

## Membrane transport and regulation of the urinary system

### Read Chapter 21.4-5

#### Fill in the blanks

1. The lumen side of the nephron epithelial cells is also called the \_\_\_\_\_ side and the side of the epithelial cells closest to the peritubular capillaries is the basolateral side.
2. \_\_\_\_\_ junctions help to prevent substances from moving in between epithelial cells.
3. Water can move into epithelial cells using membrane proteins called \_\_\_\_\_
4. When water moves between cells, this process is called (paracellular or transcellular) \_\_\_\_\_ transport
5. For the following substances, state how they cross the apical membrane: **Co-transport with sodium, carrier protein, aquaporins, simple diffusion**
  - a. Glucose \_\_\_\_\_
  - b. Water \_\_\_\_\_
  - c. Amino acids \_\_\_\_\_
6. Match the following descriptions with the correct hormone: **ADH, atrial natriuretic peptide (ANP), aldosterone, parathyroid hormone (PTH)** - (you may use the hormones more than once)
  - a. Reabsorption of calcium \_\_\_\_\_
  - b. Reabsorption of sodium \_\_\_\_\_
  - c. Reabsorption of water \_\_\_\_\_
  - d. Excretion of potassium \_\_\_\_\_
7. ADH is made in the \_\_\_\_\_, aldosterone is made in the \_\_\_\_\_, and ANP is made in the \_\_\_\_\_
8. The stimulus for the production of ANP is (high or low) \_\_\_\_\_ blood pressure and the stimulus for the production of aldosterone is (high or low) \_\_\_\_\_ blood pressure.
9. Renin is made by the \_\_\_\_\_ when the macula densa detects high \_\_\_\_\_ concentration in the blood.
10. Renin is an enzyme that cleaves the molecule \_\_\_\_\_ that is made by the \_\_\_\_\_
11. Angiotensin I is converted into angiotensin II by \_\_\_\_\_

12. If you took an ACE inhibitor, your blood pressure would (increase or decrease)

\_\_\_\_\_

13. Angiotensin II can stimulate the \_\_\_\_\_ to make us feel thirsty and crave salt

14. The ANS can increase overall blood pressure by causing (vasoconstriction or vasodilation)

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