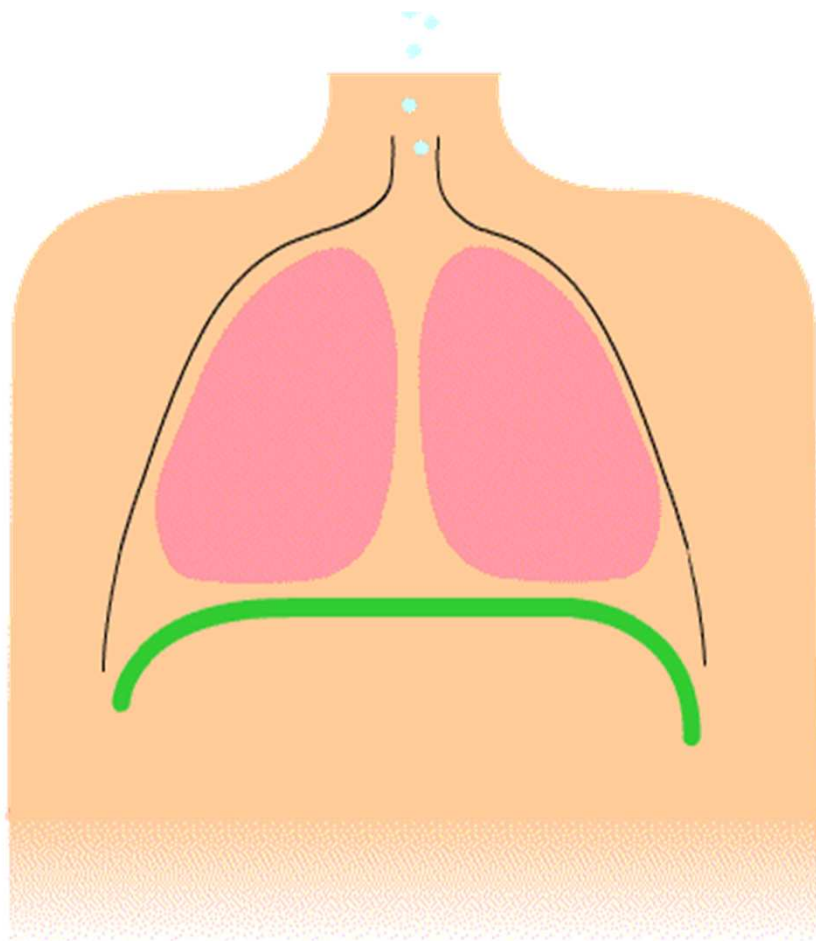
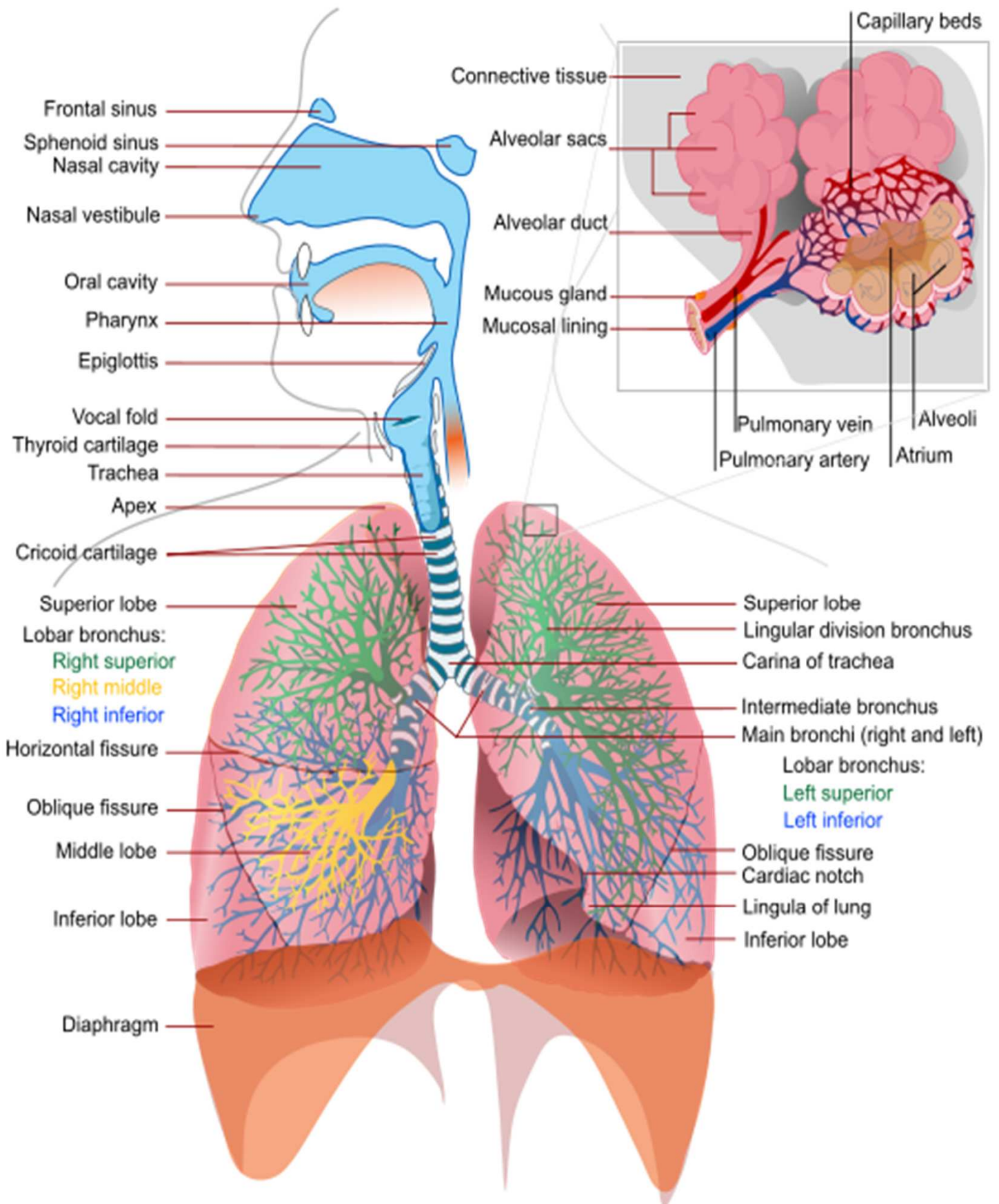


