

Respiratory gas
exchange between
the alveoli and the



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Respiratory gases-oxygen and carbon dioxide moves between air and blood in the lungs.

The structure of the human lung provides immense internal surface that facilitates gas exchange between the alveoli and the blood in the pulmonary capillaries. Respiratory gases move between the environment and the respiring tissues by two principal mechanisms, convection and diffusion. Convection is responsible for movement of air from the environment into the lungs and also for the movement of the blood between the lungs and the tissue.

Diffusion moves many gases across tissue barriers such as membranes. One of the gases that diffusion moves is called the Respiratory Gas. Diffusion is the process of which gases are transported between the air and the blood in the lungs and between the blood and respiring tissue in the body. The process of diffusion is also driven by the difference in partial pressures between two locales. There are large changes in the partial pressure of oxygen and carbon dioxide as these gases move between air and the respiring tissues. Oxygen and carbon dioxide are transported between tissue cells and lungs by the blood. The quantity transported is determined rapidly with which the blood circulates and the concentrations of gases in blood.

Output of the heart, is responsive to overall requirements. Hemoglobin acts in another way to facilitate the transport of carbon dioxide. Amino groups of the hemoglobin molecule react reversibly with carbon dioxide in solution to yield carbamates. Release of oxygen in body tissues enhances binding of

carbon dioxide as carbamates. Oxygenation of hemoglobin in the lungs has to reverse effect and leads to carbon dioxide elimination.

Only 5 percent of carbon dioxide in the blood are transported free in physical solution without chemical change or binding, yet this pool is important, because only free carbon dioxide easily crosses biologic membranes.

Virtually every molecule of carbon dioxide made by metabolism must exist in the free form as it enters blood in the tissues. Then leave capillaries in the lung. Between these two events, most carbon dioxide is transported by carbamate.

Carbamates are made up of CO_2 , CaCO_3 AND $\text{CaMg}(\text{CO}_3)$. With a chain reaction of carbamates and HCl they create bubbles of carbon dioxide.

Bibliography: