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Fluid and Electrolyte Imbalance

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Why women have less water than men if they are the same weight?

The water content of adipose (fat) tissue is less than that of muscle, while women have more adipose tissue at the effect of feminine hormone.



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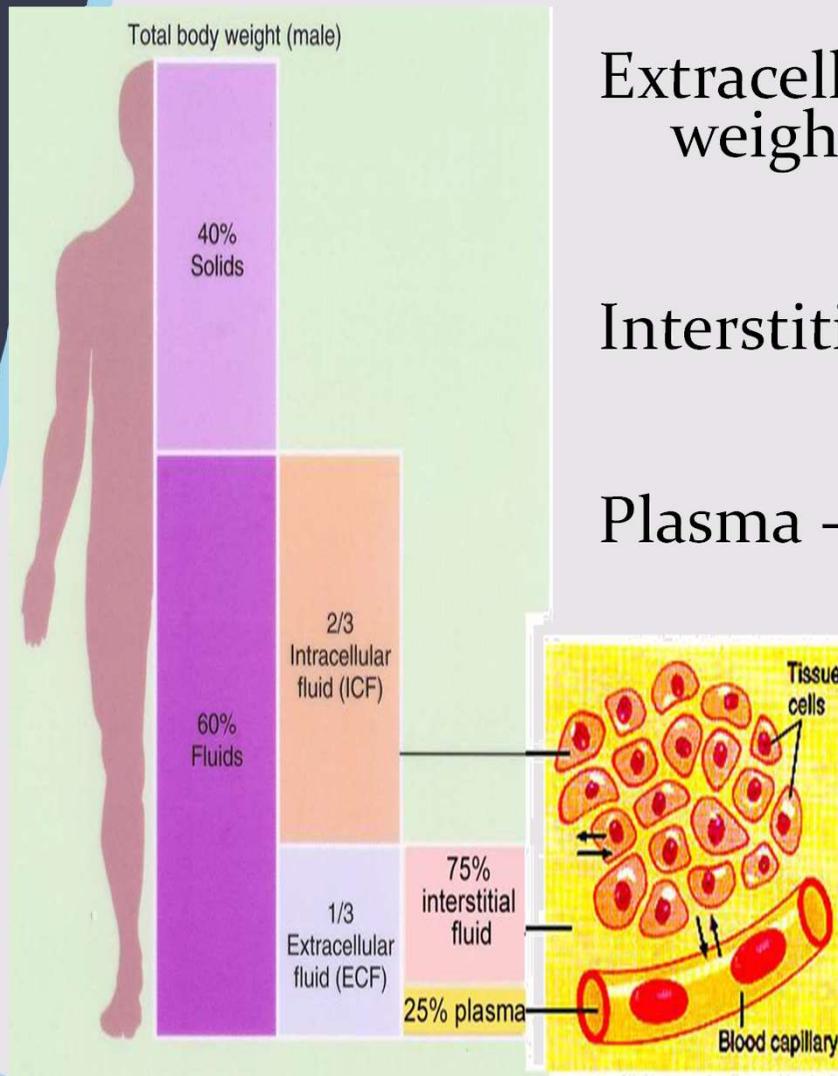
Body fluids are distributed in two distinct areas:

