

Human Reproduction

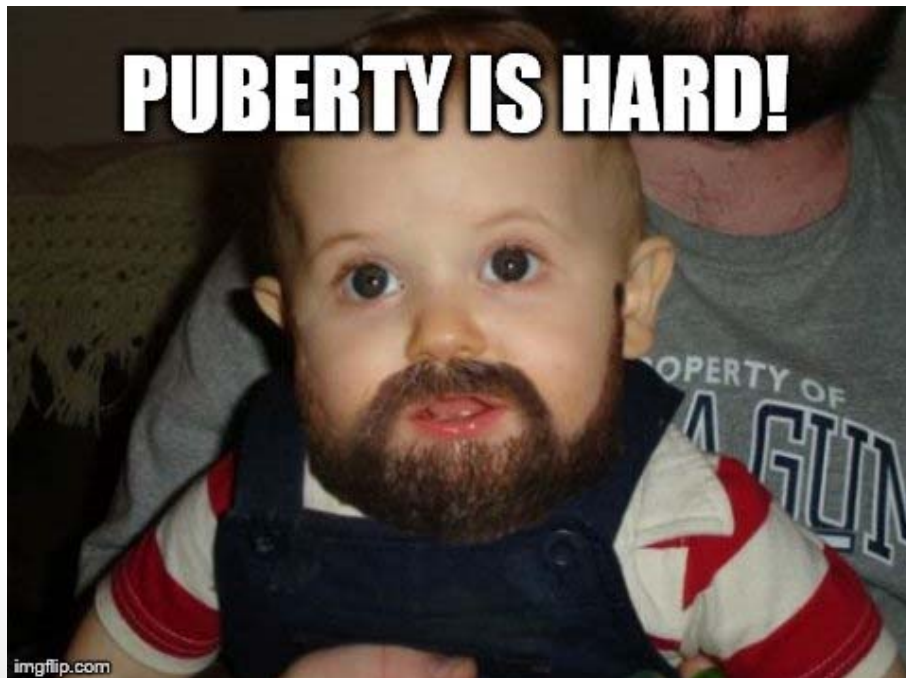


S1-1-09 Describe the structure and function of the male and female human reproductive systems. Include: role of hormones

Human Reproduction...

Puberty:

- Stage of life when humans develop SECONDARY SEXUAL CHARACTERISTICS and become SEXUALLY MATURE
- Time of PHYSICAL and MENTAL DEVELOPMENT.
- The differences in development of males and females is caused by GENETICS and HORMONES.



