

Reaching the Age of Adolescence

- Humans can reproduce only after growing up to a certain age called adolescence. It is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood (age of majority). It is generally the age period of 11 years to 19 years.
- At the age of adolescence, puberty sets in. The onset of puberty brings about growth of the reproductive organs.
- The growth of hair at various places on the body, increase in height, development of breasts in girls, appearance of facial hair (moustache and beard) in boys are some of the changes that can be seen in adolescents.
- The onset of puberty and maturity of reproductive parts are controlled by hormones.
- Hormones are chemical messengers that are secreted by the endocrine glands directly into the blood stream.
- A few glands such as sweat glands, oil glands and salivary glands release their secretions through ducts.
- The hormones secreted by the Pituitary gland stimulate testes and ovaries to release testosterone in male and estrogen in female. It also stimulates the pancreas, thyroids and adrenal glands to make them secrete insulin, thyroxine and adrenalin.
- When a sperm fuses with the egg inside the body of a human female, 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.
- The first menstrual flow begins at puberty and is termed menarche. At 45 to 50 years of age, the menstrual cycle stops. Stoppage of menstruation is termed menopause. Initially, menstrual cycle may be irregular. It takes some time to become regular.
- All human beings have 23 pairs of chromosomes in the nuclei of their cells. Two chromosomes out of these are the sex chromosomes, named X and Y.
- A sperm carries X and Y chromosomes while a female egg carries both X and X chromosomes. Sex of the unborn child depends on whether the zygote has XX or XY chromosomes. The XY combination results in male child while the XX combination results in a female child.
- Metamorphosis in frogs is controlled by thyroxine produced by thyroid gland. Thyroxine production requires the presence of iodine in water. If the water in which the tadpoles are growing does not contain sufficient iodine then tadpoles cannot become adults.
- The physical and mental well-being of an individual is regarded as an individual's health.