intracellular fluid (ICF) 40% body weight

Extracellular fluid (ECF) 20% body weight

Interstitial fluid -15% body weight

Plasma -5% body weight

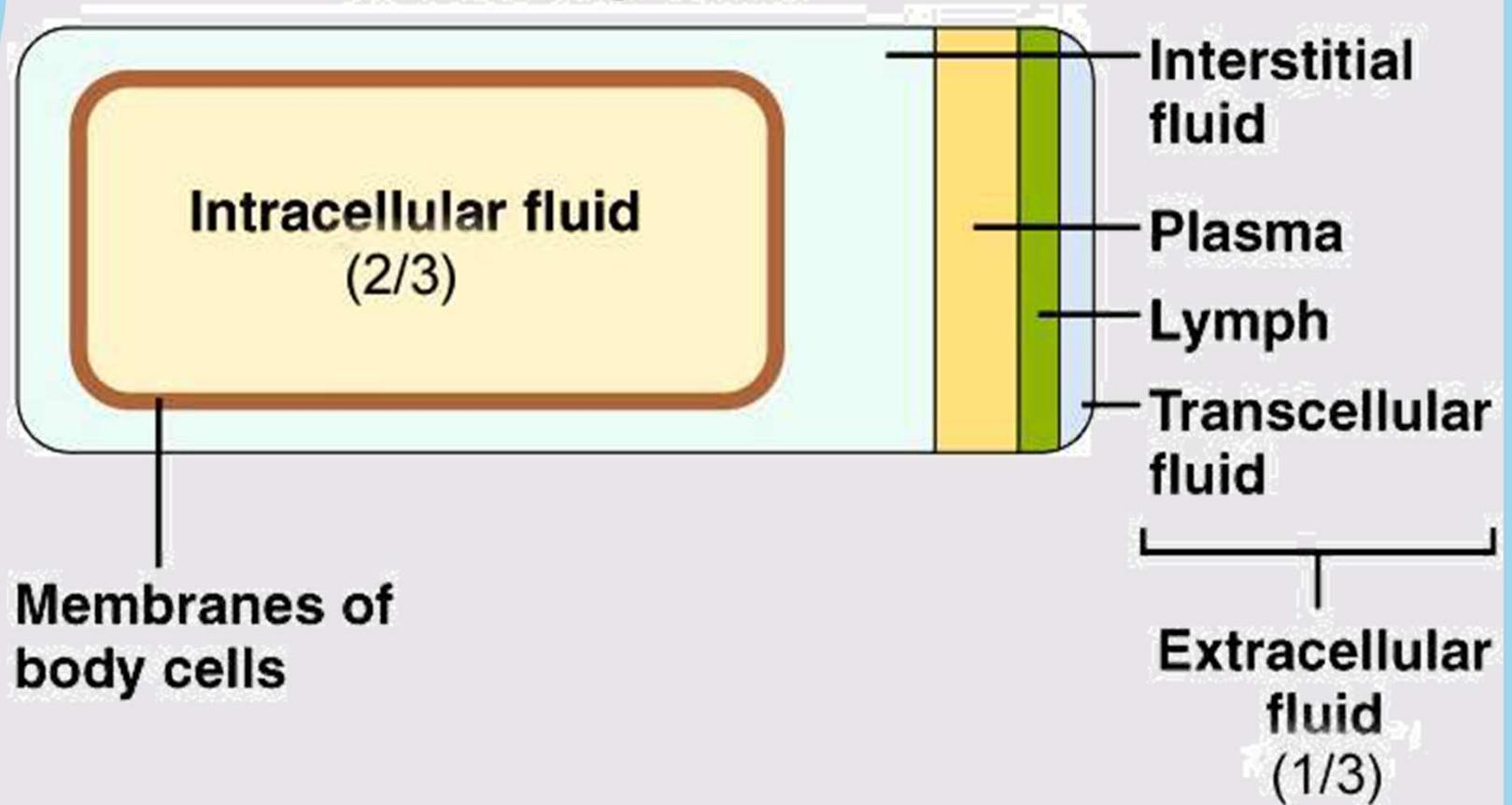




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Total body water





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Regulation of Fluid and Electrolyte