BRACE YOURSELF

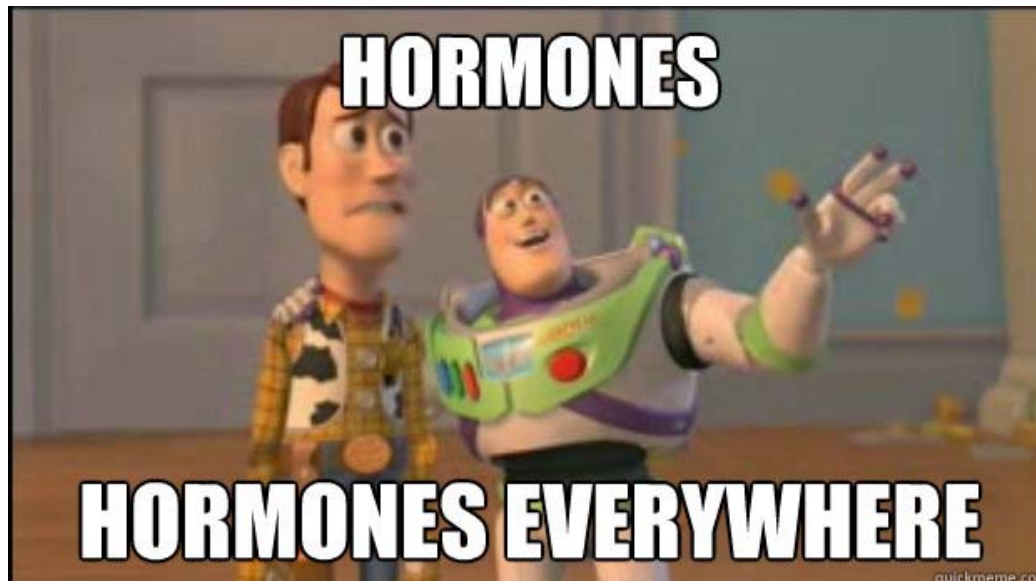


Human Reproduction...

HORMONES are CHEMICAL MESSAGES that travel through the BLOOD, relayed by the PITUITARY GLAND (part of the BRAIN).

A common hormone is ADRENALINE.

- When you get a “SCARE”, ADRENALINE is released from GLANDS near your KIDNEYS into your blood.
- It causes increased HEART RATE and BREATHING, tense MUSCLES, and “SICK” stomach (“butterflies”).



Human Reproduction...

Sex Hormones:

- **ESTROGEN** (females) and **TESTOSTERONE** (males) target the reproductive system when released from the **OVARIES** or **TESTES**.
- Controls the development of **PRIMARY** and **SECONDARY** sexual characteristics.

Effects of Estrogen

Brain

- helps to maintain the body temperature
- helps against memory loss

Breast

- stimulates the development at puberty
- prepare the glands for future milk production

Heart and Liver

- regulates production of cholesterol (decreases the build-up of plaque in the coronary arteries)

Ovary

- stimulates the maturation
- stimulates the start of woman's menstrual cycle

Uterus

- stimulates the maturation
- helps to prepare the uterus to nourish a developing fetus

Vagina

- stimulates the maturation
- helps maintain a lubricated and thick vaginal lining

Bones

- helps to preserve bone density

TARGET ORGANS OF TESTOSTERONE



Human Reproduction...

Primary Sexual Characteristics:

- Are DIRECTLY involved in SEXUAL REPRODUCTION (PENIS, UTERIS).
- Are essential to produce GAMETES (sex cells) and development of OFFSPRING.

Secondary Sexual Characteristics:

- Develop as a result of SEX HORMONES.
- Are NOT DIRECTLY involved with REPRODUCTION (BEARDS, BREASTS, PUBIC HAIR, etc.)
- Signal sexual MATURATION, and ATTRACT the opposite sex.

Puberty in Males...

- Occurs between the ages of 10 – 14
- Male sex hormone TESTOSTERONE is mass produced and secreted by the TESTES after stimulation by the PITUITARY GLAND.
- Increased interest in SEX
- VOICE changes (DEEPENS)
- PENIS increases in SIZE
- HAIR growth on FACE, ARMPITS, and PUBIC area
- Increase in HEIGHT and MUSCLE MASS



Puberty in Females...

- Occurs between the ages of **8 – 13**
- Female sex hormone **ESTROGEN** secreted by the **OVARIES** after receiving a message from the **PITUITARY GLAND**.
- **BREASTS** develop
- Body **FAT REDISTRIBUTES**, resulting in rounded **HIPS** and **THIGHS**
- Hips **WIDEN**, **HEIGHT** increases
- **HAIR** growth in **ARMPITS** and **PUBIC AREA**
- **MENSTRUATION** begins

The Male Reproductive System...

Testes

- Produce SPERM and male SEX HORMONES.

Epididymis

- A LONG COILED TUBE that is found over the TESTES.
- WHERE sperm MATURE, and are STORED for up to 6 weeks.

