



Anesthesia Department

Reproductive System

Human Biology (ANE106)

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Lecture 7

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Reproductive System

The reproductive system is a group of organs that work together to produce offspring and ensure the continuation of the human species.

Main Functions

Male Reproductive System

- Produces sperm cells
- Produces male sex hormones
- Delivers sperm to the female reproductive tract

Female Reproductive System

- Produces egg cells (ova)
- Produces female sex hormones
- Supports fertilization and fetal development

Male Reproductive System

Main Organs

1. Testes

- Produce sperm
- Produce testosterone

2. Scrotum

- Sac of skin that holds the testes
- Maintains a temperature slightly lower than body temperature

Male Reproductive System

Main Organs

3. Epididymis

- Coiled tube attached to each testis
- Stores and matures sperm

4. Vas Deferens

- Muscular tube that transports sperm

5. Seminal Vesicles

- Produce nutrient-rich fluid

Male Reproductive System

Main Organs

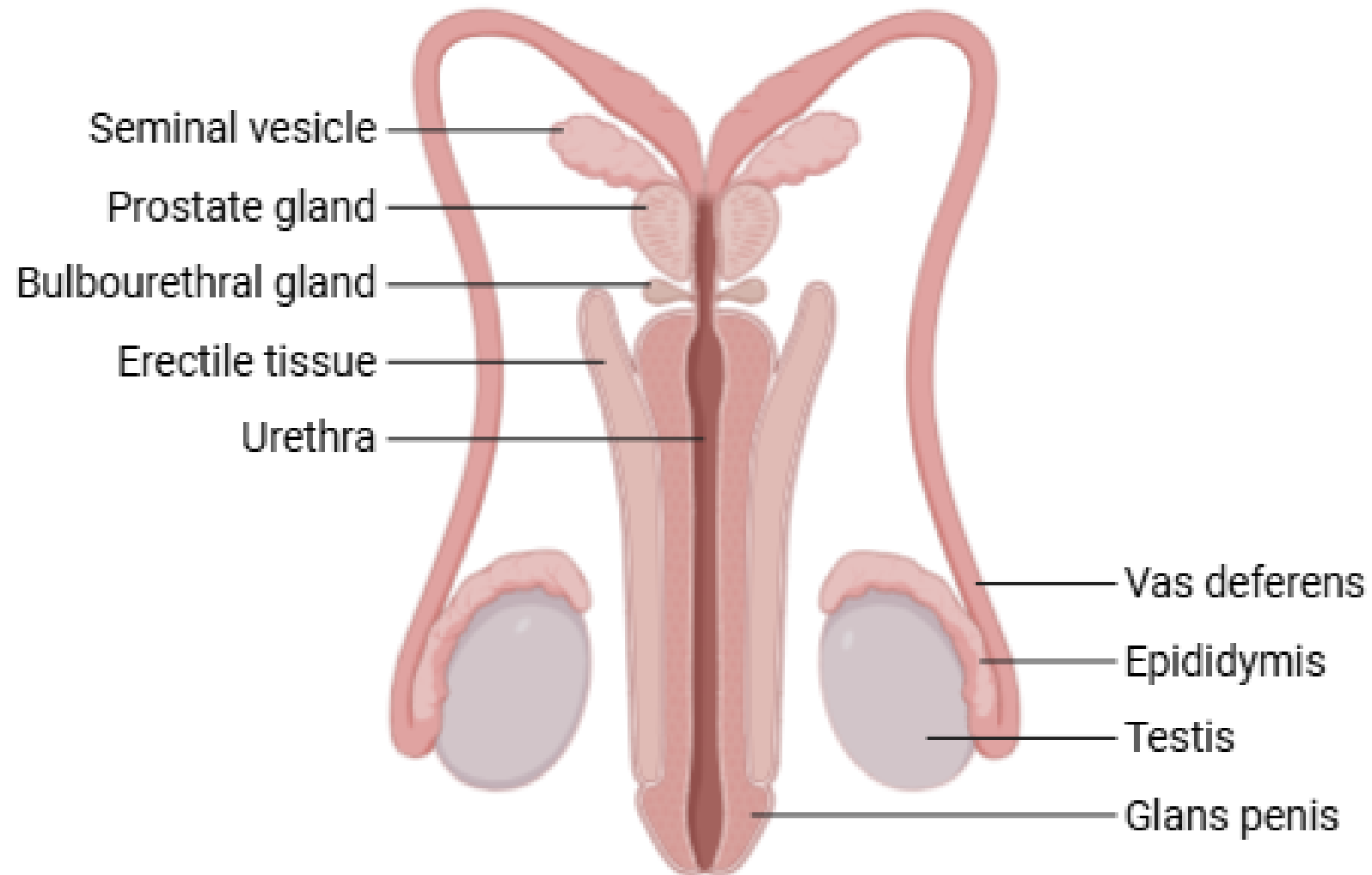
6. Prostate Gland

- Produces alkaline fluid
- Helps protect sperm

7. Penis

- External reproductive organ
- Delivers semen during reproduction
- Also functions in urination

