

Pediatric Endocrinology Fact Sheet

Pubertal Suppression for Youth with Gender Dysphoria/Gender Incongruence

What are puberty blockers?

The technical name for puberty blockers is gonadotropin releasing hormone analogues (GnRHa). These medications were initially developed to treat patients with extremely early pubertal development. When used continuously, these medications suppress the secretion of puberty hormones by the pituitary gland.

When are puberty blockers used?

These medications can prevent or stop development of the body changes associated with puberty. For those assigned female at birth, these medications prevent breast development and menstrual cycles. For those assigned male at birth, these medications prevent enlargement of the testes and the penis, voice deepening, facial hair growth, masculine facial features and bone structures. These medications are generally started following the initial physical signs of puberty and are continued as long as suppression is required: until gonadal suppression is achieved with gender affirming hormones or with gender affirming surgery. Sometimes, these medications are used in adolescents who have already started puberty. These medications are effective to stop menstrual cycles.

What are the specific types of these medications and how are they administered?

Leuprolide acetate depot (trade name: Lupron Depot) and Triptorelin (trade name: Triptodur) are administered by intramuscular injections. These are time-released medication that can be administered every 1, 3 or 6 months depending on the specific formulation. Histrelin acetate (trade names: Supprelin LA and Vantas) is another time-released medication that is formulated as a subcutaneous implant that can be placed underneath the skin of the upper arm. The duration of action of histrelin acetate is one year or longer.

What are the benefits of puberty blockers?

Once pubertal changes have developed, it might be difficult to align the body with the individual's affirmed gender. The medical procedures used to alter these secondary sexual characteristics such as electrolysis and "top surgery" are painful and expensive. One major benefit of initiating this therapy at the onset of puberty is the prevention of the

development of the secondary sexual features associated with puberty. These medications are reversible and allow adolescents to explore their gender identity without the distress and dysphoria provoked by ongoing pubertal development. Adolescents with gender dysphoria who undergo pubertal suppression have decreased depressive symptoms. Puberty suppression is recommended by the Pediatric Endocrine Society for adolescents with gender dysphoria who meet specific criteria (Endocrine Society Guidelines 2017).

Will my child's insurance cover the cost of puberty blockers?

Puberty blockers are expensive. Financial coverage or payment by insurance companies can be difficult to obtain. Nevertheless, more insurance companies are covering the costs. It is important to review with your insurance carrier benefits coverage for this service.

What are the potential negative outcomes with puberty blockers?

Treatment of transgender adolescents with puberty blockers is fairly recent. As a result, little information is available regarding long term outcome measures, including unknown long term mental health consequences. However, for approximately the past 30 years, these medications have been successfully used to treat precocious puberty with few side effects identified. Nevertheless, given the importance of pubertal hormones for bone development, concerns exist regarding the long-term use of GnRHa alone on bone health. Another concern is limited future fertility options when GnRHa are used early on followed by gender affirming hormones. It is important to discuss with an experienced provider different treatment options and all aspects of treatment risks and benefits.

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