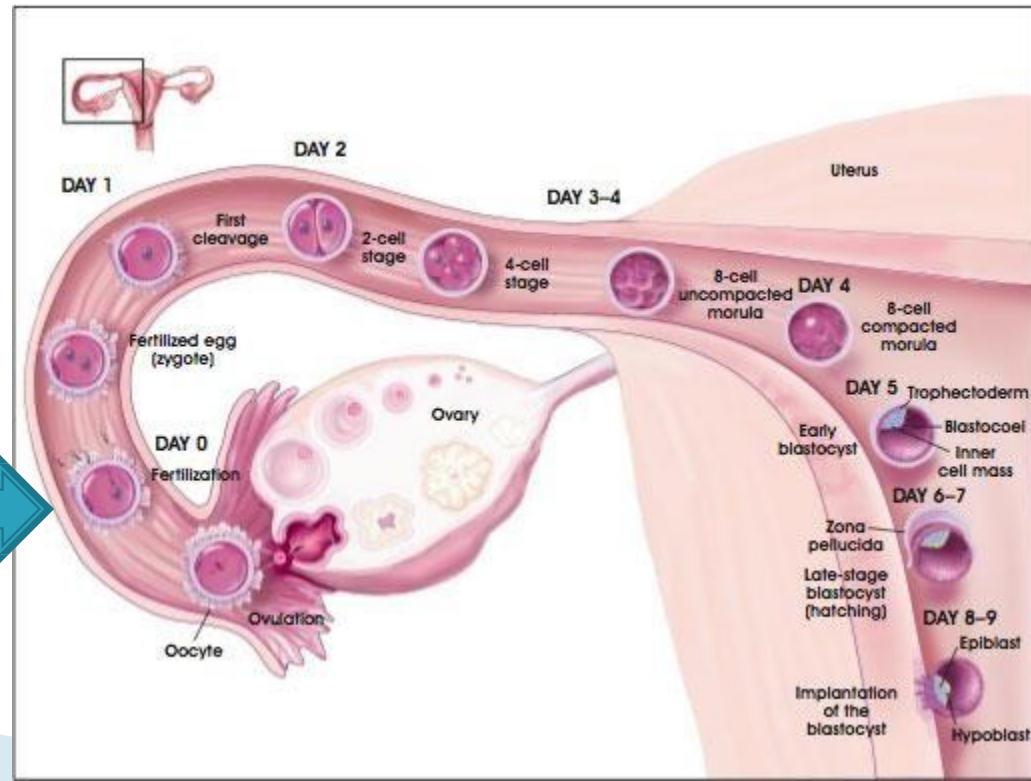


Human Reproduction

Fertilization

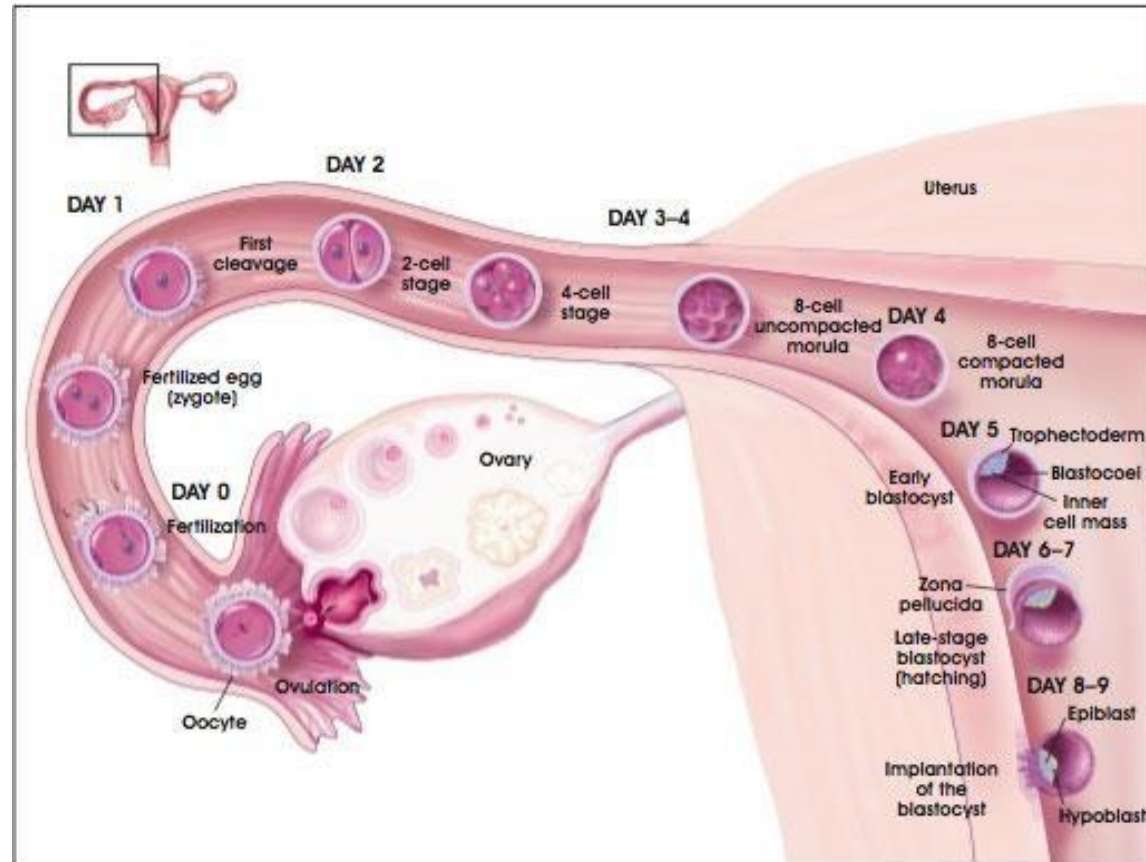
- **Fertilization** is the fusion of **sperm and egg**.
 - This happens in the fallopian tubes (oviduct)
 - Within 24 hours (sometimes 2-3 days just before, during & after) ovulation.
- ▮ Note: Sperm can live inside the female reproductive tract for up to 72 hours.

Slide 2



Fertilization

- After egg and sperm combine (fertilization occurs) the fertilized egg becomes a **zygote**.
- The zygote then undergoes **cleavage** (mitosis) for 6-10 days, then it attaches to the uterus.



