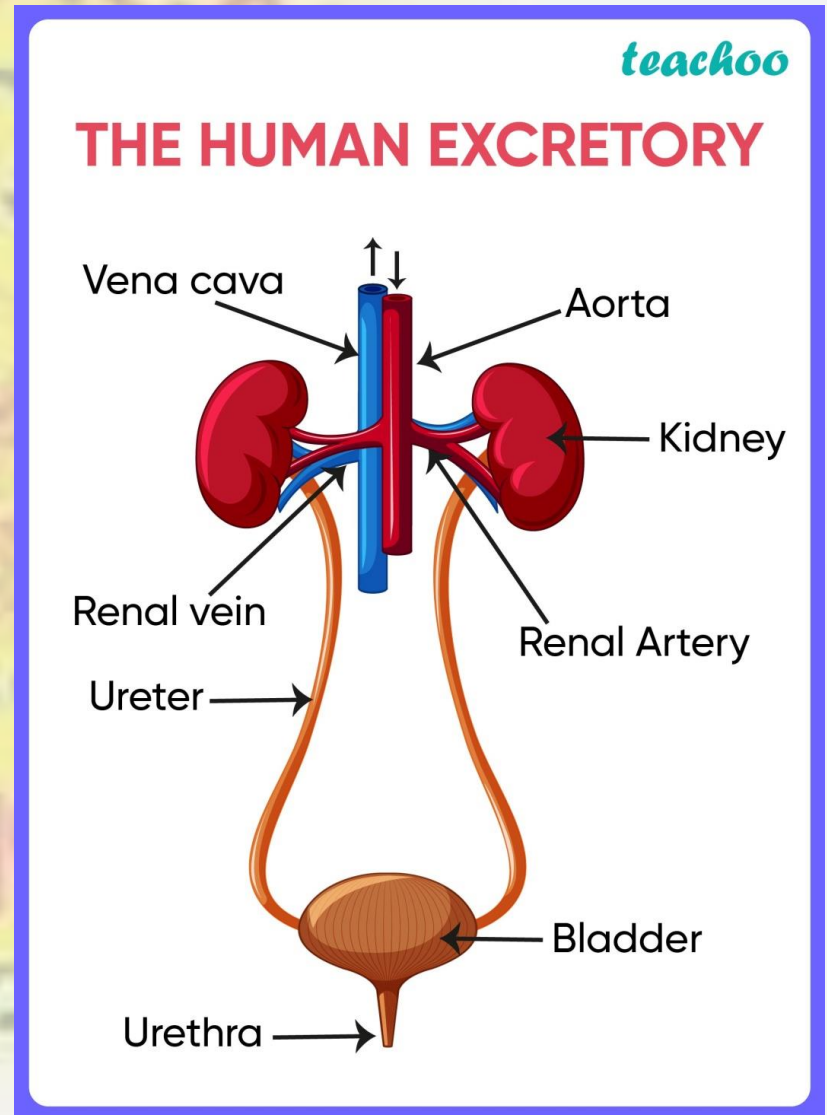


Excretory system

Organs of the Excretory System:

- **Kidneys:** Paired organs that filter blood to remove waste and excess substances.
- **Ureters:** Tubes that transport urine from the kidneys to the bladder.
- **Bladder:** A muscular sac that stores urine.
- **Urethra:** Tube that carries urine from the bladder to the exterior of the body.



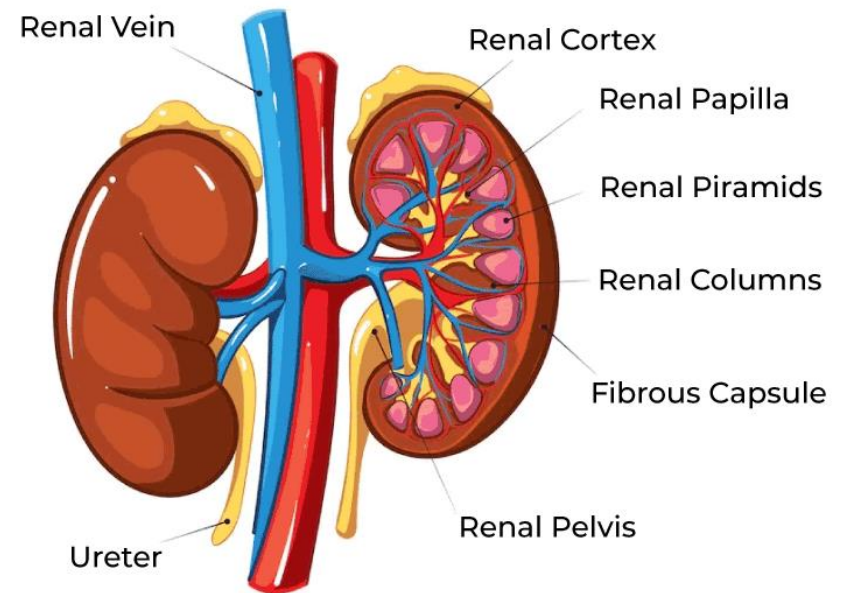
Functions of the Excretory System:

- **Filtration:** Blood is filtered in the kidneys, where waste products, excess ions, and water are removed to form urine.
- **Reabsorption:** Useful substances (e.g., glucose, water, ions) are reabsorbed back into the bloodstream.
- **Secretion:** Additional waste products are actively transported into the urine.
- **Storage:** The bladder stores urine until it is expelled from the body.

Kidney Structure and Function:

- **Nephrons:** Functional units of the kidneys responsible for filtration, reabsorption, and secretion.
- **Renal Cortex and Medulla:** Regions of the kidney where different processes occur.
- **Renal Artery and Vein:** Blood vessels that supply and drain the kidneys.

Anatomy of Kidney



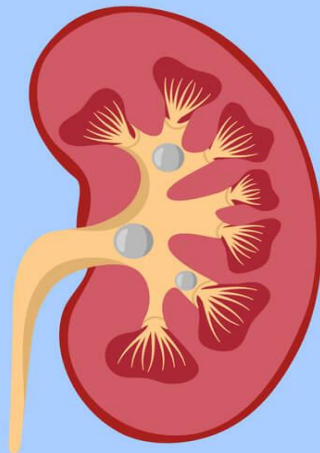
Urine Formation:

- **Filtration:** Blood enters the glomerulus, and filtrate is formed by passing through the glomerular membrane.
- **Tubular Reabsorption:** Substances like glucose and water are reabsorbed into the bloodstream.
- **Tubular Secretion:** Additional waste products are actively transported into the urine.
- **Urine Composition:** Contains urea, creatinine, excess ions, and other waste products.

Disorders of the Excretory System:

- **Kidney Stones:** Crystallized deposits in the kidneys that can cause pain and blockages.
- **Urinary Tract Infections (UTIs):** Infections affecting the urethra, bladder, or kidneys.
- **Renal Failure:** Impaired kidney function, acute or chronic.

SYMPTOMS OF KIDNEY STONE



STOMACH PAIN



BACKACHE



VOMITING



DIZZINESS



FEVER



BLOOD IN
THE URINE

Connection to Other Systems:

- **Circulatory System:** Blood is filtered through the kidneys, maintaining proper blood composition.
- **Endocrine System:** Hormones (e.g., ADH, aldosterone) regulate excretory functions.

Endocrine system

