



PATIENT RESOURCES

# Transgender and Gender Diverse Children and Adolescents

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Gender identity—a person’s internal sense of being a boy, girl, neither, or both—begins to develop in early childhood around age 2-4 years and may evolve over time, with a more developed sense of gender identity usually emerging in

adolescence. Gender identity is different from sexual orientation, which is defined as the sex or gender to which a person is attracted.

Gender incongruence or gender diversity is when a person's gender identity and/or gender expression (the external appearance of one's gender identity) differs from the sex assigned at birth. Childhood gender diversity is an expected part of human development, is not a pathology or mental health disorder, and may not reflect adult transgender identity or gender incongruence. Transgender is a term used for a gender identity opposite the sex assigned at birth, while gender non-binary or gender-expansive describes a gender identity that is not exclusively male or female. Cisgender is a term used to describe a gender identity which is the same as the sex assigned at birth.

### ► **Gender Dysphoria**

Gender dysphoria is the distress and unease that develops when gender identity is not the same as the assigned sex at birth. Gender dysphoria manifests differently in different age groups. Children may insist that they are a different gender from that assigned at birth, may prefer roles and play of a different gender, and may develop body dysphoria (discomfort about their body parts).

Body dysphoria often becomes more common as children with gender dysphoria approach adolescence and may become severe during puberty, as bodies mature. If distress is worsened by changes with puberty, persistence into adulthood is likely. Gender identity development is influenced by biological and psychosocial factors, with a process of self-discovery during adolescence. Consequently, the development of gender

dysphoria and the declaration of a gender identity different from the sex assigned at birth may not occur until the start of puberty, or even several years into adolescence.

If gender dysphoria is of concern to the patient or caregiver(s), your health care provider may refer you to a mental health provider who has experience working with transgender or gender diverse children and adolescents.

### ► **Puberty Blockers**

Gender-related hormone therapy before puberty is not needed because testosterone or estrogen would not be present in children before puberty.

Children with gender dysphoria may wish to avoid body changes associated with puberty. In this setting, puberty blocking medications could be considered once an experienced clinician confirms the start of puberty by physical exam (growth of testes/penis or breast development) or laboratory analysis, and diagnosis of gender dysphoria has been confirmed by a qualified mental health provider.

Puberty-blocking medications (gonadotropin agonists) are given by injections every 1-6 months or by under-skin implants lasting 1 year, which stop testosterone or estrogen from being made. By doing this, physical changes associated with puberty will not progress.

Puberty blockers allow more time to explore gender identity, live in the experienced gender, and understand the medical and/or surgical options. They also avoid unwanted sexual development and, in later pubertal stages,

stop periods and prevent further facial hair growth/voice deepening. Puberty-blocking medications are fully reversible.

Risks of puberty blockers should be discussed with your medical provider prior to starting treatment. Risks include infertility (particularly if started in early puberty), low bone mineral density, headaches, hot flashes, fatigue, and mood alterations. For young transgender girls, puberty blocking medications will limit tissue available from penile and scrotal growth for future surgical treatments, but surgeons may be able to use tissue from other locations in this setting.

Some older youth with gender dysphoria may want to block their hormones using medications other than puberty-blocking medications.

Transgender boys may want to suppress menstrual periods. In this case, progestin-only birth control medications by injection, intrauterine device (IUD), under-skin implant, or pills may sufficiently suppress periods. Risks of these medications include mood changes, weight gain, and low bone mineral density.

Transgender girls may want to block testosterone effects, which can be done by the oral medications spironolactone or progesterone (used later). Risks of spironolactone include high potassium levels, increased urination, and dizziness.

## ► Gender-Affirming Therapies

Teens may wish to be treated with hormones (**estrogen or testosterone**) that affirm their gender identity. These teens should see a qualified mental health professional who can confirm gender dysphoria, confirm emotional and cognitive maturity for informed consent/assent for treatment, and manage any psychological problems that might interfere with the safety of hormone therapy. This mental health professional also provides helpful support to the teen emotionally as they undergo physical changes related to the hormone therapy. A medical provider will discuss risks and benefits of the hormone therapies with the teen and their family before prescribing.

Age of starting hormone therapy will be determined based on discussion with the patient, family, and health care team. Medical providers will talk with patients and families about options for fertility preservation in adolescents, prior to starting treatment. Hormone medications will be given using a gradually increasing dose schedule to mimic the new puberty of the identified gender. Desired effects of gender-affirming hormone therapy take months to years to become fully complete and natural variations in response can be expected (as with all puberty).

Estrogen therapy for transgender girls is provided most commonly by injections into muscle of skin every 1-2 weeks, pills, patches, or gels. Feminizing changes include softening of skin, decreased muscle bulk, redistribution of fat, breast growth, and decreased body hair growth. Breast growth is irreversible once developed. No voice changes (higher pitch) occur with estrogen therapy. Estrogen is generally safe in young healthy teens or adults, however, risks should be discussed with your health care provider.

Testosterone therapy for transgender boys includes injection into muscle or

skin every 1-4 weeks, gels, and patches. Effects include acne, facial/body hair, scalp hair loss, increased muscle bulk, menstrual periods stop (can take a few months to years), clitoral enlargement, vaginal dryness, and voice deepening. Clitoral growth and voice deepening are both irreversible effects. Testosterone is generally safe in young healthy teens or adults; however, risks should be discussed with your health care provider.

Youth taking gender-affirming therapy should be seen by their medical provider every 3-6 months until adult dosing is established, then every 6-12 months thereafter to assess for desired and adverse effects and to measure hormone levels.

### ► **Gender-Affirming Surgery**

In the United States, adolescents are not able to consent for removal of their ovaries/uterus/testes/penis (considered sterilization procedures) until they are 18 years old. However, some surgeons may perform surgical removal of breast tissue (“top surgery”) in adolescents younger than 18 years who are able to fully understand the risks and benefits. In this setting, a qualified mental health professional must confirm gender dysphoria, confirm that any psychological or social problems have been addressed and are stable, and confirm that the adolescent is emotionally mature enough to consent to the procedure.

### ► **Questions for Your Healthcare Provider**

- › What services are available in your area for gender diverse youth?

- › What medical and surgical options are available to support gender diverse youth and at which time-points are they used?
- › What are the risks and benefits of treatment options?
- › Why is a mental health professional a necessary part of the treatment team?



Developed for patients based on **Endocrine Treatment of Gender Incongruent/Gender Dysphoric Persons, An Endocrine Society Clinical Practice Guideline.**

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