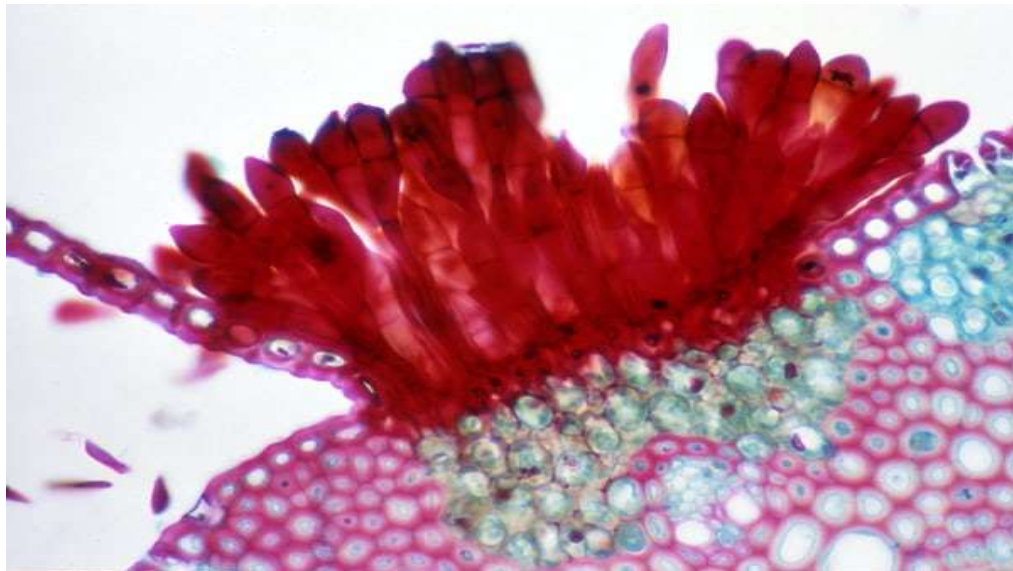




AL-Mustaqbal University College
Pharmacy Department
First stage
Practical Histology
(Male & Female Reproductive Systems)
Lab 8



Lecturer: M.Sc. Noor Muhsen AL-Ammary

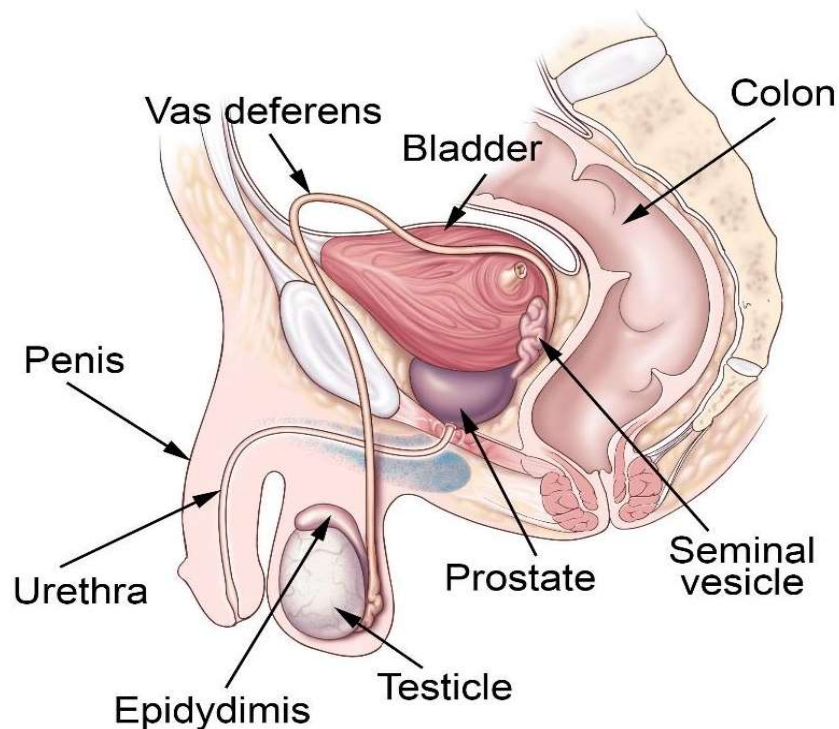
Male & Female Reproductive Systems

Male reproductive system: Is a grouping of organs that make up a man's reproductive and urinary systems. These organs do the following jobs within the body:

- They produce, maintain and transport sperm (the male reproductive cells) and semen (the protective fluid around the sperm).
- They discharge sperm into the female reproductive tract.
- They produce and secrete male sex hormones.

The male reproductive system consists of

- + The internal structures: the testes, epididymis, vas deferens, prostate.
- + The external structures: the scrotum and penis.



