Every breath you take. Every move you make:

Breathing patterns in Resistance Training

• Books: Exercise Technique. Manual for Resistance training. NSCA
• Weight Training Steps to Success. Thomas R. Baechle and Roger W. Earle
Breathing

• Breathing is a fundamental part of proper movement execution, as respiration is part of the pressure control mechanisms and buffering system within the body.

• Many people have the tendency to hold their breath during movements, as it naturally adds to stability.

• Holding one's breath while exerting force is referred to as the Valsalva maneuver.
Breathing guidelines:

• The best general guideline about proper breathing during resistance training exercises is to **exhale** through the sticking point (the most difficult part of the exercise) of the concentric (exertion) phase and **inhale** during the easier part (relaxation phase or easiest point in a repetition) of the exercise-the eccentric phase.

• Remember, typically the sticking point occurs soon after the transition from the eccentric phase to the concentric phase. For example, the sticking point of the free weight bench press exercise occurs about halfway through the upward movement phase. At that point, the lifter should exhale through this portion of the movement. As the bar is lower back down to the chest, the lifter should inhale. This breathing strategy applies to nearly all resistance training exercises.
Holding your breath (or not): The valsala maneuver

• However, there are situations in which breath holding may be suggested:

• For experienced and well-trained lifters performing structural exercises (those that load the vertebral column and therefore place stress on it) with high loads, the Valsalva maneuver can be helpful for maintaining proper vertebral alignment and support by increasing intra-abdominal pressure. Please Mora, do not try this at home.

• The Valsalva maneuver involves expiring against a closed glottis, which when combined with contracting the abdomen and rib cage muscles, which creates rigid compartments of fluid in the lower torso and air in the upper torso and increases pressure within the abdomen.

• The advantage of the Valsalva maneuver is that increases the rigidity of the entire torso to aid in supporting the vertebral column, which reduces the associated compressive forces on the disks during lifting. It also help with the maintaining of a neutral spine and erect upper torso position.
Holding your breath
**Holding your breath cont.**

- Holding your breath too long could be very dangerous! By not exhaling you reduced the return of blood to your heart, which in turn reduces the blood flow to the brain. If the brain is deprived of oxygen rich blood you can get dizzy and might faint! Disorientation, excessively high blood pressure and blackouts can occur. Got that Mora?

- This is why the breath holding phase is transient, only about 1 to 2 seconds (at most).

- Even a well-trained lifter should not extend the length of the breath-holding phase, because blood pressure can quickly rise to triple resting levels...take note Leo?

- Learning to exhale at the correct time is confusing, but important to keep in mind always. Dale...
Remember:

**Concentric Contraction**

- A type of muscle contraction in which the muscles apply enough force to overcome the resistance (the weight it is carrying) so that it shortens as it contracts.

**Eccentric Contraction**

- A type of muscle contraction in which the resistance (the weight it is carrying) is greater than the force applied by the muscle so that the muscle lengthens as it contracts.
Review questions:

1- Why do we tend to hold our breath while executing resistance movements?

2- Which is the general guideline for proper breathing while executing resistance training exercises?

3- Had you heard about the Valsalva maneuver before, and why holding your breath for too long could be dangerous?

4- Take another look at the pictures in slide #8—please do not be jealous. When does the lifter should proceed to INHALE. In what frame and at what moment?

5- Now look at the pictures in slides 4 and 5. What is missing in the picture in frame 5? And, from 1-5 (5 being the best) how would you grade Muina's lift? Be accurate do not be a hater.

6- Fill up the blanks: "Every breath you take, every move you make, Every __________ you break, every ________ you take, I'll be ______________"