**RENAL FUNCTION – SUMMARY KEY**

**REVIEW TABLES**

|  |  |  |
| --- | --- | --- |
| **PROCESS** | **Description** | **Location(s)** |
| **Pressure (Glomerular) Filtration** | **The process of pushing blood plasma from the glomerulus into the Bowman's capsule. Both the good and bad stuff in plasma will enter into the Bowman's capsule. The large plasma proteins stay behind with the formed elements** | **Where Glomerulus meets Glomerular Capsule** |
| **Tubular Secretion/****Excretion** | **The process whereby other wastes (such as creatinine, histamines, penicillin and H+ ions) are selectively transported into the filtrate from the blood at the distal convoluted tubule.** | **At the distal convoluted tubule** |
| **Water Reabsorption****(3 key locations)** | **The process of reabsorbing water from the filtrate back into the bloodstream via osmosis. Solutes have increasing concentration as one moves from Renal Cortex to Outer medulla in toward Inner Medulla. Solutes Suck!** | **At Proximal Convoluted tubule. Descending Limb and Collecting Duct.** |
| **Tubular Reabsorption** | **Process where good substances are reabsorbed from the filtrate. Many of these substances (such as Glucose, AA's and Sodium) are actively transported back into the body. Some other good substances (such as Water and Chloride ions) passively follow.** | **At Proximal Convoluted Tubule** |

**KEY HORMONES**

|  |  |  |  |
| --- | --- | --- | --- |
| **HORMONE** | **Role (Action)** | **Site of Action** | **Source of Hormone** |
| **ANH** | **Inhibits the effect of Aldosterone. Nephrons reabsorb less Na+ ions, so more Na+ ions stay in the urine. So we pee more. Blood pressure drops**  | **Distal Convoluted Tubule** | **Atria of the Heart** |
| **ADH** | **Makes the cells of the nephron more permeable to water to allow more reabsorption of water from the filtrate. This brings up Blood Volume and therefore Blood Pressure** | **Primarily at the Collecting Duct** | **Hypothalamus** **Makes it, then Posterior Pituitary Releases it.** |
| **RENIN** | **Sends message to adrenal glands to release more Aldosterone. This cause more reabsorption of Sodium Ions, which in turn brings up Blood Volume and therefore Blood Pressure. Also acts as a Vasoconstrictor to cause arteries to constrict.** | **Works on adrenal gland to stimulate the release of more Aldosterone. Also stimulates arteries to constrict.** | **Produced and Released from Juxtaglomerular Apparatus** |
| **Aldosterone** | **Works to increase the amount of Sodium reabsorption from the nephron. This hormone will stimulate the Sodium pumps along the distal convoluted tubule to pump more Sodium ions from the filtrate back into the blood. Water will follow, as a result Blood Volume goes up as well as Blood Pressure** | **Primarily targets the Sodium pumps along the Distal Convoluted Tubule** | **Aldosterone is produced and released from the Adrenal Cortex of the Adrenal Glands** |