Vas Deferens

- TUBE that carries sperm from EPIDIDYMIS to the URETHRA

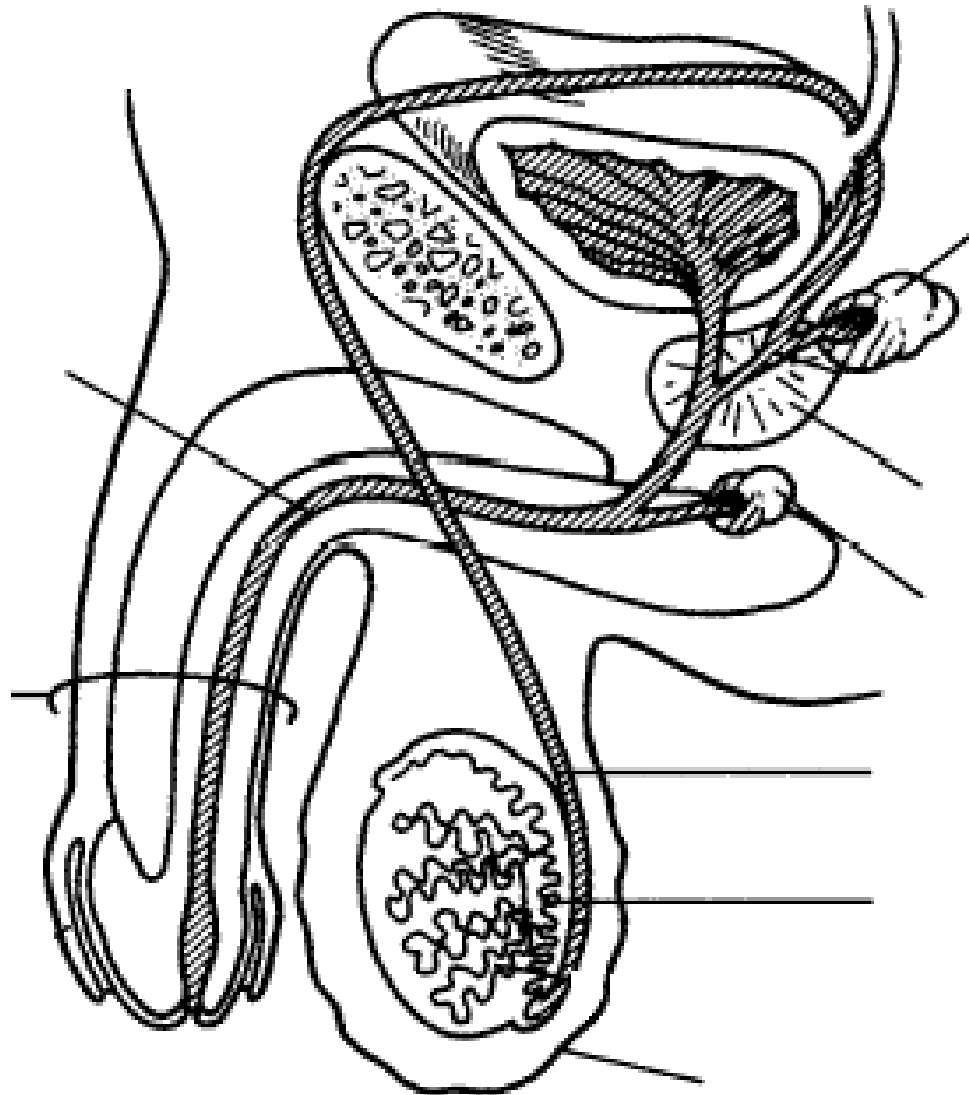
Glands

- PROSTATE GLAND, COWPER'S GLAND, and SEMINAL VESICLE add fluids to the sperm.
- Fluids stimulate sperm to SWIM, NOURISH the sperm, and provide a SAFE ENVIRONMENT for the sperm.
- The resulting fluid is called SEMEN.

