

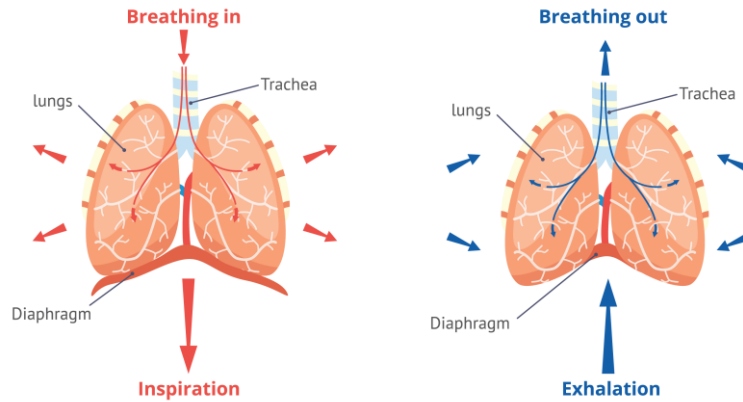
Breath Training

Good breathing is an essential building block for developing your Me noticing ability to take action aligned with your values despite the pain that naturally shows up in caring about things. Good breathing can give you a sense of well-being and can have important implications for your long-term health. Each breath you take contributes to balancing your body chemistry. Breathing incorrectly alters it. Years of incorrectly over-breathing (hyperventilation) can put you at risk of developing health problems (Fried, 1999):

- Respiratory: asthma, tight chest, shortness of breath, sighing, or an irritable cough
- Cardiovascular: palpitations, tachycardia, or angina
- Neurological: dizziness, faintness, migraines, or numbness
- Gastrointestinal: dry throat, gas, belching, or abdominal discomfort
- Muscular: cramps, tremors, twitches, or muscle pain
- Behavioral health: tension, anxiety, depression, or phobias
- General health: fatigue, exhaustion, weakness, difficulty remembering or concentrating, sleep disturbances, or nightmares

Good breathing involves the correct exchange of gases. You take oxygen into your body when you inhale. Oxygen enters your blood and circulates throughout your body, and your tissues and organs use it. Carbon dioxide is a by-product of your tissues and organs metabolizing oxygen. You get rid of this exhaust when you exhale. However, carbon dioxide has another vital function. It distributes oxygen to your tissues and organs and maintains healthy body chemistry. Taking in the right amount of oxygen and getting rid of and using up the right amount of carbon dioxide can yield better health outcomes.

Diaphragmatic breathing is good breathing (Fried, 1999). It uses the diaphragm muscle, a dome-shaped sheet of muscle separating your stomach from your chest cavity. A respiratory cycle consists of an inhalation and exhalation. Your diaphragm and intercostal muscles contract when you inhale, which pulls the lower part of your lungs downward and moves your belly outward. Your muscles and lungs relax when you exhale, and they return to their resting position, which moves your belly inward. Your diaphragm and intercostal muscles are the appropriate muscles to use when you inhale. When using your diaphragm and other muscles correctly to breathe, your belly rises and falls while your upper chest remains still. The bottom line is that breathing well can lead to being well, and breath training is an integral part of this.



The benefits of good breathing can include deactivating the stress response, activating the calming response, generating pleasant feelings to live your values, increasing your situational awareness, strengthening your resiliency, improving sleep, lowering your heart rate, having less anger, or relieving pain (Fried, 1999).

The overall goal in breath training is to breathe more slowly, lowly, smoothly, quietly, and evenly: inhaling until you feel full and exhaling until you feel empty. Breath training should feel comfortable, so don't force it.

Nasal breathing can be healthier for you, allowing you to breathe in through your nose and out through your nose instead of your mouth. Nasal breathing cleans, warms, and moisturizes the air you breathe. It can help you regulate the speed of inhaling and exhaling so you don't over-breathe or breathe shallowly.

Good breathing practice generally ranges between four and a half and seven breaths per minute (Lehrer, Vaschillo, & Vaschillo, 2000; Vaschillo, Lehrer, Rische, & Konstantinov, 2002; Vaschillo, Vaschillo, & Lehrer, 2006). This translates to an average of around six breaths per minute—five seconds of inhaling and five seconds of exhaling. However, you won't always be breathing between four and a half and seven breaths per minute. You shouldn't because you must adjust your breathing rate to meet the metabolic needs of your daily activities. Some activities require you to speed up your breathing, such as chasing a suspect at work, or to slow down your breathing, such as reading at home. Your oxygen demand can change throughout the day.

You may consider your breath training similar to strength training at a gym. Lifting weights for one hour a few times a week will increase your strength over time. There is no need to walk around holding dumbbells all day to maintain your gains. Similarly, suppose you practice breathing consistently for about five minutes or more several times daily and at a breath rate of around six breaths per minute. In that case, you will exercise your autonomic nervous system reflexes, strengthen them, and maintain your gains.

Begin your breath training at a pace of around seven breaths per minute. Then, gradually bring your breathing pace down one step at a time. On the way down, check whether you're breathing diaphragmatically and feel OK, light-headed, dizzy, or sleepy (a little bit, moderately, or quite a bit) at each breath rate. Feeling light-headed, dizzy, or sleepy might be a sign of over-breathing (hyperventilation, high-to-low ratio of oxygen to carbon dioxide) or under-breathing (hypoventilation, low-to-high ratio of oxygen to carbon dioxide). Your final breath-training rate should be at a pace you feel OK.

Breathing below ten breaths per minute during training increases daily parasympathetic autonomic nervous system activity. The parasympathetic branch of your autonomic nervous system slows your heart rate. It promotes bodily recovery and rejuvenation following a stressor.

In training, breathing below ten breaths per minute also counters a natural tendency toward autonomic nervous system imbalance: higher sympathetic activity in response to daily stressors. Prolonged trauma and stressor-related thoughts and feelings tend to produce a pattern of breathing faster and more shallowly (hyperventilation), generate irregular rhythms (incoherency) among your biological pacemakers (digestive, autonomic nervous, and respiratory systems, and heart), and sustain autonomic nervous system imbalance, impacting your overall health, well-being, and daily performance.

Breathing is a reliable, readily available method to help achieve autonomic nervous system balance. The sympathetic and parasympathetic branches allow you to act, react, and recover. At rest, your heart rate increases (sympathetic stimulation) when you inhale and decreases (parasympathetic stimulation) when you exhale. Breath training can increase the size and smoothness of these alternations in your heart rate, which is called heart rate variability, generating rhythm in your body and attaining autonomic nervous system balance (Childre & Rozman, 2005).

Before you begin breath training, be aware that diaphragmatic breathing might be strenuous. It might cause mild diaphragmatic cramping in some beginners and people in distress who hold their diaphragm in partial contraction. You should discontinue the training if you experience cramps that worsen, persist, or cause discomfort.

One more thing is that diaphragmatic breath training might be inappropriate for people with particular physical conditions: muscle, tissue, and organ injuries, diabetes, kidney disease, low blood pressure, and related conditions. So, as with any exercise and training, consult a physician about your situation and whether diaphragmatic breath training is appropriate for you.

Ideally, you may practice breathing at your breath-training rate a few times daily. Free phone apps are available to help you practice by following a visual or audio breath pacer you can set. The MindFlex365 website also provides breath training pacers. Here is a sample breath training schedule, practicing 5 to 10 minutes, that might work for you:

- When you wake up
- When you're at work, take one or two practice breaks
- Before you leave work
- Before bed

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