

# Managing the Unique Medical and Reproductive Needs of the Transgender Population

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*As the healthcare needs of the transgender population are increasingly recognized, it is important to understand the impact that gender affirming treatments can have on future family building—especially if genetically related children are desired.*

*This review examines several studies that demonstrate a desire for fertility preservation or family building within the transgender population.*

*Further, currently available options for family building in the transgender population are reviewed, including gamete or embryo cryopreservation and surrogacy, which may help transgender patients achieve pregnancy. Finally, the legal implications of family building for transgender people are discussed. (J Reprod Med 2017;62:345–349)*

**Keywords:** fertility preservation, gender identity, health services for transgender persons, transgendered persons, transsexualism.

***As primary care providers, ob/gyns ... assume a vital role in educating [transgender] patients.***

As a primary care specialty, obstetricians and gynecologists encounter a wide variety of patients which may include transgender individuals. The

transgender community is small; however, they have had increased attention in the popular media and experienced improved social acceptance in recent years. Physicians should consider the specific needs and

services that transgender individuals require as they become a part of their practice community. This review highlights background information about the transgender population and medical and surgical interventions and focuses on their fertility considerations. Additionally, we will briefly discuss legal obstacles and current societal opinions about the medical management of transgender individuals.

## **Background**

The term *transgender* refers to a “broad spectrum of individuals who transiently or persistently identify with a gender different from their natal gender,” according to the Diagnostic and Statistical Manual of Mental Disorders V. Gender dysphoria is a diagnosis given to a person who persistently feels

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*Financial Disclosure:* The authors have no connection to any companies or products mentioned in this article.

0024-7758/17/6207-08-0345/\$18.00/0 © Journal of Reproductive Medicine®, Inc.

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their experienced gender is incongruent with their assigned gender. It is associated with significant social and occupational impairment.<sup>1</sup> Transgender people often face unique challenges, including the psychological and emotional distress associated with gender dysphoria, and can anticipate difficulty in navigating the various medical and surgical interventions available to assist them. Furthermore, social and legal obstacles are invariably present as they visibly transition from one gender to another (Figure 1).

Transition typically involves a social transition to the desired gender but also may involve medical or surgical treatments.<sup>2</sup> Current estimates suggest that transgender individuals represent between 0.1–0.5% of the U.S. population, or between 0.9–1.4 million people.<sup>3–5</sup> Although the transgender community represents only a small proportion of patients, obstetricians and gynecologists should be knowledgeable about these interventions and should be prepared to provide services in their practice or be willing to refer them appropriately.

### Medical and Surgical Treatments

Patients should demonstrate gender nonconformity or dysphoria prior to the initiation of medical therapy, regardless of the age at which a patient presents with a desire to transition. Depending on the age at which treatment begins, transition may involve suppression of gonadotropins, replacement with the gender appropriate hormones, and/or gender affirming surgery.<sup>6</sup> A multidisciplinary approach to care enlists the support and collaborative efforts of psychiatry, social services, and medicine/pediatrics.

When treatment is initiated in the early pubescent child, GnRH analogues may be used in order to suppress the hormonal expression of undesired sexual characteristics. The Endocrine Society recommends the use of hormone replacement therapy consistent with the identified gender beginning at the age of 16 in patients with gender dysphoria.<sup>7</sup> Practitioners should be aware that any extended discontinuation of treatment may result in progression of secondary sexual characteristics and gametogenesis may occur, which can be problematic and upsetting to the transitioning patient.

In adults who desire to transition, multiple options exist related to hormonal therapy. In transgender women, anti-androgen effects may be achieved with oral spironolactone or cyproterone acetate. Transgender women may use oral, trans-

### Biopsychosocial Considerations for the Transsexual Individual

<b>Medical</b>	May require daily, life-long hormonal replacement therapy depending on the degree of suffering from gender dysphoria. May require permanent surgical interventions with gender reassignment surgery
<b>Psychiatric</b>	A psychiatric diagnosis of gender dysphoria is generally required prior to any interventions for treatment. Gender dysphoria may be associated with other psychiatric disease
<b>Fertility</b>	Gamete pools may be temporarily altered with hormonal therapy or permanently altered/destroyed after surgical intervention. Transgender individuals desiring to start families often need assisted reproductive technology
<b>Social</b>	May experience discrimination and lack of acceptance in social circles. May alter family structure
<b>Legal</b>	Legal actions must be taken to change an individual's legal gender and this varies from state to state. Parental rights, responsibilities and custody may change after transition has occurred

**Figure 1** Biopsychosocial considerations in the transsexual person.

dermal, or intramuscular preparations of estradiol on a daily to biweekly basis, depending on the method chosen to produce feminizing effects. Adverse effects associated with estrogen therapy include thromboembolic disease, liver dysfunction, and an increased risk of breast cancer.<sup>7</sup> Some studies have suggested that prolonged use of estrogens in transgender women is correlated with testicular dysfunction.<sup>8,9</sup> The persistence of this effect after the cessation of hormonal therapy, however, has not been demonstrated.