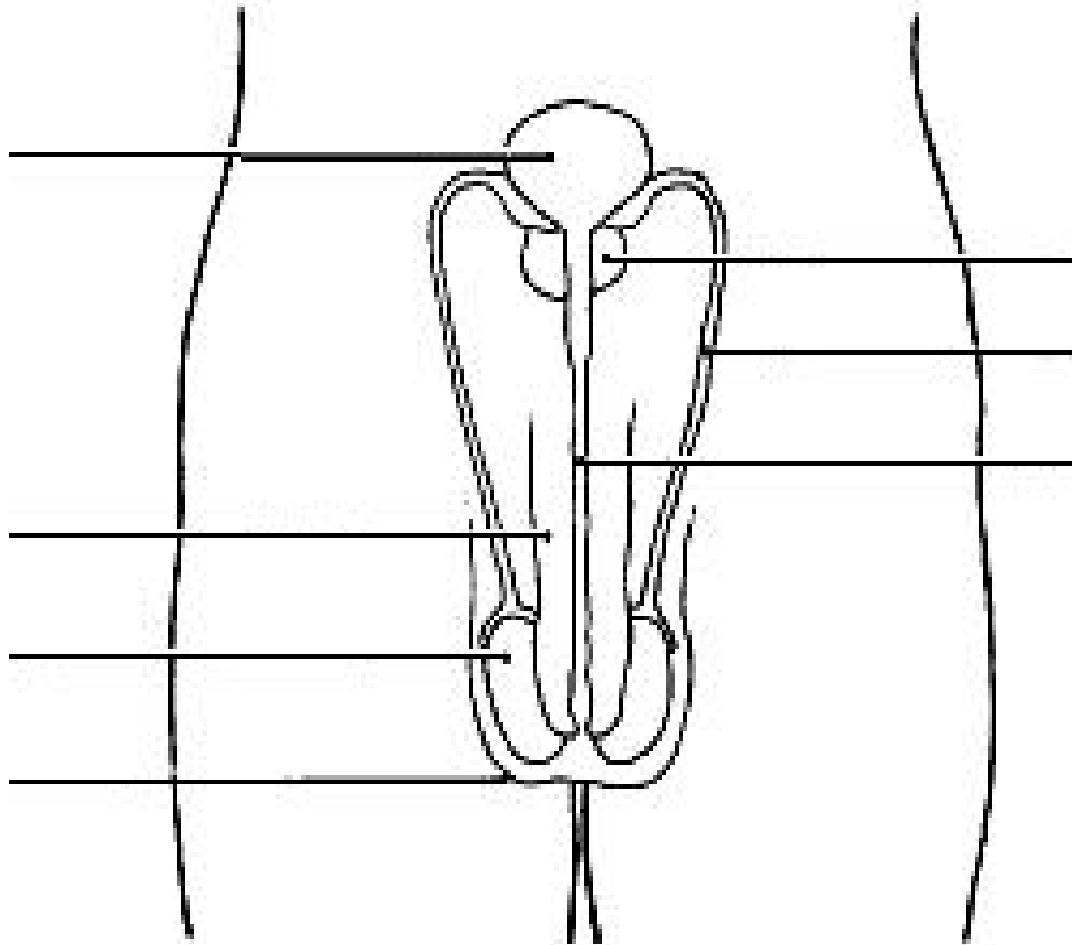
Scrotum

- A SAC containing the TESTES, found OUTSIDE the body of males.

The Male Reproductive System Side View



The Male Reproductive System Front View



The Female Reproductive System...

Ovaries

- Produce EGGS (OVA) through MEIOSIS.

Uterus

- The thick MUSCULAR, PEAR-SHAPED organ where the EMBRYO DEVELOPS.

Cervix

- The narrow NECK of the UTERUS leading into the VAGINA.

