general and specifically for gender-related surgeries), there is no clear distinction between what is purely reconstructive and what is purely cosmetic. Most plastic surgery procedures actually are a mixture of both reconstructive and cosmetic components.

While most professionals agree that genital surgery and mastectomy cannot be considered purely cosmetic, opinions diverge as to what degree other surgical procedures (e.g., breast augmentation, facial feminization surgery) can be considered purely reconstructive. Although it may be much easier to see a phalloplasty or a vaginoplasty as an intervention to end lifelong suffering, for certain patients an intervention like a reduction rhinoplasty can have a radical and permanent effect on their quality of life, and therefore is much more medically necessary than for somebody without gender dysphoria.

Criteria for Surgeries

As for all of the *SOC*, the criteria for initiation of surgical treatments for gender dysphoria were developed to promote optimal patient care. While the *SOC* allow for an individualized approach to best meet a patient's health care needs, a criterion for all breast/chest and genital surgeries is documentation of persistent gender dysphoria by a qualified mental health professional. For some surgeries, additional criteria include preparation and treatment consisting of feminizing/masculinizing hormone therapy and one year of continuous living in a gender role that is congruent with one's gender identity.

These criteria are outlined below. Based on the available evidence and expert clinical consensus, different recommendations are made for different surgeries.

The *SOC* do not specify an order in which different surgeries should occur. The number and sequence of surgical procedures may vary from patient to patient, according to their clinical needs.

Criteria for Breast/Chest Surgery (One Referral)

Criteria for mastectomy and creation of a male chest in FtM patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Hormone therapy is not a prerequisite.

Criteria for breast augmentation (implants/lipofilling) in MtF patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Although not an explicit criterion, it is recommended that MtF patients undergo feminizing hormone therapy (minimum 12 months) prior to breast augmentation surgery. The purpose is to maximize breast growth in order to obtain better surgical (aesthetic) results.

Criteria for Genital Surgery (Two Referrals)

The criteria for genital surgery are specific to the type of surgery being requested.

Criteria for hysterectomy and salpingo-oophorectomy in FtM patients and for orchiectomy in MtF patients:

1. Persistent, well-documented gender dysphoria;

2. Capacity to make a fully informed decision and to consent for treatment;

3. Age of majority in a given country;

4. If significant medical or mental health concerns are present, they must be well controlled.

5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless hormones are not clinically indicated for the individual).

The aim of hormone therapy prior to gonadectomy is primarily to introduce a period of reversible estrogen or testosterone suppression, before the patient undergoes irreversible surgical intervention.

These criteria do not apply to patients who are having these procedures for medical indications other than gender dysphoria.

Criteria for metoidioplasty or phalloplasty in FtM patients and for vaginoplasty in MtF patients:

1. Persistent, well-documented gender dysphoria;

2. Capacity to make a fully informed decision and to consent for treatment;

3. Age of majority in a given country;

4. If significant medical or mental health concerns are present, they must be well controlled;

5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless hormones are not clinically indicated for the individual).

6. 12 continuous months of living in a gender role that is congruent with their gender identity.

Although not an explicit criterion, it is recommended that these patients also have regular visits with a mental health or other medical professional.

Rationale for a preoperative, 12-month experience of living in an identity-congruent gender role:

The criterion noted above for some types of genital surgeries—i.e., that patients engage in 12 continuous months of living in a gender role that is congruent with their gender identity—is based on expert clinical consensus that this experience provides ample opportunity for patients to experience and socially adjust in their desired gender role, before undergoing irreversible surgery. As noted in section VII, the social aspects of changing one's gender role are usually challenging—

often more so than the physical aspects. Changing gender role can have profound personal and social consequences, and the decision to do so should include an awareness of what the familial, interpersonal, educational, vocational, economic, and legal challenges are likely to be, so that people can function successfully in their gender role. Support from a qualified mental health professional and from peers can be invaluable in ensuring a successful gender role adaptation (Bockting, 2008).

The duration of 12 months allows for a range of different life experiences and events that may occur throughout the year (e.g., family events, holidays, vacations, season-specific work or school experiences). During this time, patients should present consistently, on a day-to-day basis and across all settings of life, in their desired gender role. This includes coming out to partners, family, friends, and community members (e.g., at school, work, other settings).

Health professionals should clearly document a patient's experience in the gender role in the medical chart, including the start date of living full time for those who are preparing for genital surgery. In some situations, if needed, health professionals may request verification that this criterion has been fulfilled: They may communicate with individuals who have related to the patient in an identity-congruent gender role, or request documentation of a legal name and/or gender marker change, if applicable.

Surgery for People with Psychotic Conditions and Other Serious Mental Illnesses

When patients with gender dysphoria are also diagnosed with severe psychiatric disorders and impaired reality testing (e.g., psychotic episodes, bipolar disorder, dissociative identity disorder, borderline personality disorder), an effort must be made to improve these conditions with psychotropic medications and/or psychotherapy before surgery is contemplated. (Dhejne et al., 2011). Reevaluation by a mental health professional qualified to assess and manage psychotic conditions should be conducted prior to surgery, describing the patient's mental status and readiness for surgery. It is preferable that this mental health professional be familiar with the patient. No surgery should be performed while a patient is actively psychotic (De Cuypere & Vercruysse, 2009).

Competency of Surgeons Performing Breast/Chest or Genital Surgery

Physicians who perform surgical treatments for gender dsyphoria should be urologists, gynecologists, plastic surgeons, or general surgeons, and board-certified as such by the relevant national

and/or regional association. Surgeons should have specialized competence in genital reconstructive techniques as indicated by documented supervised training with a more experienced surgeon. Even experienced surgeons must be willing to have their surgical skills reviewed by their peers. An official audit of surgical outcomes and publication of these results would be greatly reassuring to both referring health professionals and patients. Surgeons should regularly attend professional meetings where new techniques are presented. The internet is often effectively used by patients to share information on their experience with surgeons and their teams.

Ideally, surgeons should be knowledgeable about more than one surgical technique for genital reconstruction so that they, in consultation with patients, can choose the ideal technique for each individual. Alternatively, if a surgeon is skilled in a single technique and this procedure is either not suitable for or desired by a patient, the surgeon should inform the patient about other procedures and offer referral to another appropriately skilled surgeon.

Breast/Chest Surgery Techniques and Complications

Although breast/chest appearance is an important secondary sex characteristic, breast presence or size is not involved in the legal definitions of sex and gender and is not necessary for reproduction. The performance of breast/chest operations for treatment of gender dysphoria should be considered with the same care as beginning hormone therapy, as both produce relatively irreversible changes to the body.

For the MtF patient, a breast augmentation (sometimes called "chest reconstruction") is not different from the procedure in a natal female patient. It is usually performed through implantation of breast prostheses and occasionally with the lipofilling technique. Infections and capsular fibrosis are rare complications of augmentation mammoplasty in MtF patients (Kanhai, Hage, Karim, & Mulder, 1999).

For the FtM patient, a mastectomy or "male chest contouring" procedure is available. For many FtM patients, this is the only surgery undertaken. When the amount of breast tissue removed requires skin removal, a scar will result and the patient should be so informed. Complications of subcutaneous mastectomy can include nipple necrosis, contour irregularities, and unsightly scarring (Monstrey et al., 2008).

Genital Surgery Techniques and Complications

Genital surgical procedures for the MtF patient may include orchiectomy, penectomy, vaginoplasty, clitoroplasty, and labiaplasty. Techniques include penile skin inversion, pedicled colosigmoid

transplant, and free skin grafts to line the neovagina. Sexual sensation is an important objective in vaginoplasty, along with creation of a functional vagina and acceptable cosmesis.

Surgical complications of MtF genital surgery may include complete or partial necrosis of the vagina and labia, fistulas from the bladder or bowel into the vagina, stenosis of the urethra, and vaginas that are either too short or too small for coitus. While the surgical techniques for creating a neovagina are functionally and aesthetically excellent, anorgasmia following the procedure has been reported, and a second stage labiaplasty may be needed for cosmesis (Klein & Gorzalka, 2009; Lawrence, 2006).

Genital surgical procedures for FtM patients may include hysterectomy, salpingo-oophorectomy, vaginectomy, metoidioplasty, scrotoplasty, urethroplasty, placement of testicular prostheses, and phalloplasty. For patients without former abdominal surgery, the laparoscopic technique for hysterectomy and salpingo-oophorectomy is recommended to avoid a lower-abdominal scar. Vaginal access may be difficult as most patients are nulliparous and have often not experienced penetrative intercourse. Current operative techniques for phalloplasty are varied. The choice of techniques may be restricted by anatomical or surgical considerations and by a client's financial considerations. If the objectives of phalloplasty are a neophallus of good appearance, standing micturition, sexual sensation, and/or coital ability, patients should be clearly informed that there are several separate stages of surgery and frequent technical difficulties, which may require additional operations. Even metoidioplasty, which in theory is a one-stage procedure for construction of a microphallus, often requires more than one operation. The objective of standing micturition with this technique can not always be ensured (Monstrey et al., 2009).

Complications of phalloplasty in FtMs may include frequent urinary tract stenoses and fistulas, and occasionally necrosis of the neophallus. Metoidioplasty results in a micropenis, without the capacity for standing urination. Phalloplasty, using a pedicled or a free vascularized flap, is a lengthy, multi-stage procedure with significant morbidity that includes frequent urinary complications and unavoidable donor site scarring. For this reason, many FtM patients never undergo genital surgery other than hysterectomy and salpingo-oophorectomy (Hage & De Graaf, 1993).

Even patients who develop severe surgical complications seldom regret having undergone surgery. The importance of surgery can be appreciated by the repeated finding that quality of surgical results is one of the best predictors of the overall outcome of sex reassignment (Lawrence, 2006).

Other Surgeries

Other surgeries for assisting in body feminization include reduction thyroid chondroplasty (reduction of the Adam's apple), voice modification surgery, suction-assisted lipoplasty (contour

modeling) of the waist, rhinoplasty (nose correction), facial bone reduction, face-lift, and blepharoplasty (rejuvenation of the eyelid). Other surgeries for assisting in body masculinization include liposuction, lipofilling, and pectoral implants. Voice surgery to obtain a deeper voice is rare but may be recommended in some cases, such as when hormone therapy has been ineffective.

Although these surgeries do not require referral by mental health professionals, such professionals can play an important role in assisting clients in making a fully informed decision about the timing and implications of such procedures in the context of the social transition.

Although most of these procedures are generally labeled "purely aesthetic," these same operations in an individual with severe gender dysphoria can be considered medically necessary, depending on the unique clinical situation of a given patient's condition and life situation. This ambiguity reflects reality in clinical situations, and allows for individual decisions as to the need and desirability of these procedures.

XII

Postoperative Care and Follow-Up

Long-term postoperative care and follow-up after surgical treatments for gender dysphoria are associated with good surgical and psychosocial outcomes (Monstrey et al., 2009). Follow-up is important to a patient's subsequent physical and mental health and to a surgeon's knowledge about the benefits and limitations of surgery. Surgeons who operate on patients coming from long distances should include personal follow-up in their care plan and attempt to ensure affordable local long-term aftercare in their patients' geographic region.

Postoperative patients may sometimes exclude themselves from follow-up by specialty providers, including the hormone-prescribing physician (for patients receiving hormones), not recognizing that these providers are often best able to prevent, diagnose, and treat medical conditions that are unique to hormonally and surgically treated patients. The need for follow-up equally extends to mental health professionals, who may have spent a longer period of time with the patient than any other professional and therefore are in an excellent position to assist in any postoperative adjustment difficulties. Health professionals should stress the importance of postoperative follow-up care with their patients and offer continuity of care.

Postoperative patients should undergo regular medical screening according to recommended guidelines for their age. This is discussed more in the next section.

XIII

Lifelong Preventive and Primary Care

Transsexual, transgender, and gender-nonconforming people need health care throughout their lives. For example, to avoid the negative secondary effects of having a gonadectomy at a relatively young age and/or receiving long-term, high-dose hormone therapy, patients need thorough medical care by providers experienced in primary care and transgender health. If one provider is not able to provide all services, ongoing communication among providers is essential.

Primary care and health maintenance issues should be addressed before, during, and after any possible changes in gender role and medical interventions to alleviate gender dysphoria. While hormone providers and surgeons play important roles in preventive care, every transsexual, transgender, and gender-nonconforming person should partner with a primary care provider for overall health care needs (Feldman, 2007).

General Preventive Health Care

Screening guidelines developed for the general population are appropriate for organ systems that are unlikely to be affected by feminizing/masculinizing hormone therapy. However, in areas such as cardiovascular risk factors, osteoporosis, and some cancers (breast, cervical, ovarian, uterine, and prostate), such general guidelines may either over- or underestimate the cost-effectiveness of screening individuals who are receiving hormone therapy.

Several resources provide detailed protocols for the primary care of patients undergoing feminizing/masculinizing hormone therapy, including therapy that is provided after sex reassignment surgeries (Center of Excellence for Transgender Health, UCSF, 2011; Feldman & Goldberg, 2006; Feldman, 2007; Gorton, Buth, & Spade, 2005). Clinicians should consult their national evidence-based guidelines and discuss screening with their patients in light of the effects of hormone therapy on their baseline risk.

Cancer Screening

Cancer screening of organ systems that are associated with sex can present particular medical and psychosocial challenges for transsexual, transgender, and gender-nonconforming patients and their health care providers. In the absence of large-scale prospective studies, providers are unlikely to have enough evidence to determine the appropriate type and frequency of cancer screenings for this population. Over-screening results in higher health care costs, high false positive rates, and often unnecessary exposure to radiation and/or diagnostic interventions such as biopsies. Under-screening results in diagnostic delay for potentially treatable cancers. Patients may find cancer screening gender affirming (such as mammograms for MtF patients) or both physically and emotionally painful (such as Pap smears offer continuity of care for FtM patients).

Urogenital Care

Gynecologic care may be necessary for transsexual, transgender, and gender-nonconforming people of both sexes. For FtM patients, such care is needed predominantly for individuals who have not had genital surgery. For MtF patients, such care is needed after genital surgery. While many surgeons counsel patients regarding postoperative urogenital care, primary care clinicians and gynecologists should also be familiar with the special genital concerns of this population.

All MtF patients should receive counseling regarding genital hygiene, sexuality, and prevention of sexually transmitted infections; those who have had genital surgery should also be counseled on the need for regular vaginal dilation or penetrative intercourse in order to maintain vaginal depth and width (van Trotsenburg, 2009). Due to the anatomy of the male pelvis, the axis and the dimensions of the neovagina differ substantially from those of a biologic vagina. This anatomic difference can affect intercourse if not understood by MtF patients and their partners (van Trotsenburg, 2009).

Lower urinary tract infections occur frequently in MtF patients who have had surgery because of the reconstructive requirements of the shortened urethra. In addition, these patients may suffer from functional disorders of the lower urinary tract; such disorders may be caused by damage of the autonomous nerve supply of the bladder floor during dissection between the rectum and the bladder, and by a change of the position of the bladder itself. A dysfunctional bladder (e.g., overactive bladder, stress or urge urinary incontinence) may occur after sex reassignment surgery (Hoebeke et al., 2005; Kuhn, Hiltebrand, & Birkhauser, 2007).

Most FtM patients do not undergo vaginectomy (colpectomy). For patients who take masculinizing hormones, despite considerable conversion of testosterone to estrogens, atrophic changes of the vaginal lining can be observed regularly and may lead to pruritus or burning. Examination can be

both physically and emotionally painful, but lack of treatment can seriously aggravate the situation. Gynecologists treating the genital complaints of FtM patients should be aware of the sensitivity that patients with a male gender identity and masculine gender expression might have around having genitals typically associated with the female sex.

XIV

Applicability of the *Standards of Care* to People Living in Institutional Environments

The *SOC* in their entirety apply to all transsexual, transgender, and gender-nonconforming people, irrespective of their housing situation. People should not be discriminated against in their access to appropriate health care based on where they live, including institutional environments such as prisons or long-/intermediate-term health care facilities (Brown, 2009). Health care for transsexual, transgender, and gender-nonconforming people living in an institutional environment should mirror that which would be available to them if they were living in a non-institutional setting within the same community.

All elements of assessment and treatment as described in the *SOC* can be provided to people living in institutions (Brown, 2009). Access to these medically necessary treatments should not be denied on the basis of institutionalization or housing arrangements. If the in-house expertise of health professionals in the direct or indirect employ of the institution does not exist to assess and/or treat people with gender dysphoria, it is appropriate to obtain outside consultation from professionals who are knowledgeable about this specialized area of health care.

People with gender dysphoria in institutions may also have coexisting mental health conditions (Cole et al., 1997). These conditions should be evaluated and treated appropriately.

People who enter an institution on an appropriate regimen of hormone therapy should be continued on the same, or similar, therapies and monitored according to the *SOC*. A "freeze frame" approach is not considered appropriate care in most situations *(Kosilek v. Massachusetts Department of Corrections/Maloney,* C.A. No. 92–12820-MLW, 2002). People with gender dysphoria who are deemed appropriate for hormone therapy (following the *SOC*) should be started on such therapy. The consequences of abrupt withdrawal of hormones or lack of initiation of hormone therapy when medically necessary include a high likelihood of negative outcomes such as surgical self-treatment by autocastration, depressed mood, dysphoria, and/or suicidality (Brown, 2010).

Reasonable accommodations to the institutional environment can be made in the delivery of care consistent with the *SOC*, if such accommodations do not jeopardize the delivery of medically necessary care to people with gender dysphoria. An example of a reasonable accommodation is the use of injectable hormones, if not medically contraindicated, in an environment where diversion of oral preparations is highly likely (Brown, 2009). Denial of needed changes in gender role or access to treatments, including sex reassignment surgery, on the basis of residence in an institution are not reasonable accommodations under the *SOC* (Brown, 2010).

Housing and shower/bathroom facilities for transsexual, transgender, and gender-nonconforming people living in institutions should take into account their gender identity and role, physical status, dignity, and personal safety. Placement in a single-sex housing unit, ward, or pod on the sole basis of the appearance of the external genitalia may not be appropriate and may place the individual at risk for victimization (Brown, 2009).

Institutions where transsexual, transgender, and gender-nonconforming people reside and receive health care should monitor for a tolerant and positive climate to ensure that residents are not under attack by staff or other residents.

XV

Applicability of the *Standards of Care* to People With Disorders of Sex Development

Terminology

The term *disorder of sex development* (DSD) refers to a somatic condition of atypical development of the reproductive tract (Hughes, Houk, Ahmed, Lee, & LWPES/ESPE Consensus Group, 2006). DSDs include the condition that used to be called *intersexuality*. Although the terminology was changed to DSD during an international consensus conference in 2005 (Hughes et al., 2006), disagreement about language use remains. Some people object strongly to the "disorder" label, preferring instead to view these congenital conditions as a matter of diversity (Diamond, 2009) and to continue using the terms *intersex* or *intersexuality*. In the *SOC*, WPATH uses the term DSD in an objective and value-free manner, with the goal of ensuring that health professionals recognize this medical term and use it to access relevant literature as the field progresses. WPATH remains

open to new terminology that will further illuminate the experience of members of this diverse population and lead to improvements in health care access and delivery.

Rationale for Addition to the *SOC*

Previously, individuals with a DSD who also met the *DSM-IV-TR's* behavioral criteria for Gender Identity Disorder (American Psychiatric Association, 2000) were excluded from that general diagnosis. Instead, they were categorized as having a "Gender Identity Disorder - Not Otherwise Specified." They were also excluded from the WPATH *Standards of Care*.

The current proposal for *DSM-5* (www.dsm5.org) is to replace the term *gender identity disorder* with *gender dysphoria*. Moreover, the proposed changes to the *DSM* consider gender dysphoric people with a DSD to have a subtype of gender dysphoria. This proposed categorization—which explicitly differentiates between gender dysphoric individuals with and without a DSD—is justified: In people with a DSD, gender dysphoria differs in its phenomenological presentation, epidemiology, life trajectories, and etiology (Meyer-Bahlburg, 2009).

Adults with a DSD and gender dysphoria have increasingly come to the attention of health professionals. Accordingly, a brief discussion of their care is included in this version of the *SOC*.

Health History Considerations

Health professionals assisting patients with both a DSD and gender dysphoria need to be aware that the medical context in which such patients have grown up is typically very different from that of people without a DSD.

Some people are recognized as having a DSD through the observation of gender-atypical genitals at birth. (Increasingly this observation is made during the prenatal period by way of imaging procedures such as ultrasound.) These infants then undergo extensive medical diagnostic procedures. After consultation among the family and health professionals—during which the specific diagnosis, physical and hormonal findings, and feedback from long-term outcome studies (Cohen-Kettenis, 2005; Dessens, Slijper, & Drop, 2005; Jurgensen, Hiort, Holterhus, & Thyen, 2007; Mazur, 2005; Meyer-Bahlburg, 2005; Stikkelbroeck et al., 2003; Wisniewski, Migeon, Malouf, & Gearhart, 2004) are considered—the newborn is assigned a sex, either male or female.

Other individuals with a DSD come to the attention of health professionals around the age of puberty through the observation of atypical development of secondary sex characteristics. This observation also leads to a specific medical evaluation.

The type of DSD and severity of the condition has significant implications for decisions about a patient's initial sex assignment, subsequent genital surgery, and other medical and psychosocial care (Meyer-Bahlburg, 2009). For instance, the degree of prenatal androgen exposure in individuals with a DSD has been correlated with the degree of masculinization of gender-related *behavior* (that is, *gender role and expression*); however, the correlation is only moderate, and considerable behavioral variability remains unaccounted for by prenatal androgen exposure (Jurgensen et al., 2007; Meyer-Bahlburg, Dolezal, Baker, Ehrhardt, & New, 2006). Notably, a similar correlation of prenatal hormone exposure with gender *identity* has not been demonstrated (e.g., Meyer-Bahlburg et al., 2004). This is underlined by the fact that people with the same (core) gender identity can vary widely in the degree of masculinization of their gender-related behavior.

Assessment and Treatment of Gender Dysphoria in People with Disorders of Sex Development

Very rarely are individuals with a DSD identified as having gender dysphoria *before* a DSD diagnosis has been made. Even so, a DSD diagnosis is typically apparent with an appropriate history and basic physical exam—both of which are part of a medical evaluation for the appropriateness of hormone therapy or surgical interventions for gender dysphoria. Mental health professionals should ask their clients presenting with gender dysphoria to have a physical exam, particularly if they are not currently seeing a primary care (or other health care) provider.

Most people with a DSD who are born with genital ambiguity do not develop gender dysphoria (e.g., Meyer-Bahlburg, Dolezal, et al., 2004; Wisniewski et al., 2004). However, some people with a DSD will develop chronic gender dysphoria and even undergo a change in their birth-assigned sex and/or their gender role (Meyer-Bahlburg, 2005; Wilson, 1999; Zucker, 1999). If there are persistent and strong indications that gender dysphoria is present, a comprehensive evaluation by clinicians skilled in the assessment and treatment of gender dysphoria is essential, irrespective of the patient's age. Detailed recommendations have been published for conducting such an assessment and for making treatment decisions to address gender dysphoria in the context of a DSD (Meyer-Bahlburg, 2011). Only after thorough assessment should steps be taken in the direction of changing a patient's birth-assigned sex or gender role.

Clinicians assisting these patients with treatment options to alleviate gender dysphoria may profit from the insights gained from providing care to patients without a DSD (Cohen-Kettenis, 2010).

However, certain criteria for treatment (e.g., age, duration of experience with living in the desired gender role) are usually not routinely applied to people with a DSD; rather, the criteria are interpreted in light of a patient's specific situation (Meyer-Bahlburg, 2011). In the context of a DSD, changes in birth-assigned sex and gender role have been made at any age between early elementary-school age and middle adulthood. Even genital surgery may be performed much earlier in these patients than in gender dysphoric individuals without a DSD if the surgery is well justified by the diagnosis, by the evidence-based gender-identity prognosis for the given syndrome and syndrome severity, and by the patient's wishes.

One reason for these treatment differences is that genital surgery in individuals with a DSD is quite common in infancy and adolescence. Infertility may already be present due to either early gonadal failure or to gonadectomy because of a malignancy risk. Even so, it is advisable for patients with a DSD to undergo a full social transition to another gender role only if there is a long-standing history of gender-atypical behavior, and if gender dysphoria and/or the desire to change one's gender role has been strong and persistent for a considerable period of time. Six months is the time period of full symptom expression required for the application of the gender dysphoria diagnosis proposed for *DSM-5* (Meyer-Bahlburg, 2011).

Additional Resources

The gender-relevant medical histories of people with a DSD are often complex. Their histories may include a great variety of inborn genetic, endocrine, and somatic atypicalities, as well as various hormonal, surgical, and other medical treatments. For this reason, many additional issues need to be considered in the psychosocial and medical care of such patients, regardless of the presence of gender dysphoria. Consideration of these issues is beyond what can be covered in the *SOC*. The interested reader is referred to existing publications (e.g., Cohen-Kettenis & Pfäfflin, 2003; Meyer-Bahlburg, 2002, 2008). Some families and patients also find it useful to consult or work with community support groups.

There is a very substantial medical literature on the medical management of patients with a DSD. Much of this literature has been produced by high-level specialists in pediatric endocrinology and urology, with input from specialized mental health professionals, especially in the area of gender. Recent international consensus conferences have addressed evidence-based care guidelines (including issues of gender and of genital surgery) for DSD in general (Hughes et al., 2006) and specifically for Congenital Adrenal Hyperplasia (Joint LWPES/ESPE CAH Working Group et al., 2002; Speiser et al., 2010). Others have addressed the research needs for DSD in general (Meyer-Bahlburg & Blizzard, 2004) and for selected syndromes such as 46,XXY (Simpson et al., 2003).

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APPENDIX A
GLOSSARY

Terminology in the area of health care for transsexual, transgender, and gender-nonconforming people is rapidly evolving; new terms are being introduced, and the definitions of existing terms are changing. Thus, there is often misunderstanding, debate, or disagreement about language in this field. Terms that may be unfamiliar or that have specific meanings in the *SOC* are defined below for the purpose of this document only. Others may adopt these definitions, but WPATH acknowledges that these terms may be defined differently in different cultures, communities, and contexts.

WPATH also acknowledges that many terms used in relation to this population are not ideal. For example, the terms *transsexual* and *transvestite*—and, some would argue, the more recent term *transgender*—have been applied to people in an objectifying fashion. Yet such terms have been more or less adopted by many people who are making their best effort to make themselves understood. By continuing to use these terms, WPATH intends only to ensure that concepts and processes are comprehensible, in order to facilitate the delivery of quality health care to transsexual, transgender, and gender-nonconforming people. WPATH remains open to new terminology that will further illuminate the experience of members of this diverse population and lead to improvements in health care access and delivery.

Bioidentical hormones: Hormones that are *structurally* identical to those found in the human body (ACOG Committee of Gynecologic Practice, 2005). The hormones used in bioidentical hormone therapy (BHT) are generally derived from plant sources and are structurally similar to endogenous human hormones, but they need to be commercially processed to become bioidentical.

Bioidentical compounded hormone therapy (BCHT): Use of hormones that are prepared, mixed, assembled, packaged, or labeled as a drug by a pharmacist and custom-made for a patient according to a physician's specifications. Government drug agency approval is not possible for each compounded product made for an individual consumer.

Cross-dressing (transvestism): Wearing clothing and adopting a gender role presentation that, in a given culture, is more typical of the other sex.

Disorders of sex development (DSD): Congenital conditions in which the development of chromosomal, gonadal, or anatomic sex is atypical. Some people strongly object to the "disorder" label and instead view these conditions as a matter of diversity (Diamond, 2009), preferring the terms *intersex* and *intersexuality*.

Female-to-Male (FtM): Adjective to describe individuals assigned female at birth who are changing or who have changed their body and/or gender role from birth-assigned female to a more masculine body or role.

Gender dysphoria: 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).

Gender identity: A person's intrinsic sense of being male (a boy or a man), female (a girl or woman), or an alternative gender (e.g., boygirl, girlboy, transgender, genderqueer, eunuch) (Bockting, 1999; Stoller, 1964).

Gender identity disorder: Formal diagnosis set forth by the *Diagnostic Statistical Manual of Mental Disorders, 4th Edition, Text Rev (DSM IV-TR)* (American Psychiatric Association, 2000). Gender identity disorder is characterized by a strong and persistent cross-gender identification and a persistent discomfort with one's sex or sense of inappropriateness in the gender role of that sex, causing clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Gender-nonconforming: Adjective to describe individuals whose gender identity, role, or expression differs from what is normative for their assigned sex in a given culture and historical period.

Gender role or expression: Characteristics in personality, appearance, and behavior that in a given culture and historical period are designated as masculine or feminine (that is, more typical of the male or female social role) (Ruble, Martin, & Berenbaum, 2006). While most individuals present socially in clearly masculine or feminine gender roles, some people present in an alternative gender role such as genderqueer or specifically transgender. All people tend to incorporate both masculine and feminine characteristics in their gender expression in varying ways and to varying degrees (Bockting, 2008).

Genderqueer: Identity label that may be used by individuals whose gender identity and/or role does not conform to a binary understanding of gender as limited to the categories of man or woman, male or female (Bockting, 2008).

Internalized transphobia: Discomfort with one's own transgender feelings or identity as a result of internalizing society's normative gender expectations.

Male-to-Female (MtF): Adjective to describe individuals assigned male at birth who are changing or who have changed their body and/or gender role from birth-assigned male to a more feminine body or role.

Natural hormones: Hormones that are derived from natural *sources* such as plants or animals. Natural hormones may or may not be bioidentical.

Sex: Sex is assigned at birth as male or female, usually based on the appearance of the external genitalia. When the external genitalia are ambiguous, other components of sex (internal genitalia, chromosomal and hormonal sex) are considered in order to assign sex (Grumbach, Hughes, & Conte, 2003; MacLaughlin & Donahoe, 2004; Money & Ehrhardt, 1972; Vilain, 2000). For most people, gender identity and expression are consistent with their sex assigned at birth; for transsexual, transgender, and gender-nonconforming individuals, gender identity or expression differ from their sex assigned at birth.

Sex reassignment surgery (gender affirmation surgery): Surgery to change primary and/or secondary sex characteristics to affirm a person's gender identity. Sex reassignment surgery can be an important part of medically necessary treatment to alleviate gender dysphoria.

Transgender: Adjective to describe a diverse group of individuals who cross or transcend culturally defined categories of gender. The gender identity of transgender people differs to varying degrees from the sex they were assigned at birth (Bockting, 1999).

Transition: Period of time when individuals change from the gender role associated with their sex assigned at birth to a different gender role. For many people, this involves learning how to live socially in another gender role; for others this means finding a gender role and expression that are most comfortable for them. Transition may or may not include feminization or masculinization of the body through hormones or other medical procedures. The nature and duration of transition are variable and individualized.

Transsexual: Adjective (often applied by the medical profession) to describe individuals who seek to change or who have changed their primary and/or secondary sex characteristics through femininizing or masculinizing medical interventions (hormones and/or surgery), typically accompanied by a permanent change in gender role.