In transgender men, the mainstay of treatment is testosterone supplementation, which includes oral, transdermal, or parenteral preparations. Adverse effects of testosterone use in biological females include breast or uterine cancer and erythrocytosis.<sup>7</sup> Exogenous testosterone does not appear to enhance the development of polycystic appearing ovaries.<sup>10</sup> However, there is a higher incidence of PCOS in the transgender male population. Whether PCOS precedes or occurs with hormonal use remains unclear.<sup>11</sup> However, no long-term adverse effects of testosterone use on fertility have been demonstrated. Moreover, the literature describes successful pregnancies after exposure to testosterone treatment has occurred.<sup>12</sup>

Transgender individuals who seek to permanently alter their features to be congruent with their identified gender may pursue gender affirming surgery. Surgical interventions can be separated into chest, gonadal, and masculinizing/feminizing procedures.<sup>13</sup> Prior to gender affirming surgery, surgeons should require that candidates meet the criteria set forth in the World Professional Association for Transgender Health (WPATH) standards of care. Prior to surgery, patients should be diagnosed with gender dysphoria as determined by a qualified mental health care professional; other psychiatric conditions such as depression or anxiety should be well controlled and the patient should have reached the age of majority. In addition, prior to gonadal surgery, candidates should have one year of "real-life experience" living as the desired gender, including hormone replacement therapy as indicated.<sup>6</sup> If the patient is ambivalent, surgery should be deferred.

For transgender females, gender affirming surgery may involve any combination of breast augmentation, penectomy, formation of a neovagina, facial contouring, liposuction, or chondrolaryngoplasty. Gender affirming surgery for transgender males is often comprised of a combination of mastectomy, hysterectomy, oophorectomy, vaginectomy, metoidioplasty, and/or phalloplasty.<sup>14</sup> Studies suggest high levels of patient cosmetic and sexual satisfaction following gender reassignment surgery.<sup>15,16</sup> According to a recent Swedish study by Dhejne et al, the incidence of regret was approximately 2% in individuals who had completed sex reassignment surgery.<sup>17</sup>

### **Fertility Considerations**

In the past, individuals would transition after starting a family. For transgender people who transitioned prior to starting a family, the loss of fertility was often considered a "price to pay" for their gender reassignment. Recent studies have shown that many transgender individuals are interested in starting families after transition. One study by DeSutter et al performed semi-structured interviews with 121 transgender women. Although over 90% of subjects indicated that fertility preservation would not delay their transition, 77% felt that sperm cryopreservation should be offered to future patients prior to transition. In the younger subjects under the age of 40, 67% would have frozen sperm if offered prior to transition.<sup>18</sup> Another study surveyed 79 transgender men, of whom 71% had not

considered oocyte cryopreservation prior to transition. After transition, 51% of the subjects desired to have children.<sup>19</sup> A recent study by Light et al surveyed 41 transgender men who had conceived and had liveborn children after transition. That study, like prior studies, affirmed that there are transgender individuals who desire fertility. Moreover, in the narrative query, several subjects relayed both positive and negative experiences related to the level of education of their healthcare providers about transgender patients.<sup>12</sup> These studies imply that many transgender individuals desire children at some point during their lives. Notably, many desire fertility after transition, during which their fertility may have been temporarily or permanently altered. Transgender individuals are often unaware of their fertility options until they have sought medical and surgical interventions that will likely limit their future fertility.

The primary medical modality used to initiate and maintain transition is hormonal therapy. However, treatment limits the ability to harvest gametes. Patients are advised to stop therapy prior to sperm or oocyte retrieval.<sup>8,9</sup> Discontinuing hormonal therapy leads to a reversal of the desired physical characteristics that can be distressing to transgender individuals. Surgical transitions vary based on the desired gender identity as previously described and often permanently removes the gamete pool necessary for future procreation. Additionally, in natal females, a hysterectomy removes the ability to gestate a pregnancy in the future.

Although current medical and surgical interventions have the potential to create fertility-limiting obstacles in the transgender population, assisted reproductive technologies provide such individuals with the means to overcome these challenges. Sperm cryopreservation prior to orchiectomy may help transgender women to have genetically related children in the future, or alternatively, transgender men with female partners may utilize donor sperm. Similarly, oocyte cryopreservation, which is becoming increasingly popular, may provide transgender men with the ability to have genetically related children in the future. Gamete cryopreservation is beneficial for individuals who do not currently have a partner or who do not desire to create frozen embryos for ethical or religious reasons. For those without such limitations, in vitro fertilization and surrogacy can provide transsexual individuals and their partners, regardless of gender, with the ability to have chil-

dren. Transgender patients should be counseled on these options or referred to a reproductive endocrinologist and infertility specialist if they are considering treatments that will have an effect on their fertility.

