



Fit Life >

ACE Fit Share

FIT LIFE

How Posture Affects Your Breathing

November 2, 2015



Do you know that poor posture affects good breathing techniques? Most people think of breathing and posture as two separate functions, but both either help or hinder the other. Good posture is necessary for breath management, volume and resonance. This leads to better vocal production during activities such as public speaking, singing or leading a group. In addition, the breath is more connected during exercise and movement. Simply put, poor posture, especially when seated, compresses the thoracic region and does not allow the diaphragm to open fully when breathing.

About the Diaphragm

The diaphragm, the muscle of inspiration, is dome-shaped and is comprised of muscle and fibrous tissue. It separates the thorax (chest) from the abdomen, serves as the main muscle for respiration and is the only skeletal muscle that is essential for life.

The Diaphragm's Function

When we inhale, the diaphragm contracts and is drawn into the abdominal cavity until it is "flat" while the intercostals (rib muscles) lift the ribs outward. When exhaling, the diaphragm relaxes and returns to its dome

shape, while the rib cage returns to its resting state. When air leaves the body the thorax cavity decreases. During exercise, the abdominals, internal obliques and other chest muscles help pull the ribs to center and to squeeze air out of the body. Individuals with poor posture and breathing techniques can fatigue the respiratory muscles with exercise, especially high-intensity movements.

How Posture Affects the Breath

Individuals with an excessively curved upper back (kyphosis) and internally rotated shoulders are prone to depression of the sternum. On the inspiration, the sternum cannot fully expand and the rib cage has a limited range of motion on the front side of the body.

An exaggerated lumbar curve (lordosis), which is similar to when the pelvis is tilted forward (as if the pelvic bowl is dumping water toward the toes), decreases the range of motion for the lower lumbar spine and shortens the latissimus and lower back (erector spinae) muscles. This shortens the crura of the diaphragm and limits the range of motion of the diaphragm. When the diaphragm's range of motion is limited, the breath's expansion decreases. Because the abdominal muscles are "overstretched" in this posture, the muscles cannot function properly aide with expiration.

Some people may also find difficulty breathing with an exaggerated curve in the neck (lordosis of cervical spine) due to compression on the larynx.

Flexibility Exercises

Performing both flexibility and resistance exercises can help realign posture, which allows the breath to function properly. Stretching also focuses on deep breathing, which helps retrain the brain and body to breathe correctly. The following stretches can be performed at the completion of your usual workouts. Ideally, stretches are most effective when held between 20 to 30 seconds; complete stretches on both sides of the body.

Head-to-hand Neck Release

How to Perform: Assume a cross-legged position (or sit in a chair). Bring your right ear toward the right shoulder. Lift the left arm to shoulder height and spread the fingers with the thumbs facing up. Place the right hand lightly on top of the head and apply slight pressure, if necessary. Retract the left shoulder blade toward the spine and hold the posture. Repeat on the other side.

Lunge With Chest Opener

How to Perform: Stand next to a wall, or door opening, with the right side of your body facing the wall. Bend your elbow to 90 degrees and place the forearm on the wall; adjust the body until you feel a chest stretch. Step the right leg behind and bend the left knee forward into a lunge stance. Slightly tuck the pelvis under, and press the right heel toward the floor.

Traditional Quadriceps Stretch

How to Perform: Bend your right knee and reach behind and grab the right foot with your right hand (or left hand if you have difficulty grabbing the same side). Keep the knees in alignment, if possible. This stretch can also be performed while lying on the floor.

Wall Chest Stretch

How to Perform: Face a wall and place your hands on the wall at shoulder height. Walk the feet and push the hips back so that your torso is parallel to the floor. Keep the toes pointed forward and the feet under the pelvis. You should feel a stretch in the back of the legs, chest and latissimus muscles.



ELIZABETH KOVAR *Contributor*

Elizabeth Kovar, MA, has studied yoga in five different countries. Her master's thesis, "Creating Yoga Programs for People with Movement Disabilities," was implemented on a 12-week study for people with Stage 1-2 Parkinson's disease. Based in Seattle, she serves as fitness coordinator at a local recreation center.