



Ten Most Important Things to Know About Caring for Transgender Patients

Stuart R. Chipkin, MD,^{a,b} Fred Kim, MD^c

^aUniversity of Massachusetts School of Public Health and Health Sciences, Amherst; ^bValley Medical Group, Amherst, Mass; ^cValley Medical Group, Florence, Mass.

ABSTRACT

Transgender people have a gender that is not in agreement with their birth sex. Previous barriers, including lack of provider knowledge, have created significant healthcare disparities for this population. Recent societal changes are increasing the numbers of transgender people seen by primary care practitioners. Ten key principles are provided to help primary care practitioners create more welcoming environments and provide quality care to transgender patients. Overall, all members of the healthcare team (primary and specialty) need to become aware of the transition process and maintain communication regarding risks, benefits, and goals. Transwomen (aka male to female) can be treated with estrogens, antiandrogens, or a combination. Benefits include change in fat distribution, skin softening, and breast development. Significant risks for thrombosis from estrogens have been linked to genetic mutations, smoking, prolonged inactivity, and hormone formulation. Oral administration may provide increased risk over peripheral administration. Transmen (aka female to male) can be treated with peripheral testosterone preparations. Benefits include deepening of voice and development of facial and body hair with variable changes in muscle mass. Risks from testosterone appear to be less common than from estrogen. Laboratory monitoring can guide treatment decisions and provide early detection of some complications. Monitoring of “existing” anatomy (either hormonally or surgically created or removed) is an important component of healthcare for transgender patients. Primary care providers also should be aware of resources in their community and online, which can help patients optimize their transition.

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Transgender individuals are presenting increasingly in social, business, and clinical settings. The most recent estimate for the prevalence of transgender (or transsexual) individuals in the United States is 1 to 1.4 million,^{1,2} which is double from 2011.³ The incidence of transgender people likely has not changed, rather it is their willingness to identify themselves that has made the number increase so quickly. Further, this number still presumably represents an underestimation.

The hesitancy to inform others about their identity has led to a lack of healthcare. Some of this may have been due to cost barriers (where care for transsexualism is not covered), but transgender people also have reported problems in healthcare encounters. Nineteen percent of transgender individuals reported being denied care in inpatient and outpatient settings.⁴ Even when patients were seen in the office, 28% reported verbal harassment. It is not surprising that 48% of female to male (transmen) patients and 33% of male to female (transwomen) patients delayed or avoided preventive care.⁴ Fifty percent of transgender patients stated that they had to inform their healthcare provider about transgender healthcare. Knowledge gaps have contributed to a disparity in healthcare delivery for this population.

With increasing public awareness, primary care providers in all settings need more information to provide appropriate care and reduce disparities. The 10 points of information that follow apply to transgender individuals who accept

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Requests for reprints should be addressed to Stuart R. Chipkin, MD, University of Massachusetts, 215 Arnold, 715 North Pleasant St, Amherst, MA 01003.

E-mail address: schipkin@umass.edu

gender as a binary state. Some patients will consider gender as a spectrum and may refer to themselves as gender nonconforming (also referred to as “gender-queer,” “gender fluid,” and “gender nonbinary”) with different needs than those reviewed in this article. A brief glossary of terms is provided in **Table 1**.

1. UNDERSTAND THE DIFFERENCE AMONG GENDER, SEX, AND SEXUALITY

A patient’s sex is their anatomy based on their chromosomal phenotype. Their sexuality is the gender of the person to whom they are attracted. Their gender is how they want to be viewed by the world around them. **Figure** demonstrates the areas of overlap and distinction among these 3 constructs.

