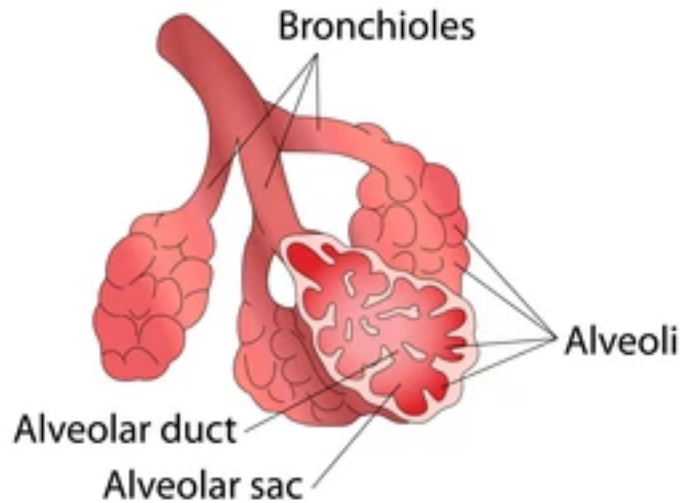


Gas Exchange - A

Pulmonary alveoli



Watch Video: https://www.youtube.com/watch?v=WzrN6sJli_g

Lungs: Air filled organs that allow gas exchange to occur between alveoli and capillaries

Bronchi: Two tubes that section off of trachea to bring air to both right and left lungs

Bronchioles: air tubes that branch off of bronchi like tree branches to bring air to alveoli

Alveoli: Air sacs surrounded by blood capillaries at the end of bronchioles with a single cell layer to allow diffusion of oxygen from air into blood capillaries and carbon dioxide from blood capillaries into alveoli.

Mechanism of Gas Exchange:

- Oxygen is carried into the lungs during inhalation and can enter the capillaries surrounding the alveoli via diffusion (movement of molecules from a high concentration to a low concentration).
- Carbon dioxide is carried into the lungs in capillaries that surround the alveoli.
- During inhalation, the carbon dioxide diffuses out of the capillaries into the alveoli via diffusion.
- Gas exchange is efficient due to the vast number of alveoli (300 million) that work to increase surface area and therefore increases the rate of gas exchange, as well as the thin membrane of the alveoli (one cell layer thick), which allows diffusion of oxygen into the capillaries from the alveoli and carbon dioxide out of the capillaries into alveoli during each breath.