

# CHAPTER 39

## Gender Dysphoria

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**Persons who** experience persistent, clinically significant distress about their anatomic sex or assigned gender role have been recognized since antiquity. In DSM-5 (American Psychiatric Association 2013), these individuals can be diagnosed with *gender dysphoria*. The DSM-5 diagnostic criteria for gender dysphoria in adults appear in Box 39–1. Persons with presentations that meet diagnostic criteria

for gender dysphoria in DSM-5 would have received a different DSM diagnosis—usually either *transsexualism* or *gender identity disorder (GID)*—prior to 2013. Consequently, some expert recommendations and empirical studies relevant to the treatment of adults with gender dysphoria refer instead to persons with transsexualism or GID. A brief explanation of these terms is therefore indicated.

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### Box 39–1. DSM-5 Diagnostic Criteria for Gender Dysphoria in Adolescents and Adults

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**302.85 (F64.1)**

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' 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 assigned gender).
  5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned 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 assigned gender).
- B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

**With a disorder of sex development** (e.g., a congenital adrenogenital disorder such as 255.2 [E25.0] congenital adrenal hyperplasia or 259.50 [E34.50] androgen insensitivity syndrome).

**Coding note:** Code the disorder of sex development as well as gender dysphoria.

Specify if:

**Posttransition:** 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 cross-sex medical procedure or treatment regimen—namely, regular cross-sex hormone treatment or gender reassignment surgery confirming the desired gender (e.g., penectomy, vaginoplasty in a natal male; mastectomy or phalloplasty in a natal female).

When disorders involving distress about anatomic sex or assigned gender role first entered DSM in 1980 (DSM-III; American Psychiatric Association 1980), they appeared under the superordinate category *gender identity disorders*. Their defining feature was said to be “an incongruence between anatomic sex and gender identity” (p. 261), where *gender identity* referred to a person's fundamental sense of being male or female. Adults with persistent discomfort about their anatomic sex and a desire to live as members of the opposite sex could receive a diagnosis of *transsexualism* in DSM-III and DSM-III-R (American Psychiatric Association 1987). They can still receive this diagnosis in the *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision (ICD-10; World Health Organization 1992). Males and females with transsexualism are often referred to as *male-to-female* (MtF) and *female-to-male* (FtM) transsexuals. In DSM-IV and DSM-IV-TR (American Psychiatric Association 1994, 2000), the diagnosis of transsexualism was replaced by the diagnosis of *gender identity disorder*; as a result, this term applied to both the superordinate category and a specific diagnosis within that category.

It has long been recognized that not all adults with GID (the superordinate category) have presentations that meet full diagnostic criteria for transsexualism or GID (the specific diagnosis). Accordingly, both ICD and DSM have consistently provided one or more residual diagnoses for persons with nonclassical or *nontranssexual* types of GID. These diagnoses could be applied to individuals whose presentations fulfilled some but not all diagnostic criteria for transsexualism or GID (i.e., who were *subthreshold* for these diagnoses) or who had alternative gender identities but did not identify as the opposite sex (e.g., men who identified as *eunuchs* and sought only castration, not complete sex reassignment; Johnson et al. 2007). In the DSM-5 diagnostic criteria for gender dysphoria, the new term *experienced/expressed gender*—a neologism for *gender identity*—encompasses a wider range of identities than just the opposite sex. Consequently, it appears that many persons who would previously have been diagnosed with residual or nontranssexual forms of GID would now be diagnosed with gender dysphoria. DSM-5 nevertheless includes two residual diagnoses for persons whose presentations do not meet full criteria for gender dysphoria:

*other specified gender dysphoria* and *unspecified gender dysphoria*. The DSM-5 de-

scriptions of these diagnoses appear in Boxes 39–2 and 39–3.

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### Box 39–2. DSM-5 Other Specified Gender Dysphoria

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**302.6 (F64.8)**

This category applies to presentations in which symptoms characteristic of gender dysphoria that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for gender dysphoria. The other specified gender dysphoria category is used in situations in which the clinician chooses to communicate the specific reason that the presentation does not meet the criteria for gender dysphoria. This is done by recording “other specified gender dysphoria” followed by the specific reason (e.g., “brief gender dysphoria”).

An example of a presentation that can be specified using the “other specified” designation is the following:

**The current disturbance meets symptom criteria for gender dysphoria, but the duration is less than 6 months.**

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### Box 39–3. DSM-5 Unspecified Gender Dysphoria

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**302.6 (F64.9)**

This category applies to presentations in which symptoms characteristic of gender dysphoria that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for gender dysphoria. The unspecified gender dysphoria category is used in situations in which the clinician chooses *not* to specify the reason that the criteria are not met for gender dysphoria, and includes presentations in which there is insufficient information to make a more specific diagnosis.

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Because the diagnosis of gender dysphoria is so broadly encompassing, it is useful to distinguish between adults with gender dysphoria who experience *transsexualism* and those who experience *nontranssexual* forms of gender dysphoria. These terms are relatively unambiguous and remain widely used both in clinical settings and in the scientific literature (e.g., Hembree et al. 2009), even though transsexualism has not been a formal DSM diagnosis since 1994. The term *transgender* can be used to denote persons with significant cross-gender identification or gender-atypical feelings or behaviors, whether or not they

meet diagnostic criteria for gender dysphoria.

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## Gender Dysphoria in Adults

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Guidelines for the treatment of adults with gender dysphoria were originally developed for the treatment of transsexualism. Clinicians recognized in the 1970s that most persons with transsexualism could not be successfully treated using conventional psychotherapeutic techniques (Gijs and Brewaeys 2007). They could often be significantly helped, how-

ever, by sex reassignment: hormonal, surgical, and social/legal interventions that would allow them to physically resemble and live as members of the opposite sex. The first expert consensus guidelines for the treatment of persons seeking sex reassignment were the Standards of Care (SOC) for the treatment of persons with gender dysphoria, first published in 1979 (Walker et al. 1990). The SOC emphasized a multidisciplinary approach to the treatment of transsexualism, involving the coordinated participation of mental health professionals, hormone-prescribing physicians, and surgeons. This approach has remained a central feature of subsequent revisions of the SOC (e.g., Meyer et al. 2001; World Professional Association for Transgender Health [WPATH] 2011), as well as guidelines developed by the Endocrine Society (Hembree et al. 2009) and independent experts (e.g., Gooren 2011). The stated goal of treatment for persons with gender dysphoria under the SOC was “lasting personal comfort with the gendered self in order to maximize overall psychological well-being and self-fulfillment” (Meyer et al. 2001, p. 3).

The SOC and similar guidelines for the multidisciplinary treatment of transsexualism and gender dysphoria have typically emphasized five principal therapeutic elements:

1. Assessment of gender dysphoria and any coexisting mental health issues
2. Psychotherapy
3. Real-life experience (RLE) in the desired gender role
4. Cross-sex hormone therapy
5. Sex reassignment surgery (SRS) to make the primary and secondary sex characteristics of the body resemble those of the desired sex

In MtF transsexuals, SRS usually refers to feminizing genitoplasty. In FtM trans-

sexuals, SRS can refer to either breast reduction with chest reconstruction or masculinizing genitoplasty.