The testes: Also called testicles are two oval-shaped organs in the male reproductive system. They're contained in a sac of skin called the **scrotum**. Responsible for the production of testosterone hormone.

Histology of the testis

The testes are surrounded by several layers of tissue. They are the:

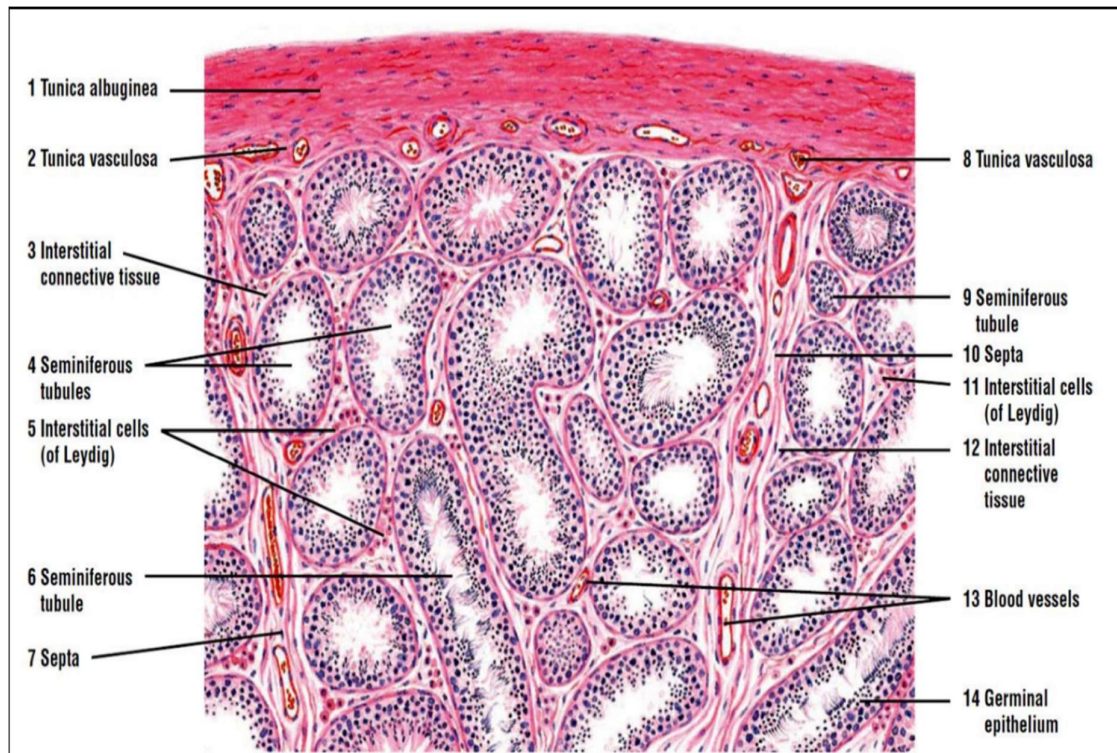
- **Tunica vasculosa**
- **Tunica albuginea**
- **Tunica vaginalis**

Tunica vasculosa: Is the first thin layer of blood vessels. This layer shields the tubular interior of each testicle from further layers of tissue around the outer testicle.

The next layer is called the **tunica albuginea**. It's a thick, protective layer made of densely packed fibers that further protect the testes.

The outermost layers of tissue are called the **tunica vaginalis**. The tunica vaginalis consists of three layers:

- **Visceral layer:** This layer surrounds the tunica albuginea that shields the seminiferous tubules.
- **Cavum vaginale:** This layer is an empty space between the visceral layer and the outermost layer of the tunica vaginalis.
- **Parietal layer:** This layer is the outermost protective layer that surrounds almost the entire testicular structure.