APPENDIX B
OVERVIEW OF MEDICAL RISKS OF HORMONE THERAPY

The risks outlined below are based on two comprehensive, evidence-based literature reviews of masculinizing/feminizing hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009), along with a large cohort study (Asscheman et al., 2011). These reviews can serve as detailed references for providers, along with other widely recognized, published clinical materials (e.g., Dahl et al., 2006; Ettner et al., 2007).

Risks of Feminizing Hormone Therapy (MtF)

Likely Increased Risk:

Venous thromboembolic disease

- Estrogen use increases the risk of venous thromboembolic events (VTE), particularly in patients who are over age 40, smokers, highly sedentary, obese, and who have underlying thrombophilic disorders.
- This risk is increased with the additional use of third generation progestins.
- This risk is decreased with use of the transdermal (versus oral) route of estradiol administration, which is recommended for patients at higher risk of VTE.

Cardiovascular, cerebrovascular disease

- Estrogen use increases the risk of cardiovascular events in patients over age 50 with underlying cardiovascular risk factors. Additional progestin use may increase this risk.

Lipids

- Oral estrogen use may markedly increase triglycerides in patients, increasing the risk of pancreatitis and cardiovascular events.
- Different routes of administration will have different metabolic effects on levels of HDL cholesterol, LDL cholesterol and lipoprotein(a).
- In general, clinical evidence suggests that MtF patients with pre-existing lipid disorders may benefit from the use of transdermal rather than oral estrogen.

Liver/gallbladder

- Estrogen and cyproterone acetate use may be associated with transient liver enzyme elevations and, rarely, clinical hepatotoxicity.
- Estrogen use increases the risk of cholelithiasis (gall stones) and subsequent cholecystectomy.

Possible Increased Risk:

Type 2 diabetes mellitus

- Feminizing hormone therapy, particularly estrogen, may increase the risk of type 2 diabetes, particularly among patients with a family history of diabetes or other risk factors for this disease.

Hypertension

- Estrogen use may increase blood pressure, but the effect on incidence of overt hypertension is unknown.
- Spironolactone reduces blood pressure and is recommended for at-risk or hypertensive patients desiring feminization.

Prolactinoma

- Estrogen use increases the risk of hyperprolactinemia among MtF patients in the first year of treatment, but this risk is unlikely thereafter.
- High-dose estrogen use may promote the clinical appearance of preexisting but clinically unapparent prolactinoma.

Inconclusive or No Increased Risk:

Items in this category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Breast cancer

- MtF persons who have taken feminizing hormones do experience breast cancer, but it is unknown how their degree of risk compares to that of persons born with female genitalia.
- Longer duration of feminizing hormone exposure (i.e., number of years taking estrogen preparations), family history of breast cancer, obesity (BMI >35), and the use of progestins likely influence the level of risk.

Other Side Effects of Feminizing Therapy:

The following effects may be considered minor or even desired, depending on the patient, but are clearly associated with feminizing hormone therapy.

Fertility and sexual function

- Feminizing hormone therapy may impair fertility.
- Feminizing hormone therapy may decrease libido.
- Feminizing hormone therapy reduces nocturnal erections, with variable impact on sexually stimulated erections.

Risks of Anti-Androgen Medications:

Feminizing hormone regimens often include a variety of agents that affect testosterone production or action. These include GnRH agonists, progestins (including cyproterone acetate), spironolactone, and 5-alpha reductase inhibitors. An extensive discussion of the specific risks of these agents is beyond the scope of the *SOC*. However, both spironolactone and cyproterone acetate are widely used and deserve some comment.

Cyproterone acetate is a progestational compound with anti-androgenic properties (Gooren, 2005; Levy et al., 2003). Although widely used in Europe, it is not approved for use in the United States because of concerns about hepatotoxicity (Thole, Manso, Salgueiro, Revuelta, & Hidalgo, 2004). Spironolactone is commonly used as an anti-androgen in feminizing hormone therapy, particularly in regions where cyproterone is not approved for use (Dahl et al., 2006; Moore et al., 2003; Tangpricha et al., 2003). Spironolactone has a long history of use in treating hypertension and congestive heart failure. Its common side effects include hyperkalemia, dizziness, and gastrointestinal symptoms (*Physicians' Desk Reference*, 2007).

Risks of Masculinizing Hormone Therapy (FtM)

Likely Increased Risk:

Polycythemia

- Masculinizing hormone therapy involving testosterone or other androgenic steroids increases the risk of polycythemia (hematocrit > 50%), particularly in patients with other risk factors.
- Transdermal administration and adaptation of dosage may reduce this risk.

Weight gain/visceral fat

- Masculinizing hormone therapy can result in modest weight gain, with an increase in visceral fat.

Possible Increased Risk:

Lipids

- Testosterone therapy decreases HDL, but variably affects LDL and triglycerides.
- Supraphysiologic (beyond normal male range) serum levels of testosterone, often found with extended intramuscular dosing, may worsen lipid profiles, whereas transdermal administration appears to be more lipid neutral.
- Patients with underlying polycystic ovarian syndrome or dyslipidemia may be at increased risk of worsening dyslipidemia with testosterone therapy.

Liver

- Transient elevations in liver enzymes may occur with testosterone therapy.
- Hepatic dysfunction and malignancies have been noted with oral methyltestosterone. However, methyltestosterone is no longer available in most countries and should no longer be used.

Psychiatric

Masculinizing therapy involving testosterone or other androgenic steroids may increase the risk of hypomanic, manic, or psychotic symptoms in patients with underlying psychiatric disorders that include such symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone.

Inconclusive or No Increased Risk:

Items in this category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Osteoporosis

- Testosterone therapy maintains or increases bone mineral density among FtM patients prior to oophorectomy, at least in the first three years of treatment.
- There is an increased risk of bone density loss after oophorectomy, particularly if testosterone therapy is interrupted or insufficient. This includes patients utilizing solely oral testosterone.

Cardiovascular

- Masculinizing hormone therapy at normal physiologic doses does not appear to increase the risk of cardiovascular events among healthy patients.
- Masculinizing hormone therapy may increase the risk of cardiovascular disease in patients with underlying risks factors.

Hypertension

- Masculinizing hormone therapy at normal physiologic doses may increase blood pressure but does not appear to increase the risk of hypertension.
- Patients with risk factors for hypertension, such as weight gain, family history, or polycystic ovarian syndrome, may be at increased risk.

Type 2 diabetes mellitus

- Testosterone therapy does not appear to increase the risk of type 2 diabetes among FtM patients overall, unless other risk factors are present.
- Testosterone therapy may further increase the risk of type 2 diabetes in patients with other risk factors, such as significant weight gain, family history, and polycystic ovarian syndrome. There are no data that suggest or show an increase in risk in those with risk factors for dyslipidemia.

Breast cancer

- Testosterone therapy in FtM patients does not increase the risk of breast cancer.

Cervical cancer

- Testosterone therapy in FtM patients does not increase the risk of cervical cancer, although it may increase the risk of minimally abnormal Pap smears due to atrophic changes.

Ovarian cancer

- Analogous to persons born with female genitalia with elevated androgen levels, testosterone therapy in FtM patients may increase the risk of ovarian cancer, although evidence is limited.

Endometrial (uterine) cancer

- Testosterone therapy in FtM patients may increase the risk of endometrial cancer, although evidence is limited.

Other Side Effects of Masculinizing Therapy:

The following effects may be considered minor or even desired, depending on the patient, but are clearly associated with masculinization.

Fertility and sexual function

- Testosterone therapy in FtM patients reduces fertility, although the degree and reversibility are unknown.

- Testosterone therapy can induce permanent anatomic changes in the developing embryo or fetus.
- Testosterone therapy induces clitoral enlargement and increases libido.

Acne, androgenic alopecia

Acne and varying degrees of male pattern hair loss (androgenic alopecia) are common side effects of masculinizing hormone therapy.

APPENDIX C
SUMMARY OF CRITERIA FOR HORMONE THERAPY AND SURGERIES

As for all previous versions of the *SOC*, the criteria put forth in the *SOC* 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 to accumulate new data, which can be retrospectively examined to allow for health care—and the *SOC*—to evolve.

Criteria for Feminizing/Masculinizing Hormone Therapy (One Referral or Chart Documentation of Psychosocial Assessment)

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to give consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* for children and adolescents);
4. If significant medical or mental concerns are present, they must be reasonably well controlled.

Criteria for Breast/Chest Surgery (One Referral)

Mastectomy and Creation of a Male Chest in FtM Patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to give consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Hormone therapy is not a prerequisite.

Breast Augmentation (Implants/Lipofilling) in MtF Patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to give consent for treatment;
3. Age of majority in a given country (if younger, follow the *SOC* for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Although not an explicit criterion, it is recommended that MtF patients undergo feminizing hormone therapy (minimum 12 months) prior to breast augmentation surgery. The purpose is to maximize breast growth in order to obtain better surgical (aesthetic) results.

Criteria for Genital Surgery (Two Referrals)

Hysterectomy and Salpingo-Oophorectomy in FtM Patients and Orchiectomy in MtF Patients:

1. Persistent, well documented gender dysphoria;
2. Capacity to make a fully informed decision and to give consent for treatment;

3. Age of majority in a given country;

4. If significant medical or mental health concerns are present, they must be well controlled;

5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless hormones are not clinically indicated for the individual).

The aim of hormone therapy prior to gonadectomy is primarily to introduce a period of reversible estrogen or testosterone suppression, before a patient undergoes irreversible surgical intervention.

These criteria do not apply to patients who are having these surgical procedures for medical indications other than gender dysphoria.

Metoidioplasty or Phalloplasty in FtM Patients and Vaginoplasty in MtF Patients:

1. Persistent, well documented gender dysphoria;

2. Capacity to make a fully informed decision and to give consent for treatment;

3. Age of majority in a given country;

4. If significant medical or mental health concerns are present, they must be well controlled;

5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless hormones are not clinically indicated for the individual);

6. 12 continuous months of living in a gender role that is congruent with their gender identity.

Although not an explicit criterion, it is recommended that these patients also have regular visits with a mental health or other medical professional.

The criterion noted above for some types of genital surgeries—that is, that patients engage in 12 continuous months of living in a gender role that is congruent with their gender identity—is based on expert clinical consensus that this experience provides ample opportunity for patients to experience and socially adjust in their desired gender role, before undergoing irreversible surgery.

APPENDIX D
EVIDENCE FOR CLINICAL OUTCOMES OF THERAPEUTIC APPROACHES

One of the real supports for any new therapy is an outcome analysis. Because of the controversial nature of sex reassignment surgery, this type of analysis has been very important. Almost all of the outcome studies in this area have been retrospective.

One of the first studies to examine the post-treatment psychosocial outcomes of transsexual patients was done in 1979 at Johns Hopkins University School of Medicine and Hospital (USA) (J. K. Meyer & Reter, 1979). This study focused on patients' occupational, educational, marital, and domiciliary stability. The results revealed several significant changes with treatment. These changes were not seen as positive; rather, they showed that many individuals who had entered the treatment program were no better off or were worse off in many measures after participation in the program. These findings resulted in closure of the treatment program at that hospital/medical school (Abramowitz, 1986).

Subsequently, a significant number of health professionals called for a standard for eligibility for sex reassignment surgery. This led to the formulation of the original *Standards of Care* of the Harry Benjamin International Gender Dysphoria Association (now WPATH) in 1979.

In 1981, Pauly published results from a large retrospective study of people who had undergone sex reassignment surgery. Participants in that study had much better outcomes: Among 83 FtM patients, 80.7% had a satisfactory outcome (i.e., patient self report of "improved social and emotional adjustment"), 6.0% unsatisfactory. Among 283 MtF patients, 71.4% had a satisfactory outcome, 8.1% unsatisfactory. This study included patients who were treated before the publication and use of the *Standards of Care*.

Since the *Standards of Care* have been in place, there has been a steady increase in patient satisfaction and decrease in dissatisfaction with the outcome of sex reassignment surgery. Studies conducted after 1996 focused on patients who were treated according to the *Standards of Care*. The findings of Rehman and colleagues (1999) and Krege and colleagues (2001) are typical of this body of work; none of the patients in these studies regretted having had surgery, and most reported being satisfied with the cosmetic and functional results of the surgery. Even patients who develop severe surgical complications seldom regret having undergone surgery. Quality of surgical results is one of the best predictors of the overall outcome of sex reassignment (Lawrence, 2003). The vast majority of follow-up studies have shown an undeniable beneficial effect of sex reassignment surgery on postoperative outcomes such as subjective well being, cosmesis, and sexual function (De Cuypere et al., 2005; Garaffa, Christopher, & Ralph, 2010; Klein & Gorzalka, 2009), although the specific magnitude of benefit is uncertain from

the currently available evidence. One study (Emory, Cole, Avery, Meyer, & Meyer, 2003) even showed improvement in patient income.

One troubling report (Newfield et al., 2006) documented lower scores on quality of life (measured with the SF-36) for FtM patients than for the general population. A weakness of that study is that it recruited its 384 participants by a general email rather than a systematic approach, and the degree and type of treatment were not recorded. Study participants who were taking testosterone had typically being doing so for less than 5 years. Reported quality of life was higher for patients who had undergone breast/chest surgery than for those who had not ($p<.001$). (A similar analysis was not done for genital surgery.) In other work, Kuhn and colleagues (2009) used the King's Health Questionnaire to assess the quality of life of 55 transsexual patients at 15 years after surgery. Scores were compared to those of 20 healthy female control patients who had undergone abdominal/pelvic surgery in the past. Quality of life scores for transsexual patients were the same or better than those of control patients for some subscales (emotions, sleep, incontinence, symptom severity, and role limitation), but worse in other domains (general health, physical limitation, and personal limitation).

Two long-term observational studies, both retrospective, compared the mortality and psychiatric morbidity of transsexual adults to those of general population samples (Asscheman et al., 2011; Dhejne et al., 2011). An analysis of data from the Swedish National Board of Health and Welfare information registry found that individuals who had received sex reassignment surgery (191 MtF and 133 FtM) had significantly higher rates of mortality, suicide, suicidal behavior, and psychiatric morbidity than those for a nontranssexual control group matched on age, immigrant status, prior psychiatric morbidity, and birth sex (Dhejne et al., 2011). Similarly, a study in the Netherlands reported a higher total mortality rate, including incidence of suicide, in both pre- and post-surgery transsexual patients (966 MtF and 365 MtF) than in the general population of that country (Asscheman et al., 2011). Neither of these studies questioned the efficacy of sex reassignment; indeed, both lacked an adequate comparison group of transsexuals who either did not receive treatment or who received treatment other than genital surgery. Moreover, transsexual people in these studies were treated as far back as the 1970s. However, these findings do emphasize the need to have good long-term psychological and psychiatric care available for this population. More studies are needed that focus on the outcomes of current assessment and treatment approaches for gender dysphoria.

It is difficult to determine the effectiveness of hormones alone in the relief of gender dysphoria. Most studies evaluating the effectiveness of masculinizing/feminizing hormone therapy on gender dysphoria have been conducted with patients who have also undergone sex reassignment surgery. Favorable effects of therapies that included both hormones and surgery were reported in a comprehensive review of over 3000 patients in 79 studies (mostly observational) conducted between 1961 and 1991 (Eldh, Berg, & Gustafsson, 1997; Gijs & Brewaeys, 2007; Murad et al., 2010; Pfäfflin & Junge, 1998). Patients operated on after 1986 did better than those before 1986; this reflects significant improvement in surgical complications (Eldh et al., 1997). Most patients have reported improved psychosocial outcomes, ranging between 87% for MtF patients and 97% for FtM patients (Green & Fleming, 1990).

Similar improvements were found in a Swedish study in which "almost all patients were satisfied with sex reassignment at 5 years, and 86% were assessed by clinicians at follow-up as stable or improved in global functioning" (Johansson, Sundbom, Höjerback, & Bodlund, 2010). Weaknesses of these earlier studies are their retrospective design and use of different criteria to evaluate outcomes.

A prospective study conducted in the Netherlands evaluated 325 consecutive adult and adolescent subjects seeking sex reassignment (Smith, Van Goozen, Kuiper, & Cohen-Kettenis, 2005). Patients who underwent sex reassignment therapy (both hormonal and surgical intervention) showed improvements in their mean gender dysphoria scores, measured by the Utrecht Gender Dysphoria Scale. Scores for body dissatisfaction and psychological function also improved in most categories. Fewer than 2% of patients expressed regret after therapy. This is the largest prospective study to affirm the results from retrospective studies that a combination of hormone therapy and surgery improves gender dysphoria and other areas of psychosocial functioning. There is a need for further research on the effects of hormone therapy without surgery, and without the goal of maximum physical feminization or masculinization.

Overall, studies have been reporting a steady improvement in outcomes as the field becomes more advanced. Outcome research has mainly focused on the outcome of sex reassignment surgery. In current practice there is a range of identity, role, and physical adaptations that could use additional follow-up or outcome research (Institute of Medicine, 2011).

APPENDIX E
DEVELOPMENT PROCESS FOR THE *STANDARDS OF CARE,* VERSION 7

The process of developing *Standards of Care, Version 7* began when an initial *SOC* "work group" was established in 2006. Members were invited to examine specific sections of *SOC, Version 6*. For each section, they were asked to review the relevant literature, identify where research was lacking and needed, and recommend potential revisions to the *SOC* as warranted by new evidence. Invited papers were submitted by the following authors: Aaron Devor, Walter Bockting, George Brown, Michael Brownstein, Peggy Cohen-Kettenis, Griet DeCuypere, Petra DeSutter, Jamie Feldman, Lin Fraser, Arlene Istar Lev, Stephen Levine, Walter Meyer, Heino Meyer-Bahlburg, Stan Monstrey, Loren Schechter, Mick van Trotsenburg, Sam Winter, and Ken Zucker. Some of these authors chose to add co-authors to assist them in their task.

Initial drafts of these papers were due June 1, 2007. Most were completed by September 2007, with the rest completed by the end of 2007. These manuscripts were then submitted to the *International*

Journal of Transgenderism (IJT). Each underwent the regular *IJT* peer review process. The final papers were published in Volume 11 (1–4) in 2009, making them available for discussion and debate.

After these articles were published, an *SOC* Revision Committee was established by the WPATH Board of Directors in 2010. The Revision Committee was first charged with debating and discussing the *IJT* background papers through a Google website. A subgroup of the Revision Committee was appointed by the Board of Directors to serve as the Writing Group. This group was charged with preparing the first draft of *SOC, Version 7* and continuing to work on revisions for consideration by the broader Revision Committee. The Board also appointed an International Advisory Group of transsexual, transgender, and gender-nonconforming individuals to give input on the revision.

A technical writer was hired to (1) review all of the recommendations for revision—both the original recommendations as outlined in the *IJT* articles and additional recommendations that emanated from the online discussion—and (2) create a survey to solicit further input on these potential revisions. From the survey results, the Writing Group was able to discern where these experts stood in terms of areas of agreement and areas in need of more discussion and debate. The technical writer then (3) created a very rough first draft of *SOC, Version 7* for the Writing Group to consider and build on.

The Writing Group met on March 4 and 5, 2011 in a face-to-face expert consultation meeting. They reviewed all recommended changes and debated and came to consensus on various controversial areas. Decisions were made based on the best available science and expert consensus. These decisions were incorporated into the draft, and additional sections were written by the Writing Group with the assistance of the technical writer.

The draft that emerged from the consultation meeting was then circulated among the Writing Group and finalized with the help of the technical writer. Once this initial draft was finalized, it was circulated among the broader *SOC* Revision Committee and the International Advisory Group. Discussion was opened up on the Google website and a conference call was held to resolve issues. Feedback from these groups was considered by the Writing Group, who then made further revisions. Two additional drafts were created and posted on the Google website for consideration by the broader *SOC* Revision Committee and the International Advisory Group. Upon completion of these three iterations of review and revision, the final document was presented to the WPATH Board of Directors for approval. The Board of Directors approved this version on September 14, 2011.

Funding

The *Standards of Care* revision process was made possible through a generous grant from the Tawani Foundation and a gift from an anonymous donor. These funds supported the following:

1. Costs of a professional technical writer;

2. Process of soliciting international input on proposed changes from gender identity professionals and the transgender community;

3. Working meeting of the Writing Group;

4. Process of gathering additional feedback and arriving at final expert consensus from the professional and transgender communities, the *Standards of Care, Version 7,* Revision Committee, and WPATH Board of Directors;

5. Costs of printing and distributing *Standards of Care, Version 7,* and posting a free downloadable copy on the WPATH website;

6. Plenary session to launch the *Standards of Care, Version 7,* at the 2011 WPATH Biennial Symposium in Atlanta, Georgia, USA.

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EXHIBIT

9

Endocrine Treatment of Gender-Dysphoric/ Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline

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*Cosponsoring Associations: American Association of Clinical Endocrinologists, American Society of Andrology, European Society for Pediatric Endocrinology, European Society of Endocrinology, Pediatric Endocrine Society, and World Professional Association for Transgender Health.

Objective: To update the "Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline," published by the Endocrine Society in 2009.

Participants: The participants include an Endocrine Society–appointed task force of nine experts, a methodologist, and a medical writer.

Evidence: This evidence-based guideline was developed using the Grading of Recommendations, Assessment, Development, and Evaluation approach to describe the strength of recommendations and the quality of evidence. The task force commissioned two systematic reviews and used the best available evidence from other published systematic reviews and individual studies.

Consensus Process: Group meetings, conference calls, and e-mail communications enabled consensus. Endocrine Society committees, members and cosponsoring organizations reviewed and commented on preliminary drafts of the guidelines.

Conclusion: Gender affirmation is multidisciplinary treatment in which endocrinologists play an important role. Gender-dysphoric/gender-incongruent persons seek and/or are referred to endocrinologists to develop the physical characteristics of the affirmed gender. They require a safe and effective hormone regimen that will (1) suppress endogenous sex hormone secretion determined by the person's genetic/gonadal sex and (2) maintain sex hormone levels within the normal range for the person's affirmed gender. Hormone treatment is not recommended for prepubertal gender-dysphoric/gender-incongruent persons. Those clinicians who recommend gender-affirming endocrine treatments—appropriately trained diagnosing clinicians (required), a mental health provider for adolescents (required) and mental health

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Abbreviations: BMD, bone mineral density; DSD, disorder/difference of sex development; DSM, Diagnostic and Statistical Manual of Mental Disorders; GD, gender dysphoria; GnRH, gonadotropin releasing hormone; ICD, International Statistical Classification of Diseases and Related Health Problems; MHP, mental health professional; VTE, venous thromboembolism.

professional for adults (recommended)—should be knowledgeable about the diagnostic criteria and criteria for gender-affirming treatment, have sufficient training and experience in assessing psychopathology, and be willing to participate in the ongoing care throughout the endocrine transition. We recommend treating gender-dysphoric/gender-incongruent adolescents who have entered puberty at Tanner Stage G2/B2 by suppression with gonadotropin-releasing hormone agonists. Clinicians may add gender-affirming hormones after a multidisciplinary team has confirmed the persistence of gender dysphoria/gender incongruence and sufficient mental capacity to give informed consent to this partially irreversible treatment. Most adolescents have this capacity by age 16 years old. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to age 16 years, although there is minimal published experience treating prior to 13.5 to 14 years of age. For the care of peripubertal youths and older adolescents, we recommend that an expert multidisciplinary team comprised of medical professionals and mental health professionals manage this treatment. The treating physician must confirm the criteria for treatment used by the referring mental health practitioner and collaborate with them in decisions about gender-affirming surgery in older adolescents. For adult gender-dysphoric/gender-incongruent persons, the treating clinicians (collectively) should have expertise in transgender-specific diagnostic criteria, mental health, primary care, hormone treatment, and surgery, as needed by the patient. We suggest maintaining physiologic levels of gender-appropriate hormones and monitoring for known risks and complications. When high doses of sex steroids are required to suppress endogenous sex steroids and/or in advanced age, clinicians may consider surgically removing natal gonads along with reducing sex steroid treatment. Clinicians should monitor both transgender males (female to male) and transgender females (male to female) for reproductive organ cancer risk when surgical removal is incomplete. Additionally, clinicians should persistently monitor adverse effects of sex steroids. For gender-affirming surgeries in adults, the treating physician must collaborate with and confirm the criteria for treatment used by the referring physician. Clinicians should avoid harming individuals (via hormone treatment) who have conditions other than gender dysphoria/gender incongruence and who may not benefit from the physical changes associated with this treatment. **(*J Clin Endocrinol Metab* 102: 3869–3903, 2017)**

Summary of Recommendations

1.0 Evaluation of youth and adults

1.1. We advise that only trained mental health professionals (MHPs) who meet the following criteria should diagnose gender dysphoria (GD)/gender incongruence in adults: (1) competence in using the Diagnostic and Statistical Manual of Mental Disorders (DSM) and/or the International Statistical Classification of Diseases and Related Health Problems (ICD) for diagnostic purposes, (2) the ability to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) training in diagnosing psychiatric conditions, (4) the ability to undertake or refer for appropriate treatment, (5) the ability to psychosocially assess the person's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) a practice of regularly attending relevant professional meetings. (Ungraded Good Practice Statement)

1.2. We advise that only MHPs who meet the following criteria should diagnose GD/gender incongruence in children and adolescents: (1) training in child and adolescent developmental psychology and psychopathology, (2) competence in using the DSM and/or the ICD for diagnostic purposes, (3) the ability to make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (4) training in diagnosing psychiatric conditions, (5) the ability to undertake or refer for appropriate treatment, (6) the ability to psychosocially assess the person's understanding and social conditions that can impact gender-affirming hormone therapy, (7) a practice of regularly attending relevant professional meetings, and (8) knowledge of the criteria for puberty blocking and gender-affirming hormone treatment in adolescents. (Ungraded Good Practice Statement)

1.3. We advise that decisions regarding the social transition of prepubertal youths with GD/gender incongruence are made with the assistance of an MHP or another experienced professional. (Ungraded Good Practice Statement).

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1.4. We recommend against puberty blocking and gender-affirming hormone treatment in prepubertal children with GD/gender incongruence. (1 |⊕⊕◯◯)
1.5. We recommend that clinicians inform and counsel all individuals seeking gender-affirming medical treatment regarding options for fertility preservation prior to initiating puberty suppression in adolescents and prior to treating with hormonal therapy of the affirmed gender in both adolescents and adults. (1 |⊕⊕⊕◯)

2.0 Treatment of adolescents

2.1. We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment, and are requesting treatment should initially undergo treatment to suppress pubertal development. (2 |⊕⊕◯◯)
2.2. We suggest that clinicians begin pubertal hormone suppression after girls and boys first exhibit physical changes of puberty. (2 |⊕⊕◯◯)
2.3. We recommend that, where indicated, GnRH analogues are used to suppress pubertal hormones. (1 |⊕⊕◯◯)
2.4. In adolescents who request sex hormone treatment (given this is a partly irreversible treatment), we recommend initiating treatment using a gradually increasing dose schedule after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give informed consent, which most adolescents have by age 16 years. (1 |⊕⊕◯◯).
2.5. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to the age of 16 years in some adolescents with GD/gender incongruence, even though there are minimal published studies of gender-affirming hormone treatments administered before age 13.5 to 14 years. As with the care of adolescents ≥16 years of age, we recommend that an expert multidisciplinary team of medical and MHPs manage this treatment. (1 |⊕◯◯◯)
2.6. We suggest monitoring clinical pubertal development every 3 to 6 months and laboratory parameters every 6 to 12 months during sex hormone treatment. (2 |⊕⊕◯◯)

3.0 Hormonal therapy for transgender adults

3.1. We recommend that clinicians confirm the diagnostic criteria of GD/gender incongruence and the criteria for the endocrine phase of gender transition before beginning treatment. (1 |⊕⊕⊕◯)
3.2. We recommend that clinicians evaluate and address medical conditions that can be exacerbated by hormone depletion and treatment with sex hormones of the affirmed gender before beginning treatment. (1 |⊕⊕⊕◯)
3.3. We suggest that clinicians measure hormone levels during treatment to ensure that endogenous sex steroids are suppressed and administered sex steroids are maintained in the normal physiologic range for the affirmed gender. (2 |⊕⊕◯◯)
3.4. We suggest that endocrinologists provide education to transgender individuals undergoing treatment about the onset and time course of physical changes induced by sex hormone treatment. (2 |⊕◯◯◯)

4.0 Adverse outcome prevention and long-term care

4.1. We suggest regular clinical evaluation for physical changes and potential adverse changes in response to sex steroid hormones and laboratory monitoring of sex steroid hormone levels every 3 months during the first year of hormone therapy for transgender males and females and then once or twice yearly. (2 |⊕⊕◯◯)
4.2. We suggest periodically monitoring prolactin levels in transgender females treated with estrogens. (2 |⊕⊕◯◯)
4.3. We suggest that clinicians evaluate transgender persons treated with hormones for cardiovascular risk factors using fasting lipid profiles, diabetes screening, and/or other diagnostic tools. (2 |⊕⊕◯◯)
4.4. We recommend that clinicians obtain bone mineral density (BMD) measurements when risk factors for osteoporosis exist, specifically in those who stop sex hormone therapy after gonadectomy. (1 |⊕⊕◯◯)
4.5. We suggest that transgender females with no known increased risk of breast cancer follow breast-screening guidelines recommended for non-transgender females. (2 |⊕⊕◯◯)
4.6. We suggest that transgender females treated with estrogens follow individualized screening according to personal risk for prostatic disease and prostate cancer. (2 |⊕◯◯◯)
4.7. We advise that clinicians determine the medical necessity of including a total hysterectomy and oophorectomy as part of gender-affirming surgery. (Ungraded Good Practice Statement)

5.0 Surgery for sex reassignment and gender confirmation

5.1. We recommend that a patient pursue genital gender-affirming surgery only after the MHP and the clinician responsible for endocrine transition therapy both agree that surgery is medically necessary and would benefit the patient's overall health and/or well-being. (1 ⊕⊕◯◯)

5.2. We advise that clinicians approve genital gender-affirming surgery only after completion of at least 1 year of consistent and compliant hormone treatment, unless hormone therapy is not desired or medically contraindicated. (Ungraded Good Practice Statement)

5.3. We advise that the clinician responsible for endocrine treatment and the primary care provider ensure appropriate medical clearance of transgender individuals for genital gender-affirming surgery and collaborate with the surgeon regarding hormone use during and after surgery. (Ungraded Good Practice Statement)

5.4. We recommend that clinicians refer hormone-treated transgender individuals for genital surgery when: (1) the individual has had a satisfactory social role change, (2) the individual is satisfied about the hormonal effects, and (3) the individual desires definitive surgical changes. (1 ⊕◯◯◯)

5.5. We suggest that clinicians delay gender-affirming genital surgery involving gonadectomy and/or hysterectomy until the patient is at least 18 years old or legal age of majority in his or her country. (2 ⊕⊕◯◯).

