Gender Affirming Hormone Therapy for Children & Adolescents

If you are a parent of a trans child or if you are a transgender person that is under the age of 18, here is everything you need to know about gender affirming hormone therapy.

Gender dysphoria (GD) is a sense of unpleasantness that a person may have because their gender identity does not match the identity assumed at birth, referred to as gender incongruence. The unpleasantness is different for different people and can have different triggers. During the past decade, clinicians have progressively acknowledged the suffering of young adolescents with gender incongruence. Take note that a person may be incongruent with their gender but may not experience gender dysphoria.

If you are a parent, please read BeingTrans article on how to be a better ally to trans children as it contains suggestions and explanations that are vital to understanding what your child is going through. This can in many cases reduce tremendous amounts of distress before even considering gender affirming hormone therapy.

In some cases of gender incongruence among young adolescents, social transitioning (where a person changes their name, their pronouns, the way they represent etc to fit their gender identity) can be sufficient. However, for others, going through the physical changes of puberty can be unbearable and puberty blockers can be subscribed to pause these changes.

The key word 'pause' is really important because puberty is able to resume upon stopping these medications – this usually happens if the adolescent and their healthcare provider (HCP) decide that they do not have gender incongruence, they are gender non conforming (and do not want to transition all the way) or they do not want to proceed with adult gender affirming hormone therapy (GAHT).

Studies have shown that treating gender incongruence among adolescents entering puberty with a puberty blocker has been shown to improve psychological functioning[1] – ie: a decrease in behavioural and emotional problems along with a decrease in depressive symptoms. As certain undesirable secondary sex characteristics are irreversible after puberty, this also improves their physical outcomes when they decide to continue transitioning during adulthood.

It also buys the MHP, along with the adolescent and their guardian, more time to decide on proceeding with adult GAHT or not once the adolescent has grown into an adult.

Not only that, but their initial emotional distress to the physical changes of puberty (or the possibility of physical changes) has a diagnostic value in establishing the persistence of gender dysphoria as well[2]. This is why according to the World Professional Association for Transgender Health (WPATH), to aid in the diagnosis of gender incongruence, puberty blockers in the early stages of puberty are rarely prescribed before puberty has begun.

Note: Avoiding harm is an important ethical consideration for healthcare professionals when considering referrals for gender-affirming healthcare. Withholding a referral or delaying gender-affirming treatment by maintaining a "wait and see" approach is not considered a neutral option

(Telfer et al 2018). It may exacerbate distress by increasing depression, anxiety, suicidality, and social withdrawal, and push young people to obtain hormones illegally without medical oversight. (APTN TTH Module Topic 11.4 p. 62).

It is worth having a discussion about this with your HCP.

The Basics of Puberty Blockers

In order to understand how puberty blockers work, we need to first understand the basics of puberty. Puberty begins differently for each individual and ranges between the ages 8 to 14. When a child reaches its body's perceived age of puberty, the brain starts the process with the production of a hormone called gonadotropin-releasing hormone (GnRH).

When the GnRH reaches the pituitary gland – a small pea sized gland that is in charge of making several essential hormones – it signals it to begin the production of more estrogen in the ovaries for people with ovaries and more testosterone in the testes for people with testes.

Estrogen is involved in the growth and development of female sexual characteristics while testosterone is involved in the growth and development of male sexual characteristics.

In order to pause or postpone puberty, puberty blockers also known as GnRH agonists continuously send a signal to the pituitary gland causing desensitisation shutting down the production of testosterone or estrogen.

Another thing to mention about puberty is what's known as Tanner scale. The Tanner scale is used to measure the stage of puberty someone is currently in by looking at the physical measurements of both external primary and secondary sex characteristics such as the size of breasts, genitals, testicular volume and development of pubic hair. It goes from Tanner 1(pre-puberty) to Tanner 5 (considered an adult).

Recommendations to Begin Treatment

As recommended by WPATH, adolescents should be put on puberty blockers under these circumstances.

1) A qualified doctor has confirmed that:

- the adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender incongruence (whether suppressed or expressed),
- gender dysphoria worsened with the onset of puberty,
- any coexisting psychological, medical, or social problems that could interfere with treatment (e.g., that may compromise following of treatment) have been addressed, such that the adolescent's situation and functioning are stable enough to start treatment,
- the adolescent has sufficient mental capacity to give informed consent to this (reversible) treatment

2) And the adolescent has:

- been informed of the effects and side effects of treatment (including potential loss of fertility if the individual subsequently continues with GAHT) and options to preserve fertility,

- given informed consent and the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process,

3) And a paediatric endocrinologist (doctor specialising in hormones) or other clinician experienced in pubertal assessment

- agrees with the use of a puberty blocker
- has confirmed that puberty has started in the adolescent (entered Tanner 2)
- has confirmed that there are no medical contraindications to puberty blockers.