### **Legal Issues**

Transgender individuals often face complex legal issues. For instance, to legally change one's gender in the United States, a person must meet specific criteria that vary by state. Generally, an individual must undergo hormonal treatment or gender reassignment surgery prior to changing gender on a birth certificate or other state administered documents. Some states require a physician attestation of treatment.<sup>20</sup> Another aspect of the law that may be challenging for transgender individuals relates to their privilege to parent. Over the years there have been cases both in favor and against transgender parents regarding child custody.

In *Christian v Randall* 516 P.2d 132 (Colo. Ct. App. 1973) a transgender female parent who fathered children prior to transition sought custody of her children. An appellate court in Colorado awarded custody to the transgender parent stating "the record contain[ed] no evidence that the environment of the [transgender parent's] home . . . endangered the children's physical health or impaired their emotional development." This instance exemplifies cases that support transgender parental rights.<sup>25</sup>

Conversely, several child custody cases have not favored the transsexual parent. For instance, in *Cisek v Cisek* (Ohio Ct. App. July 20, 1982) an appellate court in Ohio revoked custody from a transgender parent using testimony that "the transsexualism of the parent would have a sociopathic affect [sic] on the child . . . without appropriate intervention . . . [c]ommon sense dictates that there can be social harms."

As reproductive technology has advanced and evolved, there are now custodial cases regarding children conceived after an individual has transitioned. Legal arguments typically center on the legality of a marriage and thus the custody of children born during this time. For instance, in the case of *Marriage of Simmons* (Ill. App Ct 2005) in Illinois, a woman and a transgender man married and had a child through donor insemination. They subsequently separated after the child's birth. The woman won full custody of the child under the argument that the marriage was not valid and that

the transgender man was not a de facto parent as the law in Illinois was not inclusive of transsexuals.<sup>21</sup>

The rights and responsibilities of transsexual parents are legally complicated and vary across jurisdictions. Transsexual individuals should be referred for formal legal counseling prior to fertility-altering interventions or the utilization of assisted reproductive technology, in order to ensure proper informed consent congruent with local law.

### **Professional Society Positions**

The American College of Obstetricians and Gynecologists (ACOG) recommends providers create a routine of recognizing the gender identities and sexual orientations of patients. In addition, providers should be able to assist transgender patients in overcoming healthcare barriers and refer them appropriately for their unique needs.<sup>22</sup> The American Society for Reproductive Medicine (ASRM) endorses the position that reproductive specialists provide their services to transgender patients prior to gender affirming treatments.<sup>23</sup> Furthermore, the 2013 *Committee Opinion on Access to Fertility Treatment by Gays, Lesbians, and Unmarried Persons* suggests that "programs have a duty to treat all persons, regardless of their gender, relationship status or sexual orientation." After a California Supreme Court decision in 2008 favored a lesbian woman who was denied care from a fertility clinic, fertility programs in that state can no longer deny care based on sexual orientation or marital status, or because of religious views.<sup>24</sup>

Other medical societies involved in the care of transsexuals include, but are not limited to, the Endocrine Society and WPATH. The Endocrine Society states that transgender individuals should have adequate counseling and information regarding options for fertility prior to treatment with sex hormones of the intended gender.<sup>7</sup> Lastly, WPATH, which primarily focuses on the interests of transsexual individuals, states that "[t]ranssexual, transgender, and gender nonconforming people should not be refused reproductive options for any reason."<sup>6</sup>

Given the increasing knowledge and general public acceptance of the transgender community, and a demonstrable desire amongst this group to create families, it is important to ensure that transgender patients are aware of the resources for transitioning as well as available reproductive choices (Figure 2). As primary care providers, obstetricians and gynecologists may be the first physician from

## Recommendations

Providers should recognize the gender and sexual orientation of patients and refer them appropriately.

A multidisciplinary approach to care for transsexual patients includes the collaborative efforts of psychiatry, social services, and medicine/pediatrics.

Prior to medical or surgical treatment:

- Patients should be diagnosed with gender dysphoria as determined by a qualified mental health care professional; other psychiatric conditions should be well controlled and the patient should have reached the age of maturity.
- Candidates should have one year of “real-life experience” living as the desired gender including hormone replacement therapy as indicated.
- Patients should be counseled on fertility sparing options or referred to a reproductive endocrinologist and infertility specialist if they are considering treatments that will have an effect on their fertility.
- Transsexual individuals should be referred for formal legal counseling prior to fertility altering interventions or the utilization of assisted reproductive technology, in order to ensure proper informed consent congruent with local law.

**Figure 2** Recommendations.

whom a transgender person seeks care. Thus, obstetrician and gynecologists assume a vital role in educating and triaging patients. Timely counseling is invaluable to transgender individuals interested in their future fertility.

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