➤ **Passive transport mechanism**

Simple Diffusion through Lipid Layer

Simple Diffusion through Protein Layer

Facilitated or Carrier Mediated Diffusion

➤ **Active transport mechanism**

Primary Active Transport

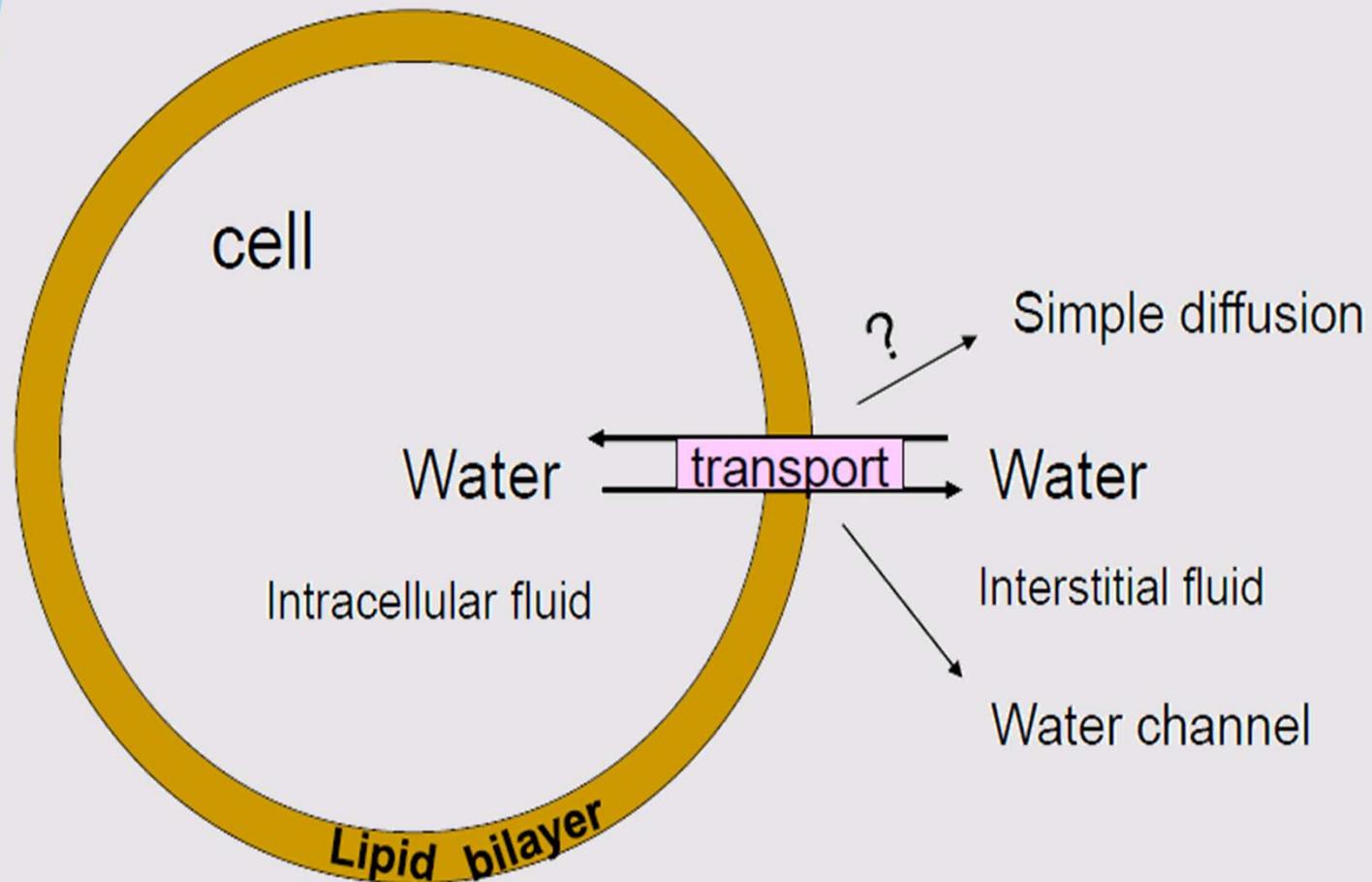
Secondary Active Transport



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Simple Diffusion through Lipid Layer

