
Chapter - 10

Reaching the age of Adolescence

- Humans become capable of reproduction after puberty sets in. Between the ages of 11 years and 19 years children are called adolescents.
 - The onset of puberty brings about growth of the reproductive organs. Hair grows at various places on the body. Breasts develop in girls and facial hair (moustache and beard) appear in boys. Voice of boys becomes hoarse as voice box enlarges during adolescence.
 - Children gain height during adolescence.
 - **Puberty:** It is the time when sex organs begin to work. It brings about growth in reproductive organs and changes in the body.
 - **Changes during Puberty:**
 - (i) **Increase in Height:** The bones of the legs and arms elongate and the individual becomes tall and lanky.
 - (ii) **Changes in Body Shape:** In boys, the body becomes more muscular, the shoulder becomes wider. In girls, the body shows curves in certain parts and the region below the waist becomes wider and broader.
 - (iii) **Change in Voice:** In boys, the voice becomes hoarse and heavy due to the extra growth of larynx (voice box). In girls, the voice becomes high pitched and shriller.
 - (iv) **Sweat and sebaceous glands:** They become more active and secrete more sweat and oil.
 - (v) Emotional aspects develop.
 - (vi) Mental and intellectual development is at its peak.
 - The onset of puberty and maturity of reproductive parts are controlled by hormones.
 - Hormones are secretions of endocrine glands which pour them directly into the bloodstream.
 - Pituitary gland secretes hormones which include growth hormone and hormones that make other glands such as the testes, ovaries, thyroids and adrenals, secrete hormones. Pancreas secretes insulin, thyroid produces thyroxine and adrenals produce adrenalin.
 - Testosterone is the male hormone and estrogen, the female hormone. The uterine wall in females prepares itself to receive the developing fertilised egg. In case there is no fertilisation, the thickened lining of the uterine wall breaks down and goes out of the body along with blood. This is called menstruation.
 - Sex of the unborn child depends on whether the zygote has XX or XY chromosomes.
 - It is important to eat balanced food and maintain personal hygiene during adolescence.
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