5.6. We suggest that clinicians determine the timing of breast surgery for transgender males based upon the physical and mental health status of the individual. There is insufficient evidence to recommend a specific age requirement. (2 ⊕◯◯◯)

Changes Since the Previous Guideline

Both the current guideline and the one published in 2009 contain similar sections. Listed here are the sections contained in the current guideline and the corresponding number of recommendations: Introduction, Evaluation of Youth and Adults (5), Treatment of Adolescents (6), Hormonal Therapy for Transgender Adults (4), Adverse Outcomes Prevention and Long-term Care (7), and Surgery for Sex Reassignment and Gender Confirmation (6). The current introduction updates the diagnostic classification of "gender dysphoria/gender incongruence." It also reviews the development of "gender identity" and summarizes its natural development. The section on clinical evaluation of both youth and adults, defines in detail the professional qualifications required of those who diagnose and treat both adolescents and adults. We advise that decisions regarding the social transition of prepubertal youth are made with the assistance of a mental health professional or similarly experienced professional. We recommend against puberty blocking followed by gender-affirming hormone treatment of prepubertal children. Clinicians should inform pubertal children, adolescents, and adults seeking gender-confirming treatment of their options for fertility preservation. Prior to treatment, clinicians should evaluate the presence of medical conditions that may be worsened by hormone depletion and/or treatment. A multidisciplinary team, preferably composed of medical and mental health professionals, should monitor treatments. Clinicians evaluating transgender adults for endocrine treatment should confirm the diagnosis of persistent gender dysphoria/gender incongruence. Physicians should educate transgender persons regarding the time course of steroid-induced physical changes. Treatment should include periodic monitoring of hormone levels and metabolic parameters, as well as assessments of bone density and the impact upon prostate, gonads, and uterus. We also make recommendations for transgender persons who plan genital gender-affirming surgery.

Method of Development of Evidence-Based Clinical Practice Guidelines

The Clinical Guidelines Subcommittee (CGS) of the Endocrine Society deemed the diagnosis and treatment of individuals with GD/gender incongruence a priority area for revision and appointed a task force to formulate evidence based recommendations. The task force followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation group, an international group with expertise in the development and implementation of evidence based guidelines (1). A detailed description of the grading scheme has been published elsewhere (2). The task force used the best available research evidence to develop the recommendations. The task force also used consistent language and graphical descriptions of both the strength of a recommendation and the quality of evidence. In terms of the strength of the recommendation, strong recommendations use the phrase "we recommend" and the number 1, and weak recommendations use the phrase "we suggest" and the number 2. Cross filled circles indicate the quality of the evidence, such that ⊕◯◯◯ denotes very low quality evidence; ⊕⊕◯◯, low quality; ⊕⊕⊕◯, moderate quality; and ⊕⊕⊕⊕, high quality. The task force has confidence that persons who receive care according to the strong recommendations will derive, on average, more benefit than harm. Weak recommendations require more careful consideration of the person's circumstances, values, and preferences to determine the best course of action. Linked to each recommendation is a description of the evidence and the

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values that the task force considered in making the recommendation. In some instances, there are remarks in which the task force offers technical suggestions for testing conditions, dosing, and monitoring. These technical comments reflect the best available evidence applied to a typical person being treated. Often this evidence comes from the unsystematic observations of the task force and their preferences; therefore, one should consider these remarks as suggestions.

In this guideline, the task force made several statements to emphasize the importance of shared decision making, general preventive care measures, and basic principles of the treatment of transgender persons. They labeled these "Ungraded Good Practice Statement." Direct evidence for these statements was either unavailable or not systematically appraised and considered out of the scope of this guideline. The intention of these statements is to draw attention to these principles.

The Endocrine Society maintains a rigorous conflict of interest review process for developing clinical practice guidelines. All task force members must declare any potential conflicts of interest by completing a conflict of interest form. The CGS reviews all conflicts of interest before the Society's Council approves the members to participate on the task force and periodically during the development of the guideline. All others participating in the guideline's development must also disclose any conflicts of interest in the matter under study, and most of these participants must be without any conflicts of interest. The CGS and the task force have reviewed all disclosures for this guideline and resolved or managed all identified conflicts of interest.

Conflicts of interest are defined as remuneration in any amount from commercial interests; grants; research support; consulting fees; salary; ownership interests [*e.g.*, stocks and stock options (excluding diversified mutual funds)]; honoraria and other payments for participation in speakers' bureaus, advisory boards, or boards of directors; and all other financial benefits. Completed forms are available through the Endocrine Society office.

The Endocrine Society provided the funding for this guideline; the task force received no funding or remuneration from commercial or other entities.

Commissioned Systematic Review

The task force commissioned two systematic reviews to support this guideline. The first one aimed to summarize the available evidence on the effect of sex steroid use in transgender individuals on lipids and cardiovascular outcomes. The review identified 29 eligible studies at moderate risk of bias. In transgender males (female to male), sex steroid therapy was associated with a statistically significant increase in serum triglycerides and low-density lipoprotein cholesterol levels. High-density lipoprotein cholesterol levels decreased significantly across all follow-up time periods. In transgender females (male to female), serum triglycerides were significantly higher without any changes in other parameters. Few myocardial infarction, stroke, venous thromboembolism (VTE), and death events were reported. These events were more frequent in transgender females. However, the quality of the evidence was low. The second review summarized the available evidence regarding the effect of sex steroids on bone health in transgender individuals and identified 13 studies. In transgender males, there was no statistically significant difference in the lumbar spine, femoral neck, or total hip BMD at 12 and 24 months compared with baseline values before initiating masculinizing hormone therapy. In transgender females, there was a statistically significant increase in lumbar spine BMD at 12 months and 24 months compared with baseline values before initiation of feminizing hormone therapy. There was minimal information on fracture rates. The quality of evidence was also low.

Introduction

Throughout recorded history (in the absence of an endocrine disorder) some men and women have experienced confusion and anguish resulting from rigid, forced conformity to sexual dimorphism. In modern history, there have been numerous ongoing biological, psychological, cultural, political, and sociological debates over various aspects of gender variance. The 20th century marked the emergence of a social awakening for men and women with the belief that they are "trapped" in the wrong body (3). Magnus Hirschfeld and Harry Benjamin, among others, pioneered the medical responses to those who sought relief from and a resolution to their profound discomfort. Although the term transsexual became widely known after Benjamin wrote "The Transsexual Phenomenon" (4), it was Hirschfeld who coined the term "transsexual" in 1923 to describe people who want to live a life that corresponds with their experienced gender vs their designated gender (5). Magnus Hirschfeld (6) and others (4, 7) have described other types of trans phenomena besides transsexualism. These early researchers proposed that the gender identity of these people was located somewhere along a unidimensional continuum. This continuum 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 (8, 9). There are also reports of individuals experiencing a continuous and rapid involuntary alternation between a male and female identity (10) or men who do not experience themselves as men but do not want to live as women (11, 12). In some countries, (*e.g.*, Nepal, Bangladesh, and Australia), these nonmale or nonfemale genders are officially recognized (13). Specific treatment protocols, however, have not yet been developed for these groups.

Instead of the term transsexualism, the current classification system of the American Psychiatric Association uses the term gender dysphoria in its diagnosis of persons who are not satisfied with their designated gender (14). The current version of the World Health Organization's ICD-10 still uses the term transsexualism when diagnosing adolescents and adults. However, for the ICD-11, the World Health Organization has proposed using the term "gender incongruence" (15).

Treating persons with GD/gender incongruence (15) was previously limited to relatively ineffective elixirs or creams. However, more effective endocrinology-based treatments became possible with the availability of testosterone in 1935 and diethylstilbestrol in 1938. Reports of individuals with GD/gender incongruence who were treated with hormones and gender-affirming surgery appeared in the press during the second half of the 20th century. The Harry Benjamin International Gender Dysphoria Association was founded in September 1979 and is now called the World Professional Association for Transgender Health (WPATH). WPATH published its first Standards of Care in 1979. These standards have since been regularly updated, providing guidance for treating persons with GD/gender incongruence (16).

Prior to 1975, few peer-reviewed articles were published concerning endocrine treatment of transgender persons. Since then, more than two thousand articles about various aspects of transgender care have appeared.

It is the purpose of this guideline to make detailed recommendations and suggestions, based on existing medical literature and clinical experience, that will enable treating physicians to maximize benefit and minimize risk when caring for individuals diagnosed with GD/gender incongruence.

In the future, we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols. Specifically, endocrine treatment protocols for GD/gender incongruence should include the careful assessment of the following: (1) the effects of prolonged delay of puberty in adolescents on bone health, gonadal function, and the brain (including effects on cognitive, emotional, social, and sexual development); (2) the effects of treatment in adults on sex hormone levels; (3) the requirement for and the effects of progestins and other agents used to suppress endogenous sex steroids during treatment; and (4) the risks and benefits of gender-affirming hormone treatment in older transgender people.

To successfully establish and enact these protocols, a commitment of mental health and endocrine investigators is required to collaborate in long-term, large-scale studies across countries that use the same diagnostic and inclusion criteria, medications, assay methods, and response assessment tools (*e.g.*, the European Network for the Investigation of Gender Incongruence) (17, 18).

Terminology and its use vary and continue to evolve. Table 1 contains the definitions of terms as they are used throughout this guideline.

Biological Determinants of Gender Identity Development

One's self-awareness as male or female changes gradually during infant life and childhood. This process of cognitive and affective learning evolves with interactions with parents, peers, and environment. A fairly accurate timetable exists outlining the steps in this process (19). Normative psychological literature, however, does not address if and when gender identity becomes crystallized and what factors contribute to the development of a gender identity that is not congruent with the gender of rearing. Results of studies from a variety of biomedical disciplines—genetic, endocrine, and neuroanatomic—support the concept that gender identity and/or gender expression (20) likely reflect a complex interplay of biological, environmental, and cultural factors (21, 22).

With respect to endocrine considerations, studies have failed to find differences in circulating levels of sex steroids between transgender and nontransgender individuals (23). However, studies in individuals with a disorder/difference of sex development (DSD) have informed our understanding of the role that hormones may play in gender identity outcome, even though most persons with GD/gender incongruence do not have a DSD. For example, although most 46,XX adult individuals with virilizing congenital adrenal hyperplasia caused by mutations in *CYP21A2* reported a female gender identity, the prevalence of GD/gender incongruence was much greater in this group than in the general population without a DSD. This supports the concept that there is a role for prenatal/postnatal androgens in gender development (24–26), although some studies indicate that prenatal androgens are more likely to affect gender behavior and sexual orientation rather than gender identity *per se* (27, 28).

Researchers have made similar observations regarding the potential role of androgens in the development of gender identity in other individuals with DSD. For example, a review of two groups of 46,XY persons, each with androgen synthesis deficiencies and female raised, reported transgender male (female-to-male) gender role changes in 56% to 63% and 39% to 64% of patients, respectively (29). Also, in 46,XY female-raised individuals with cloacal

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Table 1. Definitions of Terms Used in This Guideline

Biological sex, biological male or female: These terms refer to physical aspects of maleness and femaleness. As these may not be in line with each other (*e.g.*, a person with XY chromosomes may have female-appearing genitalia), the terms biological sex and biological male or female are imprecise and should be avoided.
Cisgender: This means not transgender. An alternative way to describe individuals who are not transgender is "non-transgender people."
Gender-affirming (hormone) treatment: See "gender reassignment"
Gender dysphoria: This is the distress and unease experienced if gender identity and designated gender are not completely congruent (see Table 2). In 2013, the American Psychiatric Association released the fifth edition of the DSM-5, which replaced "gender identity disorder" with "gender dysphoria" and changed the criteria for diagnosis.
Gender expression: This refers to external manifestations of gender, expressed through one's name, pronouns, clothing, haircut, behavior, voice, or body characteristics. Typically, transgender people seek to make their gender expression align with their gender identity, rather than their designated gender.
Gender identity/experienced gender: This refers to one's internal, deeply held sense of gender. For transgender people, their gender identity does not match their sex designated at birth. Most people have a gender identity of man or woman (or boy or girl). For some people, their gender identity does not fit neatly into one of those two choices. Unlike gender expression (see below), gender identity is not visible to others.
Gender identity disorder: This is the term used for GD/gender incongruence in previous versions of DSM (see "gender dysphoria"). The ICD-10 still uses the term for diagnosing child diagnoses, but the upcoming ICD-11 has proposed using "gender incongruence of childhood."
Gender incongruence: This is an umbrella term used when the gender identity and/or gender expression differs from what is typically associated with the designated gender. Gender incongruence is also the proposed name of the gender identity–related diagnoses in ICD-11. Not all individuals with gender incongruence have gender dysphoria or seek treatment.
Gender variance: See "gender incongruence"
Gender reassignment: This refers to the treatment procedure for those who want to adapt their bodies to the experienced gender by means of hormones and/or surgery. This is also called gender-confirming or gender-affirming treatment.
Gender-reassignment surgery (gender-confirming/gender-affirming surgery): These terms refer only to the surgical part of gender-confirming/gender-affirming treatment.
Gender role: This refers to behaviors, attitudes, and personality traits that a society (in a given culture and historical period) designates as masculine or feminine and/or that society associates with or considers typical of the social role of men or women.
Sex designated at birth: This refers to sex assigned at birth, usually based on genital anatomy.
Sex: This refers to attributes that characterize biological maleness or femaleness. The best known attributes include the sex-determining genes, the sex chromosomes, the H-Y antigen, the gonads, sex hormones, internal and external genitalia, and secondary sex characteristics.
Sexual orientation: This term describes an individual's enduring physical and emotional attraction to another person. Gender identity and sexual orientation are not the same. Irrespective of their gender identity, transgender people may be attracted to women (gynephilic), attracted to men (androphilic), bisexual, asexual, or queer.
Transgender: This is an umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with their sex designated at birth. Not all transgender individuals seek treatment.
Transgender male (also: trans man, female-to-male, transgender male): This refers to individuals assigned female at birth but who identify and live as men.
Transgender woman (also: trans woman, male-to female, transgender female): This refers to individuals assigned male at birth but who identify and live as women.
Transition: This refers to the process during which transgender persons change their physical, social, and/or legal characteristics consistent with the affirmed gender identity. Prepubertal children may choose to transition socially.
Transsexual: This is an older term that originated in the medical and psychological communities to refer to individuals who have permanently transitioned through medical interventions or desired to do so.

exstrophy and penile agenesis, the occurrence of transgender male changes was significantly more prevalent than in the general population (30, 31). However, the fact that a high percentage of individuals with the same conditions did not change gender suggests that cultural factors may play a role as well.

With respect to genetics and gender identity, several studies have suggested heritability of GD/gender incongruence (32, 33). In particular, a study by Heylens *et al.* (33) demonstrated a 39.1% concordance rate for gender identity disorder (based on the DSM-IV criteria) in 23 monozygotic twin pairs but no concordance in 21 same-sex dizygotic or seven opposite-sex twin pairs. Although numerous investigators have sought to identify specific genes associated with GD/gender incongruence, such studies have been inconsistent and without strong statistical significance (34–38).

Studies focusing on brain structure suggest that the brain phenotypes of people with GD/gender incongruence differ in various ways from control males and females, but that there is not a complete sex reversal in brain structures (39).

In summary, although there is much that is still unknown with respect to gender identity and its expression, compelling studies support the concept that biologic factors, in addition to environmental factors, contribute to this fundamental aspect of human development.

Natural History of Children With GD/Gender Incongruence

With current knowledge, we cannot predict the psychosexual outcome for any specific child. Prospective follow-up studies show that childhood GD/gender incongruence does not invariably persist into adolescence and adulthood (so-called "desisters"). Combining all outcome studies to date, the GD/gender incongruence of a minority of prepubertal children appears to persist in adolescence (20, 40). In adolescence, a significant number of these desisters identify as homosexual or bisexual. It may be that children who only showed some gender nonconforming characteristics have been included in the follow-up studies, because the DSM-IV text revision criteria for a diagnosis were rather broad. However, the persistence of GD/gender incongruence into adolescence is more likely if it had been extreme in childhood (41, 42). With the newer, stricter criteria of the DSM-5 (Table 2), persistence rates may well be different in future studies.

1.0 Evaluation of Youth and Adults

Gender-affirming treatment is a multidisciplinary effort. After evaluation, education, and diagnosis, treatment may include mental health care, hormone therapy, and/or surgical therapy. Together with an MHP, hormone-prescribing clinicians should examine the psychosocial impact of the potential changes on people's lives, including mental health, friends, family, jobs, and their role in society. Transgender individuals should be encouraged to experience living in the new gender role and assess whether this improves their quality of life. Although the focus of this guideline is gender-affirming hormone therapy, collaboration with appropriate professionals responsible for each aspect of treatment maximizes a successful outcome.

Diagnostic assessment and mental health care

GD/gender incongruence may be accompanied with psychological or psychiatric problems (43–51). It is therefore necessary that clinicians who prescribe hormones and are involved in diagnosis and psychosocial assessment meet the following criteria: (1) are competent in using the DSM and/or the ICD for diagnostic purposes, (2) are able to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) are trained in diagnosing psychiatric conditions, (4) undertake or refer for appropriate treatment, (5) are able to do a psychosocial assessment of the patient's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) regularly attend relevant professional meetings.

Because of the psychological vulnerability of many individuals with GD/gender incongruence, it is important that mental health care is available before, during, and sometimes also after transitioning. For children and adolescents, an MHP who has training/experience in child and adolescent gender development (as well as child and adolescent psychopathology) should make the diagnosis, because assessing GD/gender incongruence in children and adolescents is often extremely complex.

During assessment, the clinician obtains information from the individual seeking gender-affirming treatment. In the case

Table 2. DSM-5 Criteria for Gender Dysphoria in Adolescents and Adults

A. A marked incongruence between one's experienced/expressed gender and natal gender of at least 6 mo in duration, as manifested by at least two of the following:
   1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics)
   2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics)
   3. A strong desire for the primary and/or secondary sex characteristics of the other gender
   4. A strong desire to be of the other gender (or some alternative gender different from one's designated gender)
   5. A strong desire to be treated as the other gender (or some alternative gender different from one's designated gender)
   6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's designated gender)

B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:
   1. The condition exists with a disorder of sex development.
   2. The condition is posttransitional, in that the individual has transitioned to full-time living in the desired gender (with or without legalization of gender change) and has undergone (or is preparing to have) at least one sex-related medical procedure or treatment regimen—namely, regular sex hormone treatment or gender reassignment surgery confirming the desired gender (*e.g.*, penectomy, vaginoplasty in natal males; mastectomy or phalloplasty in natal females).

Reference: American Psychiatric Association (14).

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of adolescents, the clinician also obtains information from the parents or guardians regarding various aspects of the child's general and psychosexual development and current functioning. On the basis of this information, the clinician:

- decides whether the individual fulfills criteria for treatment (see Tables 2 and 3) for GD/gender incongruence (DSM-5) or transsexualism (DSM-5 and/or ICD-10);
- informs the individual about the possibilities and limitations of various kinds of treatment (hormonal/surgical and nonhormonal), and if medical treatment is desired, provides correct information to prevent unrealistically high expectations;
- assesses whether medical interventions may result in unfavorable psychological and social outcomes.

In cases in which severe psychopathology, circumstances, or both seriously interfere with the diagnostic work or make satisfactory treatment unlikely, clinicians should assist the adolescent in managing these other issues. Literature on postoperative regret suggests that besides poor quality of surgery, severe psychiatric comorbidity and lack of support may interfere with positive outcomes (52–56).

For adolescents, the diagnostic procedure usually includes a complete psychodiagnostic assessment (57) and an assessment of the decision-making capability of the youth. An evaluation to assess the family's ability to endure stress, give support, and deal with the complexities of the adolescent's situation should be part of the diagnostic phase (58).

Social transitioning

A change in gender expression and role (which may involve living part time or full time in another gender role that is consistent with one's gender identity) may test the person's resolve, the capacity to function in the affirmed gender, and the adequacy of social, economic, and psychological supports. It assists both the individual and the clinician in their judgments about how to proceed (16). During social transitioning, the person's feelings about the social transformation (including coping with the responses of others) is a major focus of the counseling. The optimal timing for social transitioning may differ between individuals. Sometimes people wait until they start gender-affirming hormone treatment to make social transitioning easier, but individuals increasingly start social transitioning long before they receive medically supervised, gender-affirming hormone treatment.

Criteria

Adolescents and adults seeking gender-affirming hormone treatment and surgery should satisfy certain criteria before proceeding (16). Criteria for gender-affirming hormone therapy for adults are in Table 4, and criteria for gender-affirming hormone therapy for adolescents are in Table 5. Follow-up studies in adults meeting these criteria indicate a high satisfaction rate with treatment (59). However, the quality of evidence is usually low. A few follow-up studies on adolescents who fulfilled these criteria also indicated good treatment results (60–63).

Recommendations for Those Involved in the Gender-Affirming Hormone Treatment of Individuals With GD/Gender Incongruence

1.1. We advise that only trained MHPs who meet the following criteria should diagnose GD/gender incongruence in adults: (1) competence in using the DSM and/or the ICD for diagnostic purposes, (2) the ability to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) training in diagnosing psychiatric conditions, (4) the ability to undertake or refer for appropriate treatment, (5) the ability to psychosocially assess the person's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) a practice of regularly attending relevant professional meetings. (Ungraded Good Practice Statement)

1.2. We advise that only MHPs who meet the following criteria should diagnose GD/gender incongruence in children and adolescents: (1) training in child and adolescent developmental psychology and psychopathology, (2) competence in using the DSM and/or ICD for diagnostic

Table 3. ICD-10 Criteria for Transsexualism

Transsexualism (F64.0) has three criteria:
1. The desire to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make his or her body as congruent as possible with the preferred sex through surgery and hormone treatments.
2. The transsexual identity has been present persistently for at least 2 y.
3. The disorder is not a symptom of another mental disorder or a genetic, DSD, or chromosomal abnormality.

Table 4. Criteria for Gender-Affirming Hormone Therapy for Adults

1. Persistent, well-documented gender dysphoria/gender incongruence
2. The capacity to make a fully informed decision and to consent for treatment
3. The age of majority in a given country (if younger, follow the criteria for adolescents)
4. Mental health concerns, if present, must be reasonably well controlled

Reproduced from World Professional Association for Transgender Health (16).

purposes, (3) the ability to make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (4) training in diagnosing psychiatric conditions, (5) the ability to undertake or refer for appropriate treatment, (6) the ability to psychosocially assess the person's understanding and social conditions that can impact gender-affirming hormone therapy, (7) a practice of regularly attending relevant professional meetings, and (8) knowledge of the criteria for puberty blocking and gender-affirming hormone treatment in adolescents. (Ungraded Good Practice Statement)

Evidence

Individuals with gender identity issues may have psychological or psychiatric problems (43–48, 50, 51, 64, 65). It is therefore necessary that clinicians making the diagnosis are able to make a distinction between GD/gender incongruence and conditions that have similar features. Examples of conditions with similar features are body dysmorphic disorder, body identity integrity disorder (a condition in which individuals have a sense that their anatomical configuration as an able-bodied person is somehow wrong or inappropriate) (66), or certain forms of eunuchism (in which a person is preoccupied with or engages in castration and/or penectomy for

Table 5. Criteria for Gender-Affirming Hormone Therapy for Adolescents

Adolescents are eligible for GnRH agonist treatment if:

1. A qualified MHP has confirmed that:
- the adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed),
- gender dysphoria worsened with the onset of puberty,
- any coexisting 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,
- the adolescent has sufficient mental capacity to give informed consent to this (reversible) treatment,

2. And the adolescent:
- has been informed of the effects and side effects of treatment (including potential loss of fertility if the individual subsequently continues with sex hormone treatment) and options to preserve fertility,
- has given informed consent and (particularly when the adolescent has not reached the age of legal medical consent, depending on applicable legislation) the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process,

3. And a pediatric endocrinologist or other clinician experienced in pubertal assessment
- agrees with the indication for GnRH agonist treatment,
- has confirmed that puberty has started in the adolescent (Tanner stage ≥G2/B2),
- has confirmed that there are no medical contraindications to GnRH agonist treatment.

Adolescents are eligible for subsequent sex hormone treatment if:

1. A qualified MHP has confirmed:
- the persistence of gender dysphoria,
- any coexisting 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 sex hormone treatment,
- the adolescent has sufficient mental capacity (which most adolescents have by age 16 years) to estimate the consequences of this (partly) irreversible treatment, weigh the benefits and risks, and give informed consent to this (partly) irreversible treatment,

2. And the adolescent:
- has been informed of the (irreversible) effects and side effects of treatment (including potential loss of fertility and options to preserve fertility),
- has given informed consent and (particularly when the adolescent has not reached the age of legal medical consent, depending on applicable legislation) the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process,

3. And a pediatric endocrinologist or other clinician experienced in pubertal induction:
- agrees with the indication for sex hormone treatment,
- has confirmed that there are no medical contraindications to sex hormone treatment.

Reproduced from World Professional Association for Transgender Health (16).

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reasons that are not gender identity related) (11). Clinicians should also be able to diagnose psychiatric conditions accurately and ensure that these conditions are treated appropriately, particularly when the conditions may complicate treatment, affect the outcome of gender-affirming treatment, or be affected by hormone use.

Values and preferences

The task force placed a very high value on avoiding harm from hormone treatment in individuals who have conditions other than GD/gender incongruence and who may not benefit from the physical changes associated with this treatment and placed a low value on any potential benefit these persons believe they may derive from hormone treatment. This justifies the good practice statement.

1.3. We advise that decisions regarding the social transition of prepubertal youths with GD/gender incongruence are made with the assistance of an MHP or another experienced professional. (Ungraded Good Practice Statement).

1.4. We recommend against puberty blocking and gender-affirming hormone treatment in prepubertal children with GD/gender incongruence. (1 |⊕⊕◯◯)

Evidence

In most children diagnosed with GD/gender incongruence, it did not persist into adolescence. The percentages differed among studies, probably dependent on which version of the DSM clinicians used, the patient's age, the recruitment criteria, and perhaps cultural factors. However, the large majority (about 85%) of prepubertal children with a childhood diagnosis did not remain GD/gender incongruent in adolescence (20). If children have completely socially transitioned, they may have great difficulty in returning to the original gender role upon entering puberty (40). Social transition is associated with the persistence of GD/gender incongruence as a child progresses into adolescence. It may be that the presence of GD/gender incongruence in prepubertal children is the earliest sign that a child is destined to be transgender as an adolescent/adult (20). However, social transition (in addition to GD/gender incongruence) has been found to contribute to the likelihood of persistence.

This recommendation, however, does not imply that children should be discouraged from showing gender-variant behaviors or should be punished for exhibiting such behaviors. In individual cases, an early complete social transition may result in a more favorable outcome, but there are currently no criteria to identify the GD/gender-incongruent children to whom this applies. At the present time, clinical experience suggests that persistence of GD/gender incongruence can only be reliably assessed after the first signs of puberty.

Values and preferences

The task force placed a high value on avoiding harm with gender-affirming hormone therapy in prepubertal children with GD/gender incongruence. This justifies the strong recommendation in the face of low-quality evidence.

1.5. We recommend that clinicians inform and counsel all individuals seeking gender-affirming medical treatment regarding options for fertility preservation prior to initiating puberty suppression in adolescents and prior to treating with hormonal therapy of the affirmed gender in both adolescents and adults. (1 |⊕⊕⊕◯)

Remarks

Persons considering hormone use for gender affirmation need adequate information about this treatment in general and about fertility effects of hormone treatment in particular to make an informed and balanced decision (67, 68). Because young adolescents may not feel qualified to make decisions about fertility and may not fully understand the potential effects of hormonal interventions, consent and protocol education should include parents, the referring MHP(s), and other members of the adolescent's support group. To our knowledge, there are no formally evaluated decision aids available to assist in the discussion and decision regarding the future fertility of adolescents or adults beginning gender-affirming treatment.

Treating early pubertal youth with GnRH analogs will temporarily impair spermatogenesis and oocyte maturation. Given that an increasing number of transgender youth want to preserve fertility potential, delaying or temporarily discontinuing GnRH analogs to promote gamete maturation is an option. This option is often not preferred, because mature sperm production is associated with later stages of puberty and with the significant development of secondary sex characteristics.

For those designated male at birth with GD/gender incongruence and who are in early puberty, sperm production and the development of the reproductive tract are insufficient for the cryopreservation of sperm. However, prolonged pubertal suppression using GnRH analogs is reversible and clinicians should inform these individuals that sperm production can be initiated following prolonged gonadotropin suppression. This can be accomplished by spontaneous gonadotropin recovery after

cessation of GnRH analogs or by gonadotropin treatment and will probably be associated with physical manifestations of testosterone production, as stated above. Note that there are no data in this population concerning the time required for sufficient spermatogenesis to collect enough sperm for later fertility. In males treated for precocious puberty, spermarche was reported 0.7 to 3 years after cessation of GnRH analogs (69). In adult men with gonadotropin deficiency, sperm are noted in seminal fluid by 6 to 12 months of gonadotropin treatment. However, sperm numbers when partners of these patients conceive are far below the "normal range" (70, 71).

In girls, no studies have reported long-term, adverse effects of pubertal suppression on ovarian function after treatment cessation (72, 73). Clinicians should inform adolescents that no data are available regarding either time to spontaneous ovulation after cessation of GnRH analogs or the response to ovulation induction following prolonged gonadotropin suppression.

In males with GD/gender incongruence, when medical treatment is started in a later phase of puberty or in adulthood, spermatogenesis is sufficient for cryopreservation and storage of sperm. *In vitro* spermatogenesis is currently under investigation. Restoration of spermatogenesis after prolonged estrogen treatment has not been studied.

In females with GD/gender incongruence, the effect of prolonged treatment with exogenous testosterone on ovarian function is uncertain. There have been reports of an increased incidence of polycystic ovaries in transgender males, both prior to and as a result of androgen treatment (74–77), although these reports were not confirmed by others (78). Pregnancy has been reported in transgender males who have had prolonged androgen treatment and have discontinued testosterone but have not had genital surgery (79, 80). A reproductive endocrine gynecologist can counsel patients before gender-affirming hormone treatment or surgery regarding potential fertility options (81). Techniques for cryopreservation of oocytes, embryos, and ovarian tissue continue to improve, and oocyte maturation of immature tissue is being studied (82).

2.0 Treatment of Adolescents

During the past decade, clinicians have progressively acknowledged the suffering of young adolescents with GD/gender incongruence. In some forms of GD/gender incongruence, psychological interventions may be useful and sufficient. However, for many adolescents with GD/gender incongruence, the pubertal physical changes are unbearable. As early medical intervention may prevent psychological harm, various clinics have decided to start treating young adolescents with GD/gender incongruence with puberty-suppressing medication (a GnRH analog). As compared with starting gender-affirming treatment long after the first phases of puberty, a benefit of pubertal suppression at early puberty may be a better psychological and physical outcome.

In girls, the first physical sign of puberty is the budding of the breasts followed by an increase in breast and fat tissue. Breast development is also associated with the pubertal growth spurt, and menarche occurs ~2 years later. In boys, the first physical change is testicular growth. A testicular volume ≥4 mL is seen as consistent with the initiation of physical puberty. At the beginning of puberty, estradiol and testosterone levels are still low and are best measured in the early morning with an ultrasensitive assay. From a testicular volume of 10 mL, daytime testosterone levels increase, leading to virilization (83). Note that pubic hair and/or axillary hair/odor may not reflect the onset of gonadarche; instead, it may reflect adrenarche alone.

