How the Buteyko Breathing Method Can Improve Your Health and Fitness

5,565 views

By Dr. Mercola

It is my intention to share the simplest, most inexpensive yet effective natural strategies to help you optimize your health, and it doesn’t get any simpler or more affordable than learning to breathe properly.

The Buteyko Breathing Method—named after the Russian physician who developed the technique—is a powerful approach for reversing health problems associated with improper breathing, the most common of which are overbreathing and mouthbreathing.

When you stop mouth breathing and learn to bring your breathing volume toward normal, you have better oxygenation of your tissues and organs, including your brain.

Factors of modern life, including stress, processed foods, the belief that it is good to take big breaths, and lack of exercise, all increase your everyday breathing.

Typical characteristics of overbreathing include mouth breathing, upper chest breathing, sighing, noticeable breathing during rest, and taking large breaths prior to talking.

Patrick McKeown, who was qualified by Dr. Buteyko in 2002, the year before the doctor’s death, is now one of the top teachers of the Buteyko method in the world. He’s been teaching full-time in his native Ireland and abroad for the last 11 years.

I learned the technique over 20 years ago, at which time it was widely promoted for the treatment of asthma. But I was never able to successfully integrate it in my practice, so I dismissed it and hadn’t examined it again until just recently when I was reintroduced to it by Joy Moller, with whom I had done oral myofascial therapy.

Dr. Buteyko discovered the method as a result of trying to address his own dangerously high blood pressure at the age of 26.

“His expected life span was about one and a half years,” Patrick says. “His systolic over diastolic was 220/110, which is indicating very high blood pressure... [A]n idea came into his mind that possibly how he was breathing was contributing to his high blood pressure.

So, he started learning how to calm down his breathing to bring it toward normal. And the aches and pains of different symptoms that he had, he found that they were reducing quite quickly.

It was on that basis then that he looked to the theoretical research that was available at the time. And then he started applying it to his patients. That’s how he developed the method.”

How the Buteyko Method Might Benefit Your Health

Besides asthma and hypertension, there are many other areas where the Buteyko Method is useful, such as anxiety and sleep apnea. How you breathe...
affects the oxygenation of your organs. The detrimental effects of mouth breathing, hyperventilation and overbreathing are well-documented. Up to 50 peer reviewed papers of the importance of nose breathing can be found on the Buteyko Clinic’s website.

The Buteyko Method is built upon the premise that you survive on food, water, and air. Naturally, the quality of each is of utmost importance, but when it comes to air, few consider the quantity of air they breathe as having such an enormously profound health impact.

“Modern life has a significant influence on how we breathe. I know most people would say, ‘There’s nothing wrong with my breathing. It’s natural to breathe.’ Of course, it is.

However, there are quite a few influences on your breathing, including, for instance, stress. Because as you get stressed, your breathing increases. If you’re in long-term stress, your body habituates a heavier volume of breathing,” Patrick says.

Interestingly, processed foods, which tend to acidify your blood in an attempt to maintain normal pH, will also make you breathe heavier. This is because one of the roles of carbon dioxide, which is in your blood, is to regulate pH. Besides water, raw fruits and vegetables have the least impact on your breathing, followed by cooked vegetables. Processed high protein- and high grain meals have the greatest adverse effect on the way you breathe.

The Buteyko Method teaches you how to bring your breathing volume back toward normal or, in other words, to reverse what’s called chronic hyperventilation or chronic overbreathing. When your breathing is normal, you have better oxygenation of tissues and organs, including your brain.

Rhinitis, which involves nasal congestion and runny nose, is a very common cause of mouth breathing. This in turn is associated with increasingly troublesome problems, including:

- Fatigue
- Poor sleep and insomnia
- Mood disorders
- Snoring and obstructive sleep apnea
- ADHD

The Effects of Nitric Oxide

Nitric oxide is found in your nose, so when you breathe through your nose, you carry a small portion of the gas into your lungs. As explained by Patrick, nitric oxide plays a significant role in homeostasis, or the maintaining of balance within your body. Nitric oxide is also:

- A significant bronchodilator
- An antibacterial agent that helps neutralize germs and bacteria
- A vasodilator

This is one of the amazing aspects of Buteyko therapy that I noticed. As you breathe exclusively through your nose and abandon mouth breathing, your nose starts to water and you frequently have to blow it. But amazingly your nasal passages eventually expand quite dramatically and it becomes much easier to get all your air through your nose rather than your mouth. This is true even for high intensity exercises like Peak 8. It may take a few months to work up to it, but once you are there you will rarely if ever need to breathe through your mouth again, even under the most extreme circumstances.