Although multidisciplinary, multielement therapy for persons with gender dysphoria was originally developed to treat transsexualism, the same approach was subsequently extended to nontranssexual forms of gender dysphoria, with the understanding that many nontranssexuals would not need or want all elements of therapy. It was recognized, for example, that some nontranssexual persons with gender dysphoria sought cross-sex hormone therapy but did not want SRS (Gijs and Brewaeys 2007). All editions of the SOC have consistently stated that hormone therapy, RLE, and nongenital forms of SRS, separately or in combination, can be appropriate treatment for both transsexual and nontranssexual forms of gender dysphoria, but that genital SRS should be reserved for patients who have successfully completed a 1-year, full-time RLE and (usually) 1 year of cross-sex hormone therapy.

Most experienced practitioners follow the SOC, but the recommendations therein are based almost entirely on expert consensus, not a higher quality of evidence (Byne et al. 2012). Moreover, a few studies have suggested that patients whose treatment deviated significantly from the SOC reported outcomes as good as or better than those whose treatment complied fully with the SOC (Lawrence 2003; Pimenoff and Pfäfflin 2011).

## Natural History of Gender Dysphoria in Adults: Treatment Implications

A common belief, including among some experts, is that transsexualism in adulthood “is generally an unalterable condition” (Gooren 2011, p. 1251). In reality,

the natural history of severe gender dysphoria in adults is incompletely understood, but its outcomes appear to be both variable and not easily predictable. Carroll (1999) observed that some adults diagnosed with gender dysphoria eventually come to accept their natal sex and gender role; this process may involve integration of their cross-gender feelings into unique, nontraditional gender identities (WPATH 2011). Other persons with gender dysphoria find that part-time cross-gender expression offers a satisfactory solution (e.g., living in cross-gender role only at home or while on vacation). Still other persons—perhaps up to one-half of adults who begin evaluation or psychotherapy for gender dysphoria—withdraw from treatment, with the result that their outcomes are unknown (Carroll 1999). Consequently, patients and treating professionals should not assume that complete gender transition with hormonal and surgical sex reassignment is the inevitable outcome for adults diagnosed with transsexualism or severe gender dysphoria.

## Role of Mental Health Professionals

Mental health professionals play an essential role in the multidisciplinary treatment of gender dysphoria and transsexualism in adults. They not only conduct the necessary assessments and provide psychotherapy but also supervise and document the patient's RLE and serve as referral sources and gatekeepers for the provision of hormone therapy and surgical care by providing letters of recommendation to hormone-prescribing physicians and to surgeons.

In consequence, mental health professionals are often called on to play a more complex and multifaceted role in the treatment of adults with gender dyspho-

ria than is typical in the treatment of patients with other psychiatric disorders. Several articles and reports (e.g., Bockting 2008; WPATH 2011) offer detailed analyses of tasks that mental health professionals are sometimes expected to perform in the course of treatment, such as the following:

- Assessing the dimensions and severity of gender dysphoria
- Assessing, diagnosing, and treating comorbid psychiatric conditions
- Providing psychotherapy addressing gender dysphoria and related issues
- Educating patients regarding treatment options, including possible medical and surgical treatments
- Ascertaining patients' readiness for medical and surgical treatments
- Initiating referrals for medical and surgical treatments
- Consulting and collaborating with treating medical and surgical professionals
- Educating family members and partners about gender dysphoria and facilitating psychotherapy for them as needed

## Assessment of Gender Dysphoria and Comorbid Mental Health Issues in Adults

Careful psychological assessment is the initial step in the treatment of adults with gender dysphoria. Patients with gender dysphoria often consult mental health professionals to confirm their self-diagnoses, clarify their gender identities, formulate goals, or obtain referrals for hormone therapy or SRS. Sometimes patients may be referred for assessment after first contacting a hormone-prescribing physician or surgeon. Making the

diagnosis of gender dysphoria, assessing its dimensions and severity, determining the patient's ability to understand and consent to various treatment options, and diagnosing and treating any comorbid psychiatric problems are among the most important goals of this process. Comorbid psychiatric disorders do not necessarily preclude treatment of gender dysphoria, but adequate assessment of gender dysphoria may not be possible if certain disorders (e.g., schizophrenia or major depressive disorder) are not adequately managed. Treatment of comorbid conditions may also be required if patients are to give meaningful informed consent to hormonal and surgical treatment.

An important part of the evaluation of adults with gender dysphoria is the determination of the subtype of gender dysphoria with reference to sexual orientation; such a determination facilitates case conceptualization and informs prognosis. Subtypes based on sexual orientation unfortunately were not included in the diagnostic criteria for gender dysphoria in DSM-5 but were part of the criteria for transsexualism and GID in the four previous versions of DSM (Lawrence 2010); their omission from DSM-5 does not diminish their importance. The sexual orientation of persons with gender dysphoria may be either *homosexual* relative to natal sex (exclusively oriented toward persons of the same biologic sex) or *nonhomosexual* relative to natal sex (oriented toward persons of the opposite sex, both sexes, or neither sex). Compared with their nonhomosexual counterparts, homosexual MtF transsexuals report more cross-gender behavior during childhood and less transvestic fetishism or sexual arousal to the thought or image of being female (*autogynephilia*; Blanchard 1991). Homosexual MtF transsexuals also seek treatment at younger ages, and their appearance is more congruent with

their gender identity (Lawrence 2010). Several studies have suggested that homosexual MtF and FtM transsexuals display better psychological functioning after sex reassignment and also report more favorable subjective outcomes (Lawrence 2010).

## Psychotherapy for Adults With Gender Dysphoria

The role of psychotherapy in the treatment of gender dysphoria in adults has evolved over time. During the first half of the twentieth century, clinicians understood transsexualism to be a psychological problem for which psychological treatment was the only appropriate therapy (Gijs and Brewaeys 2007). The failure of psychoanalytic psychotherapy to cure or improve most patients with transsexualism eventually led to acceptance of the radical but effective techniques of hormonal and surgical sex reassignment. In the 1979 edition of the SOC (Walker et al. 1990), psychotherapy was relegated to a minor role in the treatment of transsexualism; its primary purpose was to establish patients' eligibility for the hormonal and surgical interventions that were believed to constitute the effective elements of treatment. In later editions of the SOC (e.g., Meyer et al. 2001; WPATH 2011), psychotherapy received increased emphasis and assumed a larger role. Byne et al. (2012) proposed that the low rates of regret following SRS in recent years might be partly attributable to psychotherapy. Lawrence (2003) observed, however, that MtF transsexuals who rated their preoperative psychotherapy as "adequate" did not report better subjective outcomes after SRS than those who did not; moreover, informants who reported more hours of preoperative psychotherapy experienced less improvement in quality of life after SRS.

