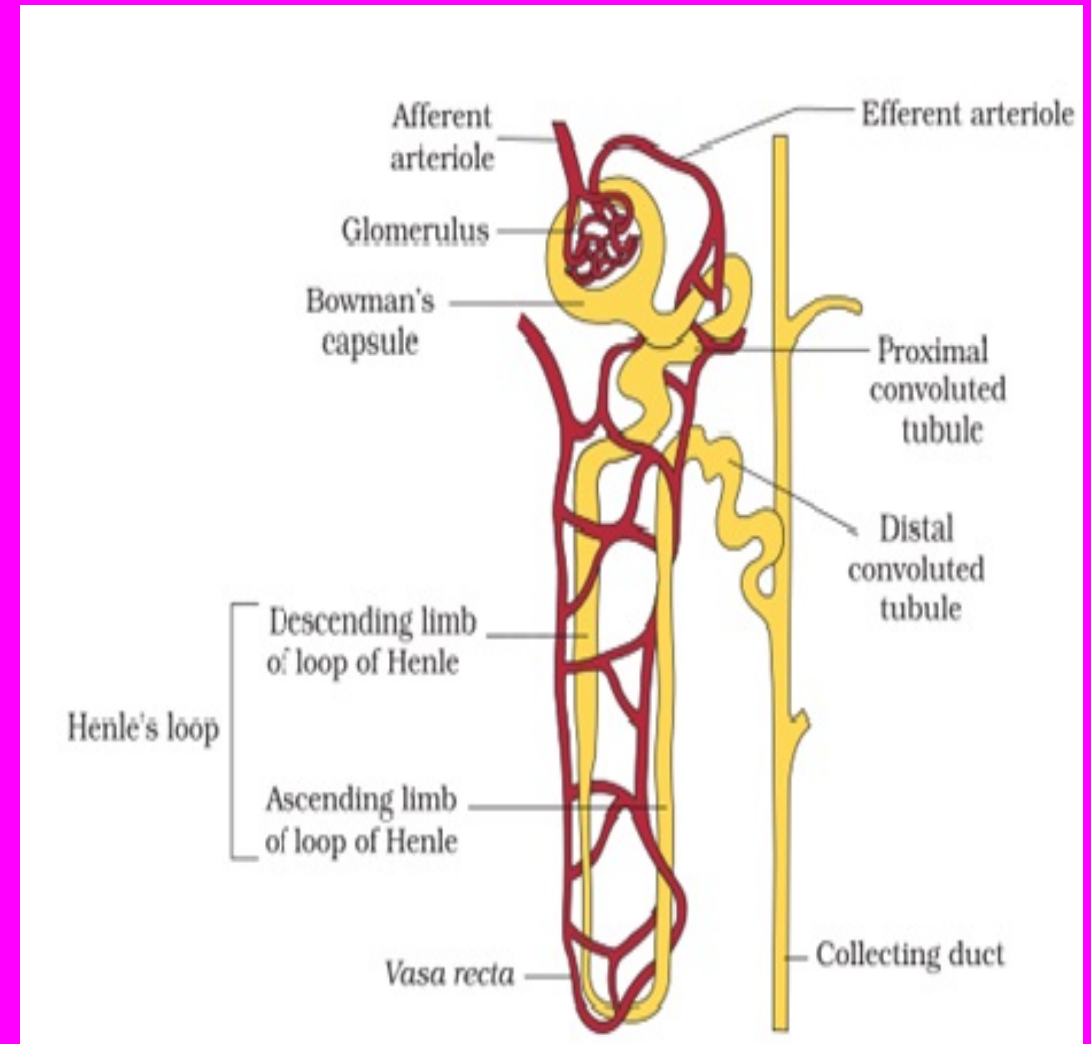


EXCRETORY SYSTEM

By

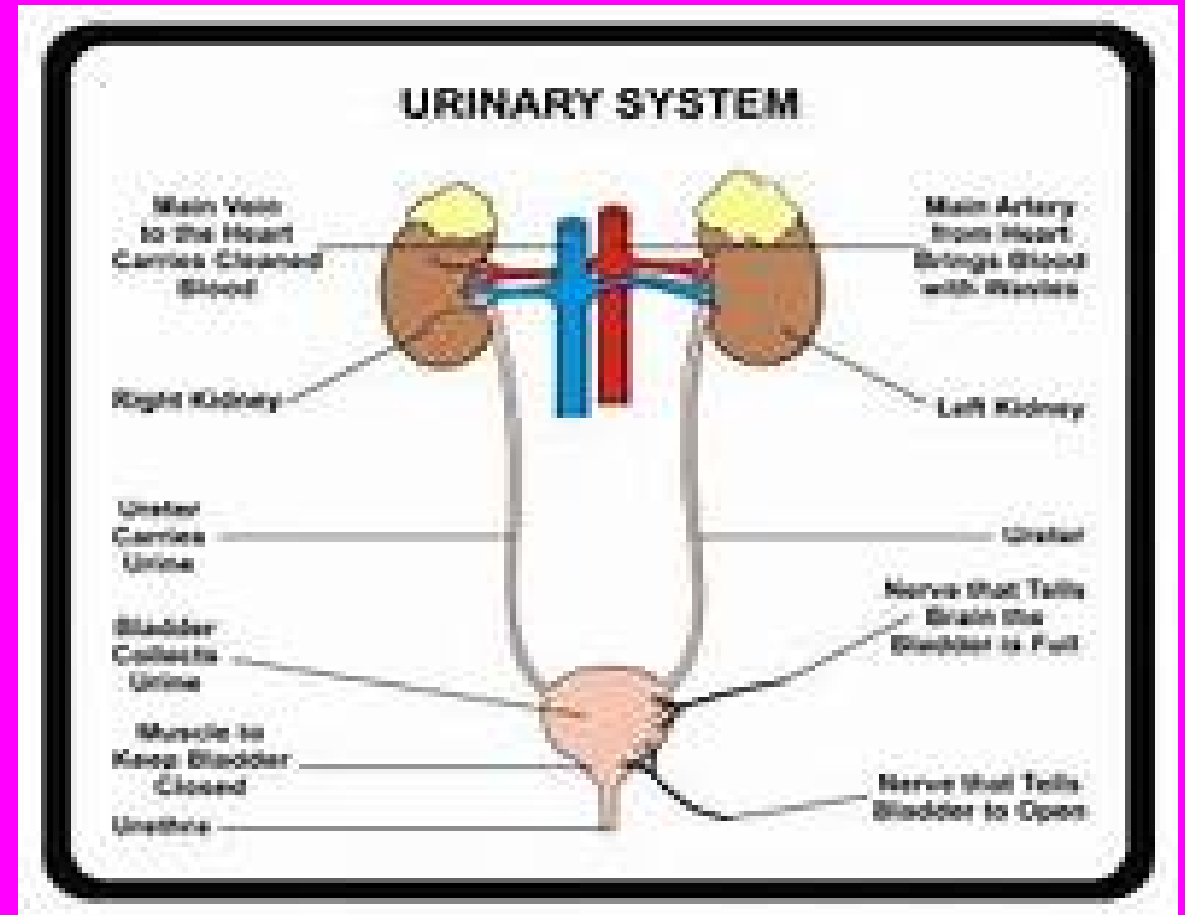
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The excretory system mainly functions to excrete the metabolic waste from the body

- Excretory system comprises of
 - 1) 2 kidneys
 - 2) 2 ureters
 - 3) 1 urinary bladder
 - 4) 1 urethra

