

Exam-2 Remediation

1. List the effect of each of the following hormones on the kidneys:
 - a. Aldosterone
 - i. Increase sodium and water reabsorption within the distal convoluted tubule and collecting duct of the nephron.
 - ii. Increases excretion of potassium and hydrogen ions within the urine.
 - b. ANP
 - i. Increases sodium and water excretion within the distal convoluted tubule and collecting duct.
 - ii. Inhibits the release of renin which will further promote sodium and water excretion
 - c. Angiotensin II
 - i. Constricts the efferent arterioles more than afferent arterioles which will increase glomerular hydrostatic pressure and maintain GFR
 - ii. Stimulates the release of Aldosterone and ADH which will increase sodium and water reabsorption
2. List the mechanism of action of alcohol and another diuretic on urine
 - a. Alcohol
 - i. Inhibits secretion of ADH from the posterior pituitary gland reducing water reabsorption within the kidney.
 - ii. Increases water excretion through increased urine output.
 - b. Hydrochlorothiazide
 - i. Inhibits the Na⁺/Cl⁻ co-transporter which will lead to increased excretion of sodium and chloride through increased urine output.
3. Define the following:
 - a. Gluconeogenesis
 - i. The synthesis of glucose in the Liver and kidneys via non-carbohydrate precursors like lactate, glycerol, and amino acids.
 - b. Glycolysis
 - i. The breakdown of glucose into pyruvate or lactate in the cytoplasm of the cells.
 - c. Glycogenolysis
 - i. Breakdown of glycogen into glucose within the liver and muscle cells.