The most effective techniques and methods of psychotherapy for adults with gender dysphoria are matters of disagreement. There is a general consensus that psychotherapy cannot be expected to eliminate or cure gender dysphoria (WPATH 2011). It is recognized, however, that some persons with gender dysphoria who undergo psychotherapy become more comfortable with their natal sex or gender role, decide not to pursue sex reassignment (Meyer et al. 2001, p. 8), or at any rate discontinue treatment (Carroll 1999; Smith et al. 2005). Persons with gender dysphoria who decide to live in cross-gender role usually must deal with stigma and discrimination and often experience significant losses (e.g., the breakup of important relationships or termination of employment). It is generally agreed that psychotherapy during the RLE can help persons who are good candidates for sex reassignment deal with these inevitable challenges by providing support, promoting resilience, and assisting in the development of interpersonal skills and coping strategies (Byne et al. 2012; WPATH 2011). Seikowski (2007) concluded that intensive psychotherapy (e.g., psychoanalysis, depth psychotherapy, behavioral therapy) was not necessary for most patients with gender dysphoria but was indicated for those with serious psychopathology, who represented about one-third of the patients he studied.

Morris (2007) offered a pessimistic summary of the difficulties inherent in offering intensive psychodynamic psychotherapy to patients with severe gender dysphoria or transsexualism. He observed that most such patients do not expect to benefit from psychotherapy and will not accept the idea that their desire for sex reassignment might be, at least in part, symptomatic of unconscious intrapsychic conflict. Also, the attitudes that inform contemporary treatment paradigms

are not easily reconciled with those underlying psychodynamic therapy: a patient's belief that he or she genuinely is or can become a member of the opposite sex could be considered delusional from a psychodynamic perspective, but it is not considered delusional "among gender disorder-friendly mental health workers, where arguably the belief is a cultural norm" (Morris 2007, p. 94). Morris concluded that although patients with gender dysphoria or transsexualism need and deserve the help that psychodynamic psychotherapy can provide, few patients are likely to be willing or able to take advantage of it.

Experienced therapists operating from other theoretical perspectives have been more optimistic and have described a variety of approaches to psychotherapy for adults with gender dysphoria or transsexualism. Pfäfflin (2007) emphasized the value of attentive listening, awareness of countertransference reactions, and willingness to "acknowledge and accept *any* form of presentation of gender-identity related distress" (p. 177). He argued that mental health professionals have an obligation not to confront patients with doubts about their ability to pass in their desired gender role; if patients themselves express such doubts, however, he believed it was usually productive to address them. Fraser (2009) described an approach combining object-relations and self-psychology paradigms and discussed the importance of empathetically mirroring the patient's transgender feelings—which typically were hidden and therefore inaccessible to mirroring earlier in life—within the supportive "holding environment" of the therapeutic relationship. Bockting (2008) recommended that therapists devote particular attention to addressing the negative effects of stigma and transphobia. He also suggested that therapists should actively encourage their

patients to abandon the unrealistic goal of “changing sex” and instead embrace their own unique transgender identities:

The desire to change sex fully is common; however, in reality, changing sex in such a binary way is neither attainable nor fulfilling.... Psychotherapy can aid in grieving the loss of the ideal to make room for a deeper level of acceptance of one's transgender (as opposed to male or female) identity. The task of the mental-health professional is to recognize the client's despair while simultaneously beginning to challenge “passing” as the overriding goal. (p. 216)

Note that Bockting's (2008) belief that it is sometimes the therapist's obligation to challenge the patient's goals (e.g., the goal of successfully passing as the opposite sex) stands in contrast to Pfäfflin's (2007) recommendation that the therapist adopt a nonconfrontational approach.

Under the multidisciplinary treatment model described earlier (see introductory text in the section “Gender Dysphoria in Adults” earlier in this chapter), case management can be conceptualized as an element of psychotherapy. Patients who want to begin hormone therapy or undergo SRS usually rely on their psychotherapists to evaluate their eligibility and readiness and to initiate referrals to qualified practitioners. Smith et al. (2005) found that psychotherapists were more likely to recommend hormone therapy for patients with more severe gender dysphoria, better psychological stability, and a physical appearance more congruent with the desired sex. Psychotherapists also routinely provide psychoeducation to their patients with gender dysphoria. Therapists are well positioned to explain various treatment options and to help patients consider the pros and cons of each, assuming that they themselves are familiar with the techniques, risks, and bene-

fits of hormone therapy and SRS. As noted earlier, providing education about gender dysphoria to spouses, partners, and family members and initiating referrals for counseling or psychotherapy where indicated are also tasks ordinarily performed by psychotherapists.

## Real-Life Experience in the Desired Gender Role

The term *real-life experience* (RLE) was used in the 1998 and 2001 editions of the SOC to denote “the act of fully adopting a new or evolving gender role or presentation in everyday life” (Meyer et al. 2001, p. 25). The term does not appear, however, in the 2011 edition of the SOC, which simply discusses the option of “living in a gender role that is congruent with one's gender identity” (WPATH 2011, p. 58). Nevertheless, the term is still widely used in clinical practice and the published literature. Some patients with gender dysphoria or transsexualism will already be living full-time in a cross-gender role (or in their desired gender role) when first seen by clinicians.

The RLE was originally called the *real-life test*, because it allowed patients to test their belief that living in the gender role of the opposite sex would offer them a better quality of life. A 1-year RLE has always been an eligibility requirement for genital SRS under the SOC, but the essential ingredients of an RLE that would confer such eligibility have never been set forth in detail. In the 1998 and 2001 versions of the SOC, acquiring “a (legal) gender-identity-appropriate first name” (Meyer et al. 2001, p. 25) was one unambiguous requirement, but this became optional in the 2011 edition. Living in a gender role congruent with one's gender identity—the language employed in the 2011 SOC—would seem to be almost entirely open to individual interpretation.



The RLE was used as an eligibility requirement for genital SRS based on the belief that it was a “fully reversible” step that, if successful, would give patients and their caregivers confidence about undertaking subsequent irreversible steps (Meyer et al. 2001). However, whereas the RLE itself may be reversible, its social and economic consequences—loss of employment, for example—may not be reversible, even if the person returns to living in the original gender role. Most males with gender dysphoria who undergo sex reassignment will never be able to pass inconspicuously as women in all social situations (Levine 2009). Perhaps as a result, some men with gender dysphoria find ways to undergo SRS after an abbreviated RLE (Lawrence 2003) or without any RLE.

The RLE is often credited with reducing the prevalence of regrets after SRS; “however, in reality, little empirical evidence supporting this claim exists” (Bockting 2008, p. 218). Levine (2009) likewise noted “the absence of a firm scientific foundation to support the utility and validity of the RLE” (p. 186). The RLE is, of course, not unique in this respect: many recommended elements of treatment for gender dysphoria or transsexualism are based primarily on expert consensus rather than on rigorous empirical evidence (Byne et al. 2012).

## Cross-Sex Hormone Therapy for Adults With Gender Dysphoria

Cross-sex hormone therapy promotes the development of the secondary sex characteristics of the opposite sex and partially suppresses the secondary sex characteristics of a person’s natal sex (Hembree et al. 2009). Feminizing hormone therapy for MtF transsexuals and other males with gender dysphoria typically consists of an

estrogen (administered orally, transdermally, or intramuscularly), often accompanied by an antiandrogen such as oral spironolactone or cyproterone acetate (Gooren 2011; Hembree et al. 2009). Alternatively, parenteral gonadotropin-releasing hormone (GnRH) analogues can be used in combination with estrogen, but they are usually prohibitively expensive. Feminizing hormone therapy usually results in breast development, reduction in body hair, suppression of male-pattern scalp hair loss, decreased muscle mass, increased subcutaneous fat deposition, decreased sexual interest and arousability, and reduced fertility (Hembree et al. 2009). Facial hair is largely unaffected by feminizing hormones, and MtF transsexuals usually undergo facial depilation with electrolysis, laser, or pulsed-light treatments. Feminizing hormone therapy is often experienced as emotionally calming, and hormone-treated MtF transsexuals display improved psychological adjustment in comparison to untreated individuals (Leavitt et al. 1980).