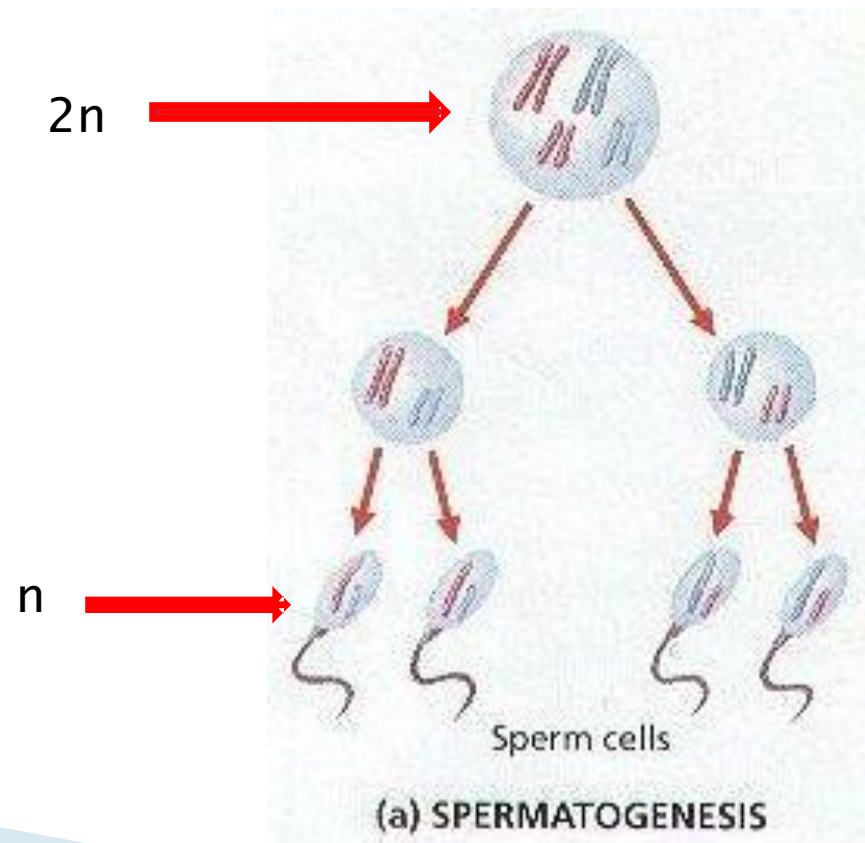
Development

- After implantation, the zygote forms into an **embryo**.
- The **placenta** forms connecting mother to embryo.
- **Amnion** membrane that surrounds embryo contains fluid for protection **Amniotic fluid**
- **Umbilical Cord** – blood vessels that carry nutrients to embryo from placenta.



Male Reproductive System

- **Meiosis** in males is called **spermatogenesis**
 - Sperm cells are produced in the 2 testis in the scrotum sac.

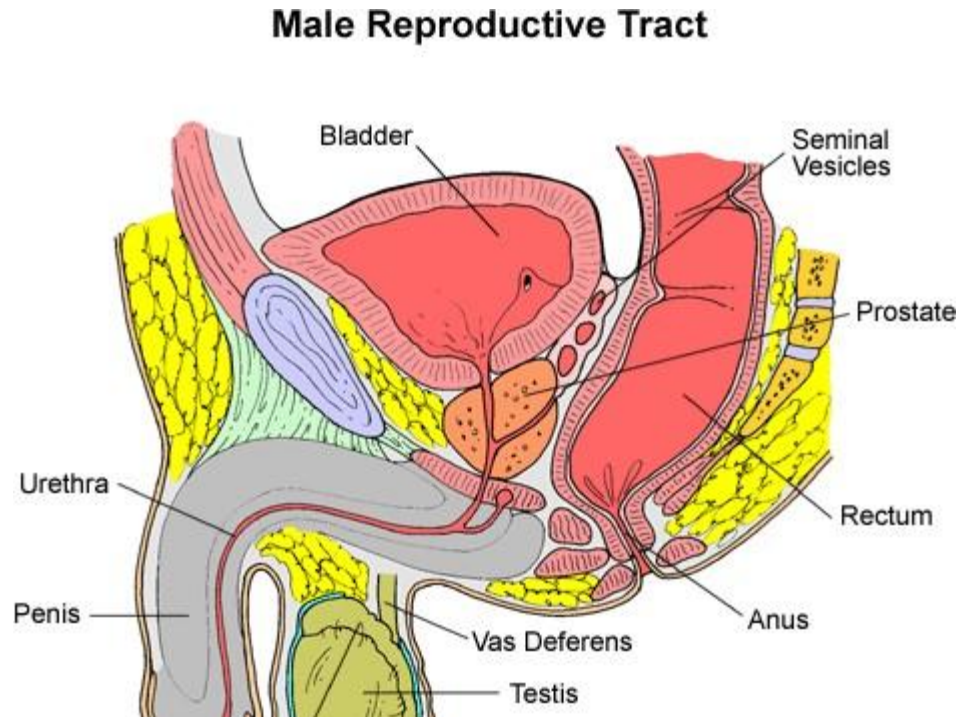


Hormones

- **Testosterone** is the male sex hormone.
 - In boys, the testosterone spike deepens the voice, causes the testicles to descend, and contributes to the development of other sex characteristics.
 - Throughout the life of a man, his body will continue to produce testosterone, although the production rate will decline in old age.
- Females also produce **testosterone**
 - Helps with osteoporosis

