كلية الرشيد الجامعة/ قسم كلية التمريض

مادة التشريح للمرحلة الاولى

المحاضرة السادسة

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Human anatomy

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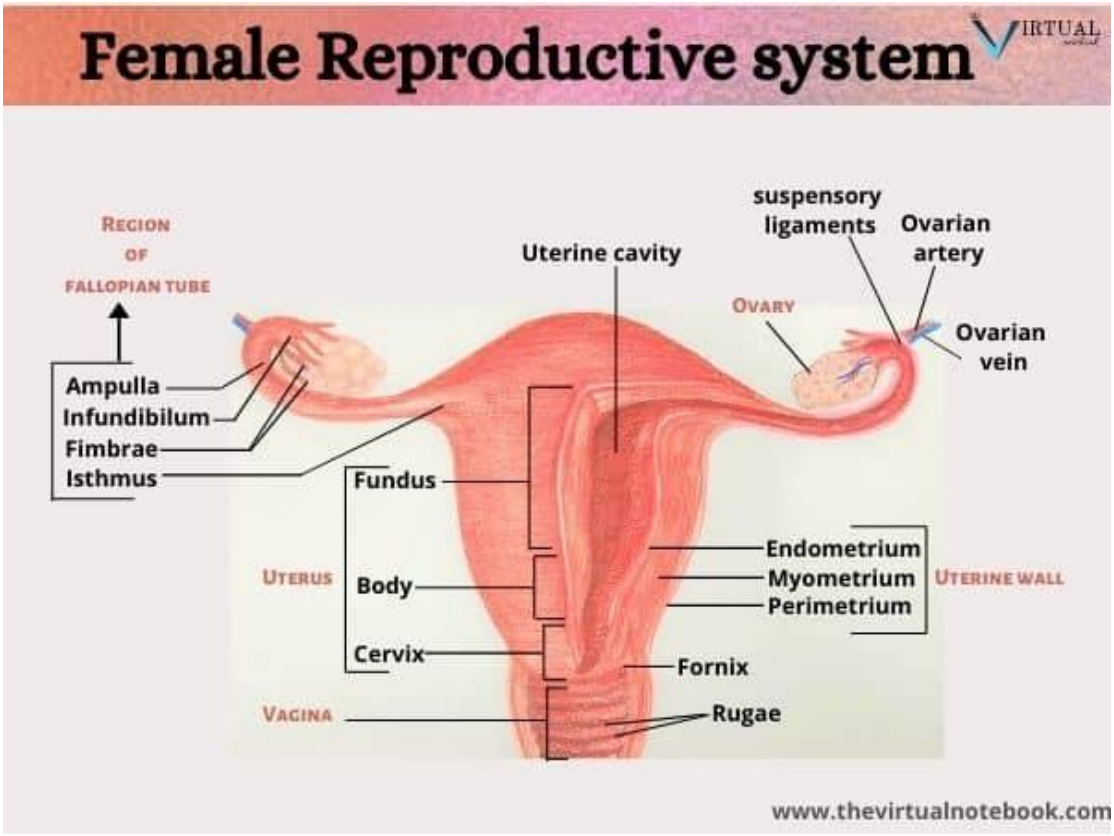
Reproductive system

The female reproductive system (female genital system) is sex organs that function in reproduction of new offspring.



They consist of; the uterus, Fallopian tubes, and the ovaries.

Structures;

1- Ovaries; The ovaries are small, paired organs located near the lateral walls of the pelvic cavity. These organs are responsible for the production of the egg cells (ova) and the secretion of hormones. The process by which the egg cell (ovum) is released is called ovulation. The speed of ovulation is periodic and impacts directly to the length of a menstrual cycle.

2- Fallopian tube; The Fallopian tubes are two tubes leading from the ovaries into the uterus.
3- Uterus; it is the major female reproductive organ, the uterus provides mechanical protection, nutritional support, and waste removal for the developing embryo. In addition, contractions in the muscular wall of the uterus are important in pushing out the fetus at the time of birth.