Masculinizing hormone therapy for FtM transsexuals and other females with gender dysphoria typically consists of only intramuscular or transdermal testosterone. Masculinizing hormone therapy usually causes growth of facial hair and male-typical body hair, deepening of the voice, male-pattern scalp hair loss, enlargement of the clitoris, increased muscle mass, increased sexual interest and arousability, decreased fertility, and suppression or elimination of menses. Masculinizing hormone therapy also has emotional and psychological effects, including an increased tendency to aggressiveness and anger (van Goozen et al. 1995).

Gender attribution depends primarily on the presence or absence of male-typical physical traits; female-typical physical traits are much less relevant

(Kessler and McKenna 1978). Persons who display visible signs of physical masculinization are usually regarded as male. To be regarded as female, individuals must display few or no visible signs of physical masculinization. Because testosterone is very effective at inducing masculinization, hormone-treated FtM transsexuals usually have little problem being perceived as male. In contrast, because estrogen is relatively ineffective at reducing the signs of masculinization that men develop during puberty, hormone-treated MtF transsexuals often have great difficulty being perceived as female.

These difficulties notwithstanding, a review of 28 published studies involving 1,093 hormone-treated MtF transsexuals and 801 hormone-treated FtM transsexuals (Murad et al. 2010) concluded that hormone therapy—accompanied by other treatment modalities in many cases—is associated with significant improvement in gender dysphoria, psychological symptoms and comorbid conditions, quality of life, and sexual function in both MtF and FtM transsexuals. In a study whose results were consistent with these conclusions, Gorin-Lazard et al. (2012) observed that MtF and FtM transsexuals who were treated with cross-sex hormones but who had not yet undergone SRS reported significantly better quality of life than their counterparts who had not received hormone therapy. Hormone therapy can be associated with significant medical complications, especially in MtF transsexuals. Wierckx et al. (2012) reported that among 50 hormone-treated MtF patients, 3 (6%) experienced thromboembolic events and another 3 (6%) experienced other cardiovascular complications, including 2 myocardial infarctions; one-quarter of the MtF patients also had evidence of osteoporosis. In contrast, the 50 hormone-treated FtM transsexuals in the Wierckx et al. study

did not experience significant cardiovascular events or other complications.

## Sex Reassignment Surgery

Techniques of genital SRS for MtF transsexuals have been perfected over many decades and routinely produce excellent cosmetic and functional results (Gijs and Brewaeys 2007). The most common technique involves orchiectomy, penectomy, creation of a neovagina lined with penile and scrotal skin, vulvoplasty using genital skin, and creation of a sensate clitoris from part of the glans penis. In carefully selected candidates, MtF SRS is associated with high levels of patient satisfaction and minimal regrets (Gijs and Brewaeys 2007; Lawrence 2003). In the only prospective controlled investigation of MtF SRS outcomes, Mate-Kole et al. (1990) found that patients who received SRS on an expedited schedule reported better psychosocial outcomes than wait-listed control patients. Good surgical results and absence of complications are among the factors most strongly associated with subjective satisfaction and lack of regret after MtF SRS (Lawrence 2003).

MtF transsexuals often undergo non-genital surgery in connection with sex reassignment. Facial feminization surgery typically involves reduction of the size or prominence of the brow ridge, nose, mandible, and laryngeal cartilage. These male-typical features are minimally affected by cross-sex hormone therapy, and surgical treatment often greatly improves the patient's ability to be perceived as female. MtF transsexuals often request breast augmentation if estrogen-induced breast development has been inadequate.

Breast reduction with chest reconstruction is the first, the most important, and sometimes the only SRS procedure that FtM transsexuals undergo (Monstrey et

al. 2007). It is commonly performed before the patient begins the RLE, because passing as male is otherwise often very difficult. The goal of surgery is not merely the removal of unwanted breast tissue, but “the creation of an aesthetically pleasing male chest” (Monstrey et al. 2007, p. 137). With careful choice of surgical technique, most patients experience satisfactory and often very good results.

Genital SRS for FtM transsexuals is more problematic. Because there are no really satisfactory surgical techniques, many FtM transsexuals decide to forgo genital SRS entirely. Two techniques are currently the most popular. In *radial forearm flap phalloplasty*, a skin graft from the forearm is used to create a tube-within-a-tube neophallus that is attached at the perineum via microsurgery. This technique results in a phallus of normal size that has protective and erogenous sensation and that usually permits standing urination (Monstrey et al. 2007). Unfortunately, radial forearm flap phalloplasty has a moderately high rate of complications, even in expert hands; it is also prohibitively expensive for most patients if the procedure is not covered by insurance. In *metoidioplasty*, the hypertrophied clitoris is used to create a microphallus; standing urination is sometimes possible if the urethra is surgically lengthened (Monstrey et al. 2007). The compromises inherent in metoidioplasty—primarily the small size and limited function of the resulting phallus—are offset by the technique’s simplicity, relative freedom from complications, and comparative affordability. With either of these techniques, a neoscrotum can be constructed from labial skin, and testicular prostheses can be inserted.

## Results of Sex Reassignment

Most studies of the results of sex reassignment generally and SRS specifically

have concluded that these treatments are associated with significant relief of gender dysphoria, a high degree of patient satisfaction, few instances of regret, and generally favorable psychosocial outcomes (Gijs and Brewaeys 2007; Lawrence 2003; Murad et al. 2010; Smith et al. 2005). Nevertheless, one long-term follow-up study found higher mortality from suicide and increased risks of suicide attempts and psychiatric hospitalizations for MtF and FtM transsexuals relative to non-gender-dysphoric controls (Dhejne et al. 2011). These results suggest that MtF and FtM transsexuals remain at increased risk for psychiatric problems after sex reassignment, notwithstanding the relief of gender dysphoria they usually experience. Smith et al. (2005) concluded that sex reassignment is an effective treatment for gender dysphoria and that its outcomes are generally favorable, but that FtM transsexuals and those whose sexual orientations were homosexual relative to natal sex achieved better results. Risk factors for less satisfactory postoperative functioning in both MtF and FtM patients included nonhomosexual orientation, greater comorbid psychopathology, and greater body dissatisfaction (Smith et al. 2005).

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## Gender Dysphoria in Children

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### Natural History of Gender Dysphoria in Children: Treatment Implications

The diagnostic criteria for gender dysphoria in children are provided in Box 39–4.