According to WPATH, Youth aged 16 or older can be deemed ready to begin adult GAHT. Though, we recognize that there may be compelling reasons to use GAHT prior to the age of 16 years in some adolescents with gender incongruence, there are minimal published studies of gender-affirming hormone treatments administered before the age of 13. Please always seek advice from a multidisciplinary panel before making any decision.

During Treatment

- Long-acting puberty blockers are the currently preferred treatment option according to WPATH.
- It is recommended that any use of puberty blockers include a discussion about implications for fertility. Transgender adolescents may want to preserve fertility, which may be compromised if puberty is suppressed at an early stage and the individual then completes proceeds with adult GAHT.
- Irreversible and undesirable sex characteristics that occur with puberty for people who are assigned female at birth may include breasts, female body habitus, and, in some cases, relative short stature.
- Irreversible and undesirable sex characteristics that occur with puberty for people who are assigned male at birth may include a prominent Adam's apple; low voice; male bone configuration, such as a large jaw, big feet and hands, and tall stature; and male hair pattern on the face and extremities.
- Puberty blockers are reversible

Risks

The primary risks for the use of puberty blockers in adolescents may include adverse effects on bone mineralization density since production of hormones have paused during peak development[3]. Though it could possibly be linked to calcium intake and decreased physical activity (see preventative measures).

Pubertal suppression treatment in early puberty for people with penises will limit the growth of the penis and scrotum, which will have a potential effect on future surgical treatments[4]. So if surgical treatment is a future consideration, discuss with a multidisciplinary panel on the ideal timing to stop puberty to get the best possible outcome (both for surgery and to minimise irreversible puberty characteristics).

Preventative Measures

There should be a discussion between the multidisciplinary panel, the caretaker/parent and the adolescent on what kind of preventative measures should be implemented during treatment including risk assessment, supplementation, frequency of monitoring, particulars to be monitored, affordability of the process and if facilities are available in the country to ensure all of this is done effectively.

There is evidence supporting calcium supplementation5. Vitamin D comes highly recommended and clinicians should offer it as an option to vitamin D deficient adolescents. Physical activity, especially during growth, is important for bone mass in healthy individuals and is therefore likely to be beneficial for bone health during treatment.

The Asia Pacific Context

As you can see, adolescent medical transitioning requires an ecosystem of supportive and well informed caretakers/parents, doctors, endocrinologists, paediatricians and psychologists. With the current climate in Asia Pacific, where transgender people aren't completely accepted in many countries, these things can be difficult to find. HCPs for instance need to be supportive of trans people *and* experienced enough to support adolescents in their transition process.

There also needs to be proper access to medication. Though, puberty blockers can sometimes be accessed through healthcare practices since it isn't strictly used purely for transgender adolescents but also for what's known as precocious puberty (where puberty starts too early), it can still be difficult to find a doctor willing to treat trans youths with this medication

There is a dire need for change in laws, policies, and healthcare guidelines to ensure that transgender people, and especially trans youth, can legally access gender-affirming medical care in Asia Pacific countries.

(BeingTrans has a list of clinics that are supportive of transgender people, it also contains a guide on how to find a transgender friendly clinic, if your country isn't listed. You can find it here)

If any of these pieces are missing in your country, we recommend not subscribing to puberty blockers but instead focus on the social transitioning aspect instead such as:

- Pursuing non medical gender affirming care
- Therapy to reduce gender dysphoria
- Getting support from the queer community
- Being informed on GAHT options to aid in the decision making process of starting adult GAHT.

1. National Library of Medicine. *Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study*, Annelou L C de Vries, Thomas D Steensma et al. Aug 2011 ->
2. European Journal of Endocrinology. *Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects*,Henriette A Delemarre-van de Waal, Peggy T Cohen-Kettenis, Nov 2006. ->
3. Journal of the Endocrine Society. *Low Bone Mineral Density in Early Pubertal Transgender/Gender Diverse Youth: Findings From the Trans Youth Care Study*, Janet Y Lee, Courtney Finlayson et al, July 2020. ->

4. National Library of Medicine. *Intestinal vaginoplasty revisited: a review of surgical techniques, complications, and sexual function*, Mark-Bram Bouman, Michiel C T van Zeijl et al, July 2014. ->
5. National Library of Medicine. *Bone mass at final height in precocious puberty after gonadotropin-releasing hormone agonist with and without calcium supplementation,* Franco Antoniazzi, Giorgio Zamboni et al, March 2003. ->