2. CLINICIANS SHOULD BE PART OF A TEAM

Transgender patients often describe their transition to their preferred gender as a journey. **Table 2** lists other potential members of the transgender patient’s guiding team. Mental health providers often initially identify and address gender dysphoria and subsequently support patients through hormone or surgical therapy and their interactions with family, friends, colleagues, employers, and public institutions. They also can play a vital role helping with other behavioral health issues. Endocrinologists can recommend regimens to suppress

CLINICAL SIGNIFICANCE

- Transgender people have avoided primary care in part because of a lack of provider understanding about approaches and standards and differences among sex, gender, and sexuality.
- Transwomen (male to female) treated with estrogens should be monitored for possible deep venous thrombosis.
- Transmen (female to male) can be treated with testosterone with few adverse events.
- Patients need care for whatever anatomy remains or has developed from clinical therapies.

endogenous sex hormones and augment target hormone concentrations. In addition, they help with clinically more complicated scenarios. There is a spectrum of opinions regarding the involvement of behavioral health and hormone prescribers, which can vary from extensive involvement to minimal interaction. Although not all patients go through gender re-assignment surgery, many will opt for some type of procedure (see item 8). It is important to identify whether local providers are knowledgeable and welcoming of transgender patients. If not, regional centers are increasingly publicizing their services.

Beyond the multiple professionals who help transgender patients, administrative and clinical staff can be crucial team members. Staff need to understand and learn about preferred names and pronouns. Information technology staff should identify options for electronic medical/health records to include gender and sex. Respectful responses from administrative and clinical staff can determine whether a patient feels

welcome and comfortable discussing difficult topics, seeking care, and responding to recommendations.

3. CONDUCT A COMPLETE HISTORY AND PHYSICAL EXAMINATION

Initial visits can identify potential risk factors for complications of gender-affirming therapies. Most observational studies have identified higher risks of thrombosis in transwomen with at least one of the following risk factors: smoking, genetic predisposition, prolonged immobility, or use of ethinyl estradiol or conjugated estrogens.⁵⁻⁷ Transwomen who will potentially receive high doses of estrogen need to be asked about personal or family histories of breast cancer and thrombotic disorders. Histories of migraines or hypertriglyceridemia also are relevant. Medical concerns before initiating testosterone therapy for transmen should follow those for genetic men receiving replacement testosterone therapy.⁸ Although not all studies have documented increases in blood pressure in transmen receiving testosterone,^{9,10} the potential impact of androgens on vascular tone and resistance should be considered.

The importance of smoking cessation cannot be overstated. For transwomen who typically use high doses of estrogen, smoking augments the risk for thrombosis. Some practitioners will not prescribe estrogen to transwomen who smoke. Although transmen have not demonstrated increased risk for cardiovascular events, the potential additive risk of smoking is worth considering. At a minimum, transmen

Table 1 Brief Glossary of Terms

Term	Description
Sex	Biological phenotype present at birth (some use terms male/female)
Gender	How a person sees himself/herself (some use terms man/woman)
Transgender/transsexual	Circumstance in which the person’s birth sex does not match his/her gender.
Transman (female to male)	A biological female who sees himself as a man
Transwoman (male to female)	A biological male who sees herself as a female
Dysphoria	Emotional distress, which can manifest as anxiety, depression, or other behavioral symptoms. Gender dysphoria occurs when an individual’s assigned gender does not match his/her biological sex.

Note: Sexuality is independent of sex or gender. Thus, a transman could be attracted to biological females (heterosexual) or biological males (homosexual).

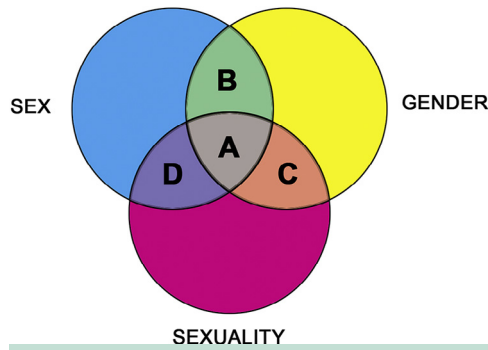


Figure Overlap of biological sex, gender perception, and sexual identification. A = Overlap conforming to societal expectations; sex and gender match and person is heterosexual (eg, a biological male who sees himself as male and is attracted to females; a biological female who sees herself as female and is attracted to males). B = Biological sex and gender overlap but sexuality does not; homosexual (a biological male who sees himself as male and is attracted to males; a biological female who sees herself as female and is attracted to females). C = Gender and sexuality align but not congruous with biological sex; straight, transgender person (a biological male who sees herself as female and is attracted to males; a biological female who sees himself as male and is attracted to biological females). D = Biological sex and sexuality align but are not congruous with gender; homosexual and transgender (a biological male who sees herself as female and is attracted to females; a biological female who sees himself as male and is attracted to males).