## Box 39–4. DSM-5 Diagnostic Criteria for Gender Dysphoria in Children

## 302.6 (F64.2)

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least six of the following (one of which must be Criterion A1):
1. A strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender).
  2. In boys (assigned gender), a strong preference for cross-dressing or simulating female attire; or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing.
  3. A strong preference for cross-gender roles in make-believe play or fantasy play.
  4. A strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender.
  5. A strong preference for playmates of the other gender.
  6. In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities.
  7. A strong dislike of one's sexual anatomy.
  8. A strong desire for the primary and/or secondary sex characteristics that match one's experienced gender.
- B. The condition is associated with clinically significant distress or impairment in social, school, or other important areas of functioning.

*Specify if:*

**With a disorder of sex development** (e.g., a congenital adrenogenital disorder such as 255.2 [E25.0] congenital adrenal hyperplasia or 259.50 [E34.50] androgen insensitivity syndrome).

**Coding note:** Code the disorder of sex development as well as gender dysphoria.

The appropriate treatment for children with gender dysphoria is a topic characterized by uncertainty and controversy. There is little reliable information—and certainly none in the form of randomized controlled trials—concerning the outcomes of any treatment options, much less a range of possible treatment options. Indeed, there is surprisingly little consensus among parents and caregivers even concerning the desired outcomes of treatment. There is, however, a considerable body of evidence concerning the natural history of gender dysphoria in children, with potential implications for treatment.

It is generally agreed that most children with untreated gender dysphoria will not continue to experience significant gender dysphoria or request sex reassignment when they reach adulthood. Instead, their gender dysphoria will usually remit or disappear, a phenomenon called *desistence*. Only a minority of children with gender dysphoria will experience *persistence* of gender dysphoria into adulthood. Green's (1987) long-term follow-up study of feminine boys, most of whom probably would have met diagnostic criteria for gender dysphoria, was among the first to demonstrate this:

of 44 boys seen at follow-up in late adolescence or adulthood, 75%–80% had a homosexual or bisexual orientation, but only 1 displayed persistent gender dysphoria. In a follow-up study of 25 girls with childhood GID, of whom 60% had presentations that met full diagnostic criteria and 40% had presentations that were subthreshold, Drummond et al. (2008) reported that only 3 (12%) experienced persistent gender dysphoria in late adolescence or adulthood; 8 (32%) were classified as homosexual or bisexual on the basis of sexual attraction. In another follow-up study, Wallien and Cohen-Kettenis (2008) observed somewhat higher persistence rates: of 59 boys with gender dysphoria, 12 (20%) were still gender dysphoric in late adolescence or adulthood, whereas of 18 girls with gender dysphoria, 9 (50%) were still gender dysphoric. Nearly all those with persistent gender dysphoria displayed a homosexual or bisexual orientation in adulthood, as did all of the females and half of the males whose gender dysphoria desisted. Wallien and Cohen-Kettenis observed that persistence was more likely in children with more severe gender dysphoria. In short, whereas a homosexual or bisexual orientation is a frequent outcome of gender dysphoria in childhood, persistent gender dysphoria is an infrequent outcome.

The fact that gender dysphoria in children usually desists by adolescence is, of course, an insufficient basis for suggesting that treatment is unnecessary: many medical and psychiatric conditions characterized by painful but time-limited symptoms are routinely treated, sometimes very intensively, because their symptoms are so distressing while present. Nevertheless, the self-limited nature of most cases of gender dysphoria in children suggests that the relative risks and benefits of treatment need to be weighed carefully.

## Disagreements About Objectives of Treatment for Children With Gender Dysphoria

The overall goal of treatment for children with gender dysphoria is to promote the child's well-being and psychological adjustment (Byne et al. 2012). Beyond this, there is little consensus about specific objectives of treatment, other than attempting to identify and address any comorbid psychopathology. Comorbid psychiatric conditions are not unusual in children with gender dysphoria. In a study of 120 Dutch children with a complete or subthreshold diagnosis of GID, Wallien et al. (2007) reported that 62 (52%) had one or more other DSM psychiatric diagnoses—about the same as in a comparison group of children with attention-deficit hyperactivity disorder (ADHD). About 31% of the children with GID had comorbid anxiety disorders, 6% had mood disorders, and 23% had disruptive disorders (ADHD or conduct disorder).

Arguably the most fundamental area of disagreement in the treatment of gender dysphoria in children concerns whether or not attempting to promote the desistence of gender dysphoria and thereby prevent transsexualism in adulthood is an appropriate treatment goal. Both Byne et al. (2012) and Zucker (2008) observed that the opinions that experienced clinicians hold on this and closely related issues typically reflect their beliefs concerning the etiology, significance, and potential malleability or immutability of gender identity in children with gender dysphoria. Some clinicians, whom Zucker called “biological essentialists” (p. 359)—but who would probably describe themselves as “gender affirming”—believe that the transgender identities of children with gender dysphoria are fundamentally

biological, although they concede that environmental factors may also play some role. For example, Ehrensaft (2012) argued that "the kernel of gender identity...is there from birth, residing within us in a complex of chromosomes, gonads, hormones, hormone receptors, genitalia, but most importantly in our brain and mind" (p. 341). Consistent with this point of view, Ehrensaft's treatment approach involved empowering gender-variant children to express, insofar as possible, their "true gender selves," which reflected the gender identities that she believed to be resident in their brains and minds. Zucker (2008), in contrast, argued that biological factors do not determine gender identity but merely constitute predisposing temperamental influences. He believed that other factors also contribute to the development of gender dysphoria in children, including psychopathology in the child, psychopathology in the parents, disturbed attachment relations between child and parents, and parental reinforcement or tolerance of the child's cross-gender behavior (see also Meyer-Bahlburg 2002). Because many of these factors are potentially modifiable using techniques that are not ethically problematic, Zucker contended that encouraging desistence of the child's gender dysphoria and thereby attempting to prevent transsexualism in adulthood were feasible and appropriate goals of treatment.

### Areas of Consensus in the Treatment of Gender Dysphoria in Children

Given the disagreements among experts about goals and methods of therapy and the limited evidence available, Byne et al. (2012) concluded that it was possible to offer no more than "general suggestions and cautions" (p. 772) regarding

the appropriate treatment of gender dysphoria in children. Many of these suggestions concerned the importance of informing parents and caregivers (and, as appropriate, children themselves) about the limitations of current knowledge and the lack of consensus among experts. Parents should be informed about the range of treatment goals and therapeutic options available, the disagreements and uncertainties surrounding these, and the absence of reliable empirical evidence concerning the efficacy and outcomes of treatment. They should also be told about the range of possible developmental trajectories in children with gender dysphoria, with or without treatment: persistence, partial desistence, or complete desistence of gender dysphoria; the elevated probability of a homosexual or bisexual orientation in adulthood; and the small but non-negligible possibility of a desire for sex reassignment in adulthood. Byne et al. further proposed that clinicians should be mindful that parents may pressure them for a "normalizing" solution, which might involve demands for either premature gender transition or elimination of all gender-atypical behaviors.

In the absence of expert consensus on specific therapeutic methods, it may be useful to first consider the approaches used in the gender clinics in Amsterdam and Toronto, which have the most extensive experience in treating children and adolescents with gender dysphoria (Byne et al. 2012), and then compare some alternative approaches.