Asthmatics typically breathe through the mouth. They also tend to breathe heavier and have a higher respiratory rate than non-asthmatics. According to Patrick, there’s a feedback loop, in that the heavier breathing volume that’s coming into your lungs cause a disturbance of blood gasses, including the loss of carbon dioxide (CO2). Contrary to popular belief, carbon dioxide is not merely a waste gas. Although you breathe to get rid of excess CO2, it’s very important that your breathing volume is normal, in order to maintain a certain amount of CO2 in your lungs.

“If you’re breathing too heavily, you lose carbon dioxide, and smooth muscles surrounding your airways constrict. Another factor from an asthmatic point of view is dehydration of the inner walls of the airways. It’s a combination of these factors that cause the airways to constrict. Heavy breathing is causing the loss of carbon dioxide. And carbon dioxide also helps to relax smooth muscles surrounding your blood vessels. So, it’s not just the airways which constrict when you’re breathing too much, but it’s also the blood vessels.”

As your airway constricts, there is a natural reaction to breathe more intensely as a compensatory mechanism. However, this
causes even greater loss of carbon dioxide, and cooling of your airway causes it to close even more. In other words, asthma symptoms feed back to the condition.

You can test this out by taking five or six big breaths in and out of your mouth. Most people will begin to experience some light-headedness or dizziness. While you might reason that taking bigger breaths through your mouth allows you to take more oxygen into your body, which should make you feel better, the opposite actually happens. This is because you're getting rid of too much carbon dioxide from your lungs, which causes your blood vessels to constrict—hence the light-headedness. So, the heavier you breathe, the less oxygen that's actually delivered throughout your body due to lack of carbon dioxide, which causes your blood vessels to constrict.

"Also, when you breathe too much, your red blood cells hold on to the oxygen and don't deliver so readily to where it is needed throughout your body. It's called the Bohr effect; discovered in 1904 by Christian Bohr," Patrick says. "In order for oxygenation to take place, we need the presence of carbon dioxide. Heavy breathing causing the loss of CO2 is not only causing blood vessels to constrict, but it's also causing a greater affinity of the red blood cells with oxygen.

... If you were to look at the basic premise of breathing, we should not hear our breathing during rest. We should see very little movement from the chest and tummy. Ideally, most of our breathing is diaphragmatic, but we shouldn't see it. The mouth should be closed, breathing should be regular, and breathing should be effortless."

How Breathing Plays into Sports

The way you breathe also affects your heart, and Patrick has been looking at the effects of breathing in athletics for the last two years. Typically, athletes who experience cardiac arrest or heart attack don't fit the model of a person with heart problems. Most are in the prime of health. However, according to Patrick, many athletes do breathe very heavily, for obvious reasons.

"The heavy breathing, which is causing a loss of carbon dioxide, is causing reduced blood flow to the heart," he explains. "The heart is experiencing less blood flow... [and] less delivery of oxygen. The heart, like any other muscle, also needs oxygen to perform properly. In the event that the heart is having insufficient blood flow and insufficient oxygen, it can alter the electrocardiogram readings, including and causing arrhythmia.

Arrhythmia is when the pulse gets out of control and gets too fast. If the pulse gets completely chaotic, the heart may stop, which will cut circulation off to the rest of the body, including the brain. So it's really important for all of us that our breathing is normal, not only elite athletes or those people who are involved with athletics."

Patrick is also investigating high-intensity training from the point of view of breath-holding (which I’ll review in the next section).

"When you subject your body to a reduced partial pressure of oxygen, as is the case during high-intensity training... you're going into anaerobic metabolism, so you're working without air. Your oxygen partial pressure is slightly dropping.

What happens is that your spleen, which is an organ located just under your diaphragm (it's basically your blood bank), it contains about eight percent of the total red blood cell count. But if you're doing high-intensity exercise or involving breath holding during exercise, the arterial saturation of oxygen is dropping. The spleen will sense this drop of oxygen, so it will release more red blood cells into circulation.