Male Reproductive System Anatomy



Testosterone

Functions

- Development of male reproductive organs
- Development of secondary sexual characteristics
- Supports sperm production

Sperm Production

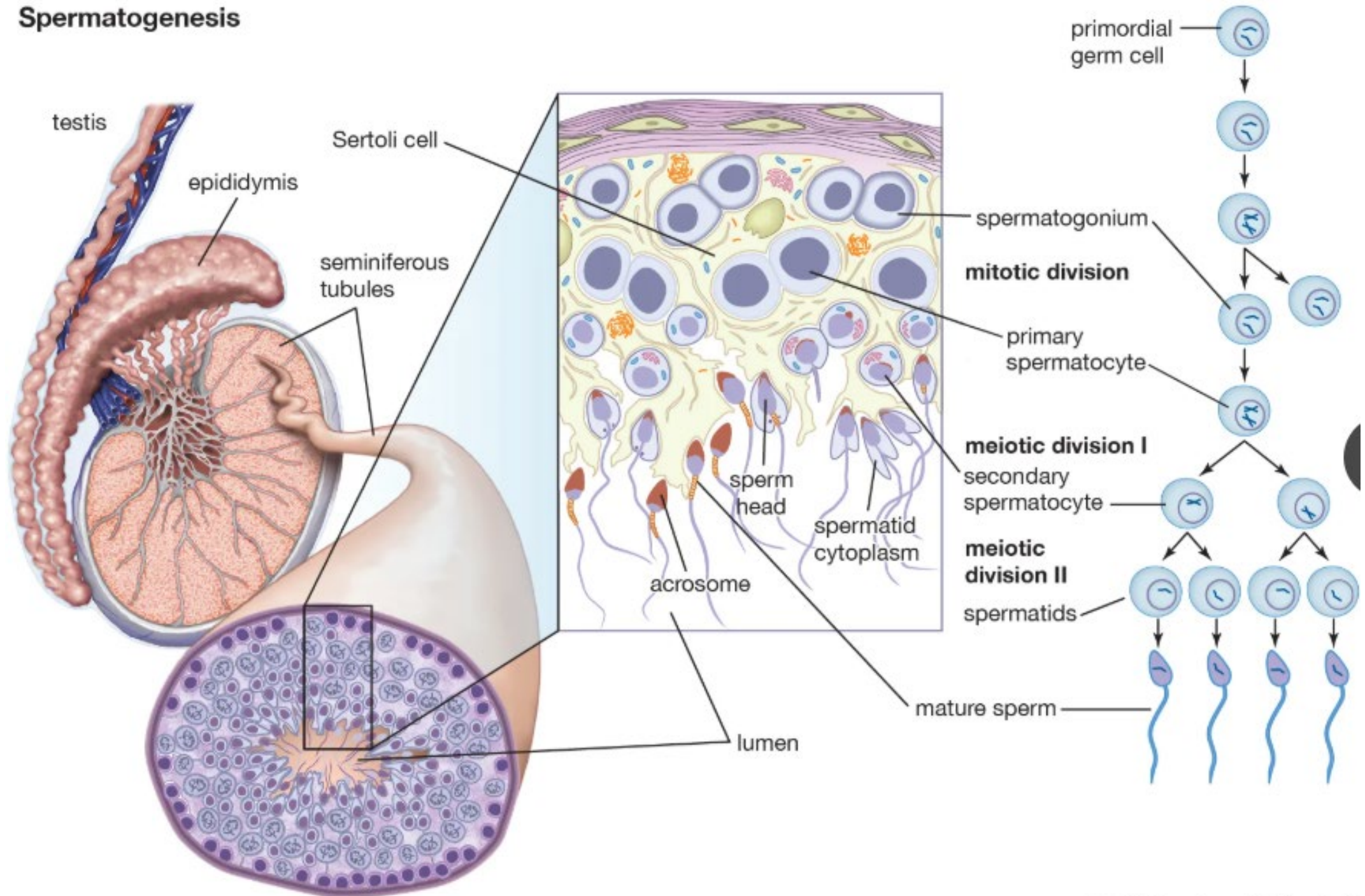
Spermatogenesis

The process of sperm production occurs in the testes.