2.1. We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment (Table 5), and are requesting treatment should initially undergo treatment to suppress pubertal development. (2 ⊕⊕◯◯)

2.2. We suggest that clinicians begin pubertal hormone suppression after girls and boys first exhibit physical changes of puberty (Tanner stages G2/B2). (2 ⊕⊕◯◯)

Evidence

Pubertal suppression can expand the diagnostic phase by a long period, giving the subject more time to explore options and to live in the experienced gender before making a decision to proceed with gender-affirming sex hormone treatments and/or surgery, some of which is irreversible (84, 85). Pubertal suppression is fully reversible, enabling full pubertal development in the natal gender, after cessation of treatment, if appropriate. The experience of full endogenous puberty is an undesirable condition for the GD/gender-incongruent individual and may seriously interfere with healthy psychological functioning and well-being. Treating GD/gender-incongruent adolescents entering puberty with GnRH analogs has been shown to improve psychological functioning in several domains (86).

Another reason to start blocking pubertal hormones early in puberty is that the physical outcome is improved compared with initiating physical transition after puberty has been completed (60, 62). Looking like a man or woman when living as the opposite sex creates difficult

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barriers with enormous life-long disadvantages. We therefore advise starting suppression in early puberty to prevent the irreversible development of undesirable secondary sex characteristics. However, adolescents with GD/gender incongruence should experience the first changes of their endogenous spontaneous puberty, because their emotional reaction to these first physical changes has diagnostic value in establishing the persistence of GD/gender incongruence (85). Thus, Tanner stage 2 is the optimal time to start pubertal suppression. However, pubertal suppression treatment in early puberty will limit the growth of the penis and scrotum, which will have a potential effect on future surgical treatments (87).

Clinicians can also use pubertal suppression in adolescents in later pubertal stages to stop menses in transgender males and prevent facial hair growth in transgender females. However, in contrast to the effects in early pubertal adolescents, physical sex characteristics (such as more advanced breast development in transgender boys and lowering of the voice and outgrowth of the jaw and brow in transgender girls) are not reversible.

Values and preferences

These recommendations place a high value on avoiding an unsatisfactory physical outcome when secondary sex characteristics have become manifest and irreversible, a higher value on psychological well-being, and a lower value on avoiding potential harm from early pubertal suppression.

Remarks

Table 6 lists the Tanner stages of breast and male genital development. Careful documentation of hallmarks of pubertal development will ensure precise timing when initiating pubertal suppression once puberty has started. Clinicians can use pubertal LH and sex steroid levels to confirm that puberty has progressed sufficiently before starting pubertal suppression (88). Reference ranges for sex steroids by Tanner stage may vary depending on the assay used. Ultrasensitive sex steroid and gonadotropin assays will help clinicians document early pubertal changes.

Irreversible and, for GD/gender-incongruent adolescents, undesirable sex characteristics in female puberty are breasts, female body habitus, and, in some cases, relative short stature. In male puberty, they are a prominent Adam's apple; low voice; male bone configuration, such as a large jaw, big feet and hands, and tall stature; and male hair pattern on the face and extremities.

2.3. We recommend that, where indicated, GnRH analogues are used to suppress pubertal hormones. (1 |⊕⊕◯◯)

Evidence

Clinicians can suppress pubertal development and gonadal function most effectively via gonadotropin suppression using GnRH analogs. GnRH analogs are long-acting agonists that suppress gonadotropins by GnRH receptor desensitization after an initial increase of gonadotropins during ~10 days after the first and (to a lesser degree) the second injection (89). Antagonists immediately suppress pituitary gonadotropin secretion (90, 91). Long-acting GnRH analogs are the currently preferred treatment option. Clinicians may consider long-acting GnRH antagonists when evidence on their safety and efficacy in adolescents becomes available.

During GnRH analog treatment, slight development of secondary sex characteristics may regress, and in a later phase of pubertal development, it will stop. In girls, breast tissue will become atrophic, and menses will stop. In boys, virilization will stop, and testicular volume may decrease (92).

An advantage of using GnRH analogs is the reversibility of the intervention. If, after extensive exploration of his/her transition wish, the individual no longer desires transition, they can discontinue pubertal suppression. In subjects with

Table 6. Tanner Stages of Breast Development and Male External Genitalia

The description of Tanner stages for breast development:
1. Prepubertal
2. Breast and papilla elevated as small mound; areolar diameter increased
3. Breast and areola enlarged, no contour separation
4. Areola and papilla form secondary mound
5. Mature; nipple projects, areola part of general breast contour

For penis and testes:
1. Prepubertal, testicular volume <4 mL
2. Slight enlargement of penis; enlarged scrotum, pink, texture altered, testes 4–6 mL
3. Penis longer, testes larger (8–12 mL)
4. Penis and glans larger, including increase in breadth; testes larger (12–15 mL), scrotum dark
5. Penis adult size; testicular volume > 15 ml

Adapted from Lawrence (56).

precocious puberty, spontaneous pubertal development has been shown to resume after patients discontinue taking GnRH analogs (93).

Recommendations 2.1 to 2.3 are supported by a prospective follow-up study from The Netherlands. This report assessed mental health outcomes in 55 transgender adolescents/young adults (22 transgender females and 33 transgender males) at three time points: (1) before the start of GnRH agonist (average age of 14.8 years at start of treatment), (2) at initiation of gender-affirming hormones (average age of 16.7 years at start of treatment), and (3) 1 year after "gender-reassignment surgery" (average age of 20.7 years) (63). Despite a decrease in depression and an improvement in general mental health functioning, GD/gender incongruence persisted through pubertal suppression, as previously reported (86). However, following sex hormone treatment and gender-reassignment surgery, GD/gender incongruence was resolved and psychological functioning steadily improved (63). Furthermore, well-being was similar to or better than that reported by age-matched young adults from the general population, and none of the study participants regretted treatment. This study represents the first long-term follow-up of individuals managed according to currently existing clinical practice guidelines for transgender youth, and it underscores the benefit of the multidisciplinary approach pioneered in The Netherlands; however, further studies are needed.

Side effects

The primary risks of pubertal suppression in GD/gender-incongruent adolescents may include adverse effects on bone mineralization (which can theoretically be reversed with sex hormone treatment), compromised fertility if the person subsequently is treated with sex hormones, and unknown effects on brain development. Few data are available on the effect of GnRH analogs on BMD in adolescents with GD/gender incongruence. Initial data in GD/gender-incongruent subjects demonstrated no change of absolute areal BMD during 2 years of GnRH analog therapy but a decrease in BMD *z* scores (85). A recent study also suggested suboptimal bone mineral accrual during GnRH analog treatment. The study reported a decrease in areal BMD *z* scores and of bone mineral apparent density *z* scores (which takes the size of the bone into account) in 19 transgender males treated with GnRH analogs from a mean age of 15.0 years (standard deviation = 2.0 years) for a median duration of 1.5 years (0.3 to 5.2 years) and in 15 transgender females treated from 14.9 (±1.9) years for 1.3 years (0.5 to 3.8 years), although not all changes were statistically significant (94). There was incomplete catch-up at age 22 years after sex hormone treatment from age 16.6 (±1.4) years for a median duration of 5.8 years (3.0 to 8.0 years) in transgender females and from age 16.4 (±2.3) years for 5.4 years (2.8 to 7.8 years) in transgender males. Little is known about more prolonged use of GnRH analogs. Researchers reported normal BMD *z* scores at age 35 years in one individual who used GnRH analogs from age 13.7 years until age 18.6 years before initiating sex hormone treatment (65).

Additional data are available from individuals with late puberty or GnRH analog treatment of other indications. Some studies reported that men with constitutionally delayed puberty have decreased BMD in adulthood (95). However, other studies reported that these men have normal BMD (96, 97). Treating adults with GnRH analogs results in a decrease of BMD (98). In children with central precocious puberty, treatment with GnRH analogs has been found to result in a decrease of BMD during treatment by some (99) but not others (100). Studies have reported normal BMD after discontinuing therapy (69, 72, 73, 101, 102). In adolescents treated with growth hormone who are small for gestational age and have normal pubertal timing, 2-year GnRH analog treatments did not adversely affect BMD (103). Calcium supplementation may be beneficial in optimizing bone health in GnRH analog–treated individuals (104). There are no studies of vitamin D supplementation in this context, but clinicians should offer supplements to vitamin D–deficient adolescents. Physical activity, especially during growth, is important for bone mass in healthy individuals (103) and is therefore likely to be beneficial for bone health in GnRH analog–treated subjects.

GnRH analogs did not induce a change in body mass index standard deviation score in GD/gender-incongruent adolescents (94) but caused an increase in fat mass and decrease in lean body mass percentage (92). Studies in girls treated for precocious puberty also reported a stable body mass index standard deviation score during treatment (72) and body mass index and body composition comparable to controls after treatment (73).

Arterial hypertension has been reported as an adverse effect in a few girls treated with GnRH analogs for precocious/early puberty (105, 106). Blood pressure monitoring before and during treatment is recommended.

Individuals may also experience hot flashes, fatigue, and mood alterations as a consequence of pubertal suppression. There is no consensus on treatment of these side effects in this context.

It is recommended that any use of pubertal blockers (and subsequent use of sex hormones, as detailed below) include a discussion about implications for fertility (see recommendation 1.3). Transgender adolescents may

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want to preserve fertility, which may be otherwise compromised if puberty is suppressed at an early stage and the individual completes phenotypic transition with the use of sex hormones.

Limited data are available regarding the effects of GnRH analogs on brain development. A single cross-sectional study demonstrated no compromise of executive function (107), but animal data suggest there may be an effect of GnRH analogs on cognitive function (108).

Values and preferences

Our recommendation of GnRH analogs places a higher value on the superior efficacy, safety, and reversibility of the pubertal hormone suppression achieved (as compared with the alternatives) and a relatively lower value on limiting the cost of therapy. Of the available alternatives, depot and oral progestin preparations are effective. Experience with this treatment dates back prior to the emergence of GnRH analogs for treating precocious puberty in papers from the 1960s and early 1970s (109–112). These compounds are usually safe, but some side effects have been reported (113–115). Only two recent studies involved transgender youth (116, 117). One of these studies described the use of oral lynestrenol monotherapy followed by the addition of testosterone treatment in transgender boys who were at Tanner stage B4 or further at the start of treatment (117). They found lynestrenol safe, but gonadotropins were not fully suppressed. The study reported metrorrhagia in approximately half of the individuals, mainly in the first 6 months. Acne, headache, hot flashes, and fatigue were other frequent side effects. Another progestin that has been studied in the United States is medroxyprogesterone. This agent is not as effective as GnRH analogs in lowering endogenous sex hormones either and may be associated with other side effects (116). Progestin preparations may be an acceptable treatment for persons without access to GnRH analogs or with a needle phobia. If GnRH analog treatment is not available (insurance denial, prohibitive cost, or other reasons), postpubertal, transgender female adolescents may be treated with an antiandrogen that directly suppresses androgen synthesis or action (see adult section).

Remarks

Measurements of gonadotropin and sex steroid levels give precise information about gonadal axis suppression, although there is insufficient evidence for any specific short-term monitoring scheme in children treated with GnRH analogs (88). If the gonadal axis is not completely suppressed—as evidenced by (for example) menses, erections, or progressive hair growth—the interval of GnRH analog treatment can be shortened or the dose increased. During treatment, adolescents should be monitored for negative effects of delaying puberty, including a halted growth spurt and impaired bone mineral accretion. Table 7 illustrates a suggested clinical protocol.

Anthropometric measurements and X-rays of the left hand to monitor bone age are informative for evaluating growth. To assess BMD, clinicians can perform dual-energy X-ray absorptiometry scans.

2.4. In adolescents who request sex hormone treatment (given this is a partly irreversible treatment), we recommend initiating treatment using a gradually increasing dose schedule (see Table 8) after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give informed consent, which most adolescents have by age 16 years (Table 5). (1 |⊕⊕◯◯)

2.5. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to the age of 16 years in some adolescents with GD/gender incongruence, even though there are minimal published studies of gender-affirming hormone treatments administered before age 13.5 to 14 years. As with the care of adolescents ≥16 years of age, we recommend that an expert multidisciplinary team of medical and MHPs manage this treatment. (1 |⊕◯◯◯)

2.6. We suggest monitoring clinical pubertal development every 3 to 6 months and laboratory parameters every 6 to 12 months during sex hormone treatment (Table 9). (2 |⊕⊕◯◯)

Table 7. Baseline and Follow-Up Protocol During Suppression of Puberty

Every 3–6 mo
Anthropometry: height, weight, sitting height, blood pressure, Tanner stages
Every 6–12 mo
Laboratory: LH, FSH, E2/T, 25OH vitamin D
Every 1–2 y
Bone density using DXA
Bone age on X-ray of the left hand (if clinically indicated)

Adapted from Hembree *et al.* (118).

Abbreviations: DXA, dual energy X ray absorptiometry; E2, estradiol; FSH, follicle stimulating hormone; LH, luteinizing hormone; T, testosterone;

Table 8. Protocol Induction of Puberty

Induction of female puberty with oral 17β-estradiol, increasing the dose every 6 mo:
- 5 μg/kg/d
- 10 μg/kg/d
- 15 μg/kg/d
- 20 μg/kg/d
- Adult dose = 2–6 mg/d
- *In postpubertal transgender female adolescents, the dose of 17β-estradiol can be increased more rapidly:*
  - 1 mg/d for 6 mo
  - 2 mg/d

Induction of female puberty with transdermal 17β-estradiol, increasing the dose every 6 mo (new patch is placed every 3.5 d):
- 6.25–12.5 μg/24 h (cut 25-μg patch into quarters, then halves)
- 25 μg/24 h
- 37.5 μg/24 h
- Adult dose = 50–200 μg/24 h
- *For alternatives once at adult dose, see Table 11.*
- *Adjust maintenance dose to mimic physiological estradiol levels (see Table 15).*

Induction of male puberty with testosterone esters increasing the dose every 6 mo (IM or SC):
- 25 mg/m^2/2 wk (or alternatively, half this dose weekly, or double the dose every 4 wk)
- 50 mg/m^2/2 wk
- 75 mg/m^2/2 wk
- 100 mg/m^2/2 wk
- Adult dose = 100–200 mg every 2 wk
- *In postpubertal transgender male adolescents the dose of testosterone esters can be increased more rapidly:*
  - 75 mg/2 wk for 6 mo
  - 125 mg/2 wk
- *For alternatives once at adult dose, see Table 11.*
- *Adjust maintenance dose to mimic physiological testosterone levels (see Table 14).*

Adapted from Hembree *et al.* (118).

Abbreviations: IM, intramuscularly; SC, subcutaneously.

Evidence

Adolescents develop competence in decision making at their own pace. Ideally, the supervising medical professionals should individually assess this competence, although no objective tools to make such an assessment are currently available.

Many adolescents have achieved a reasonable level of competence by age 15 to 16 years (119), and in many countries 16-year-olds are legally competent with regard to medical decision making (120). However, others believe that although some capacities are generally achieved before age 16 years, other abilities (such as good risk assessment) do not develop until well after 18 years (121). They suggest that health care procedures should be divided along a matrix of relative risk, so that younger adolescents can be allowed to decide about low-risk procedures, such as most diagnostic tests and common therapies, but not about high-risk procedures, such as most surgical procedures (121).

Currently available data from transgender adolescents support treatment with sex hormones starting at age 16 years (63, 122). However, some patients may incur potential risks by waiting until age 16 years. These include the potential risk to bone health if puberty is suppressed

Table 9. Baseline and Follow-up Protocol During Induction of Puberty

Every 3–6 mo
- •Anthropometry: height, weight, sitting height, blood pressure, Tanner stages

Every 6–12 mo
- •In transgender males: hemoglobin/hematocrit, lipids, testosterone, 25OH vitamin D
- •In transgender females: prolactin, estradiol, 25OH vitamin D

Every 1–2 y
- •BMD using DXA
- •Bone age on X-ray of the left hand (if clinically indicated)

BMD should be monitored into adulthood (until the age of 25–30 y or until peak bone mass has been reached).
For recommendations on monitoring once pubertal induction has been completed, see Tables 14 and 15.

Adapted from Hembree *et al.* (118).

Abbreviation: DXA, dual energy X ray absorptiometry.

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for 6 to 7 years before initiating sex hormones (*e.g.*, if someone reached Tanner stage 2 at age 9-10 years old). Additionally, there may be concerns about inappropriate height and potential harm to mental health (emotional and social isolation) if initiation of secondary sex characteristics must wait until the person has reached 16 years of age. However, only minimal data supporting earlier use of gender-affirming hormones in transgender adolescents currently exist (63). Clearly, long-term studies are needed to determine the optimal age of sex hormone treatment in GD/gender-incongruent adolescents.

The MHP who has followed the adolescent during GnRH analog treatment plays an essential role in assessing whether the adolescent is eligible to start sex hormone therapy and capable of consenting to this treatment (Table 5). Support of the family/environment is essential. Prior to the start of sex hormones, clinicians should discuss the implications for fertility (see recommendation 1.5). Throughout pubertal induction, an MHP and a pediatric endocrinologist (or other clinician competent in the evaluation and induction of pubertal development) should monitor the adolescent. In addition to monitoring therapy, it is also important to pay attention to general adolescent health issues, including healthy life style choices, such as not smoking, contraception, and appropriate vaccinations (*e.g.*, human papillomavirus).

For the induction of puberty, clinicians can use a similar dose scheme for hypogonadal adolescents with GD/gender incongruence as they use in other individuals with hypogonadism, carefully monitoring for desired and undesired effects (Table 8). In transgender female adolescents, transdermal 17β-estradiol may be an alternative for oral 17β-estradiol. It is increasingly used for pubertal induction in hypogonadal females. However, the absence of low-dose estrogen patches may be a problem. As a result, individuals may need to cut patches to size themselves to achieve appropriate dosing (123). In transgender male adolescents, clinicians can give testosterone injections intramuscularly or subcutaneously (124, 125).

When puberty is initiated with a gradually increasing schedule of sex steroid doses, the initial levels will not be high enough to suppress endogenous sex steroid secretion. Gonadotropin secretion and endogenous production of testosterone may resume and interfere with the effectiveness of estrogen treatment, in transgender female adolescents (126, 127). Therefore, continuation of GnRH analog treatment is advised until gonadectomy. Given that GD/gender-incongruent adolescents may opt not to have gonadectomy, long-term studies are necessary to examine the potential risks of prolonged GnRH analog treatment. Alternatively, in transgender male adolescents, GnRH analog treatment can be discontinued once an adult dose of testosterone has been reached and the individual is well virilized. If uterine bleeding occurs, a progestin can be added. However, the combined use of a GnRH analog (for ovarian suppression) and testosterone may enable phenotypic transition with a lower dose of testosterone in comparison with testosterone alone. If there is a wish or need to discontinue GnRH analog treatment in transgender female adolescents, they may be treated with an antiandrogen that directly suppresses androgen synthesis or action (see section 3.0 "Hormonal Therapy for Transgender Adults").

Values and preferences

The recommendation to initiate pubertal induction only when the individual has sufficient mental capacity (roughly age 16 years) to give informed consent for this partly irreversible treatment places a higher value on the ability of the adolescent to fully understand and oversee the partially irreversible consequences of sex hormone treatment and to give informed consent. It places a lower value on the possible negative effects of delayed puberty. We may not currently have the means to weigh adequately the potential benefits of waiting until around age 16 years to initiate sex hormones vs the potential risks/harm to BMD and the sense of social isolation from having the timing of puberty be so out of sync with peers (128).

Remarks

Before starting sex hormone treatment, effects on fertility and options for fertility preservation should be discussed. Adult height may be a concern in transgender adolescents. In a transgender female adolescent, clinicians may consider higher doses of estrogen or a more rapid tempo of dose escalation during pubertal induction. There are no established treatments yet to augment adult height in a transgender male adolescent with open epiphyses during pubertal induction. It is not uncommon for transgender adolescents to present for clinical services after having completed or nearly completed puberty. In such cases, induction of puberty with sex hormones can be done more rapidly (see Table 8). Additionally, an adult dose of testosterone in transgender male adolescents may suffice to suppress the gonadal axis without the need to use a separate agent. At the appropriate time, the multidisciplinary team should adequately prepare the adolescent for transition to adult care.

3.0 Hormonal Therapy for Transgender Adults

The two major goals of hormonal therapy are (1) to reduce endogenous sex hormone levels, and thus reduce

the secondary sex characteristics of the individual's designated gender, and (2) to replace endogenous sex hormone levels consistent with the individual's gender identity by using the principles of hormone replacement treatment of hypogonadal patients. The timing of these two goals and the age at which to begin treatment with the sex hormones of the chosen gender is codetermined in collaboration with both the person pursuing transition and the health care providers. The treatment team should include a medical provider knowledgeable in transgender hormone therapy, an MHP knowledgeable in GD/gender incongruence and the mental health concerns of transition, and a primary care provider able to provide care appropriate for transgender individuals. The physical changes induced by this sex hormone transition are usually accompanied by an improvement in mental well-being (129, 130).

3.1. We recommend that clinicians confirm the diagnostic criteria of GD/gender incongruence and the criteria for the endocrine phase of gender transition before beginning treatment. (1 |⊕⊕⊕◯)

3.2. We recommend that clinicians evaluate and address medical conditions that can be exacerbated by hormone depletion and treatment with sex hormones of the affirmed gender before beginning treatment (Table 10). (1 |⊕⊕⊕◯)

3.3. We suggest that clinicians measure hormone levels during treatment to ensure that endogenous sex steroids are suppressed and administered sex steroids are maintained in the normal physiologic range for the affirmed gender. (2 |⊕⊕◯◯)

Evidence

It is the responsibility of the treating clinician to confirm that the person fulfills criteria for treatment. The treating clinician should become familiar with the terms and criteria presented in Tables 1–5 and take a thorough history from the patient in collaboration with the other members of the treatment team. The treating clinician must ensure that the desire for transition is appropriate; the consequences, risks, and benefits of treatment are well understood; and the desire for transition persists. They also need to discuss fertility preservation options (see recommendation 1.3) (67, 68).

Transgender males

Clinical studies have demonstrated the efficacy of several different androgen preparations to induce masculinization in transgender males (Appendix A) (113, 114, 131–134). Regimens to change secondary sex characteristics follow the general principle of hormone replacement treatment of male hypogonadism (135). Clinicians can use either parenteral or transdermal preparations to achieve testosterone values in the normal male range (this is dependent on the specific assay, but is typically 320 to 1000 ng/dL) (Table 11) (136). Sustained supraphysiologic levels of testosterone increase the risk of adverse reactions (see section 4.0 "Adverse Outcome Prevention and Long-Term Care") and should be avoided.

Similar to androgen therapy in hypogonadal men, testosterone treatment in transgender males results in increased muscle mass and decreased fat mass, increased facial hair and acne, male pattern baldness in those genetically predisposed, and increased sexual desire (137).

Table 10. Medical Risks Associated With Sex Hormone Therapy

Transgender female: estrogen
Very high risk of adverse outcomes:
•Thromboembolic disease
Moderate risk of adverse outcomes:
•Macroprolactinoma
•Breast cancer
•Coronary artery disease
•Cerebrovascular disease
•Cholelithiasis
•Hypertriglyceridemia
Transgender male: testosterone
Very high risk of adverse outcomes:
•Erythrocytosis (hematocrit > 50%)
Moderate risk of adverse outcomes:
•Severe liver dysfunction (transaminases > threefold upper limit of normal)
•Coronary artery disease
•Cerebrovascular disease
•Hypertension
•Breast or uterine cancer

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Table 11. Hormone Regimens in Transgender Persons

Transgender females[a]	
Estrogen	
Oral	
Estradiol	2.0–6.0 mg/d
Transdermal	
Estradiol transdermal patch (New patch placed every 3–5 d)	0.025–0.2 mg/d
Parenteral	
Estradiol valerate or cypionate	5–30 mg IM every 2 wk 2–10 mg IM every week
Anti-androgens	
Spironolactone	100–300 mg/d
Cyproterone acetate[b]	25–50 mg/d
GnRH agonist	3.75 mg SQ (SC) monthly 11.25 mg SQ (SC) 3-monthly
Transgender males	
Testosterone	
Parenteral testosterone	
Testosterone enanthate or cypionate	100–200 mg SQ (IM) every 2 wk or SQ (SC) 50% per week
Testosterone undecanoate[c]	1000 mg every 12 wk
Transdermal testosterone	
Testosterone gel 1.6%[d]	50–100 mg/d
Testosterone transdermal patch	2.5–7.5 mg/d

Abbreviations: IM, intramuscularly; SQ, sequentially; SC, subcutaneously.

[a]Estrogens used with or without antiandrogens or GnRH agonist.

[b]Not available in the United States.

[c]One thousand milligrams initially followed by an injection at 6 wk then at 12 wk intervals.

[d]Avoid cutaneous transfer to other individuals.

In transgender males, testosterone will result in clitoromegaly, temporary or permanent decreased fertility, deepening of the voice, cessation of menses (usually), and a significant increase in body hair, particularly on the face, chest, and abdomen. Cessation of menses may occur within a few months with testosterone treatment alone, although high doses of testosterone may be required. If uterine bleeding continues, clinicians may consider the addition of a progestational agent or endometrial ablation (138). Clinicians may also administer GnRH analogs or depot medroxyprogesterone to stop menses prior to testosterone treatment.

Transgender females

The hormone regimen for transgender females is more complex than the transgender male regimen (Appendix B). Treatment with physiologic doses of estrogen alone is insufficient to suppress testosterone levels into the normal range for females (139). Most published clinical studies report the need for adjunctive therapy to achieve testosterone levels in the female range (21, 113, 114, 132–134, 139, 140).

Multiple adjunctive medications are available, such as progestins with antiandrogen activity and GnRH agonists (141). Spironolactone works by directly blocking androgens during their interaction with the androgen receptor (114, 133, 142). It may also have estrogenic activity (143). Cyproterone acetate, a progestational compound with antiandrogenic properties (113, 132, 144), is widely used in Europe. 5α-Reductase inhibitors do not reduce testosterone levels and have adverse effects (145).

Dittrich *et al.* (141) reported that monthly doses of the GnRH agonist goserelin acetate in combination with estrogen were effective in reducing testosterone levels with a low incidence of adverse reactions in 60 transgender females. Leuprolide and transdermal estrogen were as effective as cyproterone and transdermal estrogen in a comparative retrospective study (146).

Patients can take estrogen as oral conjugated estrogens, oral 17β-estradiol, or transdermal 17β-estradiol. Among estrogen options, the increased risk of thromboembolic events associated with estrogens in general seems most concerning with ethinyl estradiol specifically (134, 140, 141), which is why we specifically suggest that it not be used in any transgender treatment plan. Data distinguishing among other estrogen options are less well established although there is some thought that oral routes of administration are more thrombogenic due to the "first pass effect" than are transdermal and parenteral routes, and that the risk of thromboembolic events is dose-dependent. Injectable estrogen and sublingual

estrogen may benefit from avoiding the first pass effect, but they can result in more rapid peaks with greater overall periodicity and thus are more difficult to monitor (147, 148). However, there are no data demonstrating that increased periodicity is harmful otherwise.

Clinicians can use serum estradiol levels to monitor oral, transdermal, and intramuscular estradiol. Blood tests cannot monitor conjugated estrogens or synthetic estrogen use. Clinicians should measure serum estradiol and serum testosterone and maintain them at the level for premenopausal females (100 to 200 pg/mL and <50 ng/dL, respectively). The transdermal preparations and injectable estradiol cypionate or valerate preparations may confer an advantage in older transgender females who may be at higher risk for thromboembolic disease (149).

Values

Our recommendation to maintain levels of gender-affirming hormones in the normal adult range places a high value on the avoidance of the long-term complications of pharmacologic doses. Those patients receiving endocrine treatment who have relative contraindications to hormones should have an in-depth discussion with their physician to balance the risks and benefits of therapy.

Remarks

Clinicians should inform all endocrine-treated individuals of all risks and benefits of gender-affirming hormones prior to initiating therapy. Clinicians should strongly encourage tobacco use cessation in transgender females to avoid increased risk of VTE and cardiovascular complications. We strongly discourage the unsupervised use of hormone therapy (150).

Not all individuals with GD/gender incongruence seek treatment as described (*e.g.*, male-to-eunuchs and individuals seeking partial transition). Tailoring current protocols to the individual may be done within the context of accepted safety guidelines using a multidisciplinary approach including mental health. No evidence-based protocols are available for these groups (151). We need prospective studies to better understand treatment options for these persons.

3.4. We suggest that endocrinologists provide education to transgender individuals undergoing treatment about the onset and time course of physical changes induced by sex hormone treatment. (2 |⊕○○○)

Evidence

Transgender males

Physical changes that are expected to occur during the first 1 to 6 months of testosterone therapy include cessation of menses, increased sexual desire, increased facial and body hair, increased oiliness of skin, increased muscle, and redistribution of fat mass. Changes that occur within the first year of testosterone therapy include deepening of the voice (152, 153), clitoromegaly, and male pattern hair loss (in some cases) (114, 144, 154, 155) (Table 12).

Transgender females

Physical changes that may occur in transgender females in the first 3 to 12 months of estrogen and antiandrogen therapy include decreased sexual desire, decreased spontaneous erections, decreased facial and body hair (usually mild), decreased oiliness of skin, increased breast tissue growth, and redistribution of fat mass (114, 139, 149, 154, 155, 161) (Table 13). Breast development is generally maximal at 2 years after initiating hormones (114, 139, 149, 155). Over a long period of time, the prostate gland and testicles will undergo atrophy.

Although the time course of breast development in transgender females has been studied (150), precise information about other changes induced by sex hormones is lacking (141). There is a great deal of variability among individuals, as evidenced during pubertal development. We all know that a major concern for transgender females is breast development. If we work with estrogens, the result will be often not what the transgender female expects.

Alternatively, there are transgender females who report an anecdotal improved breast development, mood, or sexual desire with the use of progestogens. However, there have been no well-designed studies of the role of progestogens in feminizing hormone regimens, so the question is still open.

Our knowledge concerning the natural history and effects of different cross-sex hormone therapies on breast

Table 12. Masculinizing Effects in Transgender Males

Effect	Onset	Maximum
Skin oiliness/acne	1–6 mo	1–2 y
Facial/body hair growth	6–12 mo	4–5 y
Scalp hair loss	6–12 mo	—[a]
Increased muscle mass/strength	6–12 mo	2–5 y
Fat redistribution	1–6 mo	2–5 y
Cessation of menses	1–6 mo	—[b]
Clitoral enlargement	1–6 mo	1–2 y
Vaginal atrophy	1–6 mo	1–2 y
Deepening of voice	6–12 mo	1–2 y

Estimates represent clinical observations: Toorians *et al.* (149), Asscheman *et al.* (156), Gooren *et al.* (157), Wierckx *et al.* (158).

[a] Prevention and treatment as recommended for biological men.

[b] Menorrhagia requires diagnosis and treatment by a gynecologist.

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Table 13. Feminizing Effects in Transgender Females

Effect	Onset	Maximum
Redistribution of body fat	3–6 mo	2–3 y
Decrease in muscle mass and strength	3–6 mo	1–2 y
Softening of skin/decreased oiliness	3–6 mo	Unknown
Decreased sexual desire	1–3 mo	3–6 mo
Decreased spontaneous erections	1–3 mo	3–6 mo
Male sexual dysfunction	Variable	Variable
Breast growth	3–6 mo	2–3 y
Decreased testicular volume	3–6 mo	2–3 y
Decreased sperm production	Unknown	>3 y
Decreased terminal hair growth	6–12 mo	>3 y[a]
Scalp hair	Variable	—[b]
Voice changes	None	—[c]

Estimates represent clinical observations: Toorians *et al.* (149), Asscheman *et al.* (156), Gooren *et al.* (157).