   It structurally consists of;

   a- Fundus
   b- Body
   c- Cervix

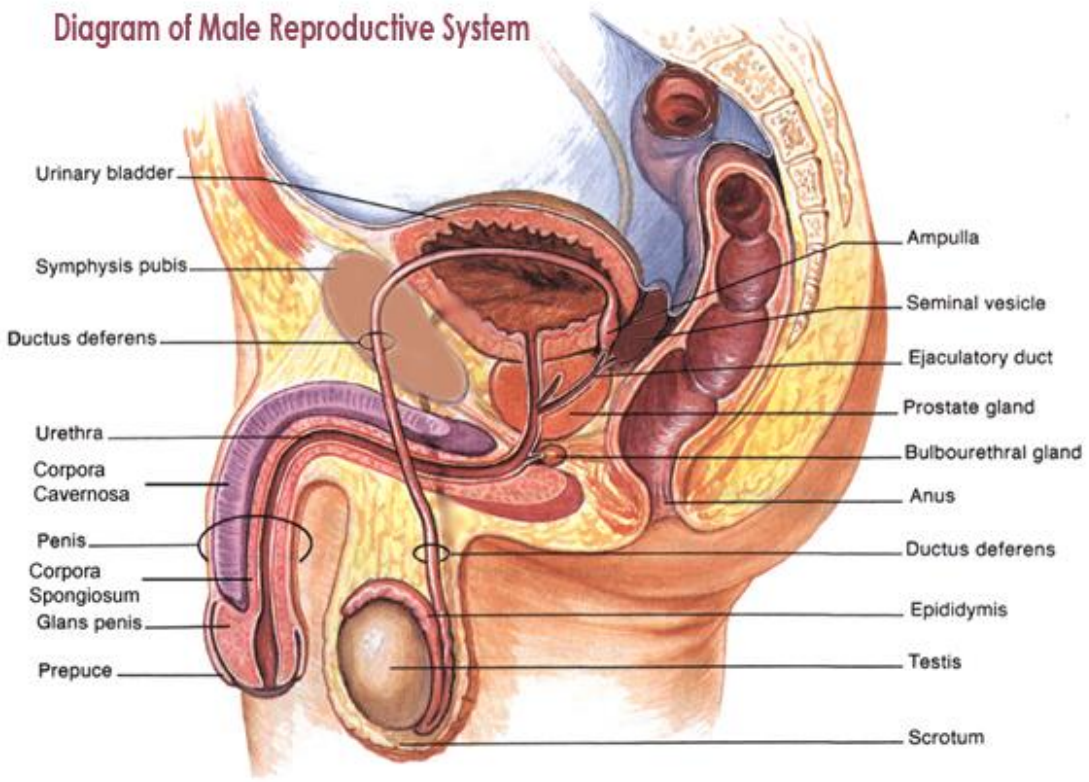
   The uterine wall consists of 3 layers;

   a- Endometrium is the inner lining of the uterus.
   b- Myometrium is the muscular layer of the uterus.
   c- Perimetrium is the thin membranous outer layer.

4- Cervix; The cervix is the neck of the uterus, the lower, narrow portion where it joins with the upper part of the vagina.
5- Vagina; The vagina is a fibromuscular (made up of fibrous and muscular tissue) canal leading from the outside of the body and to the cervix of the uterus.

Male reproductive system

The male reproductive system consists of a number of sex organs that play a role in the process of human reproduction. These organs are located on the outside of the body and within the pelvis.



Internal male sex organs

1- Epididymis; is a whitish mass of tightly coiled tubes cupped against the testicles, acts as a maturation and storage for sperm before they pass into the vas deferens, that carry sperm to the ampullary gland and prostatic ducts.
2- Vas deferens; also known as the sperm duct, is a thin tube approximately 30 centimeters long that starts from the epididymis to the pelvic cavity. It carries the spermatozoa from the epididymis to ejaculatory duct.

