

## Chapter 2: Renal System

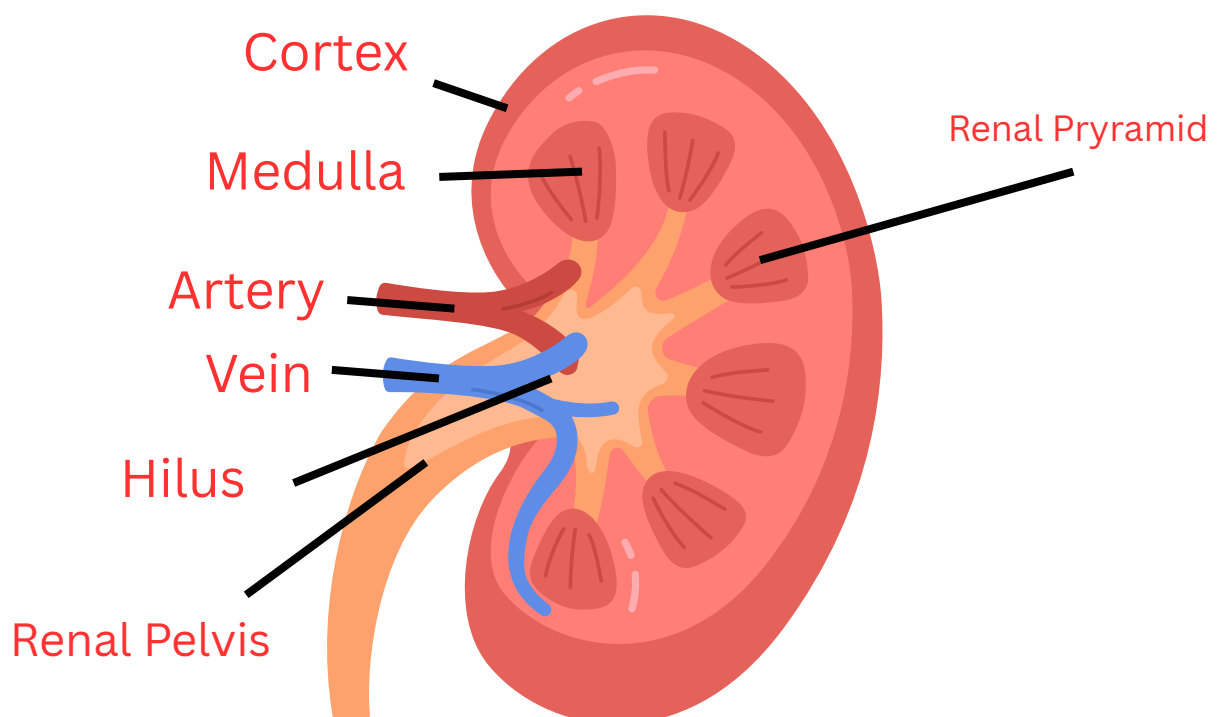
- What is the function of renal system?
  - Regulates, blood volume and pressure
  - Concentration of blood ions (plasma)
  - Blood pH by control of  $H^+$  and  $HCO_3^-$ -ion secretion
  - Removal of waste products and reabsorption of filtered nutrients
- What is the main function of the Kidney
  - Is production of urine, contributes to homeostasis by regulation composition of blood plasma
  - Blood filtration
  - Fluid Balance
  - Hormone production: erythropoietin
- What are some key components of the kidney
  - Hilus, blood lymph nerve and uterus enter/leave
  - Cortex: outer layer if parenchyma, houses the nephron
  - Medulla: Inner portion of parenchyma, darker in color
  - Renal pelvis: uterine collection chamber
  - Glomerular Capsule: Blood passes between capillaires, filtration, solute exchange

## Chapter 2: Renal System

- What organs are associated with the renal system and their function
  - Kidney- production of urine
  - Ureters- carry urine to bladder
  - Adrenal Glands- stress hormone production
  - Urinary Bladder- Collects, stores, and releases urine
  - Urethra- pathway of urine out of the body.
- Where is urine formed, is microscopic and the functional unit of the kidney
  - Nephron
- What kidney is multilobular, and retains its shape during fetal development. Draw it out.
  - Bovine Kidney
- What part of blood is filtered? What occurs when one section over the over is filtered.
  - Plasma
  - if RBC's are filtered, that would mean blood is in the urine, extremely bad, sign of distress.

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- What has a higher pressure than capillary beds and is smaller than a red blood cell, this also forces plasma into the bowman's capsule.
  - **Glomerular Capillaries**
- What are the characteristics of urine?
  - **Slightly Acidic - pH 6.0- normal**
  - **Yellow/opaque, comes from bilirubin**
  - **the volume and composition is dependent on metabolism and diet**
  - **Urea- excreted ammonia left over from amino acid metabolism**
- Name all the structures of the kidney.



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- What are the structure of the nephron, and the process of urine formation with it.