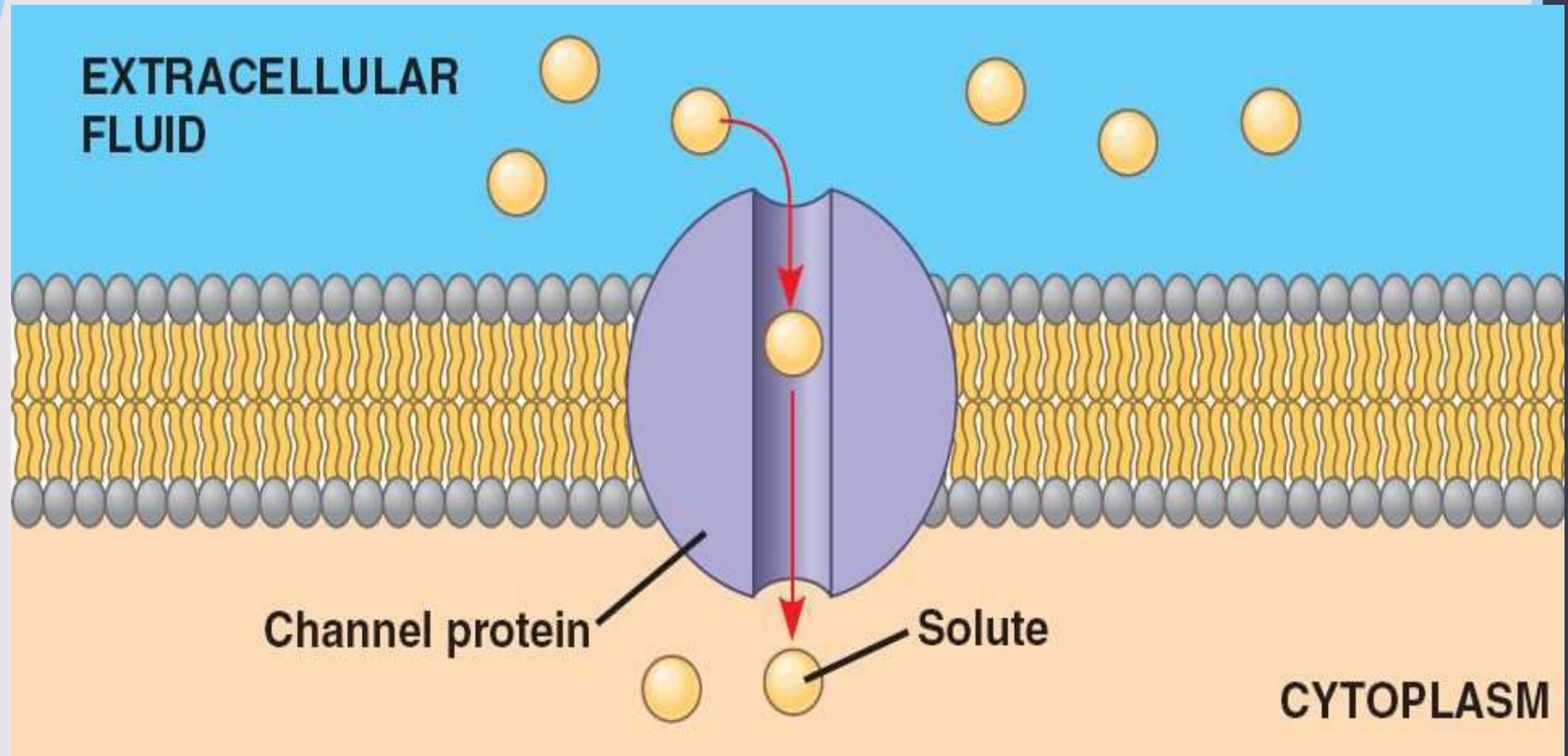




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Simple Diffusion through Protein Layer



