

- Peritoneum (only on the anterior side of the kidney)
- Fibrous capsule (touching and surrounding the kidney; dense irregular connective tissue)
- Fat capsule (provides protection and cushion for the kidney)
- Renal fascia (dense irregular tissue) MOST SUPERFICIAL

Kidney anatomy (longitudinal view):

- **Cortex**- outer layer of the tissue
 - o Has **renal columns** that bifurcates the kidney into renal pyramids (part of the medulla)
- **Medulla**- deeper within the tissue (medullary tissue)
 - o **Renal pyramids**:
 - **Base**- broader end that faces the cortex
 - **Apex (aka renal pilla)**- point of the triangle, closed to the inside of the kidney:
 - Urine moves from **renal papilla** to **minor calyces** then to **major calyces**, then to **renal pelvis (not part of cortical or medullary tissue)** , then to **ureter**, goes down through ureter to bladder.

Kidney responsible for filtering the blood.

Renal artery bifurcates into segmental arteries, then to interlobar artery (Extend up), then go to arcuate artery, then to interlobular.

From the interlobular arteries you branch into afferent arteriole. Afferent arteriole goes into glomerulus (blood filtered to make urine), blood leaves through efferent arteriole (leaving out), then circulate through 2 capillaries

- Peritubular capillaries

Afferent arteriole, glomerulus, efferent arteriole, peritubular capillaries

REFER TO TEXTBOOK DIDN'T FINISH TAKING NOTES

Nephron (EACH KIDNEY HAS A MILLION NEPHRONS):- functional unit of the kidney

- Made up of 2 major components:
 - o **Renal corpuscle** (connected to PCT) – made up of:
 - **bowmans capsule (aka glomular)**
 - **glomerulus** (ball-like mesh of capillaries)
- **Proximal convoluted tubule** (first part of the nephron) – major site of where you reabsorb electrolytes and water.
- **Nephron loop (loop of henry)**- stems from PCT down into the renal medulla (makes a hairpin turn and moves back up into the cortical tissue)
 - o Histology of the renal tube changes when it goes down to the renal medulla
- **Distal convoluted tubule (DCT)**- important for some reabsorption, but MAJOR site of where hormones act on the kidney in order to manipulate how diluted your urine is going to be.
- **Collecting duct**- connected to DCT. Collects urine, multiple collecting ducts join together.

Cortical nephron- in cortex of kidney

- Nephron loop is shorter than juxtamedullary nephron loop

Juxtamedullary nephron- in medulla of nephron