

REPUBLIC OF RWANDA



MINISTRY OF HEALTH
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Module 2: Anatomy and Physiology for Reproductive Health

Learning Objectives

By the end of this module, participants will:

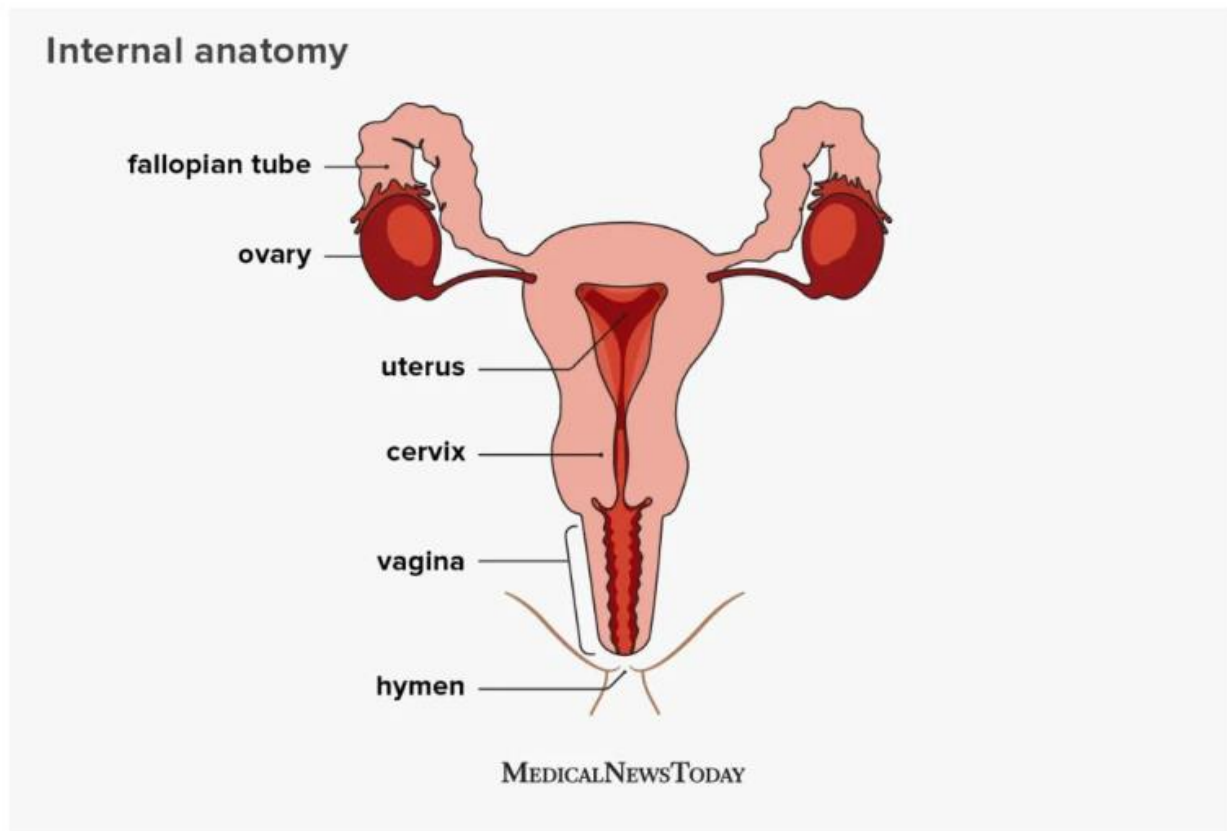
1. Understand the basic structure and function of the male and female reproductive systems.
 2. Learn about the menstrual cycle and its phases.
 3. Understand the process of conception and fetal development.
 4. Recognize the significance of reproductive health in maternal care.
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2.1 Overview of the Female Reproductive System

Key Organs and Their Functions:

- **Ovaries:**
 - Location: On either side of the uterus.
 - Function: Produce eggs (ova) and hormones like estrogen and progesterone.
- **Fallopian Tubes:**
 - Function: Transport eggs from the ovaries to the uterus. Fertilization usually occurs here.
- **Uterus (Womb):**
 - Function: Houses and nourishes a fertilized egg during pregnancy.
 - Layers: Endometrium (inner lining), myometrium (muscular layer), and perimetrium (outer layer).
- **Cervix:**
 - Function: Connects the uterus to the vagina and allows passage of sperm, menstrual blood, and a baby during childbirth.
- **Vagina:**
 - Function: Acts as a canal for menstruation, sexual intercourse, and childbirth.

