

Early Puberty (Precocious Puberty)



Puberty is the start of sexual development. When a child has signs of puberty at an early age, it's called precocious puberty. Early puberty starts before age 8 in girls and before age 9 in boys. Often the first sign of puberty is the growth of breasts in girls or the testes in boys. (Pubic or underarm hair, body odor, or mild acne are often signs of hormone production from the adrenal glands. They are not reliable signs of the start of puberty.) Most children with precocious puberty grow fast at first. But they also stop growing early. They may not reach their full height.

Types and causes of early puberty

There are 2 types of early puberty:

- **Gonadotropin-dependent.** Also known as central precocious puberty, this is the most common type in both boys and girls. It's caused by the early release of hormones from the hypothalamus and pituitary (called gonadotropins) at the base of the brain. These hormones regulate puberty and sexual function.
- **Gonadotropin-independent.** This is a type of early development of sexual features that is not caused by the release of gonadotropins.

Early puberty may be caused by:

- Abnormal growths in the ovaries, testes, adrenal glands, pituitary gland, or brain
 - Central nervous system abnormalities, especially brain damage
 - Family history of the condition
 - Certain rare genetic syndromes
- Abnormalities in thyroid and adrenal glands.
- Exposure to hormone-producing chemicals in the environment

In many cases, no cause can be found.

Symptoms of early puberty

The symptoms can vary in each child. Common symptoms for girls include:

- Breast budding
- Pubic and underarm hair
- Menstruation
- Ovulation

Common symptoms for boys include:

- Enlarging penis and testicles
- Pubic and underarm hair
- Facial hair
- Sudden erections

- Sperm production
- Acne
- Deepening voice

Other signs can include:

- Moodiness
- Increased aggression
- Being taller than other children of the same age

Diagnosis of early puberty

Your child's healthcare provider will ask about your child's health history. Your child will have a physical exam. They may have tests, such as:

- **X-ray.** An X-ray of your child's left hand and wrist (called a radiograph) may be taken. This uses a small amount of radiation to create pictures of bones, and other tissues. An X-ray of the hand can estimate your child's "bone age." With early puberty, bone age is often advanced compared to the child's actual age.
- **Blood tests.** These tests may be done to measure certain hormone levels. These may include gonadotropins (LH and FSH), gonadotropin-releasing hormone (GnRH), estradiol, testosterone, and thyroid hormones.
- **Ultrasound.** This uses sound waves and a computer to create pictures of the body. Ultrasound scans of the pelvis or belly (abdomen) may be done. These look at the adrenal glands and gonads (ovaries or testes).
- **MRI.** This uses large magnets and a computer, without the use of X-rays, to create pictures of organs and other body tissues. An MRI of the brain may be done to look for possible causes of early puberty.

Treatment of early puberty

The goal of treatment is to stop or slow early puberty and related symptoms. The most common treatment is with a synthetic hormone called a GnRH agonist. A GnRH agonist can stop the pituitary gland from releasing gonadotropin hormones. Other treatments will depend on the type of early puberty and its cause, such as a tumor. Your child's healthcare provider can tell you more about the risks and possible benefits of certain treatments.

Helping your child cope with early puberty

Early puberty will cause a child's body to change much sooner than other children their age. This may make your child feel awkward or embarrassed. They may be teased by other children. You can help your child cope by talking with them about the condition, and helping boost their self-esteem. Ask your child's healthcare provider to refer you to a child counselor or licensed pediatric psychologist. They can help your child learn other coping tips.

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