

Urinary System: Reabsorption and Secretion in the Proximal Tubule

1. What are the two reabsorption pathways through the tubular cell barrier?
 - 1.
 - 2.
2. How can we cause water to diffuse from the lumen into the interstitial space?
3. Transport of what ion could cause the diffusion in question 2?
4. Summarize reabsorption in the proximal tubule.

ANSWER KEY

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1.
 1. Transcellular through luminal and basolateral membranes (most substances)
 2. Paracellular—through tight junctions
2. Increased osmolarity of the interstitium
3. Transport of Na^+ from the cell into the interstitium
4. Basolateral transport of Na^+ : Interstitial osmolarity increases, causing diffusion of water. Decreased intracellular Na^+ leads to additional Na^+ reabsorption through the luminal membrane.