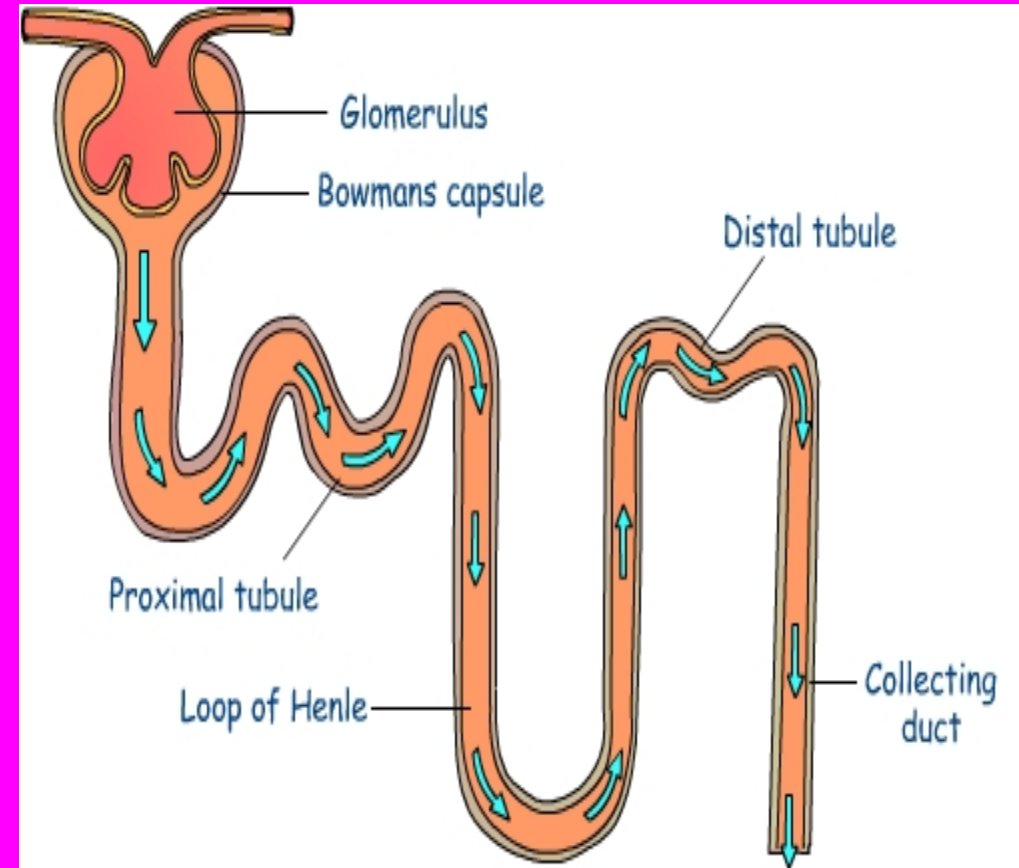


KIDNEYS:- There are 2 kidneys. Each kidney is bean shaped organ.

- **FUNCTIONS OF KIDNEYS:- Kidneys perform the following functions:-**
 - 1) **Excretion of metabolic waste products**
 - 2) **Excretion excess salts**
 - 3) **Excretion of toxic metabolites**
 - 4) **Regulation of pH**
 - 5) **Regulation of water balance**

NEPHRON

- Nephron is the structural and functional unit of the excretory system
- Nephron consists of :-
 - 1) Malphigian bodies
 - 2) Renal tubules