Now, another factor is that your kidneys, during high-intensity exercise and during breath-hold exercise, become slightly hypoxic; there's reduced oxygen in the blood. In response to that, your kidneys will synthesize a hormone called EPO, which stimulates the maturation of red blood cells in your bone marrow.

So, the benefits of high-intensity exercise and also incorporating breath-holding into walking, for instance, will lead to improved oxygen-carrying capacity in red blood cells. We've heard of many athletes who have to do this unethically and illegally. But we should really tap into our body’s natural resource, because our body has everything that we need, if we know how to guide it."

Exercises to Reverse Your Mouthbreathing

Fortunately, it's actually quite easy to address mouth breathing. Simply take a small gentle breath in through your nose, and a small gentle breath out through your nose. Then, hold your nose while gently nodding your head up and down; holding your breath for as long as possible. Then, release your nose to breathe through your nose again. Wait for about 30 seconds to a minute, and then repeat the exercise.

"If you hold your breath or do that exercise about six times, you will start experiencing nasal decongestion. When breathing volume is brought toward normal, the nose will remain free of congestion," Patrick explains.

Keep in mind that while it is a perfectly safe exercise for the vast majority of people, if you have any cardiac complaints, such
as high blood pressure, are pregnant, have type 1 diabetes or experience panic attacks, then please do not hold your breath beyond the first urges to breathe.

A useful tool with Buteyko breathing is a simple concept called the control pause. The control pause provides feedback about your relative breathing volume. To obtain an accurate measurement, please rest for 10 minutes before measuring.

1. Take a small, silent breath in through your nose and allow a small silent breath out through your nose.

2. Hold your nose with your fingers to prevent air from entering your lungs.

3. Count the number of seconds until you feel the first definite desire to breathe.

4. At the first definite desire to breathe in, you may also feel the first involuntary movements of your breathing muscles. Your tummy may jerk and the area around your neck may contract.

5. Your inhalation at the end of the breath should be calm.

6. Release your nose and breathe in through it.

Remember that taking your control pause entails holding your breath only until you feel the first involuntary movements of your breathing muscles, or the first stress of your body telling you to "breathe." If you had to take a big breath at the end of the breath hold, then you held your breath for too long.

A very good control pause amounts to 40 seconds, and a good control pause amounts to 30 seconds. A control pause of 25 seconds indicates room for improvement, while a control pause of 15 seconds or less is indicative of symptoms such as respiratory complaints (asthma, wheezing, coughing, chest tightness or nasal problems), sleep disordered breathing (insomnia, fatigue, snoring, or obstructive sleep apnea) or anxiety complaints (excessive worrying, high stress levels, poor concentration) or any other condition resulting from chronic overbreathing. The significance of the control pause for asthma is explained in the video below.

The good news is that you will feel better each time your control pause increases by five seconds, and the first step to increase your control pause is to learn to breathe through your nose both day and night.
My Experience With Buteyko Breathing

I don’t believe I was a mouth-breather during normal activities, but during high-intensity exercise I was hyperventilating to the max through an open mouth. It was my perception that this was the best way to maximize my oxygen intake. But my perception and understanding of reality was dead wrong.

However, after reacquainting myself with the Buteyko Method, I gradually began trying to keep my mouth closed during my Peak Fitness exercises. I currently do six repetitions of these high-intensity exercises. It’s pretty easy to do the first two, but after that it becomes progressively more difficult. I actually surprised myself because I tried this method three or four years ago on the recommendation of John Douillard, an athlete who promotes this type of breathing. At the time I abandoned it, thinking it was simply too difficult.

But now, with an improved appreciation of the importance of this technique, I gave it another try and decided I would build up gradually. So with some persistence and over a matter of a month or so, I was actually able to complete all of my Peak 6 exercises, with my heart rate well above my calculate maximum of 162, with my mouth closed. Previously I thought this would be impossible for me to ever achieve. I have been doing this for several months now and can very comfortably breathe through my nose and not feel I am gasping for air. It really was a very remarkable improvement from my perspective and I am very glad that I tried it again and persisted.

