

## **What is the Diaphragm?**

The diaphragm is the most efficient muscle of breathing. It is a large, dome-shaped muscle located at the bottom of the lungs.

## **What is diaphragmatic breathing?**

Normal breathing is often shallow and does not use fill your lungs to their full capacity. Diaphragmatic breathing, or “belly breathing,” is a deep breathing exercise that engages the muscles of your stomach, abdomen, and diaphragm in order to move air into and out of your lungs more effectively. Diaphragmatic breathing is intended to improve the quality of your breathing and use of your lungs and, with consistent practice, may:

- Strengthen the diaphragm
- Improve the stability of your core muscles
- Decrease the work of breathing by slowing your breathing rate
- Decrease oxygen demand
- Lower heart rate and blood pressure
- Promote relaxation and a sense of calmness

## **Why is diaphragmatic breathing important if I am having head and neck pain?**

Pain may cause you to breathe more shallowly and rapidly, using mainly muscles in your neck and chest. Shallow, rapid breathing may cause you to release too much carbon dioxide, a gas in the body that is released when you exhale. When your carbon dioxide levels are too low, this condition is known as “hypocapnia.” Hypocapnia may increase stress hormone levels, decrease the availability of oxygen to tissues, further tighten muscles, and, in extreme cases,

alter blood chemistry. These conditions may worsen head and neck pain and make the pain hard to manage.

Diaphragmatic breathing helps prevent hypocapnia by lowering the rate at which you exhale. Diaphragmatic breathing also promotes relaxation. Proper use of your breathing muscles decreases the use of head and neck muscles. These factors may help to improve and prevent head and neck pain.

### **How do I perform diaphragmatic breathing?**

When you first learn the diaphragmatic breathing technique, it may be easier for you to follow the instructions lying down. As you gain more practice, you can try the diaphragmatic breathing technique while sitting in a chair. Both techniques are discussed, below.

#### **Doing the diaphragmatic breathing exercise while lying down:**

**Step 1.** Position yourself: Lie on your back on a flat surface or in bed, with your knees bent and your head supported. You can use a pillow under your knees to support your legs. Place one hand on your upper chest and the other just below your rib cage. This will allow you to feel your diaphragm move as you breathe.

**Step 2.** Breathe in slowly through your nose so that your stomach moves out against your hand. The hand on your chest should remain as still as possible.

**Step 3.** Tighten your stomach muscles, letting them fall inward as you exhale through pursed lips. The hand on your upper chest must remain as still as possible.

#### **Doing the diaphragmatic breathing exercise while sitting in a chair:**

**Step 1.** Position yourself: Sit comfortably, with your knees bent and your shoulders, head, and neck relaxed.

**Step 2:** Place one hand on your upper chest and the other just below your rib cage. This will allow you to feel your diaphragm move as you breathe.

**Step 3.** Breathe in slowly through your nose so that your stomach moves out against your hand. The hand on your chest should remain as still as possible.

**Step 4.** Tighten your stomach muscles, letting them fall inward as you exhale through pursed lips. The hand on your upper chest must remain as still as possible.

Note: At first, this exercise may be tiring and a bit challenging, but **do not get discouraged!** With continued practice, diaphragmatic breathing will become easier and more automatic.

### **How often should I practice this exercise?**

Start by practicing this exercise 5-10 minutes, 3-4 times per day. Gradually increase the amount of time you spend doing this exercise and be consistent in order to obtain the best results!

Please contact the Orofacial Pain Clinic at (734)-936-3940 if you have any questions or concerns.

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