Illustration Activity:



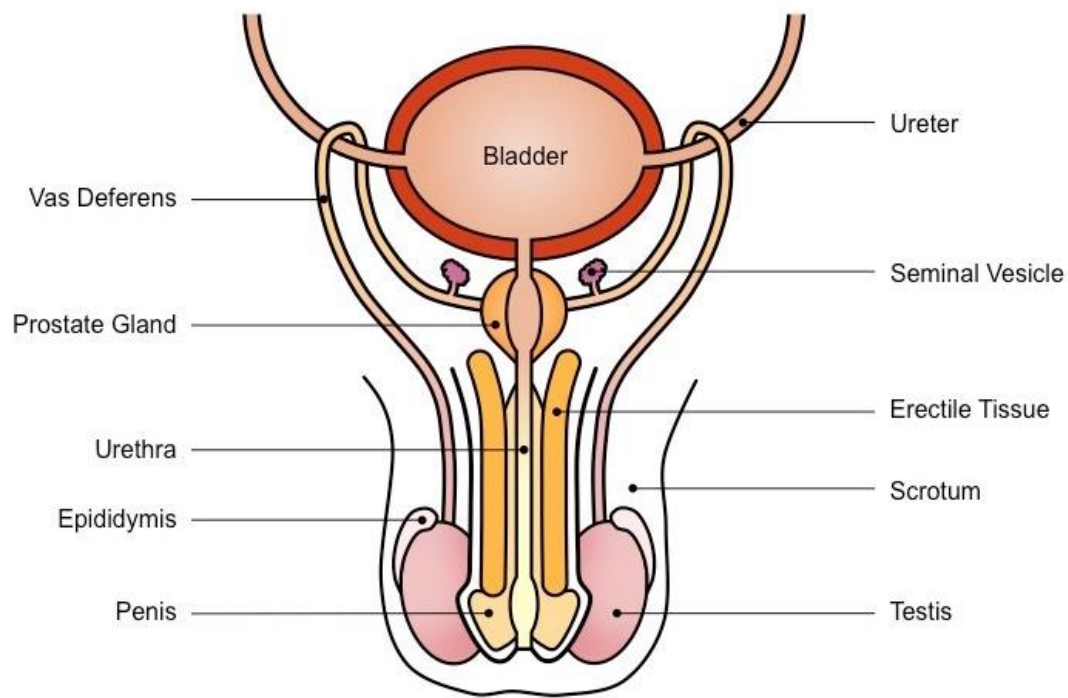
label a diagram of the female reproductive system to reinforce learning.

2.2 Overview of the Male Reproductive System

Key Organs and Their Functions:

- **Testes:**
 - Function: Produce sperm and testosterone.
- **Epididymis:**
 - Function: Stores and matures sperm.
- **Vas Deferens:**
 - Function: Transports sperm from the epididymis to the urethra.
- **Seminal Vesicles and Prostate Gland:**
 - Function: Produce seminal fluid, which nourishes and transports sperm.
- **Penis:**
 - Function: Delivers sperm into the female reproductive tract during intercourse.

Illustration Activity:



