

PUBERTY

Normal Physiology & Abnormal Forms

Normal Puberty:

Puberty is the process a child's body goes through as it develops into an adult's body. . The growth and development that occurs during puberty is prompted by changes in the levels of certain hormones in your body

Start of puberty typically occurs between ages 8 and 13 for girls. In girls, breast development, pubic hair growth, the beginning of menstrual periods, and a growth spurt occurs during puberty. Start of puberty typically occurs between ages 9 and 14 for boys. During this there is genital growth causing testis and penis to grow, deepening of voice, appearance of axillary and pubic hair and height and muscle growth.

A puberty disorder is when these processes and changes don't occur as they normally should either in sequence or time.

Precocious puberty/early puberty:

When signs of puberty appear before age 8 in girls and age 9 in boys, a diagnosis of precocious puberty is made. Girls may develop breasts or begin menstruation, whereas boys may experience early growth of the testicles, penis, and facial hair. Children with precocious puberty grow quickly at first but tend to stop growing earlier than usual, making them shorter than average as adults.

Early puberty can occur because of premature activation of the hypothalamic pituitary axis. This premature activation is commonly because of unknown causes but it can sometimes be caused by a tumour or cyst near to hypothalamic-pituitary area or an injury to it. That injury may result from trauma or the combined effects of surgery and radiation therapy for cancer.

Delayed Puberty

When signs of puberty aren't noticeable until age 14 in boys and age 13 in girls—with an absence of menstruation by age 15—a child is diagnosed with delayed puberty. Causes can include chronic illnesses like diabetes, [anorexia or bulimia](#), excessive exercise, trauma to the head, and chemotherapy or radiation treatments for cancer. Problems with the hypothalamic- pituitary gland or the thyroid gland(hypothyroidism) can lead to delayed puberty. Injury, chemo therapy, radiation, trauma to the gonads or genetic causes like Klinefelter syndrome or Turner syndrome can also cause delayed

puberty. In long term, delayed puberty can lead to infertility, osteoporosis, cardiovascular diseases and other metabolic complications.