### Amsterdam Approach to Gender Dysphoria in Children

As described by de Vries and Cohen-Kettenis (2012), the Amsterdam approach

to the treatment of children with gender dysphoria emphasizes “watchful waiting and carefully observing how gender dysphoria develops in the first stages of puberty” (p. 301). The process begins with interviews involving the child and parents, together and separately. The goal is not only to establish a formal diagnosis but also to understand the intensity and expression of the child’s gender dysphoria. There is also assessment of the child’s intellectual and psychological functioning, including the presence of any comorbid psychopathology or symptoms that may be consequences of gender dysphoria (e.g., depression or social anxiety).

In the Amsterdam approach, treatment is not directed toward the child’s gender dysphoria *per se* but rather toward any psychological problems in the child or the family that appear to influence or contribute to gender dysphoria (e.g., conflicts with parents or siblings). De Vries and Cohen-Kettenis (2012) proposed that psychotherapy and counseling for the child can encourage development of positive self-esteem and assist the child in dealing with the critical reactions of others to cross-gender expression, even if therapy does not lead to a resolution of gender dysphoria. They also emphasized the importance of parent counseling. Overall, their advice to parents tends to be fairly conservative regarding the child’s cross-gender expression, given the observation that most cases of gender dysphoria in children will desist. For example, de Vries and Cohen-Kettenis recommend that children not make a full social transition to the other gender (i.e., not fully change name, personal pronouns, or clothing) prior to early puberty, largely to avoid the problems involved in returning to the original gender role if the child’s gender dysphoria desists. Regarding this recommendation, they cited observations by Steensma

et al. (2011) concerning the difficulties experienced by some children whose social presentations had been typical of the opposite sex and in whom GID had desisted: “Some girls, who were almost (but not even entirely) living as boys in their childhood years, experienced great trouble when they wanted to return to the female gender role” (Steensma et al. 2011, p. 514). De Vries and Cohen-Kettenis also advise parents to encourage their child with gender dysphoria to have ongoing contact with children and adults of the child’s natal sex and to participate in gender-typical social activities. They do not suggest that parents completely prohibit gender-variant behavior, but rather that they impose sensible limits that will protect the child from bullying and harassment.

### Toronto Approach to Gender Dysphoria in Children

Zucker et al. (2012b) explained that the treatment model used at the Gender Identity Service at the Centre for Addiction and Mental Health in Toronto views cross-gender identity in children as a biopsychosocial phenomenon with a variety of possible developmental trajectories. Initial assessment involves interviews with the parents and child, together and separately. Clinicians also administer or employ 19 different psychological tests, assessment tasks, and questionnaires in the usual assessment protocol. Case conceptualization is premised on the theory that, whereas the gender identities of most children may be fixed and unchangeable, the cross-gender or gender-variant identities of children with gender dysphoria are potentially more malleable. This is particularly true when children’s gender-variant identities are caused or sustained by specific psychosocial influences, such

as parental reinforcement of gender-variant behavior, disturbed social cognition (i.e., concerning what it means to be a boy or a girl), comorbid psychopathology (e.g., separation anxiety or obsessional tendencies associated with autism spectrum disorders), or the operation of unconscious psychological mechanisms in response to past traumatic experiences or unresolved conflict within the family.

Treatment typically involves a combination of weekly play psychotherapy for the child, weekly counseling or psychotherapy for the parents, parental interventions in the home environment, and treatment of comorbid psychiatric problems with medication when indicated (Zucker et al. 2012b). Play psychotherapy allows children with gender dysphoria the opportunity to express and “make sense of their internal representational world” (Zucker et al. 2012b, p. 383) in a supportive, minimally structured environment. Psychotherapy with parents focuses on parental factors that may play a role in the origin and continuation of cross-gender behavior (e.g., identification with the opposite-sex parent as a response to parent-child conflict or a parent’s emotional withdrawal). Parental interventions in the home involve both setting limits on cross-gender behaviors and facilitating improved relations with same-sex peers; the latter can involve parental organization of play dates with same-sex children who are temperamentally compatible with the child or enrollment of the child in community activities (e.g., sports or gymnastics) in the case of older children.

## Other Treatment Approaches to Gender Dysphoria in Children

Meyer-Bahlburg (2002) described a treatment protocol for boys with gender dys-

phoria that had some elements in common with the Amsterdam and Toronto approaches but differed in certain important respects. For example, to avoid stigmatizing the child, only the parents were seen in formal therapy sessions. Treatment was conducted by the parents in the home environment and involved strengthening the father-son relationship, giving positive attention to gender-typical or gender-neutral behaviors and neither positive nor negative attention to gender-atypical behaviors, improving relationships with same-sex peers through parent-organized play dates with temperamentally compatible boys, and enlisting the cooperation of persons outside the immediate family to decrease opportunities for cross-gender behavior outside the home (e.g., cross-dressing at the home of an aunt or grandmother or at nursery school). Meyer-Bahlburg (2002) reported that in 10 out of 11 consecutive cases, there was marked improvement—namely, apparent resolution of symptoms—after a median of 10 parent treatment sessions.

Ehrensaft (2012), whose opinions about the biological roots of gender identity were discussed earlier (see subsection “Disagreements About Objectives of Treatment for Children With Gender Dysphoria” in this section), characterized her therapeutic approach as reflecting an “oppositional” (p. 338) rather than an alternative clinical model. Among other things, she rejected the idea that the symptoms of gender dysphoria are pathological, arguing, for example, that a boy who “dreams of being a girl when he grows up is not a child with a disorder, but rather a child who is creatively weaving his own gender web” (p. 339). Although Ehrensaft acknowledged the possibility that childhood gender non-conformity can sometimes result from trauma or disturbed attachment relationships, she stated that this was uncommon



in her experience. Her approach involves encouraging the child to explore and express his or her “authentic gender identity” (p. 339) while developing the psychological capacity to deal with situations in which that authentic gender identity cannot safely be expressed. Much of the therapeutic work involves helping the child’s parents deal with their feelings and learn how to better support their transgender child. In contrast to the Amsterdam and Toronto models, Ehrensaft’s therapeutic model allows for and sometimes encourages full-time social transition to the preferred gender role prior to adolescence.

Although they did not describe a comprehensive approach to the treatment of children with gender dysphoria, Edwards-Leeper and Spack (2012) argued that at least some children with gender dysphoria should be allowed to transition socially prior to adolescence. Like Ehrensaft (2012), they seemed to conceptualize GID as a biologically based phenomenon, approvingly noting “the increasingly common belief that a transgender individual’s...brain (or soul) has always been his or her affirmed gender” (p. 322). Edwards-Leeper and Spack stated that, in the case of children with a strong desire to transition to the opposite gender role, “our clinical recommendation is that every effort be made to support the child by allowing them [sic] to live in their affirmed gender to the extent that it is deemed safe” (p. 330). While acknowledging the concerns expressed by Steensma et al. (2011) about possible difficulties in returning to the gender role associated with the child’s natal gender after an early transition, Edwards-Leeper and Spack were reassured by the observation that “we have not seen any detrimental effects of early social transitioning in our patient population when done in a thoughtful way” (p. 331).

