



PUBERTAL BLOCKERS

Pubertal blockers are medications that can help you put puberty “on hold.” Before deciding on this treatment, there are several things you need to know. Every medication has benefits, risks and side effects that are important to understand before starting. You are being provided with this information because your doctor feels this may be a good option for you.

What Are Pubertal Blockers?

Pubertal blockers, often called “blockers,” are a type of medicine called “GnRH-agonists.” They are used to help temporarily suspend or block the physical changes of puberty. Pubertal blockers interrupt the signal from the brain to the gonads, which are the organs that make the hormones of puberty. These hormones are estrogen and testosterone. Estrogen is made by the ovaries. Testosterone is made by the testicles. It can take a few months to notice the effects of the pubertal blocker medication as hormone levels decrease. No one can predict how quickly or slowly a person’s body will respond.

How Are Pubertal Blockers Used?

Pubertal blockers are given either by injection (typically every three months), or by a small implant under the skin of the inner arm. These medications are effective for all genders. They can be started any time from just after the earliest physical changes of puberty, up until puberty is complete. Once puberty is complete, they are no longer helpful, and other medications are available to help with gender affirming goals.

Using these medicines to block puberty in transgender and gender-diverse youth is an “off-label” use. This means they are not approved by the Food and Drug Administration for this specific use. However, they have been used for many years by pediatric endocrinologists (doctors who work with hormones and puberty) to block puberty in pediatric patients for other reasons. The recommendation to use them for the care of gender-diverse youth is supported by the Endocrine Society, the world’s largest scientific and professional organization for hormone specialists.

The effects of the medication are not permanent. If a person stops using the medication, the person’s body will restart the changes of puberty at the stage when they started the pubertal blocker. This process typically occurs over several months.

Each person will eventually need to complete puberty; this might be the person’s own “biological” puberty, or it might be their “affirmed” puberty through prescribed hormones. You do not have to make this decision at this time, and pubertal blockers can give you

and your family more time to think about these choices. Pubertal blockers can be used for a few months to several years, depending on individual needs. If estrogen or testosterone treatment is started, pubertal blockers are usually continued at least for some time.

Benefits of Pubertal Blockers

- For people assigned male at birth, pubertal blockers will limit:
 - Growth of facial and body hair
 - Voice deepening
 - Broadening of the shoulders and hands
 - Masculinization of the facial bones
 - Growth of the Adam's apple
 - Growth of the testicles and penis
 - Erections and sex drive. Many people like this change, but not everyone. It is important for you to let your healthcare provider know if you have changes you do not like.
- For people assigned female at birth, pubertal blockers will limit:
 - Breast growth
 - Broadening of the hips
 - Periods, which are expected to stop altogether
- Using these medications may:
 - Give you and your family some time to explore gender-related goals and treatment options, while decreasing potential stress that permanent changes from puberty might occur.
 - Help you avoid the need for surgeries and other treatments that would be required to try to reverse the effects of puberty.
 - Reduce anxiety and depression symptoms, and improve mental wellbeing.
 - Improve safety and the ability to be seen as your affirmed gender now and later in life, because there are fewer noticeable changes from puberty.

Possible Risks of Pubertal Blockers

The side effects and safety of these medicines in the treatment of transgender and gender-diverse youth are not completely understood. There may be long-term risks that are not yet known. However, these medications have been safely administered to pediatric patients for other indications for many years.

- **Decreased bone density:** While on pubertal blockers, bone density (bone strength) will not increase as quickly as it otherwise would. There will be some “catch-up” increase after stopping this medication, or starting estrogen or testosterone treatment. The long-term impact of this is unknown. Getting enough calcium and vitamin D in your diet and engaging in regular exercise are important for bone health.
- **Hot flashes** may occur in people assigned female at birth due to estrogen levels dropping. Let your healthcare provider know if this is causing you problems.

- For people assigned male at birth, if **genital size stays small** this may limit the surgical options for vaginoplasty (“bottom surgery”) later in life. There are alternative techniques available to address this concern, if this is a goal for you.
- Possible effect on **final height**: people often continue to gain height slowly while on pubertal blockers. It is not currently known whether pubertal blockers are expected to have an effect on the final height a person reaches. It is possible that final height might be shorter or taller. Limited available research suggests that the impact is likely small.
- It is unknown whether there could be stalling of typical adolescent **cognitive or brain development** while on these medicines. Let your healthcare provider know if you notice any difficulties with memory or cognitive functioning.

Impact on Fertility

- Fertility refers to the ability to use your own sperm or eggs to have genetic children.
- While taking pubertal blockers a person cannot make fertile sperm or eggs.
- If the pubertal blockers are started in the later stages of puberty, you may already be making fertile sperm or eggs. Some people choose to preserve their sperm or eggs before starting pubertal blockers, to keep options open about how to build a family in the future. Your healthcare provider can tell you more about this process.
- If the pubertal blockers are started in early puberty, you may never be able to make fertile sperm or eggs, especially if you decide to continue on to hormone therapy later. If you later wish to have genetic children, you would likely have to stop the pubertal blockers and proceed through most of your own biological puberty in order to achieve effective fertility; this may take several years. This would mean you would develop some features of puberty associated with your sex assigned at birth; for some people, this could be distressing.
- There is ongoing research on how to improve fertility for people who start pubertal blockers in earlier puberty, but currently the techniques are considered experimental.

Alternatives to Pubertal Blockers

Young people whose gender identity does not match their sex assigned at birth are at increased risk of distress, depression, anxiety and suicidality. The risk of not using pubertal blockers is that these experiences may continue or worsen. However, there are other ways to help you reduce the discomfort of features of your body that may be distressing. Some of these may be options at the current time, while others may not be offered until you are older. Please let us know if you would like more information at this time about any of the following treatments. You may always ask for this information in the future.

Options appropriate at any age:

- Chest binders to flatten chest
- Medications to suppress periods/menstruation
- Voice therapy to change voice pitch and/or style
- Electrolysis or laser hair removal

Options typically pursued in the teenage years:

- Hormone therapy (estrogen or testosterone)

Options typically pursued later in adolescence or adulthood:

- Surgery to change voice pitch
- Surgery to change the appearance of the chest
- Surgery to change facial structure
- Surgery to reduce the Adam's apple
- Surgery to change the appearance and function of the genitals
- Surgery to remove reproductive organs (ovaries, uterus, testicles)
- Other body shaping procedures, like liposuction or plastic surgery

Prevention of Medical Complications

In order to be sure your treatment is safe and effective, it is important to let your healthcare provider know if you develop any side effects or new healthcare conditions while on the medication. You will need to have periodic follow-up appointments to be sure you are doing well on your treatment. These typically occur every 3 to 6 months, depending on individual circumstances.

You can choose to stop taking these medications at any time. If you decide to do that, you should contact your healthcare provider for guidance.

We look forward to partnering with you and your family to help you achieve your goals.