Facts

- Begins at puberty
- Continues throughout life
- Millions of sperm are produced daily

Spermatogenesis



Female Reproductive System

Main Organs

1. Ovaries

- Female gonads
- Produce eggs (ova)
- Produce estrogen and progesterone

2. Fallopian Tubes

- Carry eggs from ovaries to uterus
- Usual site of fertilization

3. Uterus

- Hollow muscular organ
- Site of fetal development

Female Reproductive System

Main Organs

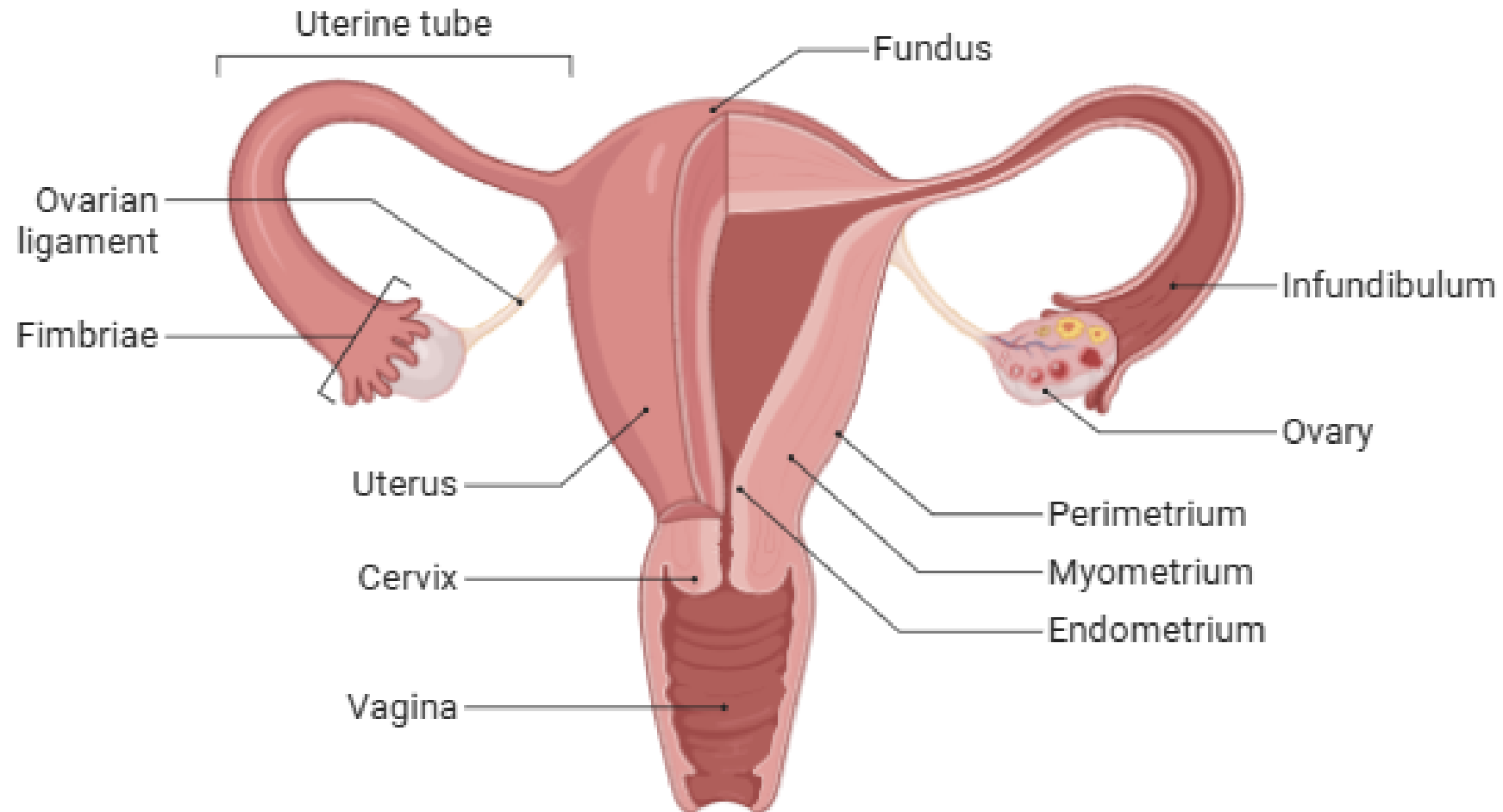
4. Cervix

- Lower portion of uterus
- Connects uterus to vagina

5. Vagina

- Muscular canal
- Receives sperm
- Birth canal

Female Reproductive System Anatomy



Female Sex Hormones

Estrogen

- Functions:
- Development of female reproductive organs
- Development of secondary sexual characteristics

Progesterone

- Functions:
- Prepares uterus for pregnancy
- Maintains pregnancy

Egg Production

Oogenesis

- The process of egg production in the ovaries.