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## Gender Dysphoria in Adolescents

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### Natural History of Gender Dysphoria in Adolescents: Treatment Implications

The diagnostic criteria for gender dysphoria in adolescents are identical to those applicable to adults (see Box 39–1). Although gender dysphoria usually desists without treatment in children, the probability of desistence in adolescents with gender dysphoria is much lower. Many cases of gender dysphoria in adolescence represent the continuation of gender dysphoria that began in childhood; notably, when childhood gender dysphoria desists, this usually occurs between ages 10 and 13 years (Steensma et al. 2011). Consequently, it is reasonable to expect that gender dysphoria that begins in childhood and persists past early adolescence will continue to persist into adulthood unless effectively treated. Some adolescents with gender dysphoria, however, do not have a history of gender dysphoria in childhood. Zucker et al. (2011) observed,

In clinics such as ours, we see some adolescents with GID who show little or absolutely no evidence of GID in early childhood. In many respects, these adolescents resemble the “late-onset” form of GID that has been described in the literature on adults (see Lawrence 2010). The gender dysphoria appears to emerge, at least in the eyes of significant others (e.g., parents, therapists who have known the patient since childhood) only after the onset of puberty. (p. 63)

Zucker et al. noted that it was not clear whether adolescents with gender dysphoria without a history of gender dysphoria in childhood should be eligible

for early (puberty-suppressing) hormone therapy, a treatment that is described later in this chapter (see subsection "Puberty-Suppressing Hormones for Adolescents With Gender Dysphoria"). Edwards-Leeper and Spack (2012) likewise called attention to this subset of "atypical" adolescents with gender dysphoria having a comparatively recent onset of symptoms but did not discuss whether their treatment should differ.

## Overview of Treatment of Gender Dysphoria in Adolescents

Many of the treatment elements applicable to adults with gender dysphoria are also applicable to adolescents with gender dysphoria. These include assessment (confirming the diagnosis of gender dysphoria, characterizing its features, and evaluating comorbid psychopathology), psychotherapy, RLE in the desired gender role, and hormone therapy. Hormone therapy for adolescents with gender dysphoria involves the use of puberty-suppressing hormones, not cross-sex hormones. Adolescents with gender dysphoria typically become eligible for cross-sex hormone therapy at age 18, or at age 16 in some European countries. Byne et al. (2012) observed that the gender clinics in Amsterdam and Toronto, both of which see large numbers of adolescents with gender dysphoria and have systematically collected and published relevant data, can serve as important sources of information and expertise concerning appropriate treatment.

## Assessment of Gender Dysphoria and Comorbid Conditions in Adolescents

Both the Amsterdam and Toronto clinics

emphasize the importance of assessing not only the adolescent's gender dysphoria but also any coexisting psychiatric problems. Comorbid psychopathology is common in adolescents with gender dysphoria: de Vries et al. (2011a) found that among 105 Dutch adolescents with gender dysphoria, 32% had one or more comorbid DSM diagnoses, including 22% with anxiety disorders, 13% with mood disorders, and 12% with disruptive disorders (ADHD and oppositional defiant disorder). Zucker et al. (2012a) observed that adolescents with GID displayed more severe behavioral problems than comparison groups of clinically referred and nonreferred adolescents. Both the Amsterdam and the Toronto clinics believe that adolescents with significant comorbid psychological problems should be treated for these other conditions and followed over time to see whether this treatment will reduce their desire to undergo sex reassignment (Byne et al. 2012). In the most recent SOC, WPATH (2011) suggests that psychoeducation should also be an element of assessment, because "the way that adolescents respond to information about the reality of sex reassignment can be diagnostically informative" (p. 15), especially in the case of adolescents who have unrealistic expectations.

Over the last decade, adolescents referred to the Toronto clinic for gender dysphoria, especially males, have become more diverse with respect to sexual orientation (Zucker et al. 2012a). Consequently, determination of subtype based on sexual orientation (homosexual vs. nonhomosexual, relative to natal sex) may be an important element of assessment and case conceptualization for adolescents with gender dysphoria, especially for males. These subtypes were applicable to postpubertal or sexually mature adolescents with transsexualism

or GID in the last four versions of DSM. In Toronto, Zucker et al. (2012a) observed that 45% of 105 adolescent males with gender dysphoria, versus only 24% of 87 adolescent females with gender dysphoria, were classified as nonhomosexual on the basis of fantasy. Among other characteristics, nonhomosexual males with gender dysphoria displayed fewer behavioral problems, were less severely gender dysphoric, displayed less cross-gender behavior, and reported more sexual arousal with cross-dressing than their homosexual counterparts. Nonhomosexual females with gender dysphoria likewise were less severely gender dysphoric and displayed less cross-gender behavior than their homosexual counterparts. Subtypes based on sexual orientation were significantly associated with recommendations for puberty-suppressing hormones in the Toronto program: 73% of homosexual applicants with gender dysphoria received a positive recommendation, versus only 44% of nonhomosexual applicants (Zucker et al. 2011). Comparable data are not available from Amsterdam, because adolescents with persistent gender dysphoria who have been treated there have been, almost without exception, exclusively homosexual (Wallien and Cohen-Kettenis 2008; Steensma et al. 2011).

### Psychotherapy and Real-Life Experience for Adolescents With Gender Dysphoria

Both the Amsterdam and Toronto clinics offer supportive psychotherapy and psychoeducation to their adolescent patients with gender dysphoria. As is the case with adults, the intent of psychotherapy with adolescents is not to cure

the gender dysphoria but rather to encourage patients to explore their options and ensure that they are adequately informed about possible outcomes (Byne et al. 2012). Many adolescents with gender dysphoria, especially those with long-standing symptoms, will already be living full-time in their preferred gender role when they are seen for evaluation and psychotherapy. Other adolescents, especially males with a late-onset (and possibly nonhomosexual) type of gender dysphoria, “do not appear to have considered how they would begin to present themselves as the other gender and often create a sense of dissonance in the examiners between their wish and their appearance” (Byne et al. 2012, p. 775).

Assessment and psychotherapy result in a recommendation for puberty-suppressing hormones for some adolescents with gender dysphoria, but not for all. The Amsterdam clinic supports full-time transition to the preferred gender role and a recommendation for puberty-suppressing hormones for adolescents with long-standing gender dysphoria who have good parental support and no significant psychopathology (de Vries and Cohen-Kettenis 2012). Smith et al. (2001) reported outcomes in 20 adolescents with gender dysphoria who were approved for hormone treatment and eventual SRS under the Amsterdam protocol and 21 adolescents who were not. The principal reason for a decision not to recommend treatment was an inability to arrive at a diagnosis of transsexualism; usually this was not because the adolescents in question were found to be subthreshold for the diagnosis, but rather because “in many of these cases the psychological or environmental problems were too serious to make an accurate diagnosis” (p. 473). In the Smith et al. study, 65% of the adolescents in the treated group were females, whereas 62% of the adolescents

in the untreated group were males. When assessed at follow-up an average of 3–4 years later, both groups reported less gender dysphoria; Smith et al. interpreted these results as implying that their decisions about who should be offered treatment and who should not had been sensible ones.