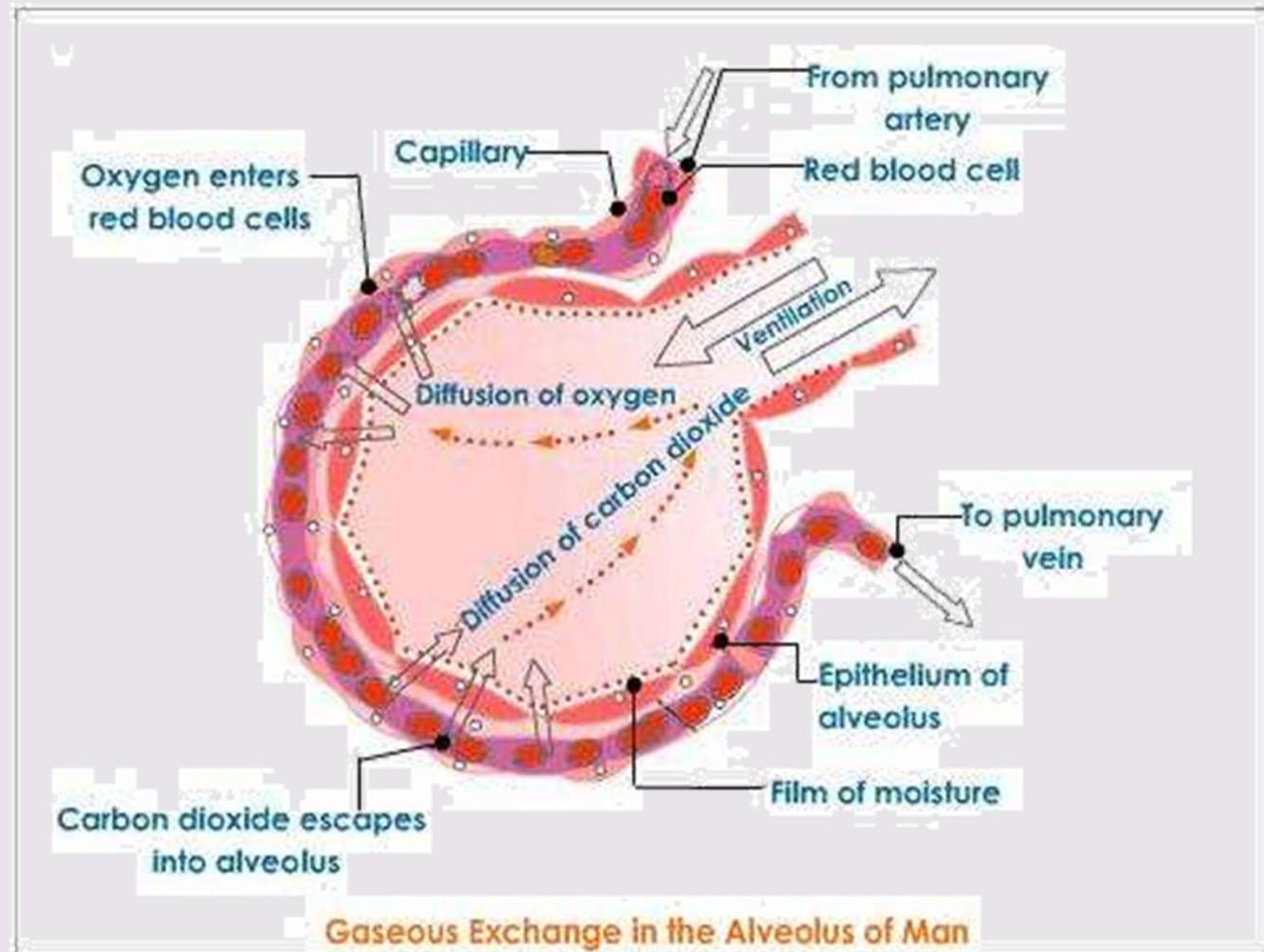


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Special Types of Passive Transport