Male Anatomy

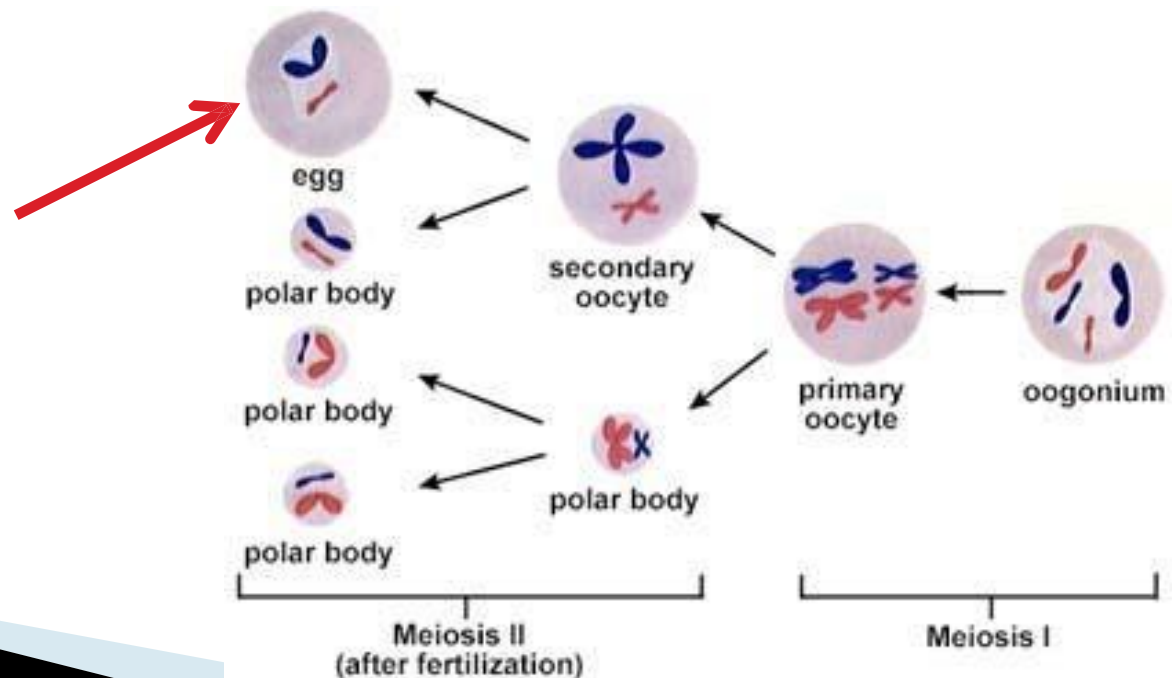
- **Testis** are located outside of the body because **cooler** temperatures **allow sperm to develop.**
- **Urethra** is the tube that carries sperm outside. It also carries urine from the bladder. This tube is located in the penis.



Female Reproductive System

- **Meiosis** in females is called **oogenesis**.
- **Egg** (ova) cells are produced in the ovaries.
- **Estrogen & Progesterone** are the female sex hormones.

Only one egg
develops



Slide 8

Female Anatomy

- Eggs travel from ovaries to tube called **fallopian tube** (**oviduct**) to become fertilized then goes to uterus.
- **Cervix** is the lower end of the uterus.
- **Vagina** is where the sperm enters during intercourse.