[a]Complete removal of male sexual hair requires electrolysis or laser treatment or both.

[b]Familial scalp hair loss may occur if estrogens are stopped.

[c]Treatment by speech pathologists for voice training is most effective.

development in transgender females is extremely sparse and based on the low quality of evidence. Current evidence does not indicate that progestogens enhance breast development in transgender females, nor does evidence prove the absence of such an effect. This prevents us from drawing any firm conclusion at this moment and demonstrates the need for further research to clarify these important clinical questions (162).

Values and preferences

Transgender persons have very high expectations regarding the physical changes of hormone treatment and are aware that body changes can be enhanced by surgical procedures (*e.g.*, breast, face, and body habitus). Clear expectations for the extent and timing of sex hormone–induced changes may prevent the potential harm and expense of unnecessary procedures.

4.0 Adverse Outcome Prevention and Long-Term Care

Hormone therapy for transgender males and females confers many of the same risks associated with sex hormone replacement therapy in nontransgender persons. The risks arise from and are worsened by inadvertent or intentional use of supraphysiologic doses of sex hormones, as well as use of inadequate doses of sex hormones to maintain normal physiology (131, 139).

4.1. We suggest regular clinical evaluation for physical changes and potential adverse changes in response to sex steroid hormones and laboratory monitoring of sex steroid hormone levels every 3 months during the first year of hormone therapy for transgender males and females and then once or twice yearly. (2 |⊕⊕◯◯)

Evidence

Pretreatment screening and appropriate regular medical monitoring are recommended for both transgender males and females during the endocrine transition and periodically thereafter (26, 155). Clinicians should monitor weight and blood pressure, conduct physical exams, and assess routine health questions, such as tobacco use, symptoms of depression, and risk of adverse events such as deep vein thrombosis/pulmonary embolism and other adverse effects of sex steroids.

Transgender males

Table 14 contains a standard monitoring plan for transgender males on testosterone therapy (154, 159). Key issues include maintaining testosterone levels in the physiologic normal male range and avoiding adverse events resulting from excess testosterone therapy, particularly erythrocytosis, sleep apnea, hypertension, excessive weight gain, salt retention, lipid changes, and excessive or cystic acne (135).

Because oral 17-alkylated testosterone is not recommended, serious hepatic toxicity is not anticipated with parenteral or transdermal testosterone use (163, 164). Past concerns regarding liver toxicity with testosterone have been alleviated with subsequent reports that indicate the risk of serious liver disease is minimal (144, 165, 166).

Transgender females

Table 15 contains a standard monitoring plan for transgender females on estrogens, gonadotropin suppression, or antiandrogens (160). Key issues include avoiding supraphysiologic doses or blood levels of estrogen that may lead to increased risk for thromboembolic disease, liver dysfunction, and hypertension. Clinicians should monitor serum estradiol levels using laboratories participating in external quality control, as measurements of estradiol in blood can be very challenging (167).

VTE may be a serious complication. A study reported a 20-fold increase in venous thromboembolic disease in a large cohort of Dutch transgender subjects (161). This increase may have been associated with the use of the synthetic estrogen, ethinyl estradiol (149). The incidence decreased when clinicians stopped administering ethinyl estradiol (161). Thus, the use of synthetic estrogens and conjugated estrogens is undesirable because of the inability to regulate doses by measuring serum levels and the risk of thromboembolic disease. In a German gender clinic, deep vein thrombosis occurred in 1 of 60 of transgender females treated with a GnRH analog and oral

Table 14. Monitoring of Transgender Persons on Gender-Affirming Hormone Therapy: Transgender Male

1. Evaluate patient every 3 mo in the first year and then one to two times per year to monitor for appropriate signs of virilization and for development of adverse reactions.
2. Measure serum testosterone every 3 mo until levels are in the normal physiologic male range:[a]
   a. For testosterone enanthate/cypionate injections, the testosterone level should be measured midway between injections. The target level is 400–700 ng/dL to 400 ng/dL. Alternatively, measure peak and trough levels to ensure levels remain in the normal male range.
   b. For parenteral testosterone undecanoate, testosterone should be measured just before the following injection. If the level is <400 ng/dL, adjust dosing interval.
   c. For transdermal testosterone, the testosterone level can be measured no sooner than after 1 wk of daily application (at least 2 h after application).
3. Measure hematocrit or hemoglobin at baseline and every 3 mo for the first year and then one to two times a year. Monitor weight, blood pressure, and lipids at regular intervals.
4. Screening for osteoporosis should be conducted in those who stop testosterone treatment, are not compliant with hormone therapy, or who develop risks for bone loss.
5. If cervical tissue is present, monitoring as recommended by the American College of Obstetricians and Gynecologists.
6. Ovariectomy can be considered after completion of hormone transition.
7. Conduct sub- and periareolar annual breast examinations if mastectomy performed. If mastectomy is not performed, then consider mammograms as recommended by the American Cancer Society.

[a] Adapted from Lapauw *et al.* (154) and Ott *et al.* (159).

estradiol (141). The patient who developed a deep vein thrombosis was found to have a homozygous C677 T mutation in the methylenetetrahydrofolate reductase gene. In an Austrian gender clinic, administering gender-affirming hormones to 162 transgender females and 89 transgender males was not associated with VTE, despite an 8.0% and 5.6% incidence of thrombophilia (159). A more recent multinational study reported only 10 cases of VTE from a cohort of 1073 subjects (168). Thrombophilia screening of transgender persons initiating hormone treatment should be restricted to those with a personal or family history of VTE (159). Monitoring D-dimer levels during treatment is not recommended (169).

4.2. We suggest periodically monitoring prolactin levels in transgender females treated with estrogens. (2 l⊕⊕◯◯)

Evidence

Estrogen therapy can increase the growth of pituitary lactrotroph cells. There have been several reports of prolactinomas occurring after long-term, high-dose estrogen therapy (170–173). Up to 20% of transgender females treated with estrogens may have elevations in prolactin levels associated with enlargement of the pituitary gland (156). In most cases, the serum prolactin levels will return to the normal range with a reduction or discontinuation of the estrogen therapy or discontinuation of cyproterone acetate (157, 174, 175).

The onset and time course of hyperprolactinemia during estrogen treatment are not known. Clinicians should measure prolactin levels at baseline and then at least annually during the transition period and every 2 years thereafter. Given that only a few case studies reported prolactinomas, and prolactinomas were not reported in large cohorts of estrogen-treated persons, the risk is likely to be very low. Because the major presenting findings of microprolactinomas (hypogonadism and sometimes gynecomastia) are not apparent in transgender females, clinicians may perform radiologic examinations of the pituitary in those patients whose prolactin levels persistently increase despite stable or reduced estrogen levels. Some transgender individuals receive psychotropic medications that can increase prolactin levels (174).

Table 15. Monitoring of Transgender Persons on Gender-Affirming Hormone Therapy: Transgender Female

1. Evaluate patient every 3 mo in the first year and then one to two times per year to monitor for appropriate signs of feminization and for development of adverse reactions.
2. Measure serum testosterone and estradiol every 3 mo.
   a. Serum testosterone levels should be <50 ng/dL.
   b. Serum estradiol should not exceed the peak physiologic range: 100–200 pg/mL.
3. For individuals on spironolactone, serum electrolytes, particularly potassium, should be monitored every 3 mo in the first year and annually thereafter.
4. Routine cancer screening is recommended, as in nontransgender individuals (all tissues present).
5. Consider BMD testing at baseline (160). In individuals at low risk, screening for osteoporosis should be conducted at age 60 years or in those who are not compliant with hormone therapy.

This table presents strong recommendations and does not include lower level recommendations.

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4.3. We suggest that clinicians evaluate transgender persons treated with hormones for cardiovascular risk factors using fasting lipid profiles, diabetes screening, and/or other diagnostic tools. (2 |⊕⊕◯◯)

Evidence

Transgender males

Administering testosterone to transgender males results in a more atherogenic lipid profile with lowered high-density lipoprotein cholesterol and higher triglyceride and low-density lipoprotein cholesterol values (176–179). Studies of the effect of testosterone on insulin sensitivity have mixed results (178, 180). A randomized, open-label uncontrolled safety study of transgender males treated with testosterone undecanoate demonstrated no insulin resistance after 1 year (181, 182). Numerous studies have demonstrated the effects of sex hormone treatment on the cardiovascular system (160, 179, 183, 184). Long-term studies from The Netherlands found no increased risk for cardiovascular mortality (161). Likewise, a meta-analysis of 19 randomized trials in nontransgender males on testosterone replacement showed no increased incidence of cardiovascular events (185). A systematic review of the literature found that data were insufficient (due to very low–quality evidence) to allow a meaningful assessment of patient-important outcomes, such as death, stroke, myocardial infarction, or VTE in transgender males (176). Future research is needed to ascertain the potential harm of hormonal therapies (176). Clinicians should manage cardiovascular risk factors as they emerge according to established guidelines (186).

Transgender females

A prospective study of transgender females found favorable changes in lipid parameters with increased high-density lipoprotein and decreased low-density lipoprotein concentrations (178). However, increased weight, blood pressure, and markers of insulin resistance attenuated these favorable lipid changes. In a meta-analysis, only serum triglycerides were higher at ≥24 months without changes in other parameters (187). The largest cohort of transgender females (mean age 41 years, followed for a mean of 10 years) showed no increase in cardiovascular mortality despite a 32% rate of tobacco use (161).

Thus, there is limited evidence to determine whether estrogen is protective or detrimental on lipid and glucose metabolism in transgender females (176). With aging, there is usually an increase of body weight. Therefore, as with nontransgender individuals, clinicians should monitor and manage glucose and lipid metabolism and blood pressure regularly according to established guidelines (186).

4.4. We recommend that clinicians obtain BMD measurements when risk factors for osteoporosis exist, specifically in those who stop sex hormone therapy after gonadectomy. (1 |⊕⊕◯◯)

Evidence

Transgender males

Baseline bone mineral measurements in transgender males are generally in the expected range for their pretreatment gender (188). However, adequate dosing of testosterone is important to maintain bone mass in transgender males (189, 190). In one study (190), serum LH levels were inversely related to BMD, suggesting that low levels of sex hormones were associated with bone loss. Thus, LH levels in the normal range may serve as an indicator of the adequacy of sex steroid administration to preserve bone mass. The protective effect of testosterone may be mediated by peripheral conversion to estradiol, both systemically and locally in the bone.

Transgender females

A baseline study of BMD reported T scores less than 2.5 in 16% of transgender females (191). In aging males, studies suggest that serum estradiol more positively correlates with BMD than does testosterone (192, 193) and is more important for peak bone mass (194). Estrogen preserves BMD in transgender females who continue on estrogen and antiandrogen therapies (188, 190, 191, 195, 196).

Fracture data in transgender males and females are not available. Transgender persons who have undergone gonadectomy may choose not to continue consistent sex steroid treatment after hormonal and surgical sex reassignment, thereby becoming at risk for bone loss. There have been no studies to determine whether clinicians should use the sex assigned at birth or affirmed gender for assessing osteoporosis (*e.g.*, when using the FRAX tool). Although some researchers use the sex assigned at birth (with the assumption that bone mass has usually peaked for transgender people who initiate hormones in early adulthood), this should be assessed on a case-by-case basis until there are more data available. This assumption will be further complicated by the increasing prevalence of transgender people who undergo hormonal transition at a pubertal age or soon after puberty. Sex for comparison within risk assessment tools may be based on the age at which hormones were initiated and the length of exposure to hormones. In some cases, it may be

reasonable to assess risk using both the male and female calculators and using an intermediate value. Because all subjects underwent normal pubertal development, with known effects on bone size, reference values for birth sex were used for all participants (154).

4.5. We suggest that transgender females with no known increased risk of breast cancer follow breast-screening guidelines recommended for those designated female at birth. (2 |⊕⊕◯◯)

4.6. We suggest that transgender females treated with estrogens follow individualized screening according to personal risk for prostatic disease and prostate cancer. (2 |⊕◯◯◯)

Evidence

Studies have reported a few cases of breast cancer in transgender females (197–200). A Dutch study of 1800 transgender females followed for a mean of 15 years (range of 1 30 years) found one case of breast cancer. The Women's Health Initiative study reported that females taking conjugated equine estrogen without progesterone for 7 years did not have an increased risk of breast cancer as compared with females taking placebo (137).

In transgender males, a large retrospective study conducted at the U.S. Veterans Affairs medical health system identified seven breast cancers (194). The authors reported that this was not above the expected rate of breast cancers in cisgender females in this cohort. Furthermore, they did report one breast cancer that developed in a transgender male patient after mastectomy, supporting the fact that breast cancer can occur even after mastectomy. Indeed, there have been case reports of breast cancer developing in subareolar tissue in transgender males, which occurred after mastectomy (201, 202).

Women with primary hypogonadism (Turner syndrome) treated with estrogen replacement exhibited a significantly decreased incidence of breast cancer as compared with national standardized incidence ratios (203, 204). These studies suggest that estrogen therapy does not increase the risk of breast cancer in the short term (<20 to 30 years). We need long-term studies to determine the actual risk, as well as the role of screening mammograms. Regular examinations and gynecologic advice should determine monitoring for breast cancer.

Prostate cancer is very rare before the age of 40, especially with androgen deprivation therapy (205). Childhood or pubertal castration results in regression of the prostate and adult castration reverses benign prostate hypertrophy (206). Although van Kesteren *et al.* (207) reported that estrogen therapy does not induce hypertrophy or premalignant changes in the prostates of transgender females, studies have reported cases of benign prostatic hyperplasia in transgender females treated with estrogens for 20 to 25 years (208, 209). Studies have also reported a few cases of prostate carcinoma in transgender females (210–214).

Transgender females may feel uncomfortable scheduling regular prostate examinations. Gynecologists are not trained to screen for prostate cancer or to monitor prostate growth. Thus, it may be reasonable for transgender females who transitioned after age 20 years to have annual screening digital rectal examinations after age 50 years and prostate-specific antigen tests consistent with U.S. Preventive Services Task Force Guidelines (215).

4.7. We advise that clinicians determine the medical necessity of including a total hysterectomy and oophorectomy as part of gender-affirming surgery. (Ungraded Good Practice Statement)

Evidence

Although aromatization of testosterone to estradiol in transgender males has been suggested as a risk factor for endometrial cancer (216), no cases have been reported. When transgender males undergo hysterectomy, the uterus is small and there is endometrial atrophy (217, 218). Studies have reported cases of ovarian cancer (219, 220). Although there is limited evidence for increased risk of reproductive tract cancers in transgender males, health care providers should determine the medical necessity of a laparoscopic total hysterectomy as part of a gender-affirming surgery to prevent reproductive tract cancer (221).

Values

Given the discomfort that transgender males experience accessing gynecologic care, our recommendation for the medical necessity of total hysterectomy and oophorectomy places a high value on eliminating the risks of female reproductive tract disease and cancer and a lower value on avoiding the risks of these surgical procedures (related to the surgery and to the potential undesirable health consequences of oophorectomy) and their associated costs.

Remarks

The sexual orientation and type of sexual practices will determine the need and types of gynecologic care required following transition. Additionally, in certain countries, the approval required to change the sex in a birth certificate for transgender males may be dependent on having a complete hysterectomy. Clinicians should help patients research nonmedical administrative criteria and

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provide counseling. If individuals decide not to undergo hysterectomy, screening for cervical cancer is the same as all other females.

5.0 Surgery for Sex Reassignment and Gender Confirmation

For many transgender adults, genital gender-affirming surgery may be the necessary step toward achieving their ultimate goal of living successfully in their desired gender role. The type of surgery falls into two main categories: (1) those that directly affect fertility and (2) those that do not. Those that change fertility (previously called sex reassignment surgery) include genital surgery to remove the penis and gonads in the male and removal of the uterus and gonads in the female. The surgeries that effect fertility are often governed by the legal system of the state or country in which they are performed. Other gender-conforming surgeries that do not directly affect fertility are not so tightly governed.

Gender-affirming surgical techniques have improved markedly during the past 10 years. Reconstructive genital surgery that preserves neurologic sensation is now the standard. The satisfaction rate with surgical reassignment of sex is now very high (187). Additionally, the mental health of the individual seems to be improved by participating in a treatment program that defines a pathway of gender-affirming treatment that includes hormones and surgery (130, 144) (Table 16).

Surgery that affects fertility is irreversible. The World Professional Association for Transgender Health Standards of Care (222) emphasizes that the "threshold of 18 should not be seen as an indication in itself for active intervention." If the social transition has not been satisfactory, if the person is not satisfied with or is ambivalent about the effects of sex hormone treatment, or if the person is ambivalent about surgery then the individual should not be referred for surgery (223, 224).

Gender-affirming genital surgeries for transgender females that affect fertility include gonadectomy, penectomy, and creation of a neovagina (225, 226). Surgeons often invert the skin of the penis to form the wall of the vagina, and several literatures reviews have reported on outcomes (227). Sometimes there is inadequate tissue to form a full neovagina, so clinicians have revisited using intestine and found it to be successful (87, 228, 229). Some newer vaginoplasty techniques may involve autologuous oral epithelial cells (230, 231).

The scrotum becomes the labia majora. Surgeons use reconstructive surgery to fashion the clitoris and its hood, preserving the neurovascular bundle at the tip of the penis as the neurosensory supply to the clitoris. Some surgeons are also creating a sensate pedicled-spot adding a G spot to the neovagina to increase sensation (232). Most recently, plastic surgeons have developed techniques to fashion labia minora. To further complete the feminization, uterine transplants have been proposed and even attempted (233).

Neovaginal prolapse, rectovaginal fistula, delayed healing, vaginal stenosis, and other complications do sometimes occur (234, 235). Clinicians should strongly remind the transgender person to use their dilators to maintain the depth and width of the vagina throughout the postoperative period. Genital sexual responsivity and other aspects of sexual function are usually preserved following genital gender-affirming surgery (236, 237).

Ancillary surgeries for more feminine or masculine appearance are not within the scope of this guideline. Voice therapy by a speech language pathologist is available to transform speech patterns to the affirmed gender (148). Spontaneous voice deepening occurs during testosterone treatment of transgender males (152, 238). No studies have compared the effectiveness of speech therapy, laryngeal surgery, or combined treatment.

Breast surgery is a good example of gender-confirming surgery that does not affect fertility. In all females, breast size exhibits a very broad spectrum. For transgender females to make the best informed decision, clinicians should delay breast augmentation surgery until the patient has completed at least 2 years of estrogen therapy, because the breasts continue to grow during that time (141, 155).

Another major procedure is the removal of facial and masculine-appearing body hair using either electrolysis or

Table 16. Criteria for Gender-Affirming Surgery, Which Affects Fertility

1. Persistent, well-documented gender dysphoria
2. Legal age of majority in the given country
3. Having continuously and responsibly used gender-affirming hormones for 12 mo (if there is no medical contraindication to receiving such therapy)
4. Successful continuous full-time living in the new gender role for 12 mo
5. If significant medical or mental health concerns are present, they must be well controlled
6. Demonstrable knowledge of all practical aspects of surgery (*e.g.*, cost, required lengths of hospitalizations, likely complications, postsurgical rehabilitation)

laser treatments. Other feminizing surgeries, such as that to feminize the face, are now becoming more popular (239–241).

In transgender males, clinicians usually delay gender-affirming genital surgeries until after a few years of androgen therapy. Those surgeries that affect fertility in this group include oophorectomy, vaginectomy, and complete hysterectomy. Surgeons can safely perform them vaginally with laparoscopy. These are sometimes done in conjunction with the creation of a neopenis. The cosmetic appearance of a neopenis is now very good, but the surgery is multistage and very expensive (242, 243). Radial forearm flap seems to be the most satisfactory procedure (228, 244). Other flaps also exist (245). Surgeons can make neopenile erections possible by reinervation of the flap and subsequent contraction of the muscle, leading to stiffening of the neopenis (246, 247), but results are inconsistent (248). Surgeons can also stiffen the penis by imbedding some mechanical device (*e.g.*, a rod or some inflatable apparatus) (249, 250). Because of these limitations, the creation of a neopenis has often been less than satisfactory. Recently, penis transplants are being proposed (233).

In fact, most transgender males do not have any external genital surgery because of the lack of access, high cost, and significant potential complications. Some choose a metaoidioplasty that brings forward the clitoris, thereby allowing them to void in a standing position without wetting themselves (251, 252). Surgeons can create the scrotum from the labia majora with good cosmetic effect and can implant testicular prostheses (253).

The most important masculinizing surgery for the transgender male is mastectomy, and it does not affect fertility. Breast size only partially regresses with androgen therapy (155). In adults, discussions about mastectomy usually take place after androgen therapy has started. Because some transgender male adolescents present after significant breast development has occurred, they may also consider mastectomy 2 years after they begin androgen therapy and before age 18 years. Clinicians should individualize treatment based on the physical and mental health status of the individual. There are now newer approaches to mastectomy with better outcomes (254, 255). These often involve chest contouring (256). Mastectomy is often necessary for living comfortably in the new gender (256).

5.1. We recommend that a patient pursue genital gender-affirming surgery only after the MHP and the clinician responsible for endocrine transition therapy both agree that surgery is medically necessary and would benefit the patient's overall health and/or well-being. (1 |⊕⊕◯◯)

5.2. We advise that clinicians approve genital gender-affirming surgery only after completion of at least 1 year of consistent and compliant hormone treatment, unless hormone therapy is not desired or medically contraindicated. (Ungraded Good Practice Statement)

5.3. We advise that the clinician responsible for endocrine treatment and the primary care provider ensure appropriate medical clearance of transgender individuals for genital gender-affirming surgery and collaborate with the surgeon regarding hormone use during and after surgery. (Ungraded Good Practice Statement)

5.4. We recommend that clinicians refer hormone-treated transgender individuals for genital surgery when: (1) the individual has had a satisfactory social role change, (2) the individual is satisfied about the hormonal effects, and (3) the individual desires definitive surgical changes. (1 |⊕◯◯◯)

5.5. We suggest that clinicians delay gender-affirming genital surgery involving gonadectomy and/or hysterectomy until the patient is at least 18 years old or legal age of majority in his or her country. (2 |⊕⊕◯◯).

5.6. We suggest that clinicians determine the timing of breast surgery for transgender males based upon the physical and mental health status of the individual. There is insufficient evidence to recommend a specific age requirement. (2 |⊕◯◯◯)

Evidence

Owing to the lack of controlled studies, incomplete follow-up, and lack of valid assessment measures, evaluating various surgical approaches and techniques is difficult. However, one systematic review including a large numbers of studies reported satisfactory cosmetic and functional results for vaginoplasty/neovagina construction (257). For transgender males, the outcomes are less certain. However, the problems are now better understood (258). Several postoperative studies report significant long-term psychological and psychiatric pathology (259–261). One study showed satisfaction with breasts, genitals, and femininity increased significantly and showed the importance of surgical treatment as a key therapeutic option for transgender females (262). Another analysis demonstrated that, despite the young average age at death following surgery and the relatively larger number of individuals with somatic morbidity, the study does not allow for determination of

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causal relationships between, for example, specific types of hormonal or surgical treatment received and somatic morbidity and mortality (263). Reversal surgery in regretful male-to-female transsexuals after sexual reassignment surgery represents a complex, multistage procedure with satisfactory outcomes. Further insight into the characteristics of persons who regret their decision postoperatively would facilitate better future selection of applicants eligible for sexual reassignment surgery. We need more studies with appropriate controls that examine long-term quality of life, psychosocial outcomes, and psychiatric outcomes to determine the long-term benefits of surgical treatment.

When a transgender individual decides to have gender-affirming surgery, both the hormone prescribing clinician and the MHP must certify that the patient satisfies criteria for gender-affirming surgery (Table 16).

There is some concern that estrogen therapy may cause an increased risk for venous thrombosis during or following surgery (176). For this reason, the surgeon and the hormone-prescribing clinician should collaborate in making a decision about the use of hormones before and following surgery. One study suggests that preoperative factors (such as compliance) are less important for patient satisfaction than are the physical postoperative results (56). However, other studies and clinical experience dictate that individuals who do not follow medical instructions and do not work with their physicians toward a common goal do not achieve treatment goals (264) and experience higher rates of postoperative infections and other complications (265, 266). It is also important that the person requesting surgery feels comfortable with the anatomical changes that have occurred during hormone therapy. Dissatisfaction with social and physical outcomes during the hormone transition may be a contraindication to surgery (223).

An endocrinologist or experienced medical provider should monitor transgender individuals after surgery. Those who undergo gonadectomy will require hormone replacement therapy, surveillance, or both to prevent adverse effects of chronic hormone deficiency.

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EXHIBIT

10

FW: Code list Gender Reassignment

From: "Plunkett, Kathleen M - DHS" <kathleen.plunkett@dhs.wisconsin.gov>

To: "Sager, Julie A - DHS" <julie.sager@dhs.wisconsin.gov>, "Wiggins, Lora - DHS (CHSRA)" <lora.wiggins@dhs.wisconsin.gov>

Cc: "Tyska, Steve B - DHS (CHSRA)" <steve.tyska@dhs.wisconsin.gov>

Date: Mon, 11 Mar 2019 11:16:34 -0500

Attachments: Codes associated with gender reassignment surgery 03072019 kmp.xlsx (65.78 kB)

Per our conversation today, attached is the reference document I put together for the codes associated with gender reassignment.

I have presented the information in a couple of different ways. Please let me know if you need an explanation for any of the tabs.

Kathleen Plunkett, CPC CPC-P

From: Plunkett, Kathleen M - DHS
Sent: Monday, March 11, 2019 11:13 AM
To: Stepien, David T - DHS; Mortl, Emily - VEDS
Cc: Jackson, Katie L - DHS
Subject: Code list Gender Reassignment

Hi Dave,

Attached is the spreadsheet we reviewed for Gender reassignment surgery. I have included a "high level" background tab with some considerations for policy change.

Please let me know if you have questions or need further changes to the document.

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Procedure codes on these lists are not "all inclusive" for gender reassignment. Gender reassignment is comprised of many different procedures over varying timelines subject to many different patient variables. Each patient is unique and the procedures that are done are based on the individual need and emotional status. There is no one procedure that is gender reassignment surgery. Procedures to change genitalia are rarely performed without other procedures, which may be extensive. There is also no set time limit. Reassignment can take years and may require maintenance therapy for undefined periods of time.
Most of the procedures listed are not definitive gender reassignment procedures. This means the procedures are performed for a variety of diagnosis considerations. Not solely for gender reassignment purposes.
Considerations for policy changes;
The codes marked definitive gender reassignment procedures, although always performed for gender reassignment, are not age specific. This means that the service could be performed on a baby with ambiguous genitalia.
There are no direct crosswalks or relationships between professional codes and facility codes. Some procedures will be inpatient, some will be outpatient and many may be office injections or procedures.
Many of the codes identified are, by nature, cosmetic. These professional codes have prior authorization in place based on medical necessity and allow for procedures to be performed post disease or accident. Gender reassignment is not currently a consideration.
Important Note * ForwardHealth Hospital Policy does indicate that gender reassignment surgery is non-covered. However, the current reimbursement methadology for facilities does not edit for surgery related to gender reassignment at the code level or at the reimbursement grouper level. Therefore, facility reimbursement is available for all procedures listed.

