**Mechanics of Breathing**

* The movement of air into and out of lungs is brought about by changes in the size of the thoracic cavity, the lungs expand based on these changes.
* These changes takes place by the activity of a group of muscles called respiratory muscles. In normal respiration breathing movement consists of an **active inspiration** followed **by passive expiration**.

**The muscles of respiration:**

1. **Diaphragm** = large sheet of muscle located beneath the lungs that is the primary muscle in breathing

* Responsible for about 75% of respiration
* ***During inspiration*** : the diaphragm contracts, it descends and increases the length of the thoracic cavity.
* ***On expiration*** : the diaphragm relaxes upwards again.

1. **Intercostal** Muscle = a muscle that raises the rib cage, decreasing pressure inside the chest cavity

* ***During inspiration:*** The ribs are raised by the contraction of the external intercostal.
* ***During expiration*:** Normal expiration is a passive process. Relaxation of the diaphragm and external intercostal muscles decreases all dimensions of the chest.

**Control of breathing:**

* Under most conditions, the partial pressure of carbon dioxide controls the rate of pulmonary ventilation.
* Sensors in your aorta and carotid arteries sense carbon dioxide and signal the medulla oblongata (in your brain) to increase or decrease breathing.