Table 2 Members of Transgender Support Team

- Primary Care Provider: Coordinate overall care of patient.
 - o Administrative Staff: reception, practice managers
 - o Clinical Staff: medical assistants, nurses
- Mental Health Provider: Identify, address, and support patients through transition in personal, public, family, and work settings.
- Endocrinologist: Develop regimens to suppress natal hormones and augment goal hormones.
 - o Male to female: estrogen delivery and antiandrogens medications
 - o Female to male: testosterone delivery
- Surgeon: Create changes that conform to patient's preferred gender.
 - o Male to female: breast augmentation, facial feminization, orchiectomy, vaginoplasty
 - o Female to male: mastectomies, hysterectomy/oophorectomy, metoidioplasty, voice/speech therapist: assist transwomen with female speech styles
- Aesthetician (electrolysis): Remove facial and body hair for more female appearance.

should be counseled in the same way as all patients to stop smoking.

Primary care providers need to be able to have open and honest discussions with transmen and transwomen about sexual practices to reduce risks for sexually transmitted illnesses.^{11,12} Cross-sex hormone therapy also has the potential to affect reproductive function, although this has not been well studied. Without clear evidence, patients should be counseled about options before beginning hormone therapy.¹³

A corollary of acknowledging transgender health issues is to remember that “not everything is a transgender issue.” Patients receiving cross-gender therapy need to have routine primary care needs addressed in the same manner as nontransgender patients. Routine immunizations, chronic disease screening and management, and new diagnostic problems may be the principal purpose of many visits. However, it is important to recognize that some problems occur more frequently among transgender patients, including depression, suicidality, hepatitis, and human immunodeficiency virus.^{5,14}

4. HORMONAL TREATMENT OF TRANSWOMEN: ESTROGEN AND ANTIANDROGENS

The goal for most transwomen will be to maximize feminine aspects and minimize male features. Antiandrogens reduce testosterone concentrations or block testosterone receptors. Because these agents do not increase estrogen levels, the impact on maximizing feminine aspects is relatively small. Spironolactone is used in the United States; cyproterone is available in Europe, Canada, Mexico, and other countries. Side effects for spironolactone can include dizziness and hyperkalemia. Use of antiandrogens without estrogen can result in decreased bone density.¹⁵

Estrogen therapy can, at pharmacologic doses, increase feminine features and suppress androgens. Estrogenic effects likely are related to several factors, including serum concentrations, age, and genetics. Continued increases in estrogen dosing beyond certain levels may not yield significant physical changes but may increase the risk for complications.

Estrogens can be delivered as pills, patches, topical gel, or injections. Sample regimens are provided in **Table 3**. In general, estrogen therapy should begin at low doses and progress based on serum concentrations. Rare cases of hyperprolactinemia have been reported.¹⁷ Although previous observational studies noted increased thrombotic and cardiovascular risk due to ethinyl estradiol,^{5,14} more recent studies using estradiol have reported less risk.^{18,19} A presumed mechanism for the increased risk in thrombosis relates to hepatic exposure to high portal concentrations of hormone after intestinal absorption. The increased portal estradiol causes resistance to activated protein C with resulting increases in plasma protein C and a large decrease in plasma protein S.²⁰ Higher estrogen doses also can produce hypertriglyceridemia.²¹ Patients may opt for transdermal or intramuscular estrogen therapy in an effort to avoid a “first

Table 3 Hormone Regimens for Transgender Individuals (Adapted in Part from the World Professional Association of Transgender Health)