Gender identity disorders	
ICD-10 DX DOS after 10/1/2015	
	Description
F64.0	Transexualism
F64.1	Dual role transexualism
F64.2	Gender identity disorder of childhood
F64.8	Other gender identity disorder
F64.9	Gender identity disorder, unspecified (gender dysphoria)
F66	Other sexual disorders
Q56.4	indeterminate sex, unpsecified
Z87.890	Personal history of sex reassignment
ICD-9 DX Prior to 10/1/2015	
	Description
302	Sexual and gender identity disorders
302.0	Ego-dystonic sexual orientation
302.3	Transvestic fetishism
302.5	Tran-sexualism
302.51	Tran-sexualism with asexual history
302.52	Tran-sexualism with homosexual history
302.53	Tran-sexualism with heterosexual history
302.6	Gender identity disorder in childhood
302.85	gender identity disorder in adolescents or adults
302.89	Other
302.9	Unspecified psychosexual disorders
752.7	indeterminate sex, unpsecified

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.	ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.	ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
Penectomy						**Penectomy**					**Penectomy**			
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure) DOS after 10/1/2015**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**	
54120	Amputation of penis; partial	Y	N	N		0VB50ZX	Excision of Scrotum, Open Approach, Diagnostic	Y	N		61.3	Excision or destruction of lesion or tissue of scrotum	N	
54125	Amputation of penis; complete	Y	N	N		0VB50ZZ	Excision of Scrotum, Open Approach	Y	N		64.2	Local excision or destruction of lesion of penis	N	
54130	Amputation of penis, radical; with bilateral inguinofemoral lymphadenectomy	Y	N	N		0VB53ZX	Excision of Scrotum, Percutaneous Approach, Diagnostic	Y	N		64.3	Amputation of penis	N	
54135	Amputation of penis, radical; in continuity with bilateral pelvic lymphadenectomy, including external iliac, hypogastric and obturator nodes	Y	N	N		0VB53ZZ	Excision of Scrotum, Percutaneous Approach	Y	N					
						0VB54ZX	Excision of Scrotum, Percutaneous Endoscopic Approach, Diagnostic	Y	N					
						0VB54ZZ	Excision of Scrotum, Percutaneous Endoscopic Approach	Y	N					
						0VB5XZX	Excision of Scrotum, External Approach, Diagnostic	Y	N					
						0VB5XZZ	Excision of Scrotum, External Approach	Y	N					
						0VBS0ZZ	Excision of Penis, Open Approach	Y	N					
						0VBSXZZ	Excision of Penis, External Approach	Y	N					
						0VTS0ZZ	Resection of Penis, Open Approach	Y	N					
						0VTS4ZZ	Resection of Penis, Percutaneous Endoscopic Approach	Y	N					
						0VTSXZZ	Resection of Penis, External Approach	Y	N					
Orchiectomy						**Orchiectomy**					**Orchiectomy**			
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure) DOS after 10/1/2015**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**	
54520	Orchiectomy, simple (including subcapsular), with or without testicular prosthesis, scrotal or inguinal approach	Y	N	N		0VB90ZZ	Excision of Right Testis, Open Approach	Y	N		62.3	Unilateral orchiectomy	N	
54522	Orchiectomy, partial	Y	N	N		0VBB0ZZ	Excision of Left Testis, Open Approach	Y	N		62.41	Bilateral orchiectomy	N	
54690	Laparoscopy, surgical; orchiectomy	Y	N	N		0VBC0ZZ	Excision of Bilateral Testes, Open Approach	Y	N		62.42	Removal of remaining testis	N	
						0VR90JZ	Replacement of Right Testis with Synthetic Substitute, Open Approach	Y	N		62.7	Insertion of testicular prosthesis	N	
						0VRB0JZ	Replacement of Left Testis with Synthetic Substitute, Open Approach	Y	N					
						0VRC0JZ	Replacement of Bilateral Testes with Synthetic Substitute, Open Approach	Y	N					
						0VT00ZZ	Resection of Prostate, Open Approach	Y	N					
						0VT04ZZ	Resection of Prostate, Percutaneous Endoscopic Approach	Y	N					
						0VT07ZZ	Resection of Prostate, Via Natural or Artificial Opening	Y	N					
						0VT10ZZ	Resection of Right Seminal Vesicle, Open Approach	Y	N					
						0VT20ZZ	Resection of Left Seminal Vesicle, Open Approach	Y	N					
						0VT30ZZ	Resection of Bilateral Seminal Vesicles, Open Approach	Y	N					
						0VT90ZZ	Resection of Right Testis, Open Approach	Y	N					
						0VT94ZZ	Resection of Right Testis, Percutaneous Endoscopic Approach	Y	N					

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure		ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure		ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure
						0VTB0ZZ	Resection of Left Testis, Open Approach	Y	N				
						0VTB4ZZ	Resection of Left Testis, Percutaneous Endoscopic Approach	Y	N				
						0VTC0ZZ	Resection of Bilateral Testes, Open Approach	Y	N				
						0VTC4ZZ	Resection of Bilateral Testes, Percutaneous Endoscopic Approach	Y	N				
						0VTN0ZZ	Resection of Right Vas Deferens, Open Approach	Y-med rev	N				
						0VTP0ZZ	Resection of Left Vas Deferens, Open Approach	Y-med rev	N				
						0VTQ0ZZ	Resection of Bilateral Vas Deferens, Open Approach	Y-med rev	N				
Vaginoplasty/Vaginectomy						**Vaginoplasty**					**Vaginoplasty**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure) DOS after 10/1/2015**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
57335	Vaginoplasty for intersex state	N	N/A	Y		0UUG07Z	Supplement Vagina with Autologous Tissue Substitute, Open Approach	Y	N		70.4	Obliteration and total excision of vagina	N
57106	Vaginectomy, partial removal of vaginal wall;	Y	N	N		0UUG0JZ	Supplement Vagina with Synthetic Substitute, Open Approach	Y	N		70.63	Vaginal construction and reconstruction	N
57110	Vaginectomy, complete removal of vaginal wall;	Y	N	N		0UUG0KZ	Supplement Vagina with Nonautologous Tissue Substitute, Open Approach	Y	N		70.64	Vaginal reconstruction with graft or prosthesis	N
57111	Vaginectomy, complete removal of vaginal wall; with removal of paravaginal tissue (radical vaginectomy)	Y	N	N		0UUG47Z	Supplement Vagina with Autologous Tissue Substitute, Percutaneous Endosc	Y	N		70.7	Other repair of vagina	N
57112	Vaginectomy, complete removal of vaginal wall; with removal of paravaginal tissue (radical vaginectomy) with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy)	Y	N	N		0UUG4JZ	Supplement Vagina with Synthetic Substitute, Percutaneous Endoscopic App	Y	N		70.9	Other operations on vagina and cul-de-sac	N
						0UUG4KZ	Supplement Vagina with Nonautologous Tissue Substitute, Percutaneous End	Y	N				
						0UUG77Z	Supplement Vagina with Autologous Tissue Substitute, Via Natural or Arti	Y	N				
						0UUG7JZ	Supplement Vagina with Synthetic Substitute, Via Natural or Artificial O	Y	N				
						0UUG7KZ	Supplement Vagina with Nonautologous Tissue Substitute, Via Natural or A	Y	N				
						0UUG87Z	Supplement Vagina with Autologous Tissue Substitute, Via Natural or Arti	Y	N				
						0UUG8JZ	Supplement Vagina with Synthetic Substitute, Via Natural or Artificial O	Y	N				
						0UUG8KZ	Supplement Vagina with Nonautologous Tissue Substitute, Via Natural or A	Y	N				
						0UUGX7Z	Supplement Vagina with Autologous Tissue Substitute, External Approach	Y	N				
						0UUGXJZ	Supplement Vagina with Synthetic Substitute, External Approach	Y	N				
						0UUGXKZ	Supplement Vagina with Nonautologous Tissue Substitute, External Approac	Y	N				
						0UQG0ZZ	Repari vagina, open approach	Y	N				

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure		ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure		ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure
Feminizing Genitoplasty						**Feminizing Genitoplasty**					**Feminizing Genitoplasty**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
55970	Intersex surgery; male to female	N	N/A	Y		0WQN0ZZ	Repair Female Perineum, Open Approach	Y	N		58.46	Other reconstruction of urethra	N
14040	Adjacent tissue transfer or rearrangement, forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands and/or feet; defect 10 sq cm or less	Y	N	N		0WUN0KZ	Supplement Female Perineum with Nonautologous Tissue Substitute, Open Approach	Y	N		62.41	Removal of both testes at same operative episode	N
14041	Adjacent tissue transfer or rearrangement, forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands and/or feet; defect 10.1 sq cm to 30.0 sq cm	Y	N	N		0WUN47Z	Supplement Female Perineum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Y	N		64.3	Amputation of penis	N
53430	urethroplasty-reconstruction of female urethra	Y	N	N		0WUN4JZ	Supplement Female Perineum with Synthetic Substitute, Percutaneous Endoscopic Approach	Y	N		64.5	Operations for sex transformation, not elsewhere classified	Y
56800	Plastic repair of introitus	Y	N	N		0WUN4KZ	Supplement Female Perineum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Y	N		64.99	Other operations on male genital organs	N
56810	Perineoplasty, repair of perineum, nonobstetrical (separate procedure)	Y	N	N		0W4M070	Creation of vagina in male perineum with autologous tissue substitute, open approach	Y	Y		70.61	Vaginal construction	N
57291	Construction of artificial vagina; without graft	Y	Y	N		0W4M0J0	Creation of vagina in male perineum with synthetic sustitute, open approach	Y	Y		70.63	Vaginal construction with graft or prosthesis	N
57292	Construction of artificial vagina; with graft	Y	Y	N		0W4M0K0	Creation of vagina in male perineum with nonautlogous tissue substitute, open approach	Y	Y		71.4	Operations on clitoris	N
57295	Revision (including removal) of prosthetic vaginal graft; vaginal approach	Y	N	N		0W4M0Z0	Creation of vagina in male perineum , open approach	Y	Y		71.79	Other repair of vulva and perineum	N
57296	Revision (including removal) of prosthetic vaginal graft; open abdominal approach	Y	N	N									
57426	Revision (including removal) of prosthetic vaginal graft, laparoscopic approach	Y	N	N									
Masculizing Genitoplasty (metoidioplasty)						**Masculizing Genitoplasty (metoidioplasty)**					**Masculizing Genitoplasty (metoidioplasty)**		
CPT/HCPCS (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
55980	Intersex surgery; female to male	N	N/A	Y		0UBJ0ZZ	Excision of Clitoris, Open Approach	Y	N		58.46	Other reconstruction of urethra	N
53410	urethroplasty-reconstruction of male anterior urethra	Y	N	N		0UBJXZZ	Excision of Clitoris, External Approach	Y	N		62.7	Insertion of testicular prosthesis	N
54400	Insertion of penile prosthesis; non-inflatable (semi-rigid)	N	N/A	N		0UBM0ZZ	Excision of Vulva, Open Approach	Y	N		64.43	Construction of penis	N

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure		ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure		ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure
54401	Insertion of penile prosthesis; inflatable (self-contained)	N	N/A	N		0UBMXZZ	Excision of Vulva, External Approach	Y	N		64.44	Repair and plastic operation on penis	N
54405	Insertion of multi-component, inflatable penile prosthesis, including placement of pump, cylinders, and reservoir	N	N/A	N		0UUM07Z	Supplement Vulva with Autologous Tissue Substitute, Open Approach	Y	N		64.49	Other operations on male genital organs	N
54406	REMOVAL OF ALL COMPONENTS OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS WITHOUT REPLACEMENT OF PROSTHESIS	Y	N	N		0UUM0KZ	Supplement Vulva with Nonautologous Tissue Substitute, Open Approach	Y	N		70.4	Obliteration and total excision of vagina	N
54408	REPAIR OF COMPONENT(S) OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS	N	N/A	N		0VUS07Z	Supplement Penis with Autologous Tissue Substitute, Open Approach	Y	N		71.3	Other local excision or destruction of vulva and perineum	N
54410	REMOVAL AND REPLACEMENT OF ALL COMPONENT(S) OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS AT THE SAME OPERATIVE SESSION	N	N/A	N		0VUS0JZ	Supplement Penis with Synthetic Substitute, Open Approach	Y	N		71.5	Radical vulvectomy	N
54411	REMOVAL AND REPLACEMENT OF ALL COMPONENTS OF A MULTI-COMPONENT INFLATABLE PENILE PROSTHESIS THROUGH AN INFECTED FIELD AT THE SAME OPERATIVE SESSION, INCLUDING IRRIGATION AND DEBRIDEMENT OF INFECTED TISSUE	N	N/A	N		0VUS0KZ	Supplement Penis with Nonautologous Tissue Substitute, Open Approach	Y	N		71.61	Other vulvectomy	N
54415	REMOVAL OF NON-INFLATABLE (SEMI-RIGID) OR INFLATABLE (SELF-CONTAINED) PENILE PROSTHESIS, WITHOUT REPLACEMENT OF PROSTHESIS	Y	N	N		0VUS47Z	Supplement Penis with Autologous Tissue Substitute, Percutaneous Endoscop	Y	N		71.62	Bilateral vulvectomy	N
54416	REMOVAL AND REPLACEMENT OF NON-INFLATABLE (SEMI-RIGID) OR INFLATABLE (SELF-CONTAINED) PENILE PROSTHESIS AT THE SAME OPERATIVE SESSION	Y	Y	N		0VUS4JZ	Supplement Penis with Synthetic Substitute, Percutaneous Endoscopic Appro	Y	N				
54417	Removal and replacement or non-inflatable(semi-rigid) or inflatable (self contained) penile prosthesis through an infected field at the same operative session including irrigation and debridement of infected tissue	Y	Y	N		0VUS4KZ	Supplement Penis with Nonautologous Tissue Substitute, Percutaneous Endos	Y	N				
54660	Insertion of testicular prosthesis (separate procedure)	N	N/A	N		0VUSX7Z	Supplement Penis with Autologous Tissue Substitute, External Approach	Y	N				
55175	SCROTOPLASTY; SIMPLE	Y	N	N		0VUSXJZ	Supplement Penis with Synthetic Substitute, External Approach	Y	N				
55180	SCROTOPLASTY; COMPLICATED	Y	N	N		0VUSXKZ	Supplement Penis with Nonautologous Tissue Substitute, External Approach	Y	N				
56620	Partial removal of vulva	Y	N	N		0W4N071	Creation of penis in female perineum with autologous tissue substitute, open approach	Y	Y				
56625	Vulvectomy simple; complete	Y	N	N		0W4N0J1	Creation of penis in female perineum with synthetic sustitute, open approach	Y	Y				
56630	Vulvectomy, radical, partial;	Y	N	N		0W4N0K1	Creation of penis in female perineum with nonautlogous tissue substitute, open approach	Y	Y				
56631	Vulvectomy, radical, partial; with unilateral inguinofemoral lym	Y	N	N		0W4N0Z1	Creation of penis in female perineum, open approach	Y	Y				
56632	Vulvectomy, radical, partial; with bilateral inguinofemoral lymp	Y	N	N									
56633	Vulvectomy, radical, complete;	Y	N	N									
56634	Vulvectomy, radical, complete; with unilateral inguinofemoral ly	Y	N	N									
56637	Vulvectomy, radical, complete; with bilateral inguinofemoral lym	Y	N	N									
56640	Vulvectomy, radical, complete, with inguinofemoral, iliac, and p	Y	N	N									
56805	Clitoroplasty for intersex state	N	N/A	Y									
C1813	Prosthesis, penile, inflatable	OutPT Hosp	N/A	N									

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure
C2622	Prosthesis, penile, non-inflatable	OutPT Hosp	N/A	N							
Breast Reconstruction					**Breast Reconstruction**				**Breast Reconstruction**		
CPT/HCPCS (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**	**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**	**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
15200	Full thickness graft, free, including direct closure of donor site, trunk; 20 sq cm or less [nipple reconstruction]	Y	N	N	0HRT075	Replacement of Right Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N	85.7	Total reconstruction of breast	N
19316	Mastopexy	Y	Y	N	0HRT076	Replacement of Right Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N	85.42	Bilateral simple mastectomy	N
19324	Mammaplasty, augmentation; without prosthetic implant	Y	Y	N	0HRT077	Replacement of Right Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	85.55	Fat graft to breast	N
19325	Mammaplasty, augmentation; with prosthetic implant	Y	Y	N	0HRT078	Replacement of Right Breast using Superficial Inferior Epigastric Artery Flap, Open Approach	Y	N	85.70	Total reconstruction of breast, not otherwise specified	N
19340	Immediate insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	Y	Y	N	0HRT079	Replacement of Right Breast using Gluteal Artery Perforator Flap, Open Approach	Y	N	85.71	Latissimus dorsi myocutaneous flap	N
19342	Delayed insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	Y	Y	N	0HRT07Z	Replacement of Right Breast with Autologous Tissue Substitute, Open Approach	Y	N	85.72	Transverse rectus abdominis myocutaneous (TRAM) flap, pedicled	N
19350	Nipple/areola reconstruction	Y	Y	N	0HRT0JZ	Replacement of Right Breast with Synthetic Substitute, Open Approach	Y	N	85.73	Transverse rectus abdominis myocutaneous (TRAM) flap, free	N
19357	Breast reconstruction, immediate or delayed, with tissue expander, including subsequent expansion	Y	Y	N	0HRT0KZ	Replacement of Right Breast with Nonautologous Tissue Substitute, Open Approach	Y	N	85.74	Deep inferior epigastric artery perforator (DIEP) flap, free	N
19361	Breast reconstruction with latissimus dorsi flap, without prosthetic implant	Y	Y	N	0HRU075	Replacement of Left Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N	85.75	Superficial inferior epigastric artery (SIEA) flap, free	N
19364	Breast reconstruction with free flap	Y	Y	N	0HRU076	Replacement of Left Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N	85.76	Gluteal artery perforator (GAP) flap, free	N
19366	Breast reconstruction with other technique	Y	Y	N	0HRU077	Replacement of Left Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	85.79	Other total reconstruction of breast	N
19367	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site;	Y	Y	N	0HRU078	Replacement of Left Breast using Superficial Inferior Epigastric Artery Flap, Open Approach	Y	N	85.85	Muscle flap graft to breast	N
19368	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site; with microvascular anastomosis (supercharging)	Y	Y	N	0HRU079	Replacement of Left Breast using Gluteal Artery Perforator Flap, Open Approach	Y	N	85.87	Other repair or reconstruction of nipple	N
19369	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), double pedicle, including closure of donor site	Y	Y	N	0HRU07Z	Replacement of Left Breast with Autologous Tissue Substitute, Open Approach	Y	N	85.95	Insertion of breast tissue expander	N
C1789	Prosthesis, breast implantable	OutPT Hosp	N/A	N	0HRU0JZ	Replacement of Left Breast with Synthetic Substitute, Open Approach	Y	N			
L8032	Nipple prosthesis, reusable, any type, each	Y	N	N	0HRU0KZ	Replacement of Left Breast with Nonautologous Tissue Substitute, Open Approach	Y	N			
L8600	Implantable breast prosthesis, silicone or equal	OutPT Hosp	N/A	N	0HRV075	Replacement of Bilateral Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N			
					0HRV076	Replacement of Bilateral Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N			

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure
					0HRV077	Replacement of Bilateral Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approac	Y	N			
					0HRV07Z	Replacement of Bilateral Breast with Autologous Tissue Substitute, Open Approach	Y	N			
					0HRV0JZ	Replacement of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N			
					0HRW07Z	Replacement of Right Nipple with Autologous Tissue Substitute, Open Approach	Y	N			
					0HRWX7Z	Replacement of Right Nipple with Autologous Tissue Substitute, External Approach	Y	N			
					0WQ80ZZ	Repair Chest Wall, Open Approach	Y	N			
					0WQ8XZZ	Repair Chest Wall, External Approach	Y	N			
Chondrolaryngoplasty					**Chondrolaryngoplasty**				**Chondrolaryngoplasty**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**	**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**	**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
31899	Unlisted procedure, trachea, bronchi	Y	N	N							
Mastectomy					**Mastectomy**				**Mastectomy**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**	**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**	**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
19301	Mastectomy, partial (EG lumpectomy, tylectomy, quadrantectomy, segmentectomy)	Y	N	N	07B50ZZ	Excision of Right Axillary Lymphatic, Open Approach	Y	N	85.22	Excision or destruction of breast tissue	N
19302	Mastectomy, partial (EG lumpectomy, tylectomy, quadrantectomy, segmentectomy); with axillary lymphadenectomy	Y	N	N	07B60ZZ	Excision of Left Axillary Lymphatic, Open Approach	Y	N	85.23	Subtotal mastectomy	N
19303	Mastectomy, simple, complete	Y	Y	N	07T50ZZ	Resection of Right Axillary Lymphatic, Open Approach	Y	N	85.31	Unilateral reduction mammoplasty	N
19304	Mastectomy, subcutaneous	Y	Y	N	07T60ZZ	Resection of Left Axillary Lymphatic, Open Approach	Y	N	85.33	Unilateral subcutaneous mammectomy with synchronous implant	N
					07T80ZZ	Resection of Right Internal Mammary Lymphatic, Open Approach	Y	N	85.34	Other unilateral subcutaneous mammectomy	N
					07T90ZZ	Resection of Left Internal Mammary Lymphatic, Open Approach	Y	N	85.35	Bilateral subcutaneous mammectomy with synchronous implant	N
					0H0T0JZ	Alteration of Right Breast with Synthetic Substitute, Open Approach	Y	N	85.36	Other bilateral subcutaneous mammectomy	N
					0H0U0JZ	Alteration of Left Breast with Synthetic Substitute, Open Approach	Y	N	85.41	Mastectomy	N
					0H0V0JZ	Alteration of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N	85.42	Bilateral simple mastectomy	N
					0HBT0ZZ	Excision of Right Breast, Open Approach	Y	N			
					0HBU0ZZ	Excision of Left Breast, Open Approach	Y	N			
					0HBV0ZZ	Excision of Bilateral Breast, Open Approach	Y	N			
					0HHT0NZ	Insertion of Tissue Expander into Right Breast, Open Approach	Y	N			

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						0HHU0NZ	Insertion of Tissue Expander into Left Breast, Open Approach	Y	N				
						0HHV0NZ	Insertion of Tissue Expander into Bilateral Breast, Open Approach	Y	N				
						0HRT077	Replacement of Right Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N				
						0HRT0JZ	Replacement of Right Breast with Synthetic Substitute, Open Approach	Y	N				
						0HRU077	Replacement of Left Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N				
						0HRV077	Replacement of Bilateral Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N				
						0HRV0JZ	Replacement of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N				
						0HTT0ZZ	Resection of Right Breast, Open Approach	Y	N				
						0HTU0ZZ	Resection of Left Breast, Open Approach	Y	N				
						0HTV0ZZ	Resection of Bilateral Breast, Open Approach	Y	N				
						0KTH0ZZ	Resection of Right Thorax Muscle, Open Approach	Y	N				
						0KTJ0ZZ	Resection of Left Thorax Muscle, Open Approach	Y	N				
Reduction Mammoplasty						**Reduction Mammoplasty**					**Reduction Mammoplasty**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
19318	Reduction Mammoplasty	Y	Y	N		0H0T0ZZ	Alteration of Right Breast, Open Approach	Y	N		85.3	Reduction mammoplasty and subcutaneous mammectomy	N
						0H0U0ZZ	Alteration of Left Breast, Open Approach	Y	N				
						0H0V0ZZ	Alteration of Bilateral Breast, Open Approach	Y	N				
						0HBT0ZZ	Excision of Right Breast, Open Approach	Y	N				
						0HBT3ZZ	Excision of Right Breast, Percutaneous Approach	Y	N				
						0HBU0ZZ	Excision of Left Breast, Open Approach	Y	N				
						0HBU3ZZ	Excision of Left Breast, Percutaneous Approach	Y	N				
						0HBV0ZZ	Excision of Bilateral Breast, Open Approach	Y	N				
						0HBV3ZZ	Excision of Bilateral Breast, Percutaneous Approach	Y	N				
Hysterectomy						**Hysterectomy**					**Hysterectomy**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
58150	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s);	Y	N	N		07BD0ZX	Excision of Aortic Lymphatic, Open Approach, Diagnostic	Y	N		40.11	Biopsy of lymphatic structure	N
58152	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s); with colpo-urethrocystopexy (eg, Marshall-Marchetti-Krantz, Burch)	Y	N	N		07TC0ZZ	Resection of Pelvis Lymphatic, Open Approach	Y	N		40.3	Regional lymph node excision	N

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58180	Supracervical abdominal hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N		0TQB0ZZ	Repair Bladder, Open Approach	Y	N		40.59	Radical excision of other lymph nodes	N
58200	Total abdominal hysterectomy, including partial vaginectomy, with para-aortic and pelvic lymph node sampling, with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N		0UBG0ZZ	Excision of Vagina, Open Approach	Y	N		46.13	Permanent colostomy	N
58210	Radical abdominal hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N		0UBG7ZZ	Excision of Vagina, Via Natural or Artificial Opening	Y	N		56.61	Formation of other cutaneous ureterostomy	N
58240	Pelvic exenteration for gynecologic malignancy, with total abdominal hysterectomy or cervicectomy, with or without removal of tube(s), with or without removal of ovary(s), with removal of bladder and ureteral transplantations, and/or abdominoperineal rese	Y	N	N		0UQ90ZZ	Repair Uterus, Open Approach	Y	N		59.5	Retropubic urethral suspension	N
58260	Vaginal hysterectomy, for uterus 250 g or less;	Y	N	N		0UQF7ZZ	Repair Cul-de-sac, Via Natural or Artificial Opening	Y	N		65.31	Laparoscopic unilateral oophorectomy	N
58262	Vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s), and/or ovary(s)	Y	N	N		0UQG7ZZ	Repair Vagina, Via Natural or Artificial Opening	Y	N		65.39	Other unilateral oophorectomy	N
58263	Vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s), and/or ovary(s), with repair of enterocele	Y	N	N		0UT00ZZ	Resection of Right Ovary, Open Approach	Y	N		65.41	Laparoscopic unilateral salpingo-oophorectomy	N
58267	Vaginal hysterectomy, for uterus 250 g or less; with colpo-urethrocystopexy (Marshall-Marchetti-Krantz type, Pereyra type) with or without endoscopic control	Y	N	N		0UT04ZZ	Resection of Right Ovary, Percutaneous Endoscopic Appro	Y	N		65.49	Other unilateral salpingo-oophorectomy	N
58270	Vaginal hysterectomy, for uterus 250 g or less; with repair of enterocele	Y	N	N		0UT07ZZ	Resection of Right Ovary, Via Natural or Artificial Ope	Y	N		65.51	Other removal of both ovaries at same operative episode	N
58275	Vaginal hysterectomy, with total or partial vaginectomy;	Y	N	N		0UT10ZZ	Resection of Left Ovary, Open Approach	Y	N		65.52	Other removal of remaining ovary	N
58280	Vaginal hysterectomy, with total or partial vaginectomy; with repair of enterocele	Y	N	N		0UT14ZZ	Resection of Left Ovary, Percutaneous Endoscopic Approa	Y	N		65.53	Laparoscopic removal of both ovaries at same operative episode	N
58285	Vaginal hysterectomy, radical (Schauta type operation)	Y	N	N		0UT17ZZ	Resection of Left Ovary, Via Natural or Artificial Open	Y	N		65.54	Laparoscopic removal of remaining ovary	N
58290	Vaginal hysterectomy, for uterus greater than 250 g;	Y	N	N		0UT20ZZ	Resection of Bilateral Ovaries, Open Approach	Y	N		65.61	Other removal of both ovaries and tubes at same operative episode	N
58291	Vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N		0UT44ZZ	Resection of Uterine Supporting Structure, Percutaneous	Y	N		65.62	Other removal of remaining ovary and tube	N
58292	Vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s), with repair of enterocele	Y	N	N		0UT90ZL	Resection of Uterus, Supracervical, Open Approach	Y	N		65.63	Laparoscopic removal of both ovaries and tubes at same operative episode	N
58293	Vaginal hysterectomy, for uterus greater than 250 g; with colpo-urethrocystopexy (Marshall-Marchetti-Krantz type, Pereyra type) with or without endoscopic control	Y	N	N		0UT90ZZ	Resection of Uterus, Open Approach	Y	N		65.64	Laparoscopic removal of remaining ovary and tube	N
58294	Vaginal hysterectomy, for uterus greater than 250 g; with repair of enterocele	Y	N	N		0UT94ZL	Resection of Uterus, Supracervical, Percutaneous Endosc	Y	N		68.29	Other excision or destruction of lesion of uterus	N
58541	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less;	Y	N	N		0UT94ZZ	Resection of Uterus, Percutaneous Endoscopic Approach	Y	N		68.31	Laparoscopic supracervical hysterectomy [LSH]	N

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58542	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N		0UT97ZZ	Resection of Uterus, Via Natural or Artificial Opening	Y	N		68.39	Other and unspecified subtotal abdominal hysterectomy	N	
58543	Laparoscopy, surgical, supracervical hysterectomy, for uterus greater than 250 g;	Y	N	N		0UT9FZZ	Resection of Uterus, Via Natural or Artificial Opening	Y	N		68.49	Other and unspecified total abdominal hysterectomy	N	
58544	Laparoscopy, surgical, supracervical hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N		0UTC0ZZ	Resection of Cervix, Open Approach	Y	N		68.59	Other and unspecified vaginal hysterectomy	N	
58545	Laparoscopy, surgical, myomectomy, excision; 1 to 4 intramural myomas with total weight of 250 g or less and/or removal of surface myomas	Y	N	N		0UTC4ZZ	Resection of Cervix, Percutaneous Endoscopic Approach	Y	N		68.79	Other and unspecified radical vaginal hysterectomy	N	
58546	Laparoscopy, surgical, myomectomy, excision; 5 or more intramural myomas and/or intramural myomas with total weight greater than 250 g	Y	N	N		0UTC7ZZ	Resection of Cervix, Via Natural or Artificial Opening	Y	N		68.8	Pelvic evisceration	N	
58548	Laparoscopy, surgical, with radical hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with removal of tube(s) and ovary(s), if performed	Y	N	N							70.4	Obliteration and total excision of vagina	N	
58550	Laparoscopy, surgical, with vaginal hysterectomy, for uterus 250 g or less;	Y	N	N							70.8	Obliteration of vaginal vault	N	
58552	Laparoscopy, surgical, with vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N							70.92	Other operations on cul-de-sac	N	
58553	Laparoscopy, surgical, with vaginal hysterectomy, for uterus greater than 250 g;	Y	N	N										
58554	Laparoscopy, surgical, with vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N										
58570	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less;	Y	N	N										
58571	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N										
58572	Laparoscopy, surgical, with total hysterectomy, for uterus greater than 250 g;	Y	N	N										
58573	Laparoscopy, surgical, with total hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N										
58575	Laparoscopy, surgical, total hysterectomy for resection of malignancy (tumor debulking), with omentectomy including salpingo-oophorectomy, unilateral or bilateral, when performed	Y	N	N										
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)	Y	N	N										
58953	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking;	Y	N	N										

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58954	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking; with pelvic lymphadenectomy and limited para-aortic lymphadenectomy	Y	N	N									
Oophorectomy						**Oophorectomy**					**Oophorectomy**		
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58940	oophorectomy, partial or total, unilateral or bilateral	Y	N	N		0UT00ZZ	Resection of Right Ovary, Open Approach	Y	N		65.21	Marsupialization of ovarian cyst	N
						0UT04ZZ	Resection of Right Ovary, Percutaneous Endoscopic Approach	Y	N		65.29	Other local excision or destruction of ovary	N
						0UT07ZZ	Resection of Right Ovary, Via Natural or Artificial Opening	Y	N		65.39	Other unilateral oophorectomy	N
						0UT10ZZ	Resection of Left Ovary, Open Approach	Y	N		65.51	Other removal of both ovaries at same operative episode	N
						0UT14ZZ	Resection of Left Ovary, Percutaneous Endoscopic Approach	Y	N		65.52	Other removal of remaining ovary	N
						0UT17ZZ	Resection of Left Ovary, Via Natural or Artificial Opening	Y	N				
						0UT20ZZ	Resection of Bilateral Ovaries, Open Approach	Y	N				
						0UT24ZZ	Resection of Bilateral Ovaries, Percutaneous Endoscopic Approach	Y	N				
						0UT27ZZ	Resection of Bilateral Ovaries, Via Natural or Artificial Opening	Y	N				
						0UT50ZZ	Resection of Right Fallopian Tube, Open Approach	Y	N				
						0UT54ZZ	Resection of Right Fallopian Tube, Percutaneous Endoscopic Approach	Y	N				
						0UT57ZZ	Resection of Right Fallopian Tube, Via Natural or Artificial Opening	Y	N				
						0UT60ZZ	Resection of Left Fallopian Tube, Open Approach	Y	N				
						0UT64ZZ	Resection of Left Fallopian Tube, Percutaneous Endoscopic Approach	Y	N				
						0UT67ZZ	Resection of Left Fallopian Tube, Via Natural or Artificial Opening	Y	N				
						0UT74ZZ	Resection of Bilateral Fallopian Tubes, Percutaneous Endoscopic Approach	Y	N				
						0UT77ZZ	Resection of Bilateral Fallopian Tubes, Via Natural or Artificial Opening	Y	N				
						0UT70ZZ	Resection of Bilateral Fallopian Tubes, Open Approach	Y	N				
						0UB00ZZ	Excision of Right Ovary, Open Approach	Y	N				
						0UB04ZZ	Excision of Right Ovary, Percutaneous Endoscopic Approach	Y	N				
						0UB07ZZ	Excision of Right Ovary, Via Natural or Artificial Opening	Y	N				
						0UB14ZZ	Excision of Left Ovary, Percutaneous Endoscopic Approach	Y	N				
						0UB24ZZ	Excision of Bilateral Ovaries, Percutaneous Endoscopic Approach	Y	N				
						0UB50ZZ	Excision of Right Fallopian Tube, Open Approach	Y	N				