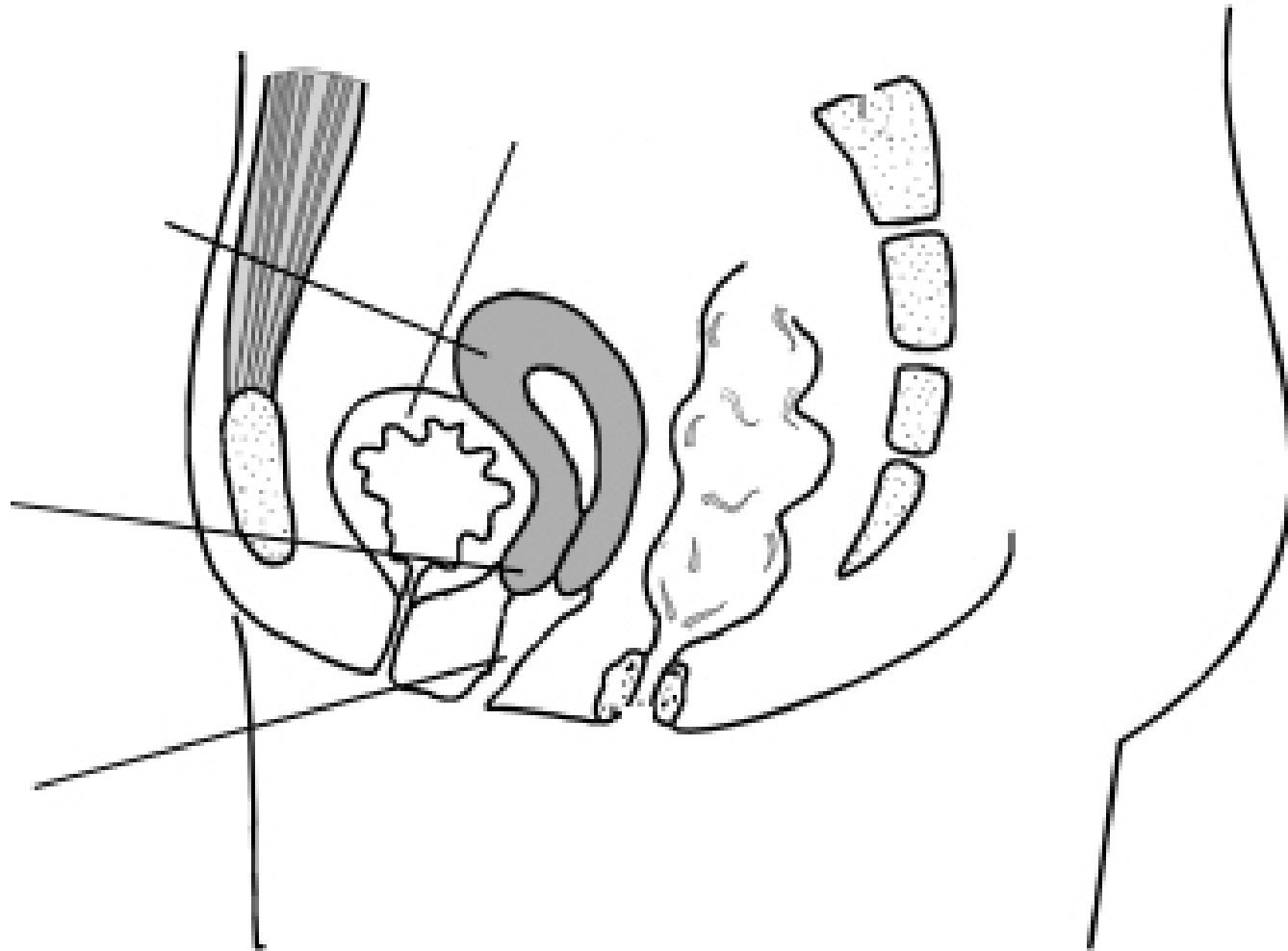
Vagina

- The structure leading from the CERVIX to the OUTSIDE of the body.

Fallopian Tubes

- TUBE connecting the OVARY to the UTERUS.

The Female Reproductive System Side View



The Female Reproductive System

Front View