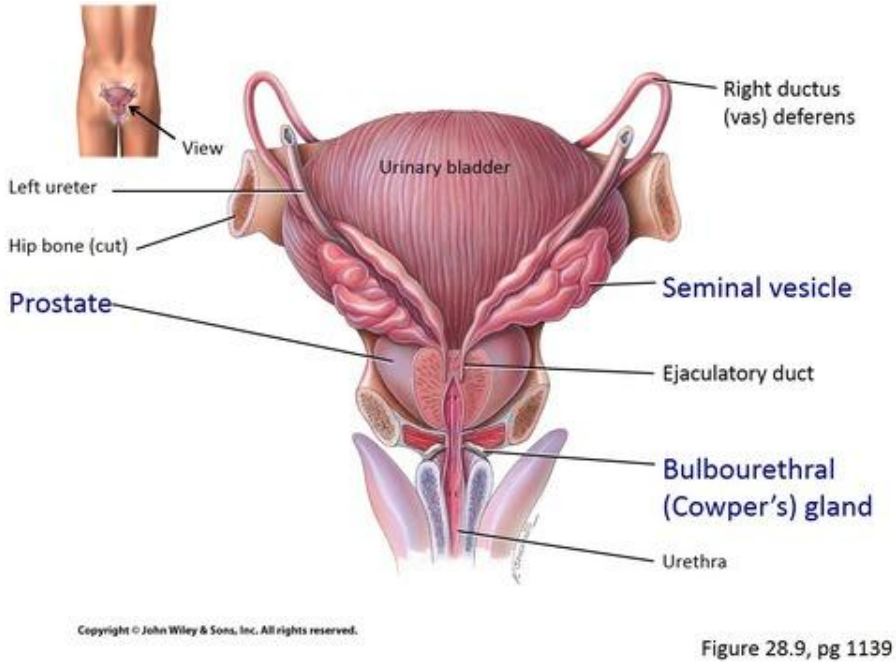
3- Accessory glands

Three accessory glands provide fluids that lubricate the duct system and nourish the sperm cells. They are:

a- The seminal vesicles,

b- The prostate gland,

c- The bulbourethral glands (Cowper glands).



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External male sex organs

1- Penis; The penis is the external male sex organ.

2- Scrotum; is a pouch-like structure that hangs behind the penis. It holds and protects the testicles.

3- Tests; The testicle or testis is the male reproductive gland ,the functions of the testes are to produce both sperm and androgens, primarily testosterone

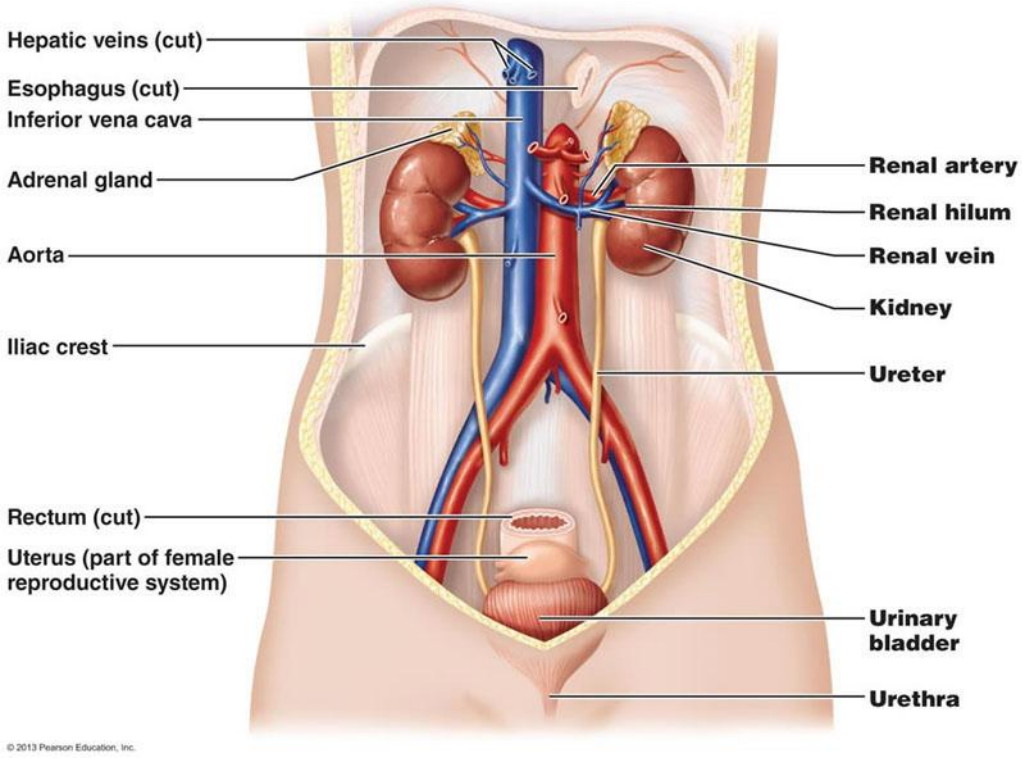
Urinary System

Urinary system is the system of production, storage and elimination of urine.

Is also known as excretory system of human body. Urinary system is important for keeping the internal environment of the body clean. Urinary system maintains proper homeostasis of water, salts and nitrogenous wastes.

Formation and elimination of urine is important for human body because urine contains nitrogenous wastes of the body that must be eliminated to maintain homeostasis.

Nitrogenous wastes are formed by metabolic activities in the cells. These nitrogenous wastes along with excess of salts and water are combined in the kidneys to form urine.



Components of urinary system:

Human urinary system consists of two kidneys, two ureters, a urinary bladder, a urethra and sphincter muscles.