I did notice initially however that my nose would get runny. I had to blow my nose when done. But eventually I reached a point where the runny nose and the need to blow my nose completely vanished, and I was simply breathing easier. Again, doing the exercise to unblock your nose (above) will help to get over this congestion.

“I think it's wonderful for athletes to look at their breathing volume. Really, what we want to do is we work to have an athlete breathing normally during rest, because how you breathe during physical exercise has got to be related to how you breathe during rest,” Patrick says.

“If you have an individual who's having heavy breathing during rest, they're also going to breathe heavy and proportional to the exercise that they're doing. Now, Dr. Buteyko, he developed a breath-hold test called the control pause. Basically, it's a measurement of how long you can hold your breath comfortably following an exhalation.

The person takes up a small amount in through their nose, a small breath out, they hold their breath, and they let go when they feel the first involuntary movements of their breathing muscles, or the first stress of the body to say 'Take in a breath.' When you release, you breathe in through your nose. And your breathing should be relatively calm.”

Anyone who is able to walk at a reasonably fast pace is able to exercise with their mouth closed, according to Patrick. However, for those individuals who are quite breathless during their normal exercise, are pregnant, or have any cardiovascular complaint, it is recommended to go easy and to slow down the pace in order to maintain nasal breathing. During physical exercise, the rule of thumb is to not push yourself beyond the point that you are unable to maintain nasal breathing. If you feel the need to open your mouth, then slow down and recover.

Breathing Exercise to Quell Panic Attacks and Anxiety

Another breathing exercise that can help if you're experiencing anxiety or panic attacks, or if you feel very stressed and your mind can't stop racing is the following: Take a small breath into your nose; a small breath out; hold your breath for five seconds, then let go and breathe normally for 10 seconds. Repeat the sequence: Small breath in through your nose; small breath out; hold your breath for five seconds, then let go and breathe normally for 10 seconds. This sequence helps retain and gently accumulate carbon dioxide, leading to calmer breathing and reduces anxiety. In other words, the urge to breathe will decline as you go into a more relaxed state.

How Do You Know When You're Breathing Correctly?

Place one hand on your chest and your other hand just above your navel, to tune into how your body behaves when you’re breathing. Then, gently slow down your breathing, diminishing the size of each breath as you go along. Patrick explains:

“The breath in is slightly smaller and the breath out is gentle and relaxed. The purpose here is to just gently bring your body into the parasympathetic nervous system, where relaxation responds, to allow breathing to just gently reduce, not to deliberately interfere with your breaths, not to hold the breath, but just to make breathing softer.

The objective is that either you're tuned in to the rate and the rhythm of the breath and you make it less than what it was before you started, or you bring a feeling of relaxation. As you bring a feeling of relaxation to your body, your breathing diminishes.

I would like you to go to the point that you feel a tolerable need for air. The crucial thing here is to develop an air...
hunger, [which] simply means that there’s a slight accumulation of carbon dioxide in your blood [which sends a signal to your brain saying 'breathe']. Now, when you have an air hunger for about three or four minutes, you will start experiencing the effects of an accumulation of CO2:

1. Keep an eye on your body temperature. You’ll often find that your hands are warmer. Your face may be warmer. Your body may be warmer.
2. Your eyes may go slightly glassy.
3. Your nose may run a little bit.
4. You may have increased saliva in your mouth—a sign that the parasympathetic nervous system has been activated.

The Buteyko method is about bringing your breathing volume toward normal, which helps neutralize the effects of stress. The more you practice bringing your breathing volume toward normal, the more the respiratory center within your brain becomes programmed to maintain this normal rate of breathing—even during exercise.

Breath-Hold Time as a Measure of Breathlessness

Dr. Buteyko was one of several scientists to evaluate and use breath-hold time as a measurement of breathlessness. According to Patrick, a couple of studies involving patients with cystic fibrosis and asthma showed that the lower your breath-hold time, i.e. the amount of time you can hold your breath during the exercise taught above, the heavier you breathe in general. As it relates to exercise, increasing your breath-hold time by practicing the Buteyko Method will help improve your fitness.

In the beginning, it’s normal to feel a bit “suffocated” when you exercise with your mouth closed. The effect is heightened during high intensity exercise, since your breathing volume increases to near maximum. However, Patrick points out, metabolically you now generate more CO2, and once there’s a match between your production of CO2 and your breathing volume (which comes with practice), everything will work and feel fine.