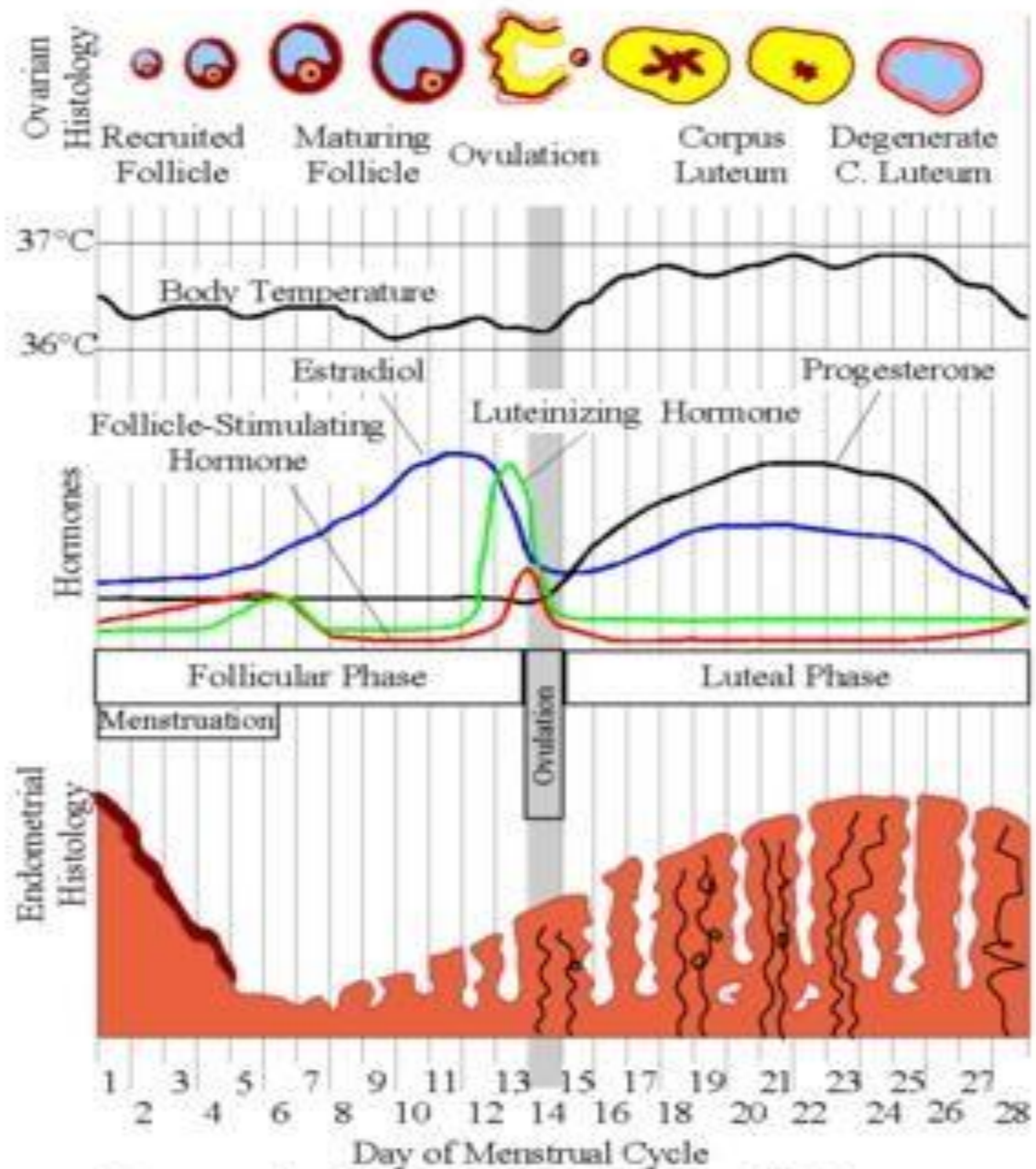


ADAM.

Menstrual Cycle

- Begins at puberty → Monthly release of eggs.
- “Normal” (average) cycle is 28 days → occurs in four stages.
 1. **Follicle stage** – FSH (hormone) tells uterine lining to thicken. This takes 10-14 days to complete
 2. **Ovulation** – release of egg into oviduct This happens on day 14. This is when you can become pregnant.
 3. **Corpus leutem stage** – LH (hormone) helps ready uterine lining for egg implantation
 4. **Menstruation** – occurs if no egg is fertilized. The uterine lining breaks down and the tissue and blood are expelled.

Menstrual Cycle



(Average values. Durations and values may differ between different females or different cycles.)

Fertilization:

<https://www.youtube.com/watch?v=s-Xpa5UZAzs&t=347s>