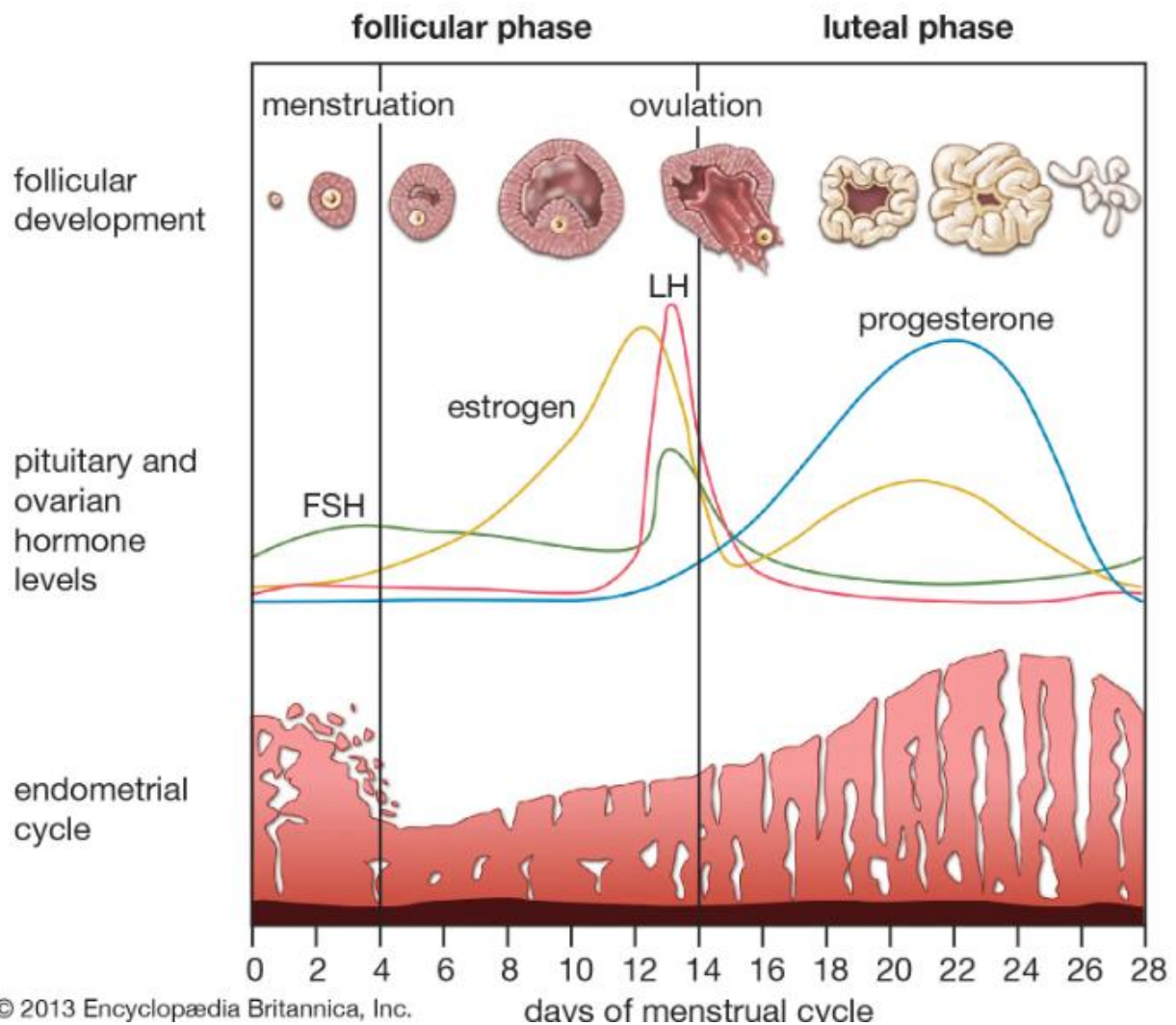
label a diagram of the male reproductive system.

2.3 The Menstrual Cycle

Phases of the Menstrual Cycle:

- 1. Menstrual Phase (Days 1–5):**
 - The uterine lining (endometrium) sheds, causing menstrual bleeding.
- 2. Follicular Phase (Days 1–13):**
 - Hormone FSH (follicle-stimulating hormone) stimulates the development of ovarian follicles.
 - Estrogen levels rise, causing the uterine lining to thicken.
- 3. Ovulation Phase (Day 14):**
 - A mature egg is released from the ovary.
 - This is the most fertile period of the cycle.
- 4. Luteal Phase (Days 15–28):**
 - The ruptured follicle forms the corpus luteum, which secretes progesterone.
 - If fertilization does not occur, hormone levels drop, and the cycle restarts.

The menstrual cycle



a menstrual cycle chart to identify the fertile window and explain hormonal changes.

2.4 Conception and Fertilization

The Process of Conception:

1. Fertilization:

- Occurs when a sperm meets and penetrates an egg in the fallopian tube.
- The combined genetic material forms a zygote.

2. Implantation:

- The zygote travels to the uterus and attaches to the endometrium.