Treatment	Dosage	Advantages	Disadvantages
Male to female			
Estrogen			
- Oral (estradiol)	2.0-6.0 mg/d	Oral medication	Portal metabolism
- Transdermal:			
o Patch	0.1-0.4 mg twice weekly	No portal delivery	Multiple patches usually needed
- Parenteral (valerate or cypionate)	5-20 mg im every 2 wk 2-10 mg im every 1 wk	No portal delivery	Injections
Gonadotropin agonist	3.75 mg sc monthly	Long duration Stops puberty	Expense Does not increase estrogen
Antiandrogens			
- Spironolactone	100-200 mg/d	Oral medication No risk for thrombosis	Little estrogenic effect Hyperkalemia Dehydration/dizziness
- Cyproterone	50-100 mg/d	Oral medication No risk for thrombosis	Not available in United States Little estrogenic effect Hyperprolactinemia
- Finasteride	1-5 mg/d	Inhibit peripheral androgen action	Less useful with androgen suppression
- Dutasteride	0.5 mg/d		
Female to male			
Testosterone			
- Parenteral			
o Enanthate or cypionate	100-200 mg im every 2 wk or half dose weekly		Injections
o Undecanoate	1000 mg every 12 wk		Limited availability in United States
- Transdermal			
o Gel	2.5-10 g/d	Consistent serum levels	Skin-to-skin transmission Irritation
o Patch	2.5-7.5 mg/d		
im = intramuscularly; sc = subcutaneously. Modified from Hembree et al. ¹⁶			

pass" liver effect. Although there are no long-term studies comparing one form of estrogen therapy with another, it may be reasonable for patients at increased risk to use a nonoral route of administration.

Some patients may request providers to prescribe progesterone. However, there is no good evidence that chronic progesterone augments breast development or provides any other benefits to transwomen. Side effects of progesterone include depression and weight gain.²² Medroxyprogesterone may have a more negative impact on lipid parameters than micronized progesterone²³ and may increase risks for breast and cardiovascular risk.²⁴

Pharmacologic estrogen doses typically provide benefits to skin and subcutaneous fat. Patients can develop breasts and increased body fat around hips. In general, patients also report softening of skin, which often improves hair-removal treatments. Because increased estrogen levels suppress pituitary gonadotropins, testosterone levels decrease and patients may notice thinning and lightening of body hair, and decreases in skeletal muscle strength, testicular volume, and sperm production. Many patients report a decrease in libido. Loss of erectile function is not generally considered to be an adverse consequence for most transwomen. Patients should be informed that cross-gender therapy will not decrease penile size, raise the pitch of their voice, reduce

their thyroid cartilage (Adam's apple), or cause regrowth of hair lost from baldness.

5. LABORATORY TESTS TO MONITOR IN TRANSWOMEN

Estradiol monitoring can be useful to determine the impact of dosing. Guidelines from the Endocrine Society and World Professional Association of Transgender Health have been published^{16,25} (Table 4). Additional testing may be indicated when doses are increased. Testosterone levels can document the degree of suppression by estradiol or antiandrogens. If serum levels of estradiol are elevated without significant clinical impact, it can be helpful to measure sex hormone-binding globulin. Sex hormone-binding globulin is stimulated by estradiol, and increased levels reduce tissue availability of estrogens. Although guidelines recommend monitoring prolactin levels in transwomen receiving medical therapy, the risk is likely strongest for cyproterone (not available in the United States).

Other tests to be monitored include liver function tests and lipid panels. Recommendations for monitoring liver function tests^{16,25} are largely based on older studies using high-dose oral contraceptives^{26,27} and ethinyl estradiol.²⁸

Table 4 Monitoring Male to Female (Transwomen) on Cross-Sex Hormone Therapy

1. Evaluate patient every 2-3 mo in the first year and then 1-2 times per year afterward to monitor for appropriate signs of feminization and for development of adverse reactions.
2. Measure serum testosterone (total) and estradiol every 3 mo.
 - a. Total serum testosterone levels should be <55 ng/dL.
 - b. Serum estradiol should not exceed the peak physiologic range for young healthy females, with ideal levels <200 pg/mL.
 - c. Doses of estrogen should be adjusted according to the serum levels of estradiol.
3. For individuals on spironolactone, serum electrolytes (particularly potassium) should be monitored every 2-3 mo initially (or after dose changes) during the first year.
4. Routine cancer screening is recommended as for nontranssexual (aka cisgender) individuals (breasts, colon, prostate).
5. Consider bone density testing at baseline if risk factors for osteoporotic fracture are present (eg, previous fracture, family history, glucocorticoid use, prolonged hypogonadism). If individuals are at low risk, screening for osteoporosis should be conducted at age 60 y and in those who are not compliant with cross-sex hormone therapy.

