# Diffusion

Diffusion is the net movement of molecules or atoms from a region of high concentration to a region of low concentration. This is also referred to as the movement of a substance down a concentration gradient. A gradient is the change in the value of a quantity (e.g., concentration, pressure, temperature) with the change in another variable (usually distance). For example, a change in concentration over a distance is called a concentration gradient, a change in pressure over a distance is called a pressure gradient, and a change in temperature over a distance is a called a temperature gradient.

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Diffusion describes the random thermal movements of molecules or Brownian motion and depends on a variety of factors including (1) the type of molecule under investigation, (2) the tissue temperature, and (3) the microenvironment where diffusion takes place to mention a few.

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see Diffusion kurtosis imaging.

see Diffusion-weighted magnetic resonance imaging

see Apparent diffusion coefficient