Early Signs of Conception:

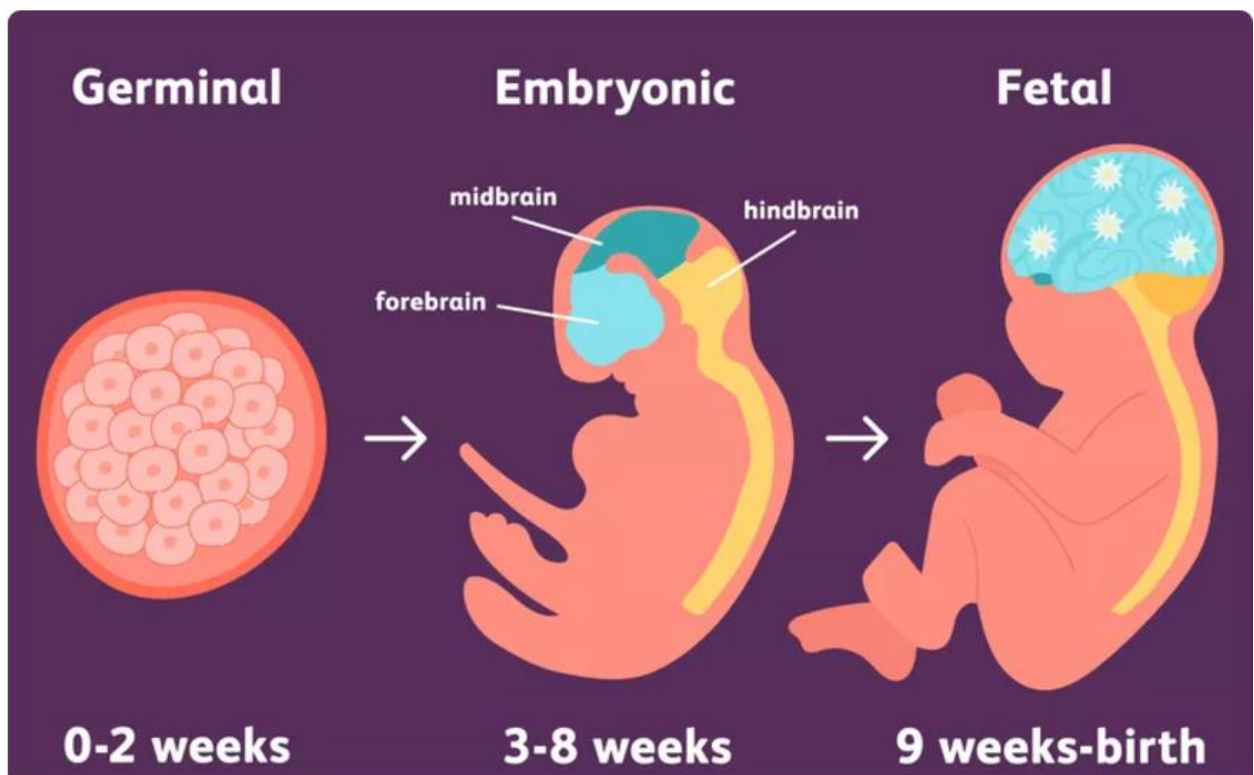
- Missed period.
- Morning sickness.
- Fatigue.

Activity: Group discussion on myths and facts about conception.

2.5 Fetal Development

Stages of Pregnancy:

1. **First Trimester (Weeks 1–12):**
 - Formation of the brain, spinal cord, and major organs.
 - Heartbeat begins around the 6th week.
2. **Second Trimester (Weeks 13–26):**
 - Rapid growth and development.
 - The fetus begins to move, and the gender can be identified.
3. **Third Trimester (Weeks 27–40):**
 - Final development of the lungs and other organs.
 - The fetus gains weight in preparation for birth.



Activity: a timeline of fetal development milestones.

2.6 Importance of Reproductive Health in Maternal Care

Reproductive Health Concerns:

- Menstrual disorders (e.g., heavy bleeding, irregular periods).
- Infertility and causes (e.g., blocked fallopian tubes, low sperm count).
- Common infections (e.g., sexually transmitted infections).
- Role of family planning in promoting reproductive health.

Preventive Measures:

- Regular health check-ups.
- Safe sexual practices.
- Proper nutrition and lifestyle choices.

Case Study: Participants discuss how reproductive health education can help prevent maternal and child health complications.

Key Takeaways

- The reproductive systems have unique functions essential for human reproduction.
 - Understanding the menstrual cycle and the process of conception is vital for maternal health.
 - Early detection and education about reproductive health issues can significantly improve outcomes for mothers and children.
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