The Human Respiratory System



Respiratory System



Respiratory Structures

❑ Diaphragm

- Contraction = inhalation
- Relaxation = exhalation

❑ Pharynx

- Common nasal/oral passageway

❑ Larynx

- “Voicebox” containing vocal cords

❑ Trachea

- “Windpipe” leading to lungs

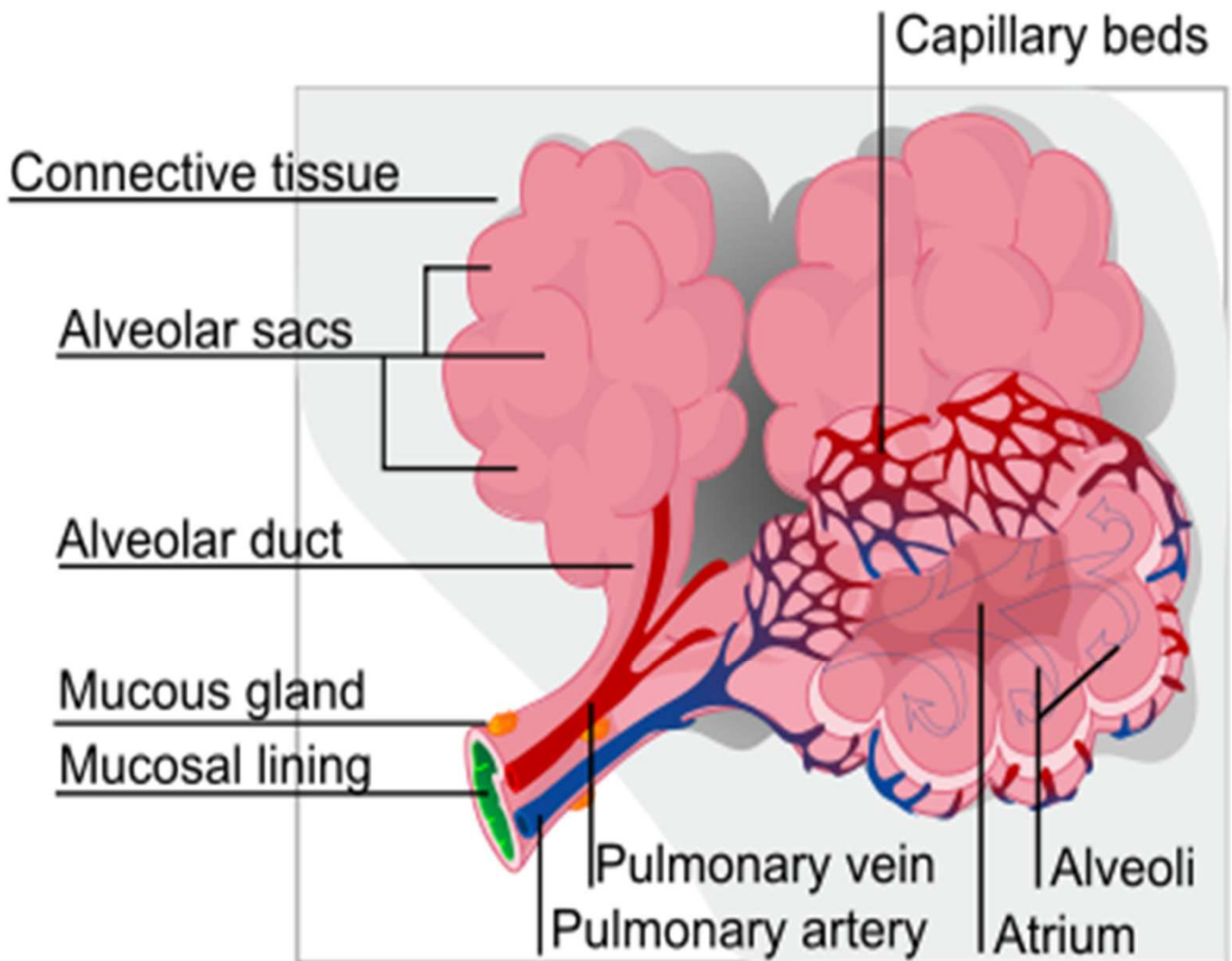
❑ Bronchi/bronchioles

- Tubes that enter each lung

❑ Alveoli

- (1) Millions of capillary-surrounded sacs where oxygen transfer takes place

Alveolus



Oxygen Transport

- **Hemoglobin**

- Protein found in red blood cells
- Iron in hemoglobin is capable of weakly binding oxygen

- **Oxyhemoglobin**

- Hemoglobin with oxygen bound to it
- Oxygen is given up when oxygen concentration around cells gets low

Carbon Dioxide Transport

❖ Transport

- 10% is dissolved CO_2 in the plasma
- 90% is carried as bicarbonate ion (HCO_3^-) in the plasma

❖ Elimination

- In lungs, bicarbonate is converted back to CO_2
- CO_2 diffuses into alveoli and is eliminated