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Salpingo-oophorectomy						**Salpingo-oophorectomy**					**Salpingo-oophorectomy**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**		**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**		**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
58700	Salpingectomy, complete or partial, unilateral or bilateral (separate procedure)	Y	N	N		0UP80JZ	Removal of Synthetic Substitute from Fallopian Tube, Open Approach	Y	N		65.49	Other unilateral salpingo-oophorectomy	N
58720	Salpingo-oophorectomy, complete or partial, unilateral or bilateral (separate procedure)	Y	N	N		0UP83JZ	Removal of Synthetic Substitute from Fallopian Tube, Percutaneous Approach	Y	N		65.61	Other removal of both ovaries and tubes at same operative episode	N
						0UP84JZ	Removal of Synthetic Substitute from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N		65.62	Other removal of remaining ovary and tube	N
						0UP87JZ	Removal of Synthetic Substitute from Fallopian Tube, Via Natural or Artificial Opening	Y	N		66.4	Total unilateral salpingectomy	N
						0UP88JZ	Removal of Synthetic Substitute from Fallopian Tube, Via Natural or Artificial Opening Endoscopic	Y	N		66.51	Removal of both fallopian tubes at same operative episode	N
						0UP800Z	Removal of Drainage Device from Fallopian Tube, Open Approach	Y	N		66.52	Removal of remaining fallopian tube	N
						0UP803Z	Removal of Infusion Device from Fallopian Tube, Open Approach	Y	N		66.63	Bilateral partial salpingectomy, not otherwise specified	N
						0UP807Z	Removal of Autologous Tissue Substitute from Fallopian Tube, Open Approach	Y	N		66.69	Other partial salpingectomy	N
						0UP837Z	Removal of Autologous Tissue Substitute from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP8X0Z	Removal of Drainage Device from Fallopian Tube, External Approach	Y	N				
						0UP8XDZ	Removal of Intraluminal Device from Fallopian Tube, External Approach	Y	N				
						0UP8X3Z	Removal of Infusion Device from Fallopian Tube, External Approach	Y	N				
						0UP80CZ	Removal of Extraluminal Device from Fallopian Tube, Open Approach	Y	N				
						0UP80DZ	Removal of Intraluminal Device from Fallopian Tube, Open Approach	Y	N				
						0UP80KZ	Removal of Nonautologous Tissue Substitute from Fallopian Tube, Open Approach	Y	N				
						0UP80YZ	Removal of Other Device from Fallopian Tube, Open Approach	Y	N				
						0UP830Z	Removal of Drainage Device from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP833Z	Removal of Infusion Device from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP83CZ	Removal of Extraluminal Device from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP83DZ	Removal of Intraluminal Device from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP83YZ	Removal of Other Device from Fallopian Tube, Percutaneous Approach	Y	N				
						0UP843Z	Removal of Infusion Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N				

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					0UP84CZ	Removal of Extraluminal Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N			
					0UP84DZ	Removal of Intraluminal Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N			
					0UP84YZ	Removal of Other Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N			
Other Services related to treatment for Gender Dysphoria					**Other Services related to treatment for Gender Dysphoria**				**Other Services related to treatment for Gender Dysphoria**		
CPT (professional)		**FH Coverage**	**PA Required**	***Definitive Gender reassignment procedure**	**ICD-10 (hospital procedure)**		**FH Coverage**	***Definitive Gender reassignment procedure**	**ICD-9(hospital procedure) DOS prior to 10/1/2015**		***Definitive Gender reassignment procedure**
Skin and other Cosmetic Surgeries											
11920	Introduction of pigment into skin (6.0 sq cm or less) to correct color defect (Tatoo)	Y	Y	N	0HDSXZZ	Extraction of hair	Y	N			
11921	Introduction of pigment into skin (6.1 to 20.0 sq cm) to correct color defect (Tatoo)	Y	Y	N	0UQJ0ZZ	Repair Clitoris, Open Approach	Y	N			
11922	Introduction of pigment into skin to correct color defect (Tatoo)	Y	Y	N	0UQJXZZ	Repair Clitoris, External Approach	Y	N			
11950	Injection of 1 cc or less filling material into tissue (Collagen)	Y	Y	N	0UTM0ZZ	Resection of Vulva, Open Approach	Y	N			
11951	Injection of 1.1 to 5.0 cc filling material, beneath the skin (Collagen)	Y	Y	N	0UTMXZZ	Resection of Vulva, External Approach	Y	N			
11952	Injection of 5.1 to 10.0 cc filling material into tissue (Collagen)	Y	Y	N	0U5J0ZZ	Destruction of Clitoris, Open Approach	Y	N			
11954	Injection of over 10.0 cc filling material, beneath the skin (Collagen)	Y	Y	N	0U5JXZZ	Destruction of Clitoris, External Approach	Y	N			
11980	Subcutaneous hormone pellet implantation (implantation of estradiol and/or testosterone pellets beneath the skin) [covered for testosterone only -hyphen not estradiol]	Y	N	N							
11981	Insertion, non-hyphenbiodegradable drug delivery implant [not covered when used to implant progestin/ progresterone pellets]	Y	N	N							
15775	Punch graft for hair transplant; 1 to 15 punch grafts	N	N/A	N							
15776	Punch graft for hair transplant; more than 15 punch grafts	N	N/A	N							
15780	Dermabrasion total face	Y	Y	N							
15781	Dermabrasion segmental face	Y	Y	N							
15782	Dermabrasion other than face	Y	Y	N							
15783	Superficial Dermabrasion (tatoo removal)	N	N/A	N							
15788	Chemical peel, facial; epidermal	Y	Y	N							
15789	Chemical peel, facial; dermal	Y	Y	N							
15792	Chemical peel, nonfacial; epidermal	Y	Y	N							
15793	Chemical peel, nonfacial; dermal	Y	Y	N							
15819	Cervicoplasty (plastic surgery necck)	N	N/A	N							
15820	Blepharoplasty, lower eyelid;	Y	Y	N							
15821	Blepharoplasty, lower eyelid; with extensive herniated fat pad	Y	Y	N							

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15822	Blepharoplasty, upper eyelid;	Y	Y	N										
15823	Blepharoplasty, upper eyelid; with excessive skin weighting down lid	Y	Y	N										
15824	Rhytidectomy; forehead	Y	Y	N										
15825	Rhytidectomy; neck with platysmal tightening (platysmal flap, P-flap)	Y	Y	N										
15826	Rhytidectomy; glabellar frown lines	Y	Y	N										
15828	Rhytidectomy; cheek, chin, and neck	Y	Y	N										
15830	Excision, excessive skin and subcutaneous tissue (includes lipectomy); abdomen, infraumbilical panniculectomy	Y	Y	N										
15832	Excision, excessive skin and subcutaneous tissue (includes lipectomy); thigh	Y	Y	N										
15833	Excision, excessive skin and subcutaneous tissue (includes lipectomy); leg	Y	Y	N										
15834	Excision, excessive skin and subcutaneous tissue (includes lipectomy); hip	Y	Y	N										
15835	Excision, excessive skin and subcutaneous tissue (includes lipectomy); buttock	Y	Y	N										
15836	Excision, excessive skin and subcutaneous tissue (includes lipectomy); arm	Y	Y	N										
15837	Excision, excessive skin and subcutaneous tissue (includes lipectomy); forearm or hand	Y	Y	N										
15838	Excision, excessive skin and subcutaneous tissue (includes lipectomy); submental fat pad	Y	Y	N										
15839	Excision, excessive skin and subcutaneous tissue (includes lipectomy); other area	Y	Y	N										
15876	Suction assisted lipectomy; head and neck	N	N/A	N										
15877	Suction assisted lipectomy; trunk	N	N/A	N										
15878	Suction assisted lipectomy; upper extremity	N	N/A	N										
15879	Suction assisted lipectomy; lower extremity	N	N/A	N										
17380	Electrolysis epilation, each 30 minutes (Hair Removal)	N	N/A	N										
17999	Unlisted procedure, skin, mucous membrane and subcutaneous tissue	Y	N	N										
Anatomical Reconstruction														
21087	Nasal prosthesis	Y	Y	N										
21120	Genioplasty; augmentation (autograft, allograft, prosthetic material) (Reconstruction Chin)	Y	Y	N										
21121	Genioplasty; sliding osteotomy, single piece	Y	Y	N										
21122	Genioplasty; sliding osteotomies, 2 or more osteotomies (eg, wedge excision or bone wedge reversal for asymmetrical chin)	Y	Y	N										
21123	Genioplasty; sliding, augmentation with interpositional bone grafts (includes obtaining autografts)	Y	Y	N										
21125	Augmentation, mandibular body or angle; prosthetic material	Y	Y	N										

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21127	Augmentation, mandibular body or angle; with bone graft, onlay or interpositional (includes obtaining autograft)	Y	Y	N										
21193	horizontal, vertical, C, or L osteotomy; without bone graft	Y	N	N										
21194	Reconstruction of mandibular rami, horizontal, vertical, C, or L osteotomy; with bone graft (includes obtaining graft)	Y	N	N										
21195	Reconstruction of mandibular rami and/or body, sagittal split; without internal rigid fixation	Y	N	N										
21196	Reconstruction of mandibular rami and/or body, sagittal split; with internal rigid fixation	Y	N	N										
21208	Osteoplasty, facial bones; augmentation (autograft, allograft, or prosthetic implant)	Y	N	N										
21209	Osteoplasty, facial bones; reduction	Y	N	N										
21210	Graft, bone; nasal, maxillary or malar areas (includes obtaining graft)	Y	N	N										
21270	Malar augmentation, prosthetic material	Y	Y	N										
30400	Rhinoplasty, primary; lateral and alar cartilages and/or elevation of nasal tip	Y	Y	N										
30410	Rhinoplasty, primary; complete, external parts including bony pyramid, lateral and alar cartilages, and/or elevation of nasal tip	Y	Y	N										
30420	Rhinoplasty, primary; including major septal repair	Y	Y	N										
30430	Rhinoplasty, secondary; minor revision (small amount of nasal tip work)	Y	Y	N										
30435	Rhinoplasty, secondary; intermediate revision (bony work with osteotomies)	Y	Y	N										
30450	Rhinoplasty, secondary; major revision (nasal tip work and osteotomies)	Y	Y	N										
67900	Repair of brow ptosis (supraciliary, mid-forehead or coronal approach)	Y	Y	N										
Drug Products														
J1950	INJECTION, LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), PER 3.75 MG	Y	N	N										
J3315	INJECTION, TRIPTORELIN PAMOATE, 3.75 MG	Y	N	N										
J9217	LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), 7.5 MG	Y	N	N										
J9219	LEUPROLIDE ACETATE IMPLANT, 65 MG	Y	N	N										
J9226	HISTRELIN IMPLANT (SUPPRELIN LA), 50 MG	Y	N	N										
S0189	Testosterone pellet, 75mg	N	N/A	N										
Labs														
80414	Chorionic gonadotropin stimulation panel; testosterone response	Y	N	N										
80415	estradiol response	Y	N	N										
84402	Testosterone; free	Y	N	N										

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure		ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure		ICD-9(hospital procedure) DOS prior to 10/1/2015		*Definitive Gender reassignment procedure	
84403	total	Y	N	N										
84410	Testosterone; bioavailable, direct measurement (eg, differential precipitation)	Y	N	N										
Therapy														
92507	Treatment of speech, language, voice, communication, and/or auditory processing disorder; individual	Y	Therapy PA	N										
92508	Treatment of speech, language, voice, communication, and/or auditory processing disorder; group, two or more individuals	Y	Therapy PA	N										

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
11920	Introduction of pigment into skin (6.0 sq cm or less) to correct color defect (Tatoo)	Y	Y	N	
11921	Introduction of pigment into skin (6.1 to 20.0 sq cm) to correct color defect (Tatoo)	Y	Y	N	
11922	Introduction of pigment into skin to correct color defect (Tatoo)	Y	Y	N	
11950	Injection of 1 cc or less filling material into tissue (Collagen)	Y	Y	N	
11951	Injection of 1.1 to 5.0 cc filling material, beneath the skin (Collagen)	Y	Y	N	
11952	Injection of 5.1 to 10.0 cc filling material into tissue (Collagen)	Y	Y	N	
11954	Injection of over 10.0 cc filling material, beneath the skin (Collagen)	Y	Y	N	
11980	Subcutaneous hormone pellet implantation (implantation of estradiol and/or testosterone pellets beneath the skin) [covered for testosterone only -hyphen not estradiol]	Y	N	N	
11981	Insertion, non-hyphenbiodegradable drug delivery implant [not covered when used to implant progestin/ progresterone pellets]	Y	N	N	
14040	Adjacent tissue transfer or rearrangement, forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands and/or feet; defect 10 sq cm or less	Y	N	N	
14041	Adjacent tissue transfer or rearrangement, forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands and/or feet; defect 10.1 sq cm to 30.0 sq cm	Y	N	N	
15200	Full thickness graft, free, including direct closure of donor site, trunk; 20 sq cm or less [nipple reconstruction]	Y	N	N	
15775	Punch graft for hair transplant; 1 to 15 punch grafts	N	N/A	N	
15776	Punch graft for hair transplant; more than 15 punch grafts	N	N/A	N	
15780	Dermabrasion total face	Y	Y	N	
15781	Dermabrasion segmental face	Y	Y	N	
15782	Dermabrasion other than face	Y	Y	N	
15783	Superficial Dermabrasion (tatoo removal)	N	N/A	N	
15788	Chemical peel, facial; epidermal	Y	Y	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
15789	Chemical peel, facial; dermal	Y	Y	N	
15792	Chemical peel, nonfacial; epidermal	Y	Y	N	
15793	Chemical peel, nonfacial; dermal	Y	Y	N	
15819	Cervicoplasty (plastic surgery necck)	N	N/A	N	
15820	Blepharoplasty, lower eyelid;	Y	Y	N	
15821	Blepharoplasty, lower eyelid; with extensive herniated fat pad	Y	Y	N	
15822	Blepharoplasty, upper eyelid;	Y	Y	N	
15823	Blepharoplasty, upper eyelid; with excessive skin weighting down lid	Y	Y	N	
15824	Rhytidectomy; forehead	Y	Y	N	
15825	Rhytidectomy; neck with platysmal tightening (platysmal flap, P-flap)	Y	Y	N	
15826	Rhytidectomy; glabellar frown lines	Y	Y	N	
15828	Rhytidectomy; cheek, chin, and neck	Y	Y	N	
15830	Excision, excessive skin and subcutaneous tissue (includes lipectomy); abdomen, infraumbilical panniculectomy	Y	Y	N	
15832	Excision, excessive skin and subcutaneous tissue (includes lipectomy); thigh	Y	Y	N	
15833	Excision, excessive skin and subcutaneous tissue (includes lipectomy); leg	Y	Y	N	
15834	Excision, excessive skin and subcutaneous tissue (includes lipectomy); hip	Y	Y	N	
15835	Excision, excessive skin and subcutaneous tissue (includes lipectomy); buttock	Y	Y	N	
15836	Excision, excessive skin and subcutaneous tissue (includes lipectomy); arm	Y	Y	N	
15837	Excision, excessive skin and subcutaneous tissue (includes lipectomy); forearm or hand	Y	Y	N	
15838	Excision, excessive skin and subcutaneous tissue (includes lipectomy); submental fat pad	Y	Y	N	
15839	Excision, excessive skin and subcutaneous tissue (includes lipectomy); other area	Y	Y	N	
15876	Suction assisted lipectomy; head and neck	N	N/A	N	
15877	Suction assisted lipectomy; trunk	N	N/A	N	
15878	Suction assisted lipectomy; upper extremity	N	N/A	N	
15879	Suction assisted lipectomy; lower extremity	N	N/A	N	
17380	Electrolysis epilation, each 30 minutes (Hair Removal)	N	N/A	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
17999	Unlisted procedure, skin, mucous membrane and subcutaneous tissue	Y	N	N	
19301	Mastectomy, partial (EG lumpectomy, tylectomy, quadrantectomy, segmentectomy)	Y	N	N	
19302	Mastectomy, partial (EG lumpectomy, tylectomy, quadrantectomy, segmentectomy); with axillary lymphadenectomy	Y	N	N	
19303	Mastectomy, simple, complete	Y	Y	N	
19304	Mastectomy, subcutaneous	Y	Y	N	
19316	Mastopexy	Y	Y	N	
19318	Reduction Mammoplasty	Y	Y	N	
19324	Mammaplasty, augmentation; without prosthetic implant	Y	Y	N	
19325	Mammaplasty, augmentation; with prosthetic implant	Y	Y	N	
19340	Immediate insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	Y	Y	N	
19342	Delayed insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	Y	Y	N	
19350	Nipple/areola reconstruction	Y	Y	N	
19357	Breast reconstruction, immediate or delayed, with tissue expander, including subsequent expansion	Y	Y	N	
19361	Breast reconstruction with latissimus dorsi flap, without prosthetic implant	Y	Y	N	
19364	Breast reconstruction with free flap	Y	Y	N	
19366	Breast reconstruction with other technique	Y	Y	N	
19367	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site;	Y	Y	N	
19368	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site; with microvascular anastomosis (supercharging)	Y	Y	N	
19369	Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), double pedicle, including closure of donor site	Y	Y	N	
21087	Nasal prosthesis	Y	Y	N	
21120	Genioplasty; augmentation (autograft, allograft, prosthetic material) (Reconstruction Chin)	Y	Y	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
21121	Genioplasty; sliding osteotomy, single piece	Y	Y	N	
21122	Genioplasty; sliding osteotomies, 2 or more osteotomies (eg, wedge excision or bone wedge reversal for asymmetrical chin)	Y	Y	N	
21123	Genioplasty; sliding, augmentation with interpositional bone grafts (includes obtaining autografts)	Y	Y	N	
21125	Augmentation, mandibular body or angle; prosthetic material	Y	Y	N	
21127	Augmentation, mandibular body or angle; with bone graft, onlay or interpositional (includes obtaining autograft)	Y	Y	N	
21193	Reconstruction of mandibular rami, horizontal, vertical, C, or L osteotomy; without bone graft	Y	N	N	
21194	Reconstruction of mandibular rami, horizontal, vertical, C, or L osteotomy; with bone graft (includes obtaining graft)	Y	N	N	
21195	Reconstruction of mandibular rami and/or body, sagittal split; without internal rigid fixation	Y	N	N	
21196	Reconstruction of mandibular rami and/or body, sagittal split; with internal rigid fixation	Y	N	N	
21208	Osteoplasty, facial bones; augmentation (autograft, allograft, or prosthetic implant)	Y	N	N	
21209	Osteoplasty, facial bones; reduction	Y	N	N	
21210	Graft, bone; nasal, maxillary or malar areas (includes obtaining graft)	Y	N	N	
21270	Malar augmentation, prosthetic material	Y	Y	N	
30400	Rhinoplasty, primary; lateral and alar cartilages and/or elevation of nasal tip	Y	Y	N	
30410	Rhinoplasty, primary; complete, external parts including bony pyramid, lateral and alar cartilages, and/or elevation of nasal tip	Y	Y	N	
30420	Rhinoplasty, primary; including major septal repair	Y	Y	N	
30430	Rhinoplasty, secondary; minor revision (small amount of nasal tip work)	Y	Y	N	
30435	Rhinoplasty, secondary; intermediate revision (bony work with osteotomies)	Y	Y	N	
30450	Rhinoplasty, secondary; major revision (nasal tip work and osteotomies)	Y	Y	N	
31899	Unlisted procedure, trachea, bronchi	Y	N	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
53410	urethroplasty-reconstruction of male anterior urethra	Y	N	N	
53430	urethroplasty-reconstruction of female urethra	Y	N	N	
54120	Amputation of penis; partial	Y	N	N	
54125	Amputation of penis; complete	Y	N	N	
54130	Amputation of penis, radical; with bilateral inguinofemoral lymphadenectomy	Y	N	N	
54135	Amputation of penis, radical; in continuity with bilateral pelvic lymphadenectomy, including external iliac, hypogastric and obturator nodes	Y	N	N	
54400	Insertion of penile prosthesis; non-inflatable (semi-rigid)	N	N/A	N	
54401	Insertion of penile prosthesis; inflatable (self-contained)	N	N/A	N	
54405	Insertion of multi-component, inflatable penile prosthesis, including placement of pump, cylinders, and reservoir	N	N/A	N	
54406	REMOVAL OF ALL COMPONENTS OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS WITHOUT REPLACEMENT OF PROSTHESIS	Y	N	N	
54408	REPAIR OF COMPONENT(S) OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS	N	N/A	N	
54410	REMOVAL AND REPLACEMENT OF ALL COMPONENT(S) OF A MULTI-COMPONENT, INFLATABLE PENILE PROSTHESIS AT THE SAME OPERATIVE SESSION	N	N/A	N	
54411	REMOVAL AND REPLACEMENT OF ALL COMPONENTS OF A MULTI-COMPONENT INFLATABLE PENILE PROSTHESIS THROUGH AN INFECTED FIELD AT THE SAME OPERATIVE SESSION, INCLUDING IRRIGATION AND DEBRIDEMENT OF INFECTED TISSUE	N	N/A	N	
54415	REMOVAL OF NON-INFLATABLE (SEMI-RIGID) OR INFLATABLE (SELF-CONTAINED) PENILE PROSTHESIS, WITHOUT REPLACEMENT OF PROSTHESIS	Y	N	N	
54416	REMOVAL AND REPLACEMENT OF NON-INFLATABLE (SEMI-RIGID) OR INFLATABLE (SELF-CONTAINED) PENILE PROSTHESIS AT THE SAME OPERATIVE SESSION	Y	Y	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
54417	Removal and replacement or non-inflatable(seni-rigid) or inflatable (self contained) penile prosthesis through an infected field at the same operative session including irrigation and debridement of infected tissue	Y	Y	N	
54520	Orchiectomy, simple (including subcapsular), with or without testicular prosthesis, scrotal or inguinal approach	Y	N	N	
54522	Orchiectomy, partial	Y	N	N	
54660	Insertion of testicular prosthesis (separate procedure)	N	N/A	N	
54690	Laparoscopy, surgical; orchiectomy	Y	N	N	
55175	SCROTOPLASTY; SIMPLE	Y	N	N	
55180	SCROTOPLASTY; COMPLICATED	Y	N	N	
55970	Intersex surgery; male to female	N	N/A	Y	
55980	Intersex surgery; female to male	N	N/A	Y	
56620	Partial removal of vulva	Y	N	N	
56625	Vulvectomy simple; complete	Y	N	N	
56630	Vulvectomy, radical, partial;	Y	N	N	
56631	Vulvectomy, radical, partial; with unilateral inguinofemoral lym	Y	N	N	
56632	Vulvectomy, radical, partial; with bilateral inguinofemoral lymp	Y	N	N	
56633	Vulvectomy, radical, complete;	Y	N	N	
56634	Vulvectomy, radical, complete; with unilateral inguinofemoral ly	Y	N	N	
56637	Vulvectomy, radical, complete; with bilateral inguinofemoral lym	Y	N	N	
56640	Vulvectomy, radical, complete, with inguinofemoral, iliac, and p	Y	N	N	
56800	Plastic repair of introitus	Y	N	N	
56805	Clitoroplasty for intersex state	N	N/A	Y	
56810	Perineoplasty, repair of perineum, nonobstetrical (separate procedure)	Y	N	N	
57106	Vaginectomy, partial removal of vaginal wall;	Y	N	N	
57110	Vaginectomy, complete removal of vaginal wall;	Y	N	N	
57111	Vaginectomy, complete removal of vaginal wall; with removal of paravaginal tissue (radical vaginectomy)	Y	N	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
57112	Vaginectomy, complete removal of vaginal wall; with removal of paravaginal tissue (radical vaginectomy) with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy)	Y	N	N	
57291	Construction of artificial vagina; without graft	Y	Y	N	
57292	Construction of artificial vagina; with graft	Y	Y	N	
57295	Revision (including removal) of prosthetic vaginal graft; vaginal approach	Y	N	N	
57296	Revision (including removal) of prosthetic vaginal graft; open abdominal approach	Y	N	N	
57335	Vaginoplasty for intersex state	N	N/A	Y	
57426	Revision (including removal) of prosthetic vaginal graft, laparoscopic approach	Y	N	N	
58150	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s);	Y	N	N	
58152	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s); with colpo-urethrocystopexy (eg, Marshall-Marchetti-Krantz, Burch)	Y	N	N	
58180	Supracervical abdominal hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N	
58200	Total abdominal hysterectomy, including partial vaginectomy, with para-aortic and pelvic lymph node sampling, with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N	
58210	Radical abdominal hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with or without removal of tube(s), with or without removal of ovary(s)	Y	N	N	
58240	Pelvic exenteration for gynecologic malignancy, with total abdominal hysterectomy or cervicectomy, with or without removal of tube(s), with or without removal of ovary(s), with removal of bladder and ureteral transplantations, and/or abdominoperineal rese	Y	N	N	
58260	Vaginal hysterectomy, for uterus 250 g or less;	Y	N	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
58262	Vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s), and/or ovary(s)	Y	N	N	
58263	Vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s), and/or ovary(s), with repair of enterocele	Y	N	N	
58267	Vaginal hysterectomy, for uterus 250 g or less; with colpo-urethrocystopexy (Marshall-Marchetti-Krantz type, Pereyra type) with or without endoscopic control	Y	N	N	
58270	Vaginal hysterectomy, for uterus 250 g or less; with repair of enterocele	Y	N	N	
58275	Vaginal hysterectomy, with total or partial vaginectomy;	Y	N	N	
58280	Vaginal hysterectomy, with total or partial vaginectomy; with repair of enterocele	Y	N	N	
58285	Vaginal hysterectomy, radical (Schauta type operation)	Y	N	N	
58290	Vaginal hysterectomy, for uterus greater than 250 g;	Y	N	N	
58291	Vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N	
58292	Vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s), with repair of enterocele	Y	N	N	
58293	Vaginal hysterectomy, for uterus greater than 250 g; with colpo-urethrocystopexy (Marshall-Marchetti-Krantz type, Pereyra type) with or without endoscopic control	Y	N	N	
58294	Vaginal hysterectomy, for uterus greater than 250 g; with repair of enterocele	Y	N	N	
58541	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less;	Y	N	N	
58542	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N	
58543	Laparoscopy, surgical, supracervical hysterectomy, for uterus greater than 250 g;	Y	N	N	
58544	Laparoscopy, surgical, supracervical hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N	

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
58545	Laparoscopy, surgical, myomectomy, excision; 1 to 4 intramural myomas with total weight of 250 g or less and/or removal of surface myomas	Y	N	N	
58546	Laparoscopy, surgical, myomectomy, excision; 5 or more intramural myomas and/or intramural myomas with total weight greater than 250 g	Y	N	N	
58548	Laparoscopy, surgical, with radical hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with removal of tube(s) and ovary(s), if performed	Y	N	N	
58550	Laparoscopy, surgical, with vaginal hysterectomy, for uterus 250 g or less;	Y	N	N	
58552	Laparoscopy, surgical, with vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N	
58553	Laparoscopy, surgical, with vaginal hysterectomy, for uterus greater than 250 g;	Y	N	N	
58554	Laparoscopy, surgical, with vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N	
58570	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less;	Y	N	N	
58571	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Y	N	N	
58572	Laparoscopy, surgical, with total hysterectomy, for uterus greater than 250 g;	Y	N	N	
58573	Laparoscopy, surgical, with total hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Y	N	N	
58575	Laparoscopy, surgical, total hysterectomy for resection of malignancy (tumor debulking), with omentectomy including salpingo-oophorectomy, unilateral or bilateral, when performed	Y	N	N	
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)	Y	N	N	
58700	Salpingectomy, complete or partial, unilateral or bilateral (separate procedure)	Y	N	N	

CPT Procedure by Numeric

CPT (professional)		FH Coverage	PA Required	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
58720	Salpingo-oophorectomy, complete or partial, unilateral or bilateral (separate procedure)	Y	N	N	
58940	oophorectomy, partial or total, unilateral or bilateral	Y	N	N	
58953	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking;	Y	N	N	
58954	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking; with pelvic lymphadenectomy and limited para-aortic lymphadenectomy	Y	N	N	
67900	Repair of brow ptosis (supraciliary, mid-forehead or coronal approach)	Y	Y	N	
80414	Chorionic gonadotropin stimulation panel; testosterone response	Y	N	N	
80415	estradiol response	Y	N	N	
84402	Testosterone; free	Y	N	N	
84403	total	Y	N	N	
84410	Testosterone; bioavailable, direct measurement (eg, differential precipitation)	Y	N	N	
92507	Treatment of speech, language, voice, communication, and/or auditory processing disorder; individual	Y	Therapy PA	N	
92508	Treatment of speech, language, voice, communication, and/or auditory processing disorder; group, two or more individuals	Y	Therapy PA	N	
C1789	Prosthesis, breast implantable	OutPT Hosp	N/A	N	
C1813	Prosthesis, penile, inflatable	OutPT Hosp	N/A	N	
C2622	Prosthesis, penile, non-inflatable	OutPT Hosp	N/A	N	
J1950	INJECTION, LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), PER 3.75 MG	Y	N	N	
J3315	INJECTION, TRIPTORELIN PAMOATE, 3.75 MG	Y	N	N	
J9217	LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), 7.5 MG	Y	N	N	
J9219	LEUPROLIDE ACETATE IMPLANT, 65 MG	Y	N	N	
J9226	HISTRELIN IMPLANT (SUPPRELIN LA), 50 MG	Y	N	N	
L8032	Nipple prosthesis, reusable, any type, each	Y	N	N	
L8600	Implantable breast prosthesis, silicone or equal	OutPT Hosp	N/A	N	
S0189	Testosterone pellet, 75mg	N	N/A	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
07B50ZZ	Excision of Right Axillary Lymphatic, Open Approach	Y	N	
07B60ZZ	Excision of Left Axillary Lymphatic, Open Approach	Y	N	
07BD0ZX	Excision of Aortic Lymphatic, Open Approach, Diagnostic	Y	N	
07T50ZZ	Resection of Right Axillary Lymphatic, Open Approach	Y	N	
07T60ZZ	Resection of Left Axillary Lymphatic, Open Approach	Y	N	
07T80ZZ	Resection of Right Internal Mammary Lymphatic, Open Approach	Y	N	
07T90ZZ	Resection of Left Internal Mammary Lymphatic, Open Approach	Y	N	
07TC0ZZ	Resection of Pelvis Lymphatic, Open Approach	Y	N	
0H0T0JZ	Alteration of Right Breast with Synthetic Substitute, Open Approach	Y	N	
0H0T0ZZ	Alteration of Right Breast, Open Approach	Y	N	
0H0U0JZ	Alteration of Left Breast with Synthetic Substitute, Open Approach	Y	N	
0H0U0ZZ	Alteration of Left Breast, Open Approach	Y	N	
0H0V0JZ	Alteration of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N	
0H0V0ZZ	Alteration of Bilateral Breast, Open Approach	Y	N	
0HBT0ZZ	Excision of Right Breast, Open Approach	Y	N	
0HBT0ZZ	Excision of Right Breast, Open Approach	Y	N	
0HBT3ZZ	Excision of Right Breast, Percutaneous Approach	Y	N	
0HBU0ZZ	Excision of Left Breast, Open Approach	Y	N	
0HBU0ZZ	Excision of Left Breast, Open Approach	Y	N	
0HBU3ZZ	Excision of Left Breast, Percutaneous Approach	Y	N	
0HBV0ZZ	Excision of Bilateral Breast, Open Approach	Y	N	
0HBV0ZZ	Excision of Bilateral Breast, Open Approach	Y	N	
0HBV3ZZ	Excision of Bilateral Breast, Percutaneous Approach	Y	N	
0HDSXZZ	Extraction of hair	Y	N	
0HHT0NZ	Insertion of Tissue Expander into Right Breast, Open Approach	Y	N	
0HHU0NZ	Insertion of Tissue Expander into Left Breast, Open Approach	Y	N	
0HHV0NZ	Insertion of Tissue Expander into Bilateral Breast, Open Approach	Y	N	
0HRT075	Replacement of Right Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N	
0HRT076	Replacement of Right Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0HRT077	Replacement of Right Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	
0HRT077	Replacement of Right Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	
0HRT078	Replacement of Right Breast using Superficial Inferior Epigastric Artery Flap, Open Approach	Y	N	
0HRT079	Replacement of Right Breast using Gluteal Artery Perforator Flap, Open Approach	Y	N	
0HRT07Z	Replacement of Right Breast with Autologous Tissue Substitute, Open Approach	Y	N	
0HRT0JZ	Replacement of Right Breast with Synthetic Substitute, Open Approach	Y	N	
0HRT0JZ	Replacement of Right Breast with Synthetic Substitute, Open Approach	Y	N	
0HRT0KZ	Replacement of Right Breast with Nonautologous Tissue Substitute, Open Approach	Y	N	
0HRU075	Replacement of Left Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N	
0HRU076	Replacement of Left Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N	
0HRU077	Replacement of Left Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	
0HRU077	Replacement of Left Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	
0HRU078	Replacement of Left Breast using Superficial Inferior Epigastric Artery Flap, Open Approach	Y	N	
0HRU079	Replacement of Left Breast using Gluteal Artery Perforator Flap, Open Approach	Y	N	
0HRU07Z	Replacement of Left Breast with Autologous Tissue Substitute, Open Approach	Y	N	
0HRU0JZ	Replacement of Left Breast with Synthetic Substitute, Open Approach	Y	N	
0HRU0KZ	Replacement of Left Breast with Nonautologous Tissue Substitute, Open Approach	Y	N	
0HRV075	Replacement of Bilateral Breast using Latissimus Dorsi Myocutaneous Flap, Open Approach	Y	N	
0HRV076	Replacement of Bilateral Breast using Transverse Rectus Abdominis Myocutaneous Flap, Open Approach	Y	N	
0HRV077	Replacement of Bilateral Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approac	Y	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0HRV077	Replacement of Bilateral Breast using Deep Inferior Epigastric Artery Perforator Flap, Open Approach	Y	N	
0HRV07Z	Replacement of Bilateral Breast with Autologous Tissue Substitute, Open Approach	Y	N	
0HRV0JZ	Replacement of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N	
0HRV0JZ	Replacement of Bilateral Breast with Synthetic Substitute, Open Approach	Y	N	
0HRW07Z	Replacement of Right Nipple with Autologous Tissue Substitute, Open Approach	Y	N	
0HRWX7Z	Replacement of Right Nipple with Autologous Tissue Substitute, External Approach	Y	N	
0HTT0ZZ	Resection of Right Breast, Open Approach	Y	N	
0HTU0ZZ	Resection of Left Breast, Open Approach	Y	N	
0HTV0ZZ	Resection of Bilateral Breast, Open Approach	Y	N	
0KTH0ZZ	Resection of Right Thorax Muscle, Open Approach	Y	N	
0KTJ0ZZ	Resection of Left Thorax Muscle, Open Approach	Y	N	
0TQB0ZZ	Repair Bladder, Open Approach	Y	N	
0U5J0ZZ	Destruction of Clitoris, Open Approach	Y	N	
0U5JXZZ	Destruction of Clitoris, External Approach	Y	N	
0UB00ZZ	Excision of Right Ovary, Open Approach	Y	N	
0UB04ZZ	Excision of Right Ovary, Percutaneous Endoscopic Approach	Y	N	
0UB07ZZ	Excision of Right Ovary, Via Natural or Artificial Opening	Y	N	
0UB14ZZ	Excision of Left Ovary, Percutaneous Endoscopic Approach	Y	N	
0UB24ZZ	Excision of Bilateral Ovaries, Percutaneous Endoscopic Approach	Y	N	
0UB50ZZ	Excision of Right Fallopian Tube, Open Approach	Y	N	
0UBG0ZZ	Excision of Vagina, Open Approach	Y	N	
0UBG7ZZ	Excision of Vagina, Via Natural or Artificial Opening	Y	N	
0UBJ0ZZ	Excision of Clitoris, Open Approach	Y	N	
0UBJXZZ	Excision of Clitoris, External Approach	Y	N	
0UBM0ZZ	Excision of Vulva, Open Approach	Y	N	
0UBMXZZ	Excision of Vulva, External Approach	Y	N	
0UP800Z	Removal of Drainage Device from Fallopian Tube, Open Approach	Y	N	
0UP803Z	Removal of Infusion Device from Fallopian Tube, Open Approach	Y	N	

