

# RESPIRATORY PHYSIOLOGY STUDY GUIDE

[ ILLUSTRATION: ANATOMY OF THE UPPER & LOWER AIRWAYS ]

## GAS EXCHANGE MECHANICS

<b>External Respiration</b>	O <sub>2</sub> / CO <sub>2</sub> exchange at Alveoli
<b>Internal Respiration</b>	O <sub>2</sub> / CO <sub>2</sub> exchange at Tissues
<b>Boyle's Law</b>	$P \times V = P_1 \times V_1$ (Pressure/Vol)
<b>Dalton's Law</b>	Partial pressures of gases

## LUNG VOLUMES & CAPACITIES

- **Tidal Volume (TV):** Normal breath
- **Vital Capacity (VC):** Max air exhaled
- **Residual Volume (RV):** Remaining air
- **Total Lung Capacity:** VC + RV

## THE OXYHEMOGLOBIN DISSOCIATION CURVE

### Left Shift (Higher Affinity):

- ↓ Temperature
- ↓ 2,3-BPG
- ↓ [H<sup>+</sup>] (↑ pH)
- CO Poisoning

### Right Shift (Lower Affinity):

- ↑ Temperature
- ↑ 2,3-BPG
- ↑ [H<sup>+</sup>] (↓ pH / Bohr Effect)
- Exercise

## STUDY NOTES / OBSERVATIONS