According to Byne et al. (2012), the Toronto clinic tends to support full-time transition and puberty-suppressing hormones for adolescents with long-standing gender dysphoria but maintains a stance of “neutrality” (p. 773) concerning transition for adolescents with a recent onset of gender dysphoria or significant comorbid psychopathology. Zucker et al. (2011) reported that, based on logistic regression analysis, Toronto clinicians were more likely to recommend puberty-suppressing hormones for adolescents who displayed fewer behavioral problems, more intense gender dysphoria, and more extreme cross-gender behavior, currently and during childhood. Clinicians were also more likely to recommend hormones for females and, as noted previously, for adolescents with a homosexual orientation, but these variables were not significant predictors in the logistic regression analysis, probably because they were so closely associated with more extreme cross-gender behavior, which was a stronger predictor.

### Puberty-Suppressing Hormones for Adolescents With Gender Dysphoria

The use of puberty-suppressing hormones for adolescents with severe gender dysphoria or transsexualism was pioneered in the Netherlands. In the early 1990s, some adolescents evaluated in the Amsterdam clinic who had severe, long-standing gender dysphoria that seemed

unlikely to desist were observed to be extremely distressed by the physical changes of puberty and were struggling with social and psychological problems that seemed to be caused by their gender dysphoria rather than being merely comorbid with it (Kreukels and Cohen-Kettenis 2011). In response to their situation, the clinic adopted an investigational treatment protocol that made these adolescents eligible for cross-sex hormones at age 16, rather than age 18, as had been the policy previously. The results of treatment using this protocol were encouraging: the patients experienced relief of gender dysphoria, functioned well psychologically, and did not regret early treatment. Moreover, clinicians observed that patients who had begun treatment before reaching the final stage of puberty achieved an appearance more congruent with their preferred gender than did patients who had begun hormone treatment in adulthood (Kreukels and Cohen-Kettenis 2011).

Based on this experience, the Amsterdam clinic developed a second treatment protocol for adolescents with severe gender dysphoria, in which parenteral GnRH analogues were used to suppress or block the physical changes of puberty. GnRH analogues prevent the release of pituitary gonadotropins that stimulate the production of testosterone or estradiol (Kreukels and Cohen-Kettenis 2011; see also Gooren 2011; Hembree et al. 2009). The effects of GnRH analogues are fully reversible; pubertal development will resume spontaneously and rapidly if they are discontinued (Hembree et al. 2009). However, not one of more than 100 adolescents who have been treated with GnRH analogues in the Amsterdam program has ever chosen to discontinue treatment (de Vries and Cohen-Kettenis 2012; Kreukels and Cohen-Kettenis 2011). To be eligible for puberty-

suppressing hormones in the Amsterdam program, adolescents must be age 12 or older, have reached an early stage of pubertal development (Tanner stage 2 or 3), have a history of the onset of gender dysphoria in childhood with increasing symptoms at the start of puberty, have no serious psychiatric comorbidity, have the support of their parents or caregivers, and have the ability to understand the effects of treatment (Kreukels and Cohen-Kettenis 2011).

Suppression of puberty offers significant benefits to adolescents with gender dysphoria. It prevents the unwanted physical changes of puberty and the emotional distress that these changes predictably create, thereby allowing treated adolescents to explore their gender identity concerns and consider future options with greater calmness and less sense of urgency (de Vries and Cohen-Kettenis 2012). It also makes passing in the gender role of the opposite sex much easier if an adolescent decides to proceed with sex reassignment. De Vries et al. (2011b) conducted a prospective follow-up study of the first 70 adolescents offered puberty-suppressing hormones in the Amsterdam program, comparing psychological functioning, gender dysphoria, and body satisfaction before the start of treatment and at its conclusion, when the adolescents became eligible for cross-sex hormone therapy at age 16. The adolescents displayed better psychological functioning after puberty-suppressing treatment and no change in their gender dysphoria or body satisfaction. The latter findings represented the expected (and desired) results, given that normal pubertal development would have been expected to significantly worsen both. All of the treated adolescents subsequently began cross-sex hormone therapy and intended to complete the process of sex reassignment. Initial concerns about the

possible medical complications of pubertal suppression have largely been dispelled (Hembree et al. 2009). One significant limitation of the technique, however, is the formidable expense if GnRH analogues are not covered by medical insurance; this is usually the case in the United States (Edwards-Leeper and Spack 2012).

The provision of puberty-suppressing hormones to selected adolescents with gender dysphoria has received widespread endorsement (Edwards-Leeper and Spack 2012; Gooren 2011; Hembree et al. 2009; WPATH 2011), but the technique is not without its critics. Korte et al. (2008) expressed several concerns; they argued that adolescents lack the emotional and cognitive maturity to give meaningful informed consent, that puberty-suppressing hormones might contribute to the persistence of gender dysphoria, and that more effectively addressing the role that parental psychopathology allegedly plays in the etiology of adolescent gender dysphoria might render treatment with puberty-suppressing hormones unnecessary. Perhaps Korte et al.'s (2008) most significant criticism, however, was that the treatment "restricts sexual appetite and functionality and thereby prevents the individual from having age-appropriate (socio-)sexual experiences" (p. 839)—experiences that might theoretically result in a homosexual identity rather than a transsexual one. The latter criticism is especially salient, given the observation by Steensma et al. (2011) that adolescents whose long-standing gender dysphoria desisted between ages 10 and 13 years "reported that their first experience of falling in love and awareness of sexual attraction were factors that resulted in the disappearance of their gender dysphoria" (p. 509). The counterargument, as offered by Kreukels and

Cohen-Kettenis (2011), is that

it seems very unlikely that adolescents who have been through the first stages of puberty and responded to it with an increased intensity of gender dysphoria rather than a (new) enjoyment of their gender of rearing and developing sexuality, will experience a reversal of their GID in the late pubertal stages. (p. 469)

Still, it is not self-evident that reaching age 12 and achieving Tanner stage 2 or 3 pubertal development are sufficient to guarantee that such feelings of sexual attraction and love would already have occurred if they were ever going to. Arrayed against these considerations are the potential harmful consequences of *not* intervening with puberty-suppressing hormones: significant worsening of gender dysphoria and irreversible physical changes that would make passing as a member of the opposite sex much more difficult in adulthood. Given the preponderance of expert opinion in favor of puberty-suppressing hormones for adolescents with gender dysphoria and the increasing numbers of centers offering this treatment, it is likely that researchers and clinicians will soon have a much larger body of data to help clarify the advantages and disadvantages of puberty-suppressing hormones.

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## Conclusion

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Based on several decades of clinical experience with thousands of patients, the value of sex reassignment in the treatment of adults with severe gender dysphoria is not in doubt. At least in adults with the transsexual form of gender dysphoria, careful psychiatric evaluation and treatment with cross-sex hormone therapy, RLE in the desired gender role,

and SRS usually result in significant relief of gender dysphoria, improved quality of life, and a low probability of regret. There is less certainty concerning the appropriate treatment of adolescents and children with gender dysphoria. In the case of adolescents whose gender dysphoria began in childhood and persisted through age 12 or 13, there is a small but growing body of evidence that early treatment with puberty-suppressing hormones, followed by hormonal and surgical sex reassignment in adulthood, provides effective treatment. Because most cases of gender dysphoria in childhood desist by the time of adolescence, psychological and social support for the child and his or her family is the generally recommended treatment for children with gender dysphoria.

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