Modified from Hembree et al.¹⁶

Because estrogens can increase triglycerides, lipid panels should be followed. For triglyceride levels greater than 400 mg/dL, nutrition evaluation or alternative routes of administration should be considered. If triglyceride concentrations remain elevated after dietary modification, medications to target triglycerides should be implemented. For levels greater than 1000 mg/dL, estrogen doses should be decreased until triglyceride concentrations have been addressed.

6. HORMONAL TREATMENT FOR TRANSMEN: TESTOSTERONE

Testosterone is a potent inhibitor of estrogen; therefore, doses rarely exceed those routinely used for genetic men. In the United States, testosterone may be administered as a topical gel, transdermal patch, subcutaneous pellets, or intramuscular injection (**Table 3**). Intramuscular injections are generally more cost-effective than other preparations. Intramuscular testosterone (valerate or cypionate) can be administered every 2 weeks. It is suspended in oil, which makes the buttocks the preferred site of administration; this makes self-administration problematic. If patients are willing to inject half the volume weekly, then most patients are able to self-inject in the thigh (vastus) muscle. Subcutaneous pellets can be placed as an outpatient procedure, but there is no ability to adjust or modify the dose. Patches can be irritating to the skin. If patients choose testosterone gel, they need to avoid skin-to-skin contact with others for at least 12 hours after administration.²⁹

Testosterone provides several benefits to transmen. Menstrual periods typically cease within a few months. After amenorrhea, unexplained vaginal bleeding requires further

testing for possible endometrial hyperplasia. Testosterone will affect the vocal cords and cause a deepening of the patient's voice. Facial and body hair increase; changes in muscle mass are more variable but are often seen in those who exercise more. Although testosterone will not cause development of a penis, patients usually will note an increase in clitoral size and sensitivity along with an increase in libido. Additional changes can include an increase in acne and development of male pattern baldness.

Side effects of testosterone therapy are fairly minimal. Although some studies have reported increases in systolic blood pressure and low-density lipoprotein concentrations, others have found no association.^{9,10} Most studies report some benefits to bone density with therapeutic levels.³⁰ Increases in hemoglobin and hematocrit have been noted.^{31,32} Because doses used for transmen are similar to those used for genetic men, side effects of increased aggression or hostility are unusual. However, providers should monitor patients for any indication of behavioral changes.

7. LABORATORY TESTS TO MONITOR TRANSMEN

Monitoring of testosterone levels can provide insights about dosing (**Table 5**). In general, total testosterone is recommended because other estimates of "free" or "bioavailable" testosterone are not standardized or are calculated.⁸ However, some transmen will still have elevated sex hormone-binding globulin levels in the initial months of cross-sex hormone therapy. Timing of intramuscular testosterone administration will affect decisions about when to measure concentrations. If administered every 2 weeks, variations in "peak" (1-4 days), mid-cycle (1 week), and "trough" (end of 2 weeks) levels can vary. If mid-cycle levels are above the upper limit of normal or if trough levels are below the lower limit of normal, dividing the dose over a smaller interval (eg, half the dose every week) can help smooth out serum concentrations. Topical testosterone (gel or patches) preparations usually provide greater consistency and less variability in testosterone concentrations.

Measuring estradiol levels in transmen has 2 purposes. The first is to confirm the dose at which suppression of estradiol occurs. The second is to monitor for increases in estradiol that occur because of physiologic aromatization of testosterone to estradiol.