Why Light Breathing is Good for Your Health

Compared to an average untrained person, an athlete will breathe much lighter during a bout of exercise. Furthermore, normal breathing volume in any medical textbook is between four, six, or seven liters of air per minute, which translates into 12-14 breaths. Clinical trials involving asthmatics show they breathe between 10-15 liters of air per minute and people with chronic heart disease tend to breathe between 15-18 liters of air per minute.

“When you think about this, this means that light breathing is good,” Patrick says. “So, an individual sitting down is going to have light breathing when they’re relatively healthy. An individual, who may be not feeling well, has different complaints or conditions, breathes heavily.”

Part and parcel of this is your tolerance to carbon dioxide. According to Patrick, when your body and brain have a normal tolerance of CO2, your breathing will be light and smooth as your body is not constantly trying to get rid of too much CO2. Contrary to popular belief, the primary stimulant signaling your body to take a breath is not lack of oxygen, rather it is an excess CO2.

“Oxygen only drives your breathing when oxygen levels drop to about 50 percent, and that would be quite an extreme situation. So, your body breathes to get rid of the excess gas, CO2,” he explains.

That said, you always need a certain amount of CO2 for normal functioning. If you have normal CO2, you will have a good tolerance to it, which translates into a higher breath-hold time. Also, when you exercise, your body generates more carbon dioxide, and if you have good tolerance to CO2, your breathing will remain much lower than someone who has a poor tolerance to CO2.

Another Reason Why You Want to Limit the Amount of Air You Breathe

There have been a number of studies that show this type of breathing provides similar benefits to that of altitude training, which has been used by elite athletes for some time now to give them a competitive advantage. The beautiful aspect of Buteyko breathing is that you get very similar benefits without the inconvenience or hassle of traveling to the mountains.

It has become very clear to me in my exploration of optimization of health strategies that one of the keys to living a long healthy life is to avoid excessive use of nutrients. My first exposure to this was with insulin and minimizing sugars and grains to make sure your insulin levels were low. Dr. Ron Rosedale was the physician who helped me to appreciate this concept. He later helped me understand that excessive protein as a nutrient maybe even more deleterious. Unfortunately most of us consume far too much poor quality protein.
The most recent addition to my list of optimized nutrients is the oxygen we consume by breathing. Without it we would be dead in a few minutes, but most of us are unknowingly also overconsuming this nutrient. I know that was certainly true for me prior to applying the Buteyko breathing technique. By lowering your breathing rate, stopping mouth breathing, even while exercising, you will improve your body’s ability to use a smaller amount of oxygen.

This is good because there is a duality to oxygen, and while it is certainly necessary for life, excessive amounts will prematurely accelerate oxidative damage and aging. So the key is to use the absolute least amount that you need and avoid excessive amounts of it. This way you won’t need to rely on your body’s own and even supplemental sources of antioxidants to counteract the damage that excessive oxygen can cause to your tissues.

Additional Information and Resources on Buteyko Breathing

Patrick has written a number of books, including Close Your Mouth: Self help Buteyko manual and Anxiety Free: Stop Worrying and Quieten Your Mind. Besides amazon.com, you can also purchase these and the rest of his books and DVD’s on ButeykoClinic.com. There’s also a children’s website, ButeykoKids.com.

Short courses and practitioner’s lists can also be found on his website. With regards to practitioners, the normal cost for a Buteyko course is about $300-400, so it’s fairly affordable should you need professional coaching.

My biggest disappointment is that I didn’t integrate the Buteyko Method into my own health practice earlier. When looking back, with regards to high-intensity exercise, I clearly experienced some of the side effects of mouth breathing before I incorporated this method. When I did Peak 8, especially the seventh and eighth repetition, I was frequently so hypoxic that I’d almost pass out.

For everything – if you’re interested in athletics or, more importantly, if you’re improving the longevity and the quality of your life, sleep apnea or anxiety, the Buteyko Breathing Method is a powerful and inexpensive tool. I strongly recommend you consider integrating it into your lifestyle and when you’re ready, into your exercise. Just remember to progress slowly with exercise and gradually decrease the time that you need to rely on mouth breathing.