

DIAPHRAGM & BREATHING MECHANICS

Anatomical Reference Guide

Inhalation (Inspiration)

Diaphragm Contracts / Flattens

- **Diaphragm:** Contracts and moves downward.
- **External Intercostals:** Contract to lift the rib cage.
- **Thoracic Cavity:** Volume increases.
- **Intrapulmonary Pressure:** Decreases (Negative pressure).
- **Airflow:** Moves from environment into lungs.

Exhalation (Expiration)

Diaphragm Relaxes / Domes

- **Diaphragm:** Relaxes and moves upward.
- **External Intercostals:** Relax; ribs move down and in.
- **Thoracic Cavity:** Volume decreases.
- **Intrapulmonary Pressure:** Increases.
- **Airflow:** Forced out of the lungs.

Key Muscle Roles

Muscle Group	Primary Function
Primary Diaphragm	Main driver of resting breathing (75% of effort).
Intercostals	Changes transverse and sagittal diameter of thorax.
Accessory (Scalenes/SCM)	Active during forced or labored breathing.