

Early puberty: what are the causes and how is it treated?

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Published: 10/05/2017 | Updated: 17/02/2021

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Early sexual development, otherwise known as [precocious puberty](#), is the appearance of secondary sexual characteristics in girls aged less than eight years old and boys less than nine years old. It affects approximately 1 in 5,000 children and is 5-10 times more common in girls than in boys.



Why do some children go through early puberty?

Early puberty may often be centrally driven (from the pituitary gland in the brain) and a benign process, especially in girls. However, it can be caused by **disease affecting the pituitary** or it can be caused by other sources, independent of a central process.

In all cases, a consultant paediatric endocrinologist, such as myself, for example, would attempt to determine the cause of the early puberty and then

decide if further tests are needed, or whether to reassure the parents and child that it is a normal process and there is nothing to worry about.

What are the causes of early puberty?

The most common presenting form of non-central early puberty is often just **pubarche (the appearance of pubic hair)** due to a physiological secretion of androgens (male hormones) from the adrenal gland which both males and females produce in small quantities.

This needs to be differentiated from the most common pathological cause of pubarche which is [congenital adrenal hyperplasia-adrenal biosynthetic defects](#) which may affect individuals who inherit a double copy of the defective gene from each parent, or who may carry a single affected gene and manifest a mild disturbance, occasionally these need differentiating from adrenal tumours.

[Brain tumours](#) and other forms of brain injury (e.g. [cerebral palsy](#) and [traumatic brain injury](#)) and some other genetic paediatric conditions can result in [premature activation of puberty](#).

What are the symptoms of early puberty?

Possible effects of precocious puberty in boys and girls include:

Girls:

- Breast budding
- Pubic hair growth
- The onset of a growth spurt
- Sebaceous secretions – sebum that is secreted from the pores, causing waxy or oily skin and hair, especially on the face

Boys:

- Pubic hair growth
- The onset of a growth spurt

- Enlargement of testes
- Sebaceous secretions

At what age do children go through puberty?

On average, girls and boys are the same height until they start puberty which they both do around the same age of 11, but the effects are not always so obvious in boys.

Girls accelerate in height immediately and complete their growth earlier than boys. They achieve menses (menstruation) around the ages of 13 and 14.

Boys are usually at the peak of their pubertal growth spurt at age 14 and don't stop growing until they are around age 16 or 17. At the end of puberty, boys start having facial hair growth.

Due to the extended and more intense pubertal growth spurt, boys grow to be, on average, up to 12.5cm (5in) taller than girls.

What are the treatments for early puberty?

If the cause of centrally driven precocious puberty is natural, **the puberty may progress quite slowly, and not need treatment.**

However, if treatment is required, monthly or 3 monthly intramuscular depot injections (a slow-releasing form of medication) are used to block the pituitary message. These injections will halt pubertal progress and delay skeletal fusion. However, they will not increase final adult height.

If the process is not physiological (non-centrally driven) specific diagnosis and treatment of the underlying condition may be required. Treatment will be supervised and monitored by the [consultant paediatric endocrinologist](#).