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0UP807Z	Removal of Autologous Tissue Substitute from Fallopian Tube, Open Approach	Y	N	
0UP80CZ	Removal of Extraluminal Device from Fallopian Tube, Open Approach	Y	N	
0UP80DZ	Removal of Intraluminal Device from Fallopian Tube, Open Approach	Y	N	
0UP80JZ	Removal of Synthetic Substitute from Fallopian Tube, Open Approach	Y	N	
0UP80KZ	Removal of Nonautologous Tissue Substitute from Fallopian Tube, Open Approach	Y	N	
0UP80YZ	Removal of Other Device from Fallopian Tube, Open Approach	Y	N	
0UP830Z	Removal of Drainage Device from Fallopian Tube, Percutaneous Approach	Y	N	
0UP833Z	Removal of Infusion Device from Fallopian Tube, Percutaneous Approach	Y	N	
0UP837Z	Removal of Autologous Tissue Substitute from Fallopian Tube, Percutaneous Approach	Y	N	
0UP83CZ	Removal of Extraluminal Device from Fallopian Tube, Percutaneous Approach	Y	N	
0UP83DZ	Removal of Intraluminal Device from Fallopian Tube, Percutaneous Approach	Y	N	
0UP83JZ	Removal of Synthetic Substitute from Fallopian Tube, Percutaneous Approach	Y	N	
0UP83YZ	Removal of Other Device from Fallopian Tube, Percutaneous Approach	Y	N	
0UP843Z	Removal of Infusion Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UP84CZ	Removal of Extraluminal Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UP84DZ	Removal of Intraluminal Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UP84JZ	Removal of Synthetic Substitute from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UP84YZ	Removal of Other Device from Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UP87JZ	Removal of Synthetic Substitute from Fallopian Tube, Via Natural or Artificial Opening	Y	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0UP88JZ	Removal of Synthetic Substitute from Fallopian Tube, Via Natural or Artificial Opening Endoscopic	Y	N	
0UP8X0Z	Removal of Drainage Device from Fallopian Tube, External Approach	Y	N	
0UP8X3Z	Removal of Infusion Device from Fallopian Tube, External Approach	Y	N	
0UP8XDZ	Removal of Intraluminal Device from Fallopian Tube, External Approach	Y	N	
0UQ90ZZ	Repair Uterus, Open Approach	Y	N	
0UQF7ZZ	Repair Cul-de-sac, Via Natural or Artificial Opening	Y	N	
0UQG0ZZ	Repari vagina, open approach	Y	N	
0UQG7ZZ	Repair Vagina, Via Natural or Artificial Opening	Y	N	
0UQJ0ZZ	Repair Clitoris, Open Approach	Y	N	
0UQJXZZ	Repair Clitoris, External Approach	Y	N	
0UT00ZZ	Resection of Right Ovary, Open Approach	Y	N	
0UT00ZZ	Resection of Right Ovary, Open Approach	Y	N	
0UT04ZZ	Resection of Right Ovary, Percutaneous Endoscopic Appro	Y	N	
0UT04ZZ	Resection of Right Ovary, Percutaneous Endoscopic Approach	Y	N	
0UT07ZZ	Resection of Right Ovary, Via Natural or Artificial Ope	Y	N	
0UT07ZZ	Resection of Right Ovary, Via Natural or Artificial Opening	Y	N	
0UT10ZZ	Resection of Left Ovary, Open Approach	Y	N	
0UT10ZZ	Resection of Left Ovary, Open Approach	Y	N	
0UT14ZZ	Resection of Left Ovary, Percutaneous Endoscopic Approa	Y	N	
0UT14ZZ	Resection of Left Ovary, Percutaneous Endoscopic Approach	Y	N	
0UT17ZZ	Resection of Left Ovary, Via Natural or Artificial Open	Y	N	
0UT17ZZ	Resection of Left Ovary, Via Natural or Artificial Opening	Y	N	
0UT20ZZ	Resection of Bilateral Ovaries, Open Approach	Y	N	
0UT20ZZ	Resection of Bilateral Ovaries, Open Approach	Y	N	
0UT24ZZ	Resection of Bilateral Ovaries, Percutaneous Endoscopic Approach	Y	N	
0UT27ZZ	Resection of Bilateral Ovaries, Via Natural or Artificial Opening	Y	N	
0UT44ZZ	Resection of Uterine Supporting Structure, Percutaneous	Y	N	
0UT50ZZ	Resection of Right Fallopian Tube, Open Approach	Y	N	
0UT54ZZ	Resection of Right Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0UT57ZZ	Resection of Right Fallopian Tube, Via Natural or Artificial Opening	Y	N	
0UT60ZZ	Resection of Left Fallopian Tube, Open Approach	Y	N	
0UT64ZZ	Resection of Left Fallopian Tube, Percutaneous Endoscopic Approach	Y	N	
0UT67ZZ	Resection of Left Fallopian Tube, Via Natural or Artificial Opening	Y	N	
0UT70ZZ	Resection of Bilateral Fallopian Tubes, Open Approach	Y	N	
0UT74ZZ	Resection of Bilateral Fallopian Tubes, Percutaneous Endoscopic Approach	Y	N	
0UT77ZZ	Resection of Bilateral Fallopian Tubes, Via Natural or Artificial Opening	Y	N	
0UT90ZL	Resection of Uterus, Supracervical, Open Approach	Y	N	
0UT90ZZ	Resection of Uterus, Open Approach	Y	N	
0UT94ZL	Resection of Uterus, Supracervical, Percutaneous Endosc	Y	N	
0UT94ZZ	Resection of Uterus, Percutaneous Endoscopic Approach	Y	N	
0UT97ZZ	Resection of Uterus, Via Natural or Artificial Opening	Y	N	
0UT9FZZ	Resection of Uterus, Via Natural or Artificial Opening	Y	N	
0UTC0ZZ	Resection of Cervix, Open Approach	Y	N	
0UTC4ZZ	Resection of Cervix, Percutaneous Endoscopic Approach	Y	N	
0UTC7ZZ	Resection of Cervix, Via Natural or Artificial Opening	Y	N	
0UTM0ZZ	Resection of Vulva, Open Approach	Y	N	
0UTMXZZ	Resection of Vulva, External Approach	Y	N	
0UUG07Z	Supplement Vagina with Autologous Tissue Substitute, Open Approach	Y	N	
0UUG0JZ	Supplement Vagina with Synthetic Substitute, Open Approach	Y	N	
0UUG0KZ	Supplement Vagina with Nonautologous Tissue Substitute, Open Approach	Y	N	
0UUG47Z	Supplement Vagina with Autologous Tissue Substitute, Percutaneous Endosc	Y	N	
0UUG4JZ	Supplement Vagina with Synthetic Substitute, Percutaneous Endoscopic App	Y	N	
0UUG4KZ	Supplement Vagina with Nonautologous Tissue Substitute, Percutaneous End	Y	N	
0UUG77Z	Supplement Vagina with Autologous Tissue Substitute, Via Natural or Arti	Y	N	
0UUG7JZ	Supplement Vagina with Synthetic Substitute, Via Natural or Artificial O	Y	N	
0UUG7KZ	Supplement Vagina with Nonautologous Tissue Substitute, Via Natural or A	Y	N	

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0UUG87Z	Supplement Vagina with Autologous Tissue Substitute, Via Natural or Arti	Y	N	
0UUG8JZ	Supplement Vagina with Synthetic Substitute, Via Natural or Artificial O	Y	N	
0UUG8KZ	Supplement Vagina with Nonautologous Tissue Substitute, Via Natural or A	Y	N	
0UUGX7Z	Supplement Vagina with Autologous Tissue Substitute, External Approach	Y	N	
0UUGXJZ	Supplement Vagina with Synthetic Substitute, External Approach	Y	N	
0UUGXKZ	Supplement Vagina with Nonautologous Tissue Substitute, External Approac	Y	N	
0UUM07Z	Supplement Vulva with Autologous Tissue Substitute, Open Approach	Y	N	
0UUM0KZ	Supplement Vulva with Nonautologous Tissue Substitute, Open Approach	Y	N	
0VB50ZX	Excision of Scrotum, Open Approach, Diagnostic	Y	N	
0VB50ZZ	Excision of Scrotum, Open Approach	Y	N	
0VB53ZX	Excision of Scrotum, Percutaneous Approach, Diagnostic	Y	N	
0VB53ZZ	Excision of Scrotum, Percutaneous Approach	Y	N	
0VB54ZX	Excision of Scrotum, Percutaneous Endoscopic Approach, Diagnostic	Y	N	
0VB54ZZ	Excision of Scrotum, Percutaneous Endoscopic Approach	Y	N	
0VB5XZX	Excision of Scrotum, External Approach, Diagnostic	Y	N	
0VB5XZZ	Excision of Scrotum, External Approach	Y	N	
0VB90ZZ	Excision of Right Testis, Open Approach	Y	N	
0VBB0ZZ	Excision of Left Testis, Open Approach	Y	N	
0VBC0ZZ	Excision of Bilateral Testes, Open Approach	Y	N	
0VBS0ZZ	Excision of Penis, Open Approach	Y	N	
0VBSXZZ	Excision of Penis, External Approach	Y	N	
0VR90JZ	Replacement of Right Testis with Synthetic Substitute, Open Approach	Y	N	
0VRB0JZ	Replacement of Left Testis with Synthetic Substitute, Open Approach	Y	N	
0VRC0JZ	Replacement of Bilateral Testes with Synthetic Substitute, Open Approach	Y	N	
0VT00ZZ	Resection of Prostate, Open Approach	Y	N	
0VT04ZZ	Resection of Prostate, Percutaneous Endoscopic Approach	Y	N	
0VT07ZZ	Resection of Prostate, Via Natural or Artificial Opening	Y	N	
0VT10ZZ	Resection of Right Seminal Vesicle, Open Approach	Y	N	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0VT20ZZ	Resection of Left Seminal Vesicle, Open Approach	Y	N	
0VT30ZZ	Resection of Bilateral Seminal Vesicles, Open Approach	Y	N	
0VT90ZZ	Resection of Right Testis, Open Approach	Y	N	
0VT94ZZ	Resection of Right Testis, Percutaneous Endoscopic Approach	Y	N	
0VTB0ZZ	Resection of Left Testis, Open Approach	Y	N	
0VTB4ZZ	Resection of Left Testis, Percutaneous Endoscopic Approach	Y	N	
0VTC0ZZ	Resection of Bilateral Testes, Open Approach	Y	N	
0VTC4ZZ	Resection of Bilateral Testes, Percutaneous Endoscopic Approach	Y	N	
0VTN0ZZ	Resection of Right Vas Deferens, Open Approach	Y	N	
0VTP0ZZ	Resection of Left Vas Deferens, Open Approach	Y	N	
0VTQ0ZZ	Resection of Bilateral Vas Deferens, Open Approach	Y	N	
0VTS0ZZ	Resection of Penis, Open Approach	Y	N	
0VTS4ZZ	Resection of Penis, Percutaneous Endoscopic Approach	Y	N	
0VTSXZZ	Resection of Penis, External Approach	Y	N	
0VUS07Z	Supplement Penis with Autologous Tissue Substitute, Open Approach	Y	N	
0VUS0JZ	Supplement Penis with Synthetic Substitute, Open Approach	Y	N	
0VUS0KZ	Supplement Penis with Nonautologous Tissue Substitute, Open Approach	Y	N	
0VUS47Z	Supplement Penis with Autologous Tissue Substitute, Percutaneous Endoscop	Y	N	
0VUS4JZ	Supplement Penis with Synthetic Substitute, Percutaneous Endoscopic Appro	Y	N	
0VUS4KZ	Supplement Penis with Nonautologous Tissue Substitute, Percutaneous Endos	Y	N	
0VUSX7Z	Supplement Penis with Autologous Tissue Substitute, External Approach	Y	N	
0VUSXJZ	Supplement Penis with Synthetic Substitute, External Approach	Y	N	
0VUSXKZ	Supplement Penis with Nonautologous Tissue Substitute, External Approach	Y	N	
0W4M070	Creation of vagina in male perineum with autologous tissue substitute, open approach	Y	Y	
0W4M0J0	Creation of vagina in male perineum with synthetic sustitute, open approach	Y	Y	
0W4M0K0	Creation of vagina in male perineum with nonautlogous tissue substitute, open approach	Y	Y	
0W4M0Z0	Creation of vagina in male perineum , open approach	Y	Y	

ICD Procedure By Numeric

ICD-10 (hospital procedure) DOS after 10/1/2015		FH Coverage	*Definitive Gender reassignment procedure	*althouth these codes are specific to gender reassignment, they can apply to surgery for newborns with ambiguous genatalia as well.
0W4N071	Creation of penis in female perineum with autologous tissue substitute, open approach	Y	Y	
0W4N0J1	Creation of penis in female perineum with synthetic sustitute, open approach	Y	Y	
0W4N0K1	Creation of penis in female perineum with nonautlogous tissue substitute, open approach	Y	Y	
0W4N0Z1	Creation of penis in female perineum, open approach	Y	Y	
0WQ80ZZ	Repair Chest Wall, Open Approach	Y	N	
0WQ8XZZ	Repair Chest Wall, External Approach	Y	N	
0WQN0ZZ	Repair Female Perineum, Open Approach	Y	N	
0WUN0KZ	Supplement Female Perineum with Nonautologous Tissue Substitute, Open Approach	Y	N	
0WUN47Z	Supplement Female Perineum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach	Y	N	
0WUN4JZ	Supplement Female Perineum with Synthetic Substitute, Percutaneous Endoscopic Approach	Y	N	
0WUN4KZ	Supplement Female Perineum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach	Y	N	

EXHIBIT

11

gender confirming surgery PAs

From: "Sager, Julie A - DHS" <julie.sager@dhs.wisconsin.gov>

To: "Currans-Henry, Rachel H - DHS" <rachel.curranshenry@dhs.wisconsin.gov>, "Appleby, Pamela S - DHS" <pamela.appleby@dhs.wisconsin.gov>, "Wiggins, Lora - DHS" <lora.wiggins@dhs.wisconsin.gov>

Cc: "Landkamer, Denise F - VEDS" <denise.landkamer@wisconsin.gov>

Date: Mon, 14 Nov 2016 12:22:25 -0600

Hello,

Our internal handling of gender confirming procedures has been in flux. As you know Wisconsin admin code DHS 107.03(24) prohibits payment for "transsexual surgery" however this appears to be non-compliant with the nondiscrimination principles and standards of Section 1557 of the Affordable Care Act.

Medicare currently provides coverage for procedures that, for a non-transgendered individual, would be considered cosmetic but in the context of treating gender dysphoria become medically reasonable and necessary.

Wis. Admin Code DHS 107.06(2)(c) does allow for "surgical or other medical procedures of questionable medical necessity but deemed advisable in order to correct conditions that may reasonably **be assumed** to significantly interfere with a recipient's personal or social adjustment or employability, an example of which is cosmetic surgery". This forms the basis of the PA guideline criteria for ForwardHealth's cosmetic procedure coverage.

I have a PA (# 5162630055) for breast implants for a biologic male to treat gender dysphoria (she has been on female hormones for 3 years). Originally the only supporting documents were from a plastic surgeon. I returned the PA for a statement from a mental health provider regarding how the gender dysphoria affects the member's functioning and what effect might the proposed procedure have in treating this, but the provider failed to provide this further information citing 'confidentiality issues'.

You will notice that the code reference above details that if the perceived defect is assumed (proof, per se, is not required) to significantly interfere with functioning (such as gender dysphoria) it could be covered. My question to management, given this is a politically sensitive issue, is how we should be handling this and other requests of this nature going forward.

Thank you!
Julie

Julie Sager MD
Medical Director
Division of Health Care Access and Accountability
Wisconsin Medicaid

T: (608) 261-9043
F: (608) 266-1096

EXHIBIT

12

RE: injunction correspondence

From: "Sager, Julie A - DHS" <julie.sager@dhs.wisconsin.gov>

To: "Wiggins, Lora - DHS" <lora.wiggins@dhs.wisconsin.gov>

Cc: "Appleby, Pamela S - DHS" <pamela.appleby@dhs.wisconsin.gov>

Date: Wed, 04 Jan 2017 11:19:21 -0600

Attachments: Section 1557 ltr to HMOs 1-3-17 DRAFT v6 (3).docx (23.78 kB)

Hi Lora,

Following the recent injunction and given this black and white directive to the HMOs, I think that our current internal adjudication workflow which attempts to harmonize the admin code should be **sanctioned by management**.

Specifically I am referring to the contradictory admin code DHS 107.03(24) and 107.03(23) prohibiting payment for 'Transsexual surgery' and 'Drugs, including hormone therapy, associated with transsexual surgery or medically unnecessary' *versus* DHS 107.06(2)(c) allowing payment for 'surgical or other medical procedures of questionable medical necessity but deemed advisable in order to correct conditions that may reasonably be assumed to significantly interfere with a recipient's personal or social adjustment or employability, an example of which is cosmetic surgery'.

In my opinion, I think it is a more transparent and reasonable option to deny all these requests for gender confirming treatment (hormones and surgery), not that I believe this to be ethically or morally right, but in order to catalyze a better solution through the appropriate legislative or legal channels rather than attempt a non-standard, not publishable, and therefore, indefensible ad hoc solution.

I will await to hear the outcome of your discussion with Rachel and/ or Michael. Let me know if you'd like me to be involved.

Julie

Julie Sager MD
Medical Director
Division of Health Care Access and Accountability
Wisconsin Medicaid

T: (608) 261-9043
F: (608) 266-1096

From: Wiggins, Lora - DHS
Sent: Wednesday, January 04, 2017 9:55 AM

To: Sager, Julie A - DHS
Subject: FW: injunction correspondence

fyi

From: Currans-Henry, Rachel H - DHS
Sent: Wednesday, January 04, 2017 9:53 AM
To: Wiggins, Lora - DHS; Wagner, Makalah - DHS; Appleby, Pamela S - DHS; Stepien, David T - DHS
Subject: FW: injunction correspondence

Just received this. First I have heard from anyone on this issue…

From: Heifetz, Michael G - DHS
Sent: Wednesday, January 04, 2017 9:43 AM
To: Mattke, Marlia K - DHS; Cunningham, Curtis J - DHS; Currans-Henry, Rachel H - DHS; Willing, Krista E - DHS
Subject: FW: injunction correspondence

This will be going out shortly to contract administrators.

EXHIBIT

13

BIENNIAL RULE REVIEW: Division of Medicaid Services (DMS), Proposed Findings

Rule	I.A	II.A	III.A	IV.A	V.A	Citations	Rationale	Actions
DHS 65						s. 46.985	Per DMS JCRAR Report Findings	Repeal entire chapter
DHS 90			X			227.11 (2) (a) Stats. And 51.44 (1m) and (5) (a), (am) and (b)	There are eight potential conflicts between the current DHS 90 and the 2011 Part C Regulations 34 CFR 303 (Further details are provided in an additional document comparing DHS 90 with 34 CFR 303): * 34 CFR 303.420 Screening procedures and requirements---DHS 90 does not include all the procedures to protect parental rights such as written prior notice of the reason for the screening and parental consent prior to conducting a screening. * 34 CFR 303.209(d) Transition plan requirements---DHS 90 does not include the timeline requirement for the transition plan to be developed. * 34 CFR 303.209(b)(1)(i-iii) Referral to the Local Education Agency (LEA)---DHS 90 does not include the timeline requirement, the confirmation documentation requirements or the process and requirements for late referrals to the county Birth to 3 Program including the relationship of the late referral to the transition activities. * 34 CFR 303.416(b) Destruction with permanent record---DHS 90 does not outline, as the Part C	Add new eligibility groups and policies covered only by policy handbooks.

	regulations do, the limited information that can be maintained by the Birth to 3 Program after destruction of records occurs. * 34 CFR 303.405(c) Parental authority requirement---DHS 90 indicates that if a Birth to 3 Program has been "advised" that a person does not have parental rights, the program can deny access to the parent to review their child's record. The Part C regulations state the Birth to 3 Program needs documentation that the parent does not have the authority under applicable State laws governing such matters as custody, foster care, guardianship, separation, and divorce before denying access to records. * 34 CFR 303.405(a) Parental access to records requirement---DHS 90 contradicts the Part C regulations in the number of days (from 15 to 10) a Birth to 3 Program has to provide a parent access to their child's records. * 34 CFR 303.437(b-c) Due Process Hearing timeline---DHS 90 contradicts the Part C regulations in the number of days (from 45 to 30) in which the lead agency must render a decision. * 34 CFR 303.431(b)(2) Mediator assignment---DHS 90 states that mediators can be chosen by the parties, whereas the Part C Regulations state that mediators must be randomly assigned.					

DHS 103.04(7)(d)			X			42 CFR 435.603	Under federal modified adjusted gross income rules, an 18-year-old's eligibility is based on the tax filing and relationship status of the 18-year-old and his parents. In most cases, the 18-year-old must have his or her eligibility determined with his or her parents. The admin rule describes a less restrictive policy in which the 18-year-old may choose whether to have his or her eligibility determined with the parents or separately from them.	Strike this portion of the rule.
DHS 103.085(6)			X			ss. 49.471(4)(a)4.b.	The admin rule describes an obsolete policy in which current members may remain eligible at annual renewal as long as their income does not exceed 200% FPL. (At the time, the income limit at application was 185% FPL.) This is less restrictive than the current policy authorized in the citation, in which parents and caretakers are subject to an income limit at application and renewal of 100% FPL.	Strike this portion of the rule.
DHS 103.085(3)(b)2				X		42 CFR 457.10 and 42 CFR 457.570	States have authority under 42 CFR 457 to establish eligibility lock-out periods for non-payment of premiums, as long as they are no more than 90 days and as long as they can be remedied by payment of owed premiums. Under previous state policy, in which lock-out periods were longer than 3 months and could not be remedied by payment of owed premiums, we ended such lock-out periods if a parent or caretaker relative left the home. This policy was discontinued in 2014 but is still described in the admin rule.	Strike this portion of the rule.
DHS 103.085(1)(d)5					X		This is not an eligibility concern but an administrative issue: we have discontinued the practice of allowing advance payment of premiums	Strike this portion of the rule.

							because it is costly and administratively complex to manage refunds. In anticipation of implementing premium obligations for childless adults, we seek to remove this provision in the admin rule, as it would require us to allow advanced premium payments for that group.	
DHS 104			X			104.01	Duplicative, Superseded or Conflicting	104.01(3) 42 CFR Part 2 allows the member to determine who receives their records. The member is allowed to specify on a written consent form specifically who the records may be delivered to. The impacts of 42 CFR Part 2 need to be considered for this rule.
DHS 105			X			DHS 105.02	Duplicative, Superseded or Conflicting	105.02(5) The Covered Outpatient Drugs Final Rule (CMS-2345-FC) instructs state Medicaid agencies to perform a cost of dispensing survey.
DHS 105			X			DHS 105.22	Duplicative, Superseded or Conflicting	This section has been superseded by Wis. Stat. 49.45(30f)
DHS 105			X			DHS 105.23	Duplicative, Superseded or Conflicting	This section has been superseded by Wis. Stat. 49.45(30f)
DHS 107			X			DHS 107.03	Duplicative, Superseded or Conflicting	107.03(12) restricting consultations has been superseded by Stat. 49.45(29y) which authorizes

								mental health consultations for students.
DHS 107			X			DHS 107.06	Duplicative, Superseded or Conflicting	107.06(4)(e)As a result of 2005 Wisconsin Act 25, the 2005-07 biennial budget, effective immediately, a second surgical opinion is no longer required by Wisconsin Medicaid. 107.06 (4)(c) WI Act 59 established a mental health clinical consultation is a communication from a mental health for a BadgerCare Plus or Medicaid beneficiary, who is a student under 21 years of age with an established mental health diagnosis. Mental health clinical consultations are reimbursable services when provided by enrolled mental health providers currently allowed to render outpatient mental health services to any of the following: •Educator teams •Individual educators •School staff Mental health clinical consultations may be provided via telephone or face-to-face interviews. 107.06(5)-Mental

health clinical consultations not related to the member's diagnosis or treatment for mental illness are considered noncovered services.	107.10(4)(p) Conflicts with federal law. Section 1557 of the Affordable Care Act prohibits discrimination based on gender identity. There are an estimated 1.4 million adults in the US that identify as transgender. It is more acceptable today for a person to identify as a different sex than what they were born as. Major medical associations in the US have described transition-related surgeries as "medically necessary" for both the physical and mental health of transgender people. More and more insurance plans and Medicare are covering these surgeries. As these surgeries become more frequent, the rule has become outdated by not allowing coverage for these types of	Duplicative, Superseded or Conflicting	DHS 107.10(4)(p)			
	DHS 107					

drugs. Section 1557 of the Affordable Care Act prohibits discrimination based on gender identity. Recommendation is to delete this rule or revise the rule to allow coverage of drugs for trans-sexual surgeries or alteration of sexual anatomy or characteristics						DHS 107
WI Act 27 Laws of 1995 Section 3002m. changed the requirement. Under §49.45 (42) Wis. Stat. Statutes, PA for PCS is required after 50 hours of service have been provided in a calendar year. DHS 107.112(2)(a) needs to change to 50 hours per calendar year.	Duplicative, Superseded or Conflicting	DHS 107.112		X		DHS 107
DHS 107.06(3)(b)1. is incorrect. Federal law prohibits the coverage of hysterectomies when the sole purpose is for sterilization.	Duplicative, Superseded or Conflicting	DHS 107.21				DHS 107
107.24(2)(c) 1. Occupational therapy assistive or adaptive equipment. This is medical equipment used in a recipient's home to assist a disabled person to adapt to	Duplicative, Superseded or Conflicting	DHS 107.24				DHS 107

the environment or achieve independence in performing daily personal functions. Examples are adaptive hygiene equipment, adaptive positioning equipment and adaptive eating utensils.	107.24(2)(c)4. Other home health care durable medical equipment. This is medical equipment used in a recipient's home to increase the independence of a disabled person or modify certain disabling conditions. Examples are patient lifts, hospital beds and traction equipment.	Duplicative, Superseded or Conflicting	107.24(2)(c)5. Oxygen therapy equipment. This is medical equipment used in a recipient's home for the administration of oxygen or medical formulas or to assist with respiratory functions. Examples are a nebulizer, a respirator and a liquid oxygen system.	Duplicative, Superseded or Conflicting	107.24(2)(c)6.Physical therapy splinting or adaptive equipment. This is	Duplicative, Superseded or Conflicting

								medical equipment used in a recipient's home to assist a disabled person to achieve independence in performing daily activities. Examples are splints and positioning equipment.
DHS 109			X			DHS 109.03	Duplicative, Superseded or Conflicting	109.03(12) Incorrect payment information; may open the state up to lawsuits for monies owed.
DHS 109			X			DHS 109.51	Duplicative, Superseded or Conflicting	109.51(3) 42 CFR Part 2 allows the member to determine who receives their records. The member is allowed to specify on a written consent form specifically who the records may be delivered to. The impacts of 42 CFR Part 2 need to be considered for this rule.
DHS 251.03(13)						DHS 251.03(13)	Per DMS JCRAR Report Findings	Regarding tribal affairs. This provision is a definition. All provisions containing the defined term should be reviewed.

SIGNATURE – Administrator	Date Signed
Date Due to Office of Legal Counsel	Date Submitted