

- ← Functions
 - Excretory
 - Eliminates organic waste products (urea, uric acid)
 - Maintains solute composition and concentration in blood by controlling quantities lost in urine
 - Na
 - K
 - Cl
 - Ca²⁺
 - Others
 - Blood volume and pressure, acid/base balance (blood pH), etc
- ← Kidney
 - Reddish- because highly vascularized
 - Has adrenal gland superior
 - Renal capsule- preserve shapes of the kidney
 - Adipose capsule- prephenal fat
 - Cushions
 - Renal fascia- support the shape
 - Peritoneum
 - Renal Hilum
 - Entrance and exit point of the kidney

- Renal sinus
 - Cavity inside kidney
- Renal cortex
 - Outer region
- Renal pyramid
 - 6-18 of them
 - base faces cortex
 - apex faces sinus
- calyces
 - major and minor
- renal artery- passes through hilum and then branches
- segmental artery
- interlobar artery
- arcuate artery
- interlobular artery
- afferent arteriole
- efferent arteriole
- nephron
 - basic unit
 - renal tubule
 - renal corpuscle

- glomerulus- capillary knot
- bowman's capsule
- epithelium
- afferent
- podocytes
 - foot processes
- o proximal convolued tubule
- o loop of henle
 - descending limb
 - ascending limb
 - has thick and thin segments
 - reabsorbs
 - very permeable to water and impermeable to solutes
 - urine becomes very concentrated
 - 25% of water
 - sodium
 - chloride
- o distal convulted tubule
 - actively secretes ions other materials
 - reabsorbs
 - sodium and calcium ions