Facts

- Females are born with immature egg cells.
- Usually one egg matures each month after puberty.
- Ovulation releases the mature egg.

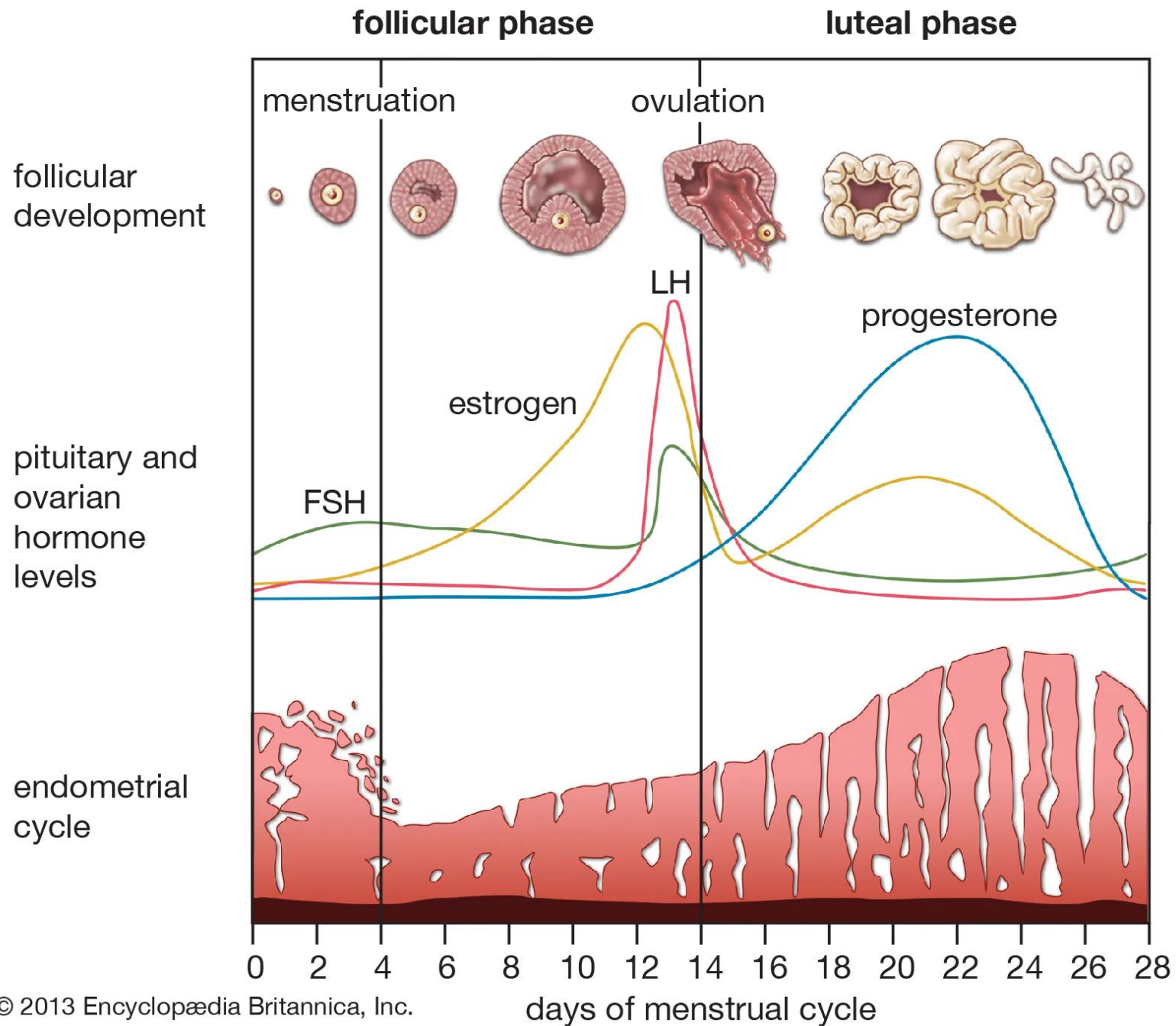
Menstrual Cycle

A monthly cycle that prepares the female body for possible pregnancy.

Main Events

- Egg matures in the ovary.
- Ovulation occurs.
- Uterus prepares for implantation.
- If fertilization does not occur, menstruation occurs.

The menstrual cycle





Fertilization and Pregnancy

Fertilization

Occurs when a sperm cell joins an egg cell. Usually occurs in the fallopian tube.

After Fertilization

1. Zygote forms.
2. Cell division begins.
3. Embryo develops.
4. Implantation occurs in the uterus.

Pregnancy

The embryo develops into a fetus inside the uterus until birth.