Kidneys

1- Kidneys are two bean shaped organs lying close to the lumbar spine on either side, they are multifunction organ, form urine and control its concentration. It filter the blood taking out the waste products of metabolism such as urea.
2- Ureters; Two hollow muscular tubes one arising from each kidney and ending at the urinary bladder, connect kidneys to the bladder and carry urine from the kidney to the urinary bladder.
3- Urinary Bladder; It stores urine before it is excreted from the body, hollow muscular and distensible organ, sits on the pelvic floor.
4- Urethra; is a tube connecting the urinary bladder to the genitals for excretion, carries urine outside of the body.

Functions of urinary system: Are Excretion of nitrogenous wastes, Osmoregulation, Acid-Base balance . It performs the following important functions;

1- Formation and elimination of urine: The main function of urinary system is formation and elimination of urine. Urine is formed by the kidneys in 3 steps;

a- Glomerular Filtration
b- Tubular reabsorption,
c- Tubular secretion.

2- Osmoregulation: Kidneys are important osmoregulatory organs of human body. They maintain salt and water balance of the body. If the concentration of salt or water is increased above normal, kidney will excrete the excess amount. If the concentration is decreased, kidneys will reduce the loss of water and salts in urine.

3-Acid base balance: Kidneys are important regulators of pH of body fluids. Kidneys keep the pH balanced within a very small range and provide an optimum environment for all processes of life.

Structure of kidney

There are approximately 1 million nephrons in each kidney.

Nephron - is the functional unit of the kidney.

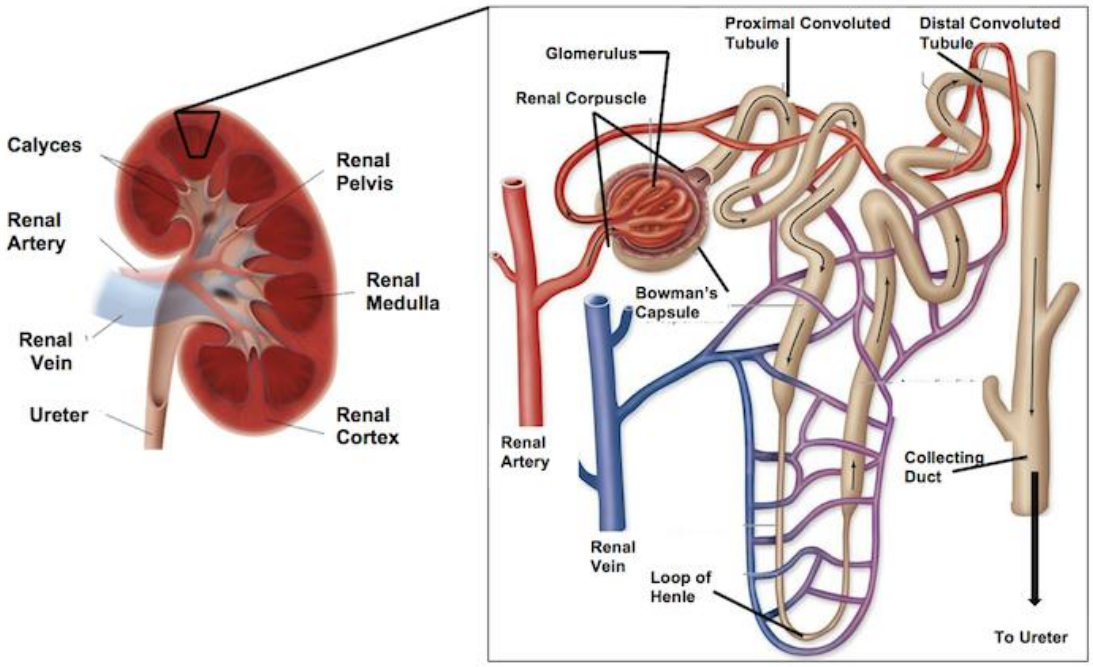
They are composed of four main parts:

1- Bowman's capsule - where filtration occurs.

2-Proximal convoluted tubule - where most reabsorption occurs.

3- Loop of Henle - where more reabsorption occurs.

4- Distal convoluted tubule - where reabsorption of water and secretion of drugs and hydrogen ions occurs


Calyces
Renal Pelvis
Renal Artery
Renal Medulla
Renal Vein
Ureter
Renal Cortex
Glomerulus
Proximal Convoluted Tubule
Distal Convoluted Tubule
Renal Corpuscle
Bowman's Capsule
Renal Artery
Renal Vein
Loop of Henle
Collecting Duct
To Ureter