

Quiz 5
RENAL PHYSIOLOGY
June 3, 2002

Name Corrected

Choose the one best answer.

1. A patient is transfused with 1.5 liters of 0.9 % (normal) NaCl solution. What changes will occur in osmolarity and volume of the intracellular and extracellular compartments?
☒ a. No change in osmolarity, 0.5 liters of the solution will remain in the extracellular compartment.
☐ b. Intracellular osmolarity will increase, 1 liter of the solution will diffuse into the cells.
☐ c. No change in osmolarity, 1.5 liters of the solution will remain in the extracellular compartment.
☐ d. Intracellular osmolarity will decrease, 1 liter of the solution will remain in the extracellular compartment.
2. Glomerular filtration
☐ a. increases as the plasma osmotic (oncotic) pressure increases
☐ b. increases when the resistance of the renal afferent arterioles increases.
☒ c. decreases if the resistance of the renal efferent renal arterioles decreases
☐ d. produces a filtrate with high levels of protein.
3. Given that a substance has a renal clearance of 230 ml/min, you can say that:
☐ a. The substance is largely reabsorbed by the kidneys.
☒ b. The substance is secreted by the kidneys.
☐ c. The GFR of the kidney is 230 ml/min.
☐ d. The substance is measuring renal plasma flow.
4. In the kidney, countercurrent multiplication:
☒ a. Requires that the thick ascending limb of the loop of Henle be water impermeable.
☐ b. Concentrates the filtrate in the lumen of the ascending thick portion of the loop.
☐ c. Produces a hypo-osmotic solution in the interstitium near the descending thin portion of the loop.
☐ d. Does not require the participation of active transport.
5. Which cell type is responsible for H^+ secretion in the distal tubule ?
☐ a. Principle cells.
☒ b. Intercalated cells.
☐ c. Both cell types can secrete H^+ .
6. In the absence of ADH:
☐ a. The kidney will excrete a concentrated urine.
☒ b. Water excretion can reach 10 liters/day.
☐ c. The renal collecting duct permeability to water will increase.
☐ d. Plasma osmolarity will decrease.

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Handwritten notes:
1. After months
2. principle
3. renal H⁺
4. H⁺