Other useful tests include liver function tests, lipid panels, and complete blood counts. Liver function tests are not typically affected by intramuscular or topical testosterone,^{31,32} although transient elevations have been reported.²⁸ However, testosterone still carries a Food and Drug Administration warning for hepatic adenomas, hepatocellular carcinoma, and peliosis hepatitis, and so periodic monitoring may be prudent.³³ Testosterone-induced changes in low-density lipoprotein in transmen have been modest³⁴ or nonsignificant.³⁵ Treatment for hyperlipidemia probably should be based on other risk factors for cardiovascular disease. Hematocrit and hemoglobin levels often increase in those receiving testosterone.^{31,32}

Table 5 Monitoring Female to Male (Transmen) on Cross-Sex Hormone Therapy

1. Evaluate patient every 2-3 mo in the first year and then 1-2 times per year to monitor for appropriate signs of virilization and development of adverse reactions.
2. Measure serum testosterone every 2-3 mo until levels are in the normal physiologic male range.
 - a. For testosterone enanthate/cypionate injections, the testosterone level should be measured midway between injections. If the level is >700 ng/dL or <350 ng/dL, adjust dose accordingly.
 - b. For parenteral testosterone undecanoate, testosterone should be measured just before the next injection.
 - c. For transdermal testosterone, the testosterone level can be measured at any time after 1 wk.
 - d. Note: During the first 3-9 mo of testosterone treatment, total testosterone levels may be high, although free testosterone levels are normal, because of high sex hormone-binding globulin levels in some biological women.
3. Measure estradiol levels during the first 6 mo of testosterone treatment or until there has been no uterine bleeding for 6 mo. Monitor weight, blood pressure, lipids, fasting blood glucose (if family history of diabetes), and hemoglobin A1c (if diabetic) at regular visits.
4. Measure complete blood count and liver function tests at baseline and every 3 mo for the first year and then 1-2 times per year. Monitor weight, blood pressure, lipids, and fasting blood glucose (especially if history of prediabetes or family history of diabetes) at regular visits.
5. Consider bone density testing at baseline if risk factors for osteoporotic fracture are present (eg, previous fracture, family history, glucocorticoid use, prolonged hypogonadism). In individuals at low risk, screening for osteoporosis should be conducted at age 60 y and in those who are not compliant with hormone therapy.
6. If cervical tissue is present, routine Pap smear is recommended by professional organizations.
7. If mastectomy is not performed, then consider mammogram as recommended by professional organizations.

Modified from Hembree et al.¹⁶

8. SURGICAL OPTIONS

Many patients continue on cross-sex hormone therapy without ever undergoing any type of surgery. However, increasing numbers of patients are opting for some surgical therapy to optimize their gender congruence. Primary care providers should understand surgical procedures that patients may consider.^{36,37}

Transwomen: The simplest surgical option for transwomen is orchiectomy, which, by eliminating endogenous testosterone production, often allows patients to use lower doses of estradiol with similar clinical effects. The more significant procedure is a vaginoplasty (often referred to by patients as “bottom surgery”) with surgical removal of the penis and testicles and creation of a neo-vagina. Electrolysis of scrotal hair is an important step in preparation for vaginoplasty. Once a vagina has been created, patients need to use dilators to

maintain maximum functionality. Although these operations typically leave small amounts of residual prostate tissue, continued estrogen use likely will suppress any prostatic hypertrophy. Other appropriate and helpful procedures include breast implantation (“top surgery”) and facial feminization surgery.

Transmen: The initial procedure for many transmen is often bilateral mastectomies (“top surgery”), which relieves the need for binding and allows patients to more effectively and comfortably wear male clothing. “Bottom surgery” for transmen has several options, including total hysterectomy with bilateral oophorectomy, metoidioplasty, and phalloplasty. Total hysterectomy with bilateral oophorectomy removes concerns about potential endometrial hyperplasia (from conversion of testosterone to estradiol). Metoidioplasty and phalloplasty do not often result in a penis with sexual and urological function. However, many patients find great therapeutic value in an operation that will allow them to urinate while standing.

