

CLASS 8

CHAPTER 10

**REACHING THE AGE OF
ADOLESCENCE**

GROWTH IN HUMAN BEINGS

- INFANCY
- CHILDHOOD
- ADOLESCENCE
- ADULTHOOD

CHANGES AT ADOLESCENCE

- The height increases
- Change in the shape of the body
- Change in voice
- Increased sweat and oil production in the skin
- Development of sex organs
- Mental, emotional and intellectual maturity

DEVELOPMENT OF SECONDARY SEXUAL CHARACTERS

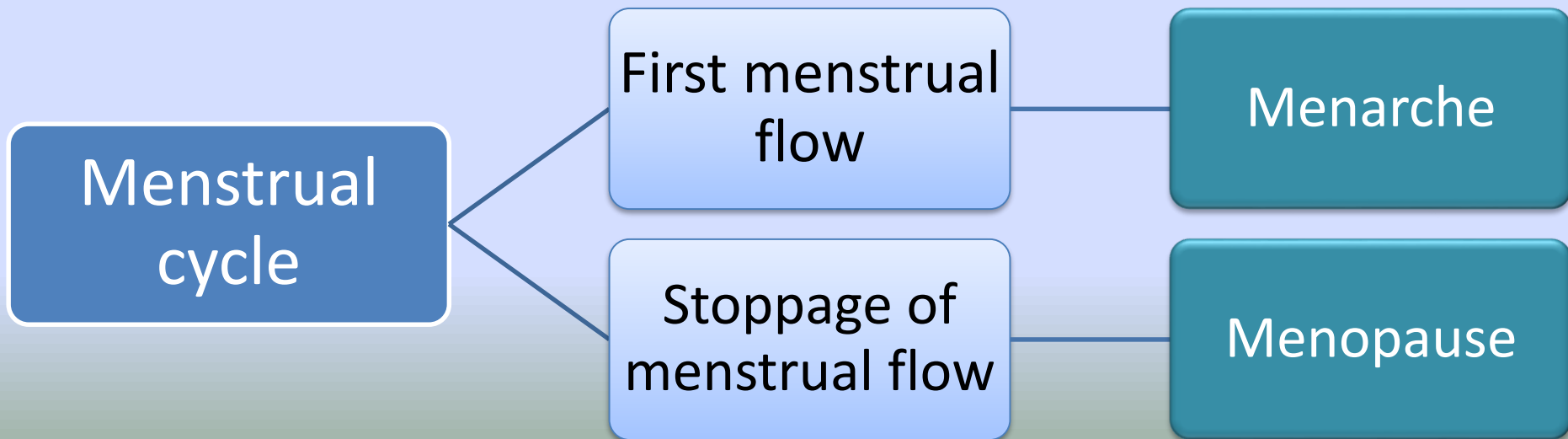
At puberty, some changes occur in both males and females, those develop in them are called **Secondary Sexual Characters**.

SECONDARY SEXUAL CHARACTERS IN MALES

- Growth of hair on the face, chest, under the arms and pubic area.
- Body becomes muscular.
- The voice deepens due to the growth of voice box.
- Production of sperms starts in testes.

SECONDARY SEXUAL CHARACTERS IN FEMALES

- The growth of hair under the arms and the pubic area
- Development of breasts
- A high pitched voice
- Ovary starts to release eggs



WHAT ARE HORMONES?

- The endocrine glands present in humans which secrete chemical substances in the body are called the **Hormones**. These chemical substances are responsible for changes in the human body at the time of puberty.
- The pituitary glands present in the body which control the production of the hormones by endocrine glands in both males as well as females.
- Hormones from pituitary stimulate testes and ovaries to release testosterone in male and oestrogen in female.

SEX HORMONES

- Testosterone in males
- Oestrogen and progesterone in females

DETERMINATION THE SEX OF THE BABY

- There are 23 pairs of **chromosomes** present inside the nucleus of every human cell.
- Chromosomes help in determining the sex of the child.
- Out of the 23 pairs of chromosomes, 2 of them are sex **chromosomes called X and Y**.
- Females have XX chromosomes and males have XY chromosome.
- If the sperm that contains a Y chromosome fertilizes with the egg which contains the X chromosome, the zygote develops into a **male**.
- If the sperm contains an X chromosome and fertilizers with the egg which contains X chromosome, the zygote develops into a **female**.

OTHER HORMONES

Pituitary gland	Growth hormone	Responsible for the growth of a person
Thyroid	Thyroxine	Lack of Thyroxine results in Goitre
Pancreas	Insulin, Glucagon	The insulin activates when the blood glucose levels are high while the glucagon activates when the blood sugar levels are low
Adrenal gland	Adrenaline	Helps the body to adjust to the stress

NUTRITIONAL NEEDS OF ADOLESCENTS

- Healthy and nutrition rich diets are essential for the right growth.
- Adolescents should avoid foods such as chips, soft drinks and soda.
- Adolescent age requires a balanced diet.

PERSONAL HYGIENE & PHYSICAL EXERCISE

- Personal hygiene also plays a role in maintaining the mental and physical well being of adolescents.
- Females should maintain hygiene during the menstrual cycle and prepare themselves accordingly.
- Adolescents should indulge in sports, exercises, walking, cycling and other physical activities.

SAY “NO” TO DRUGS

- Adolescent age have different changes in the mind and body.
- Adolescents should always say **NO** as taking drugs can be dangerous for their health.
- **AIDS** (Acquired Immunodeficiency Disease) is caused due to **HIV** virus.
- **HIV** virus that can get transmitted from an infected person to another through the use of same syringes used for taking drugs through syringes.
- Along with this, it can transmit through sexual contact or from the infected mother's milk.

THANK YOU