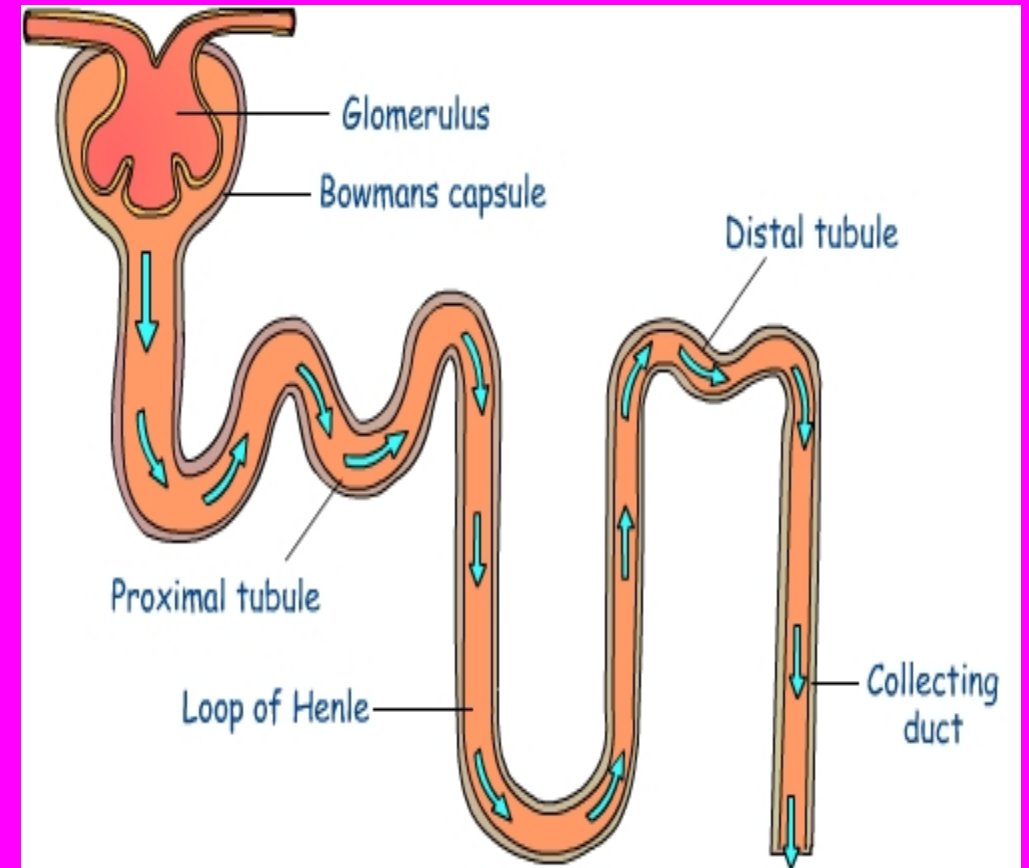


MALPHIGIAN BODIES:- it consists of

- 1) Bowman's capsule**
- 2) Glomerulus**

RENAL TUBULES:- Renal tubule comprises of

- 1. Proximal convoluted tubules**
- 2. Loop of henle**
- 3. Distal convoluted tubule**
- 4. Collecting tubules**



FORMATION OF URINE

- **Formation of urine occurs by the 3 processes as follows:-**
 - 1) Glomerular filtration**
 - 2) Tubular secretion**
 - 3) Tubular reabsorption**

GLOMERULAR FILTRATION

- **The afferent and efferent arterioles play active role in circulating the blood in the Bowman's capsule**
- **Here filtration of salts, other waste products takes place**
- **Filtration occurs at the rate of 100ml per minute**
- **This is the normal GFR(glomerular filtration rate)**
- **Finally the filtrate passes to proximal convoluted tubule**

TUBULAR SECRETION

- **Tubules secrete certain substances that are either abnormal or in excess.**
- **These substances are added to the filtrate in the proximal convoluted tubule**
- **Drugs and heavy metals of electrolyte are added to the filtrate**

TUBULAR REABSORPTION

- **About 99% of the glomerular filtrate is reabsorbed in the distal convoluted tubule**
- **Water is reabsorbed**
- **Some salts are also reabsorbed**

Finally urine is formed that crosses the above mentioned processes.

- **Urine enters the collecting tubule and then into the pelvis of the kidney**
- **From here urine is carried into the ureter**
- **From the ureter urine is collected in urinary bladder**
- **Urine from the urinary bladder is excreted by the urethra**

Diseases of excretory system

- 1) Glomerulonephritis:- inflammation of glomeruli**
- 2) Pyelitis:- inflammation of pelvis of kidney**
- 3) Polyurea :- excretion of large quantity of urine**
- 4) Anurea :- cessation of urine**
- 5) Renal calculi:- renal stones**
- 6) Cystitis:- inflammation of urinary bladder**