

INFORMATION SHEET

PUBERTY BLOCKERS FOR ASSIGNED FEMALES WITH GENDER DYSPHORIA

The BCCH Gender Clinic follows the international guidelines for treatment of trans, non-binary and gender-diverse children and youth as set out by the World Professional Association for Transgender Health's *Standards of Care 7* and the Endocrine Society's *Clinical Practice Guideline: Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons*.

Puberty blocker therapy is a common treatment for children and youth with gender dysphoria. Puberty blockers were developed for use in children with very early puberty in about 1985, and they have been used in healthy youth with gender dysphoria since about 1995. However, doctors may not know all their long-term effects. Doctors only prescribe puberty blockers when they feel that it is in a youth's best interest to lessen the distress they feel when their body goes into the "wrong" puberty. Puberty blockers allow these youth time to continue their gender journey without having to worry about unwanted, permanent female body changes.

The first step towards puberty-blocker treatment is a readiness assessment. This will help a child think about the possible short- and long-term effects of taking puberty blockers. A youth's gender team can help them find a qualified assessor to provide this readiness assessment.

Puberty blockers (usually Lupron Depot®, but sometimes Trelstar®) are a type of medication called a "gonadotropin-releasing hormone analog." Puberty blockers lower female hormones and stop further female body changes (such as breasts, broad hips and menstrual periods) that are hard or impossible to reverse once they have developed. Puberty blockers will not change a youth's genetic sex (chromosomes), nor will they change their internal reproductive organs (ovaries, uterus, and vagina) if they are later stopped. Puberty blockers will not make a youth's body more masculine.

Some youth on puberty blockers may choose to have a partial or full physical transition to a male body when they are older. This may include testosterone to cause male body changes and surgery to remove or change their female reproductive body parts inside and outside their body. If further gender-affirming transition, such as testosterone or surgery, is needed in the future, other assessments would be required.

Information about taking puberty blockers:

1. Puberty blockers are not started in youth until their gender dysphoria has started or increased with the earliest signs of puberty (called Tanner stage 2). In assigned females, this means breast growth. As well, any psychological, medical, or social problems that could interfere with treatment must be stable prior to starting.
2. Puberty blockers are given as an injection into the thigh muscle (deep) every 4 weeks; longer-acting forms can be given every 13 weeks. This can be given by the family doctor or a trained family member. The injections cause some pain.
3. When youth take puberty blockers, they need to have regular blood testing (generally, after 3 months, and then every 6–12 months), to ensure that the amount of the medicine is correct.
4. If puberty blockers are not taken on time, they can cause a speeding-up of puberty changes.
5. It is not safe for a youth to stay on puberty blockers for a long time without either male or female hormones in their body. The doctor will discuss what amount of time is safe for a youth.

Physical changes from the puberty blockers:

1. Puberty blockers work within 3–4 weeks to reduce the female hormone estrogen to a very low level. This will stop the physical changes of female puberty, including (1) breast growth; (2) growth of pubic and armpit hair; (3) widening of the hips; and (4) menstrual periods.
2. Puberty blockers will not reverse the permanent changes of female puberty that have already happened (breast growth, width of hips). They will stop menstrual periods and cause vaginal dryness, and they will reduce the sex drive.
3. While puberty blockers reduce the chance of getting pregnant, they do not affect the ability to get a sexually transmitted infection (STI). All youth need to protect themselves from sexually transmitted infections.
4. When puberty blockers are stopped, puberty usually restarts within 3–6 months. To the best of our knowledge, there are no permanent effects on female pubertal development, fertility or ovarian/uterine/breast health if puberty blockers are taken and stopped.
5. If puberty blockers are taken during the growth spurt, they will slow down the growth rate. In assigned females, this may cause an overall small increase in final adult height, especially if they later start on testosterone.
6. Puberty is usually a time when the bones are getting stronger by taking in calcium. Puberty blockers decrease the calcium uptake by the bones. For this reason, it is important that youth on puberty blockers help protect their bones in other ways, including physical activity and getting good calcium and Vitamin D intake. It is not known if using puberty blockers increases the chance for weak bones (osteoporosis) in older age.

Possible side effects of puberty blockers:

1. There is about a 5% (1 in 20) chance that a youth taking puberty blockers can develop an allergy to the medication, which presents as a red, painful sterile abscess (boil) at the injection site. This may start out slowly and get worse with each injection. Rarely, the abscess will have to be drained by making an incision. If a youth develops this problem, the puberty blockers must be stopped or switched to a different form of puberty blocker; however, there may not be an alternate medication.
2. The use of puberty blockers with certain other medications (including many medications for mental-health problems) may increase the risk for “prolonged QT syndrome”, a serious problem with the heart rhythm. If a youth is taking one of these medications, they will be asked to do an ECG (heart rhythm tracing) before and after starting puberty blockers.
3. The use of puberty blockers may rarely cause increased pressure in the brain (intracranial hypertension). This goes away if you stop the medication. The symptoms can include headache, blurry or double vision, loss of vision, pain behind the eye or pain with eye movement, ringing in the ears, dizziness, and nausea.
4. Puberty blockers can interact with other medications, dietary supplements, herbs, alcohol, and street drugs. Youth must be honest with their doctor about what else they are taking, to help prevent medical problems that could be life-threatening.
5. The medical effects and safety of puberty blockers are not fully understood. As with any medication, there may be long-term risks that are not yet known.