Prostate gland

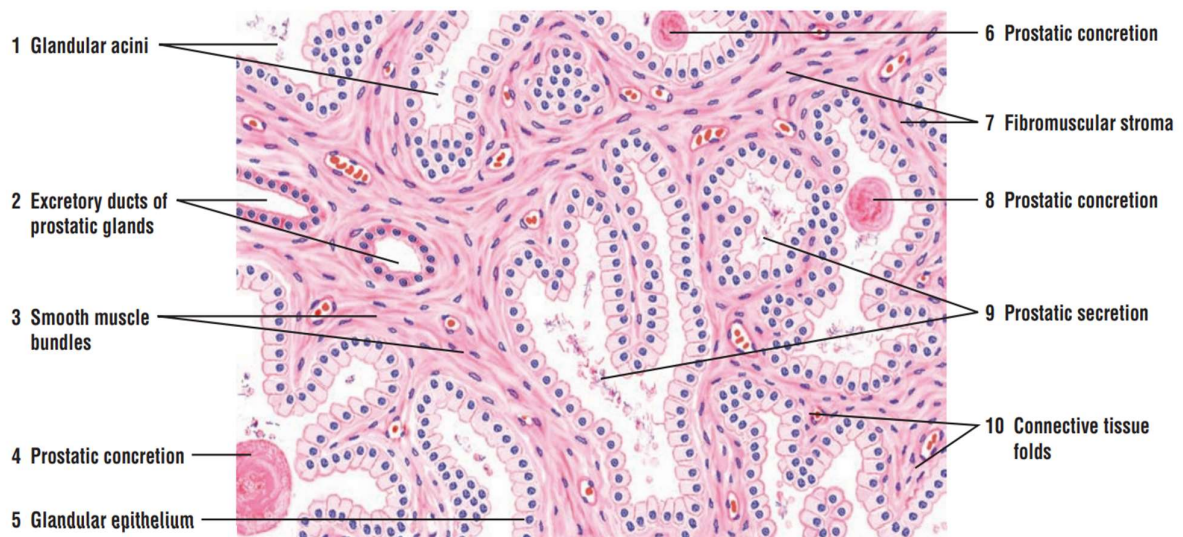
The **prostate** is the largest accessory gland in the male reproductive system. A walnut-sized structure located below the urinary bladder in front of the rectum.

The prostate has various functions. The most important is producing **seminal fluid**, a fluid that is a component of semen. It also plays a role in hormone production and helps regulate urine flow.

A capsule of connective tissue that contains muscle fibers surrounds the prostate. Scientists often categorize the prostate into four zones that surround the urethra like layers of an onion.

The following layers make up the prostate, beginning with the outer capsule and ending inside the prostate:

- **Anterior zone.** Made of muscle and fibrous tissues, this zone is also called the anterior fibromuscular zone.
- **Peripheral zone.** Mostly situated toward the back of the gland, this is where most of the glandular tissue sits.
- **Central zone.** This surrounds the ejaculatory ducts and makes up around 25% of the prostate's total mass.
- **Transition zone.** This is the part of the prostate that surrounds the urethra. It is the only portion of the prostate that continues to grow throughout life.

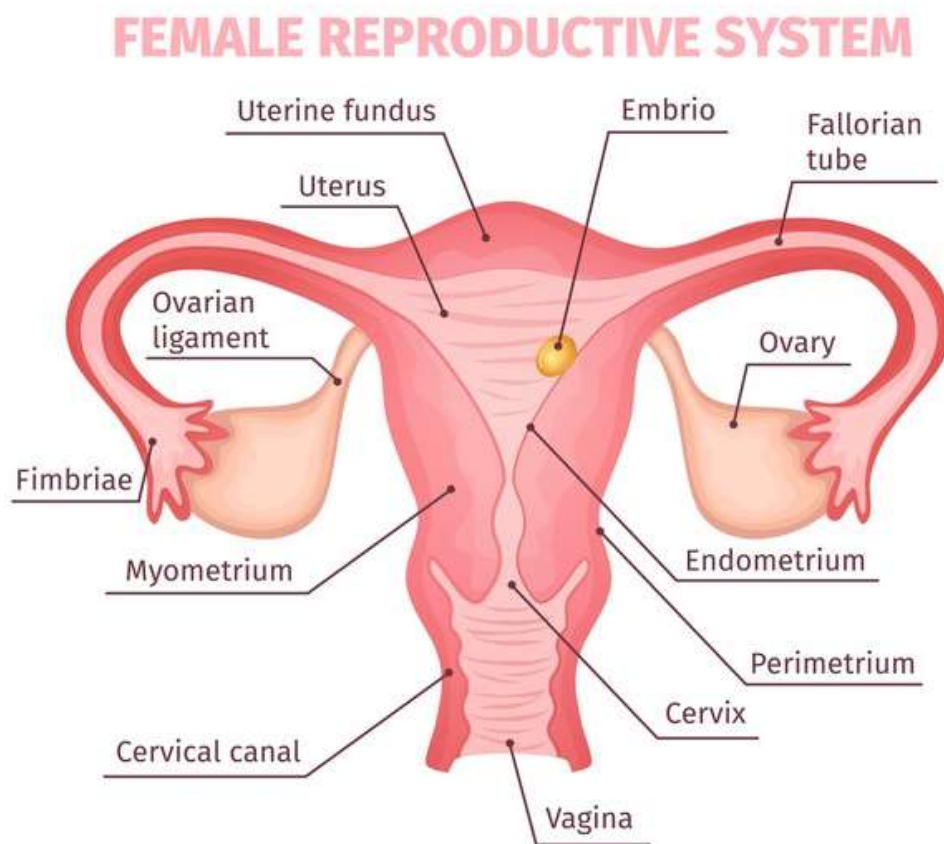


Female reproductive system

The female reproductive system is one of the most vital parts of the human reproductive process. Designed to carry out several functions. It produces the female egg cells necessary for reproduction, called the ova or oocytes.

