

BREATHING EXERCISES

1. Mechanical = mouth, nose, lungs, larynx, alveoli, phrenic nerve, diaphragm, and intercostal muscles.
 2. Chemical = O₂, CO₂, & hormones. If CO₂ is too low, blood alkalinity becomes too high, which is dangerous.
- When INHALING =
 - The diaphragm & heart rate (HR) decrease.
 - Blood flow & heart size increase.
 - When EXHALING =
 - The diaphragm & HR increase.
 - Blood flow & heart size decrease.
 - High-altitude breathing is more difficult due to lower air pressure outside & higher air pressure inside the body.
 - Nasal breathing is best:
 - Improves O₂ transfer, hormone health, & facial features.
 - Decreases cortisol levels.

TESTS:

1. **CO₂ tolerance** – A full nasal inhale, then a timed slow nasal exhale. Use the specific time for box breathing as follows:
If <:20 use :03.
If :25 to :45 use :05 to :06.
If >:50, use :08 to :10.

2. **Box breathing** = nasal breathing using above times alternating in-out-in-out for each of the four “sides” x 2:00.

3. **Physiological sigh:**

- Hard and deep nasal inhale.
- One quick additional inhale at the end.
- Exhale via mouth for :06.
- Repeat from 3:00 to 5:00.

4. **Cyclic hyperventilation** (e.g., Wim Hof/Tummo) = 25 active inhales & exhales to purposely increase anxiety.

HICCUPS:

- Caused by a spasm of the Phrenic Nerve.
- To cure them: 1 deep inhale → 1 short → 1 very short → hold :15 → then a slow exhale.