

Like other cells, the osmotic environment surrounding microorganisms can affect them. Osmosis is the net movement of water molecules across a semi-permeable membrane, from an area of low solute (high water activity) concentration to higher solute concentration (lower water activity). Water molecules want to balance the solute concentration on either side of the membrane to a more isotonic state. In a hypertonic solution (more solutes outside of the cell, higher osmotic pressure) there will be net movement of water out of the cell (in order to create equal osmotic pressure on both sides of the membrane). Plasmolysis, cell shrinkage, may occur