The female reproductive system consists of:

- 1- Two ovaries and oviducts (or uterine tubes)
- 2- The uterus
- 3- The vagina
- 4- The external genitalia



Ovaries

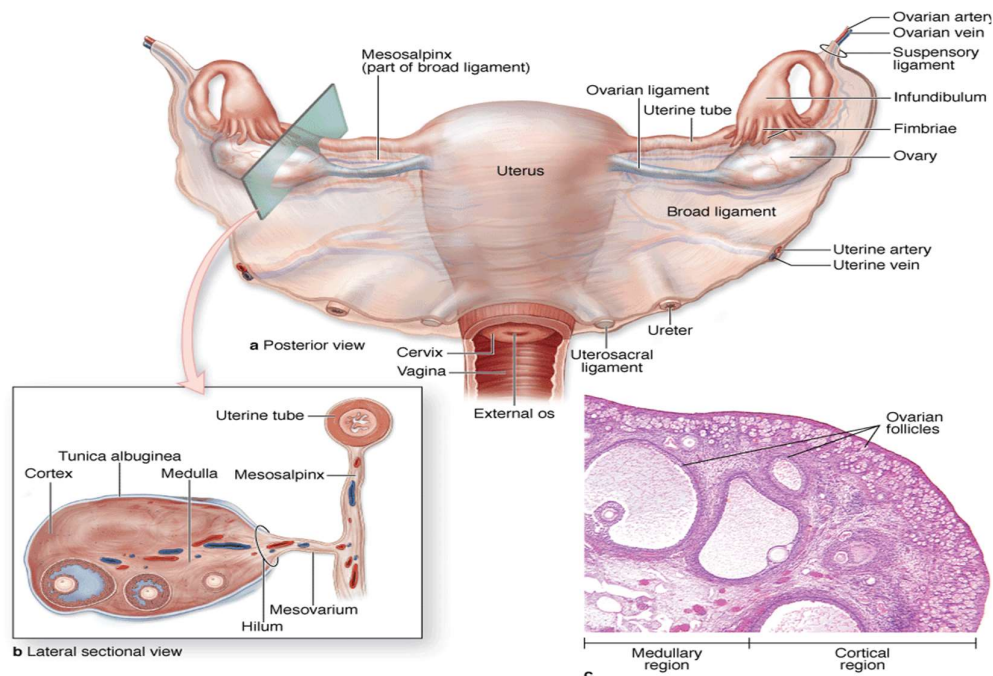
The **ovaries** are small, oval-shaped glands that are located on either side of the uterus, approximately 3 cm long, 1.5 cm wide, and 1 cm thick. They are held loosely in place by peritoneal ligaments. The ovaries produce eggs and hormones.

Structure

Each ovary is covered by a **simple cuboidal epithelium**, the **germinal epithelium**, continuous with the mesothelium and overlying a layer of **dense connective tissue capsule**.

The **tunica albuginea**, like that of the testis and responsible for the whitish color of the ovary. Most of the ovary consists of the **cortex**, a region filled with a highly cellular connective tissue stroma and many ovarian follicles, which in the adult ovary vary greatly in size.

The most internal part of the ovary is the **medulla**, which **contains loose connective tissue and blood vessels** entering the organ through the hilum from mesenteries suspending the ovary.



Uterus: The uterus is the major female reproductive organ, is a hollow, pear-shaped organ that is the home to a developing fetus. The uterus is divided into two parts:

- **Cervix:** The cervix is the lower portion of the uterus. It connects the main body of the uterus with the vagina.
- **Corpus (body):** This is the larger, main portion of the uterus. The corpus can easily expand to hold a developing baby.

The interior membrane that lines the uterus is called the **endometrium**. The thickness of this lining can vary depending on the levels of various hormones throughout the menstrual cycle.

During a woman's cycle, increases in the hormones **estrogen** and **progesterone** cause the lining of the uterus to thicken. This helps to prepare the uterus to receive and nurture a fertilized egg during pregnancy.

If no fertilization occurs, the egg begins to break down. Levels of estrogen and progesterone also decrease. The egg passes from the body, along with the endometrium, during the menstrual cycle.