9. HEALTH MAINTENANCE OF EXISTING ANATOMY

Many patients have the potential to minimize concerns about their birth sex organs and tissues. A worthwhile recommendation to patients is that “if they have the anatomy, they need to take care of the anatomy.” Transwomen who have not had gender-affirming surgery can have abnormalities of the penis, scrotum, testicles, and prostate; previous publications have summarized existing case reports.^{17,38} Transwomen with estrogen-induced breast tissue can have breast masses that require investigation, although the rates of breast cancer in transwomen appear to be low.³⁹ Transmen receiving testosterone who have not had gender-affirming surgery can still have breast masses and abnormalities of the vagina, cervix, uterus, and ovaries.^{17,38,40} In general, recommendations have encouraged using standard primary care guidelines for preventative strategies.^{16,25}

10. LOGISTICS AND RESOURCES

Transgender individuals who transition will need assistance with legal documentation. Documents under state control include driver’s licenses and birth certificates. Although a majority of states will allow changes to name and “sex” on these documents, there is considerable variability as to what formal statements from healthcare professionals are required to make these changes. In general, driver’s licenses are easier to change than birth certificates. It is very important for providers to learn the proper wording necessary to help patients move through this portion of their transition.

Patients need to be cautious about selecting insurance coverage. Depending on the state, some third-party payers may still try to exclude some or all services related to changes in gender. Questions about the legality of coverage and possible discrimination can be directed to the state Department of

Table 6 Resources

Organization	Site/Reference
US Department of Health and Human Services, Department of Insurance, Office for Civil Rights	https://www.healthcare.gov/transgender-health-care/
US State Department (for change of gender on passport)	https://travel.state.gov/content/passports/en/passports/information/gender.html Letter should state: - practice name - address and phone number - medical license information - state of jurisdiction - the provider has a doctor/patient relationship - the provider has treated the patient (or reviewed and evaluated the patient's history) - the provider is overseeing "clinical treatment for transition to the updated gender" Required statement: "I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct" ().
Social Security WPATH	https://faq.ssa.gov/ics/support/KBAnswer.asp?questionID=2856&hitOffset=
Endocrine Society	http://www.wpath.org/site_page.cfm?pk_association_webpage_menu=1351
ACOG	file:///C:/Users/schipkin/Downloads/Endocrine-Treatment-of-Transsexual-Persons%20(1).pdf http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Health-Care-for-Transgender-Individuals
Gay and Lesbian Medical Association	http://glma.org/_data/n_0001/resources/live/GLMA%20guidelines%202006%20FINAL.pdf
Center for Excellence for Transgender Health	www.transhealth.ucsf.edu
National LGBT Health Education Center (Fenway Institute)	https://www.lgbthealtheducation.org/ and https://www.lgbthealtheducation.org/transtalks/

ACOG = American College of Obstetricians and Gynecologists; LGBT = Lesbian, Gay, Bisexual, and Transgender; WPATH = World Professional Association for Transgender Health.

Insurance of the US Department of Health and Human Services Office for Civil Rights (**Table 6**).

Changing gender on a passport is under the jurisdiction of the US State Department and requires a signed, original letter with specific contents (**Table 6**). Details about specific treatments or surgical procedures are not required.

The World Professional Association for Transgender Health is a nonprofit interdisciplinary organization whose mission is to promote evidence-based care, education, research, advocacy, public policy, and respect in transgender health. The organization has published standards of care since 1979 regarding behavioral health, medical, and surgical management of transgender individuals.²⁵ The Endocrine Society has published medical guidelines¹⁶ that provide more detailed options, risks, and benefits regarding hormone therapy. Several institutions provide websites with reviews and recommendations (**Table 6**).

CONCLUSIONS

Transgender individuals frequently have avoided care and have been an underserved population. As some societal gains have been made, increasing numbers are presenting for primary and specialty care. Providers need to understand differences among sex, sexuality, and gender. They should be part of a team who treat transgender patients with respect, sensitivity, and consideration. Initial evaluations should focus on

risk factors for complications of cross-sex hormone therapy. Decisions about therapeutic plans should consider goals and routes of administration. Ongoing care involves evaluating hormone-sensitive tissues and organs for the impact of cross-sex hormone therapy and its related potential consequences. Hormone levels can provide therapeutic goals and insights about efficacy. Other laboratory tests can be used to monitor risk for hormone-related complications. Some but not all patients may proceed with surgical procedures as part of their care. When questions arise, local, national, and international resources are available to provide assistance. Building an open and trusting relationship with patients for all of their healthcare needs will promote openness and dialogue about specific transgender issues. More research is needed to better identify the risks and benefits of care for transgender individuals.

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