

Chapter 5

- Osmosis and tonicity
- Transport processes
- Diffusion
- Protein-mediated transport
- The resting membrane potential
- Vesicular transport
- Epithelial transport
- The resting membrane potential

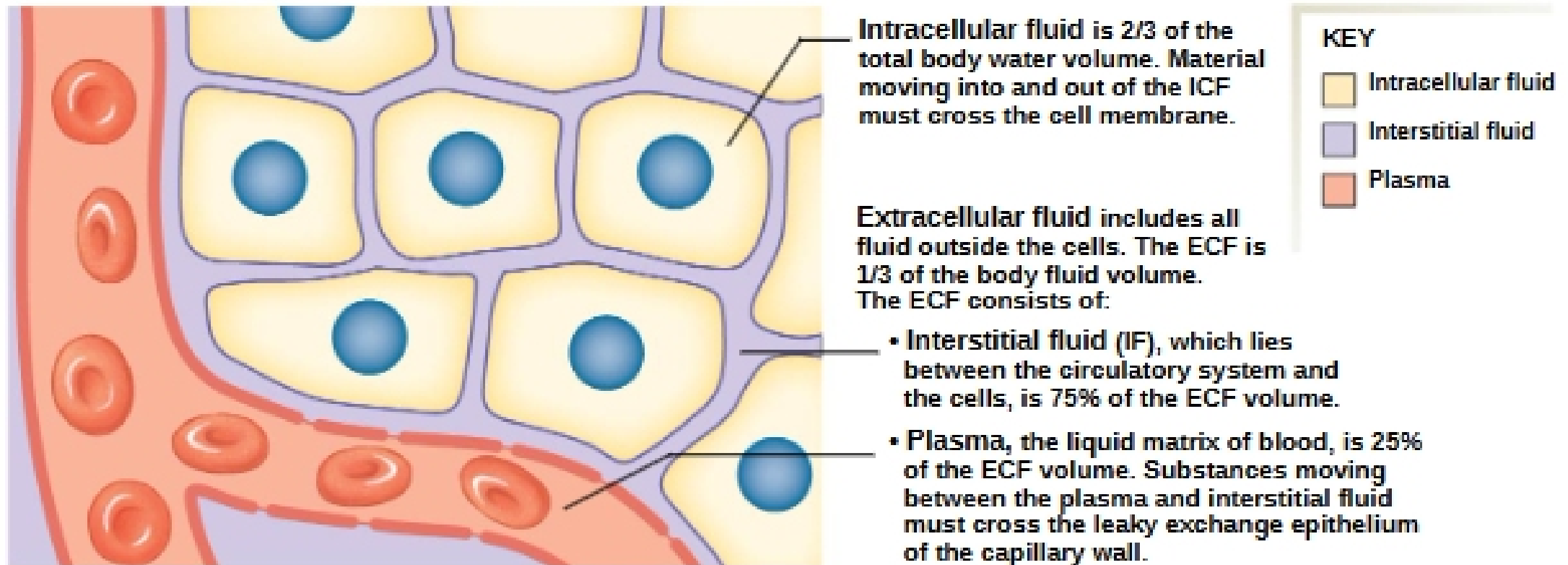
**Body Fluids – 2 compartments in osmotic equilibrium
but differing chemical composition**

Extracellular fluid (ECF) = 1/3 total body water volume

ECF = Interstitial fluid + plasma

Intracellular fluid (ICF) = 2/3 total body water volume

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Homeostasis Does Not Mean Equilibrium

- Osmotic equilibrium

Water moves freely between cells and ECF

Fluid concentrations are equal on two sides of cell membrane

- Chemical disequilibrium

Concentrations of solutes are different across cell membranes (Na^+ , Cl^- , HCO_3^- more concentrated in ECF vs ICF) – requires energy to maintain

- Electrical disequilibrium

Many solutes are ions – carry charge

Inside of cells slightly negative relative to ECF