1. Bulk Flow

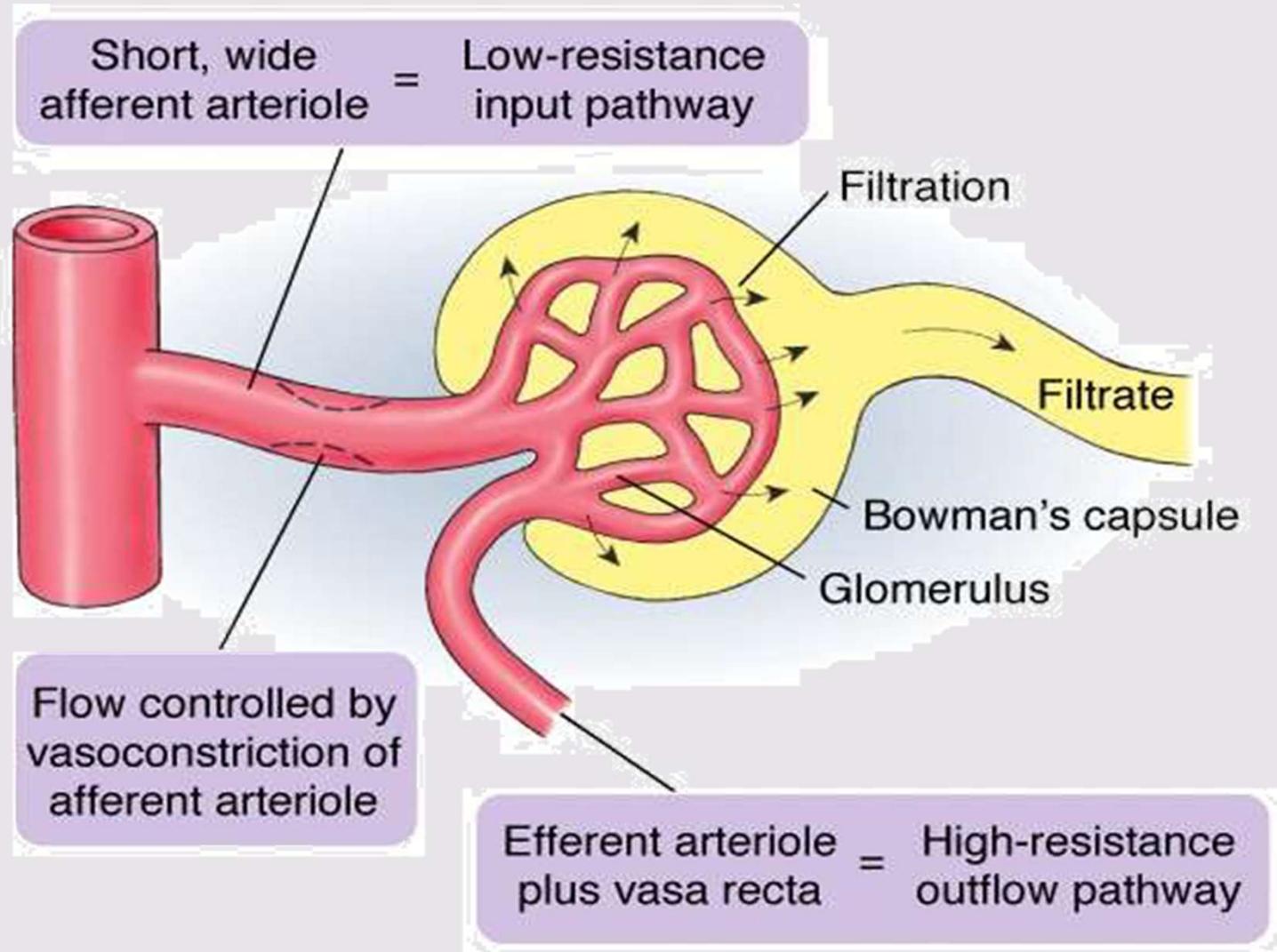




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2. Filtration

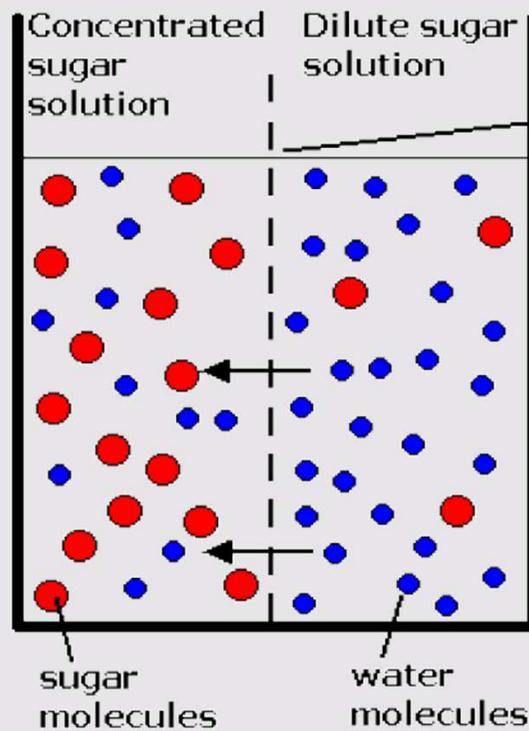




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3. Osmosis



Osmosis

