



## Nutrition and Wellness

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## Take a Shallow Breath and Relax

### The Yin and Yang of Buteyko Breathing

Hyperventilation is the cause of asthma and many other chronic conditions. This is the hypothesis of the late Konstantin Buteyko, the Russian physician who questioned long-held concepts of respiration. He created a training method that teaches people how to breathe in a way that improves health. It took many years, but it's now gaining ground and being taught around the world. It's worth a peek.

What is more fundamental than our breath? The character for “*qi*” has many meanings, among them *air* or *breath*. I can remember seeing a sign in Beijing. The sign had one character – *qi*. Under it, people were filling up their bicycle tires with air from a compressor. “*Qi gong*” is the umbrella term for practices cultivating *qi*, with breathing practices being prominent amongst them. *Pranayama* is the Indian practice of cultivation of breath, or *qi*. Tibetans also have cultivated breathing practices.

Western science is seemingly AWOL on such science. In 1998, the editor of the *New England Journal of Medicine* stated in the December issue of *The New Republic*, “Your health determines how you breathe, but how you breathe has no effect on your state of health.” Asthma – an increasing scourge on our population – seems to have no known cause and the treatments are not helping people beyond crisis intervention. Perhaps a new look at the mechanisms of respiration would be prudent. Over the years, I have heard of a method of breathing exercises that help asthmatics and others who suffer from respiratory illness quite profoundly.

Dr. Buteyko, a professor of medicine in Russia in the mid-1940s, began to develop his theory that illness derives from hyperventilation or too much breathing. This seemingly crazy idea, when examined, becomes absolutely astounding in its elegance and simplicity.

Our common understanding is that O<sub>2</sub> is our nourishment and CO<sub>2</sub> is our waste. The more O<sub>2</sub> the better. This is how respiratory illness and cardiac failure are treated in the ER. Interestingly, new research is discovering that people who come into the ER in cardiac arrest do better if brought back slowly, chilled and kept in low O<sub>2</sub> conditions, rather than standard CPR with immediate O<sub>2</sub> therapy.

Now, consider using *yin/yang* theory at how we might look at O<sub>2</sub> and CO<sub>2</sub>. Perhaps they work in concert, balancing each other. This is what Buteyko began to observe and realize. He found the more one breathes, the more CO<sub>2</sub> is lost. CO<sub>2</sub> actually is needed for the cells to take up O<sub>2</sub> from hemoglobin. Without enough CO<sub>2</sub>, the cells could not get the O<sub>2</sub> they need. Buteyko believed most humans breathe too much, hence lowering CO<sub>2</sub> and causing an imbalance. When this happens chronically, it creates illness.

Consider the other established roles of CO<sub>2</sub> in metabolism:

- A buffer, regulating pH in the blood.
- Regulates smooth muscle dilation. Not enough CO<sub>2</sub> will cause smooth muscle such as in the respiratory tract, digestive tract and blood vessels, to constrict. Mechanisms for explaining asthma, migraine, myocardial infarction, varicose veins and hemorrhoids.
- Nervous system regulation.
- Cardiovascular regulation.
- Digestive regulation.

When one considers the fundamental role of CO<sub>2</sub> in our metabolism, the conclusion that proper breathing profoundly affects our health becomes axiomatic.

Teresa Hale, founder of the Hale Clinic in London, is now a major proponent of the Buteyko method. She calls it the Breath Connection. The Hale clinic and other clinics in Australia and Russia have amassed enough data to intrigue even the most skeptical of scientists. The method is simple.

Begin with a simple test that estimates whether one is hyperventilating. Sit in a chair and breathe normally. With a stopwatch, hold the nose and close the mouth at any point in the cycle. Don't take an extra big breath first; just stop breathing during the course of normal breathing. Watch how long you can hold your breath without too much exertion. Don't force it to the bitter end. This means that when you are done, you should be able to recover quite easily without heavy breathing. This test is called the Control Pause.

The ideal is 60 seconds. Healthy is 40 seconds or more. Treatment is necessary under 30 seconds. Divide 60 seconds by the result to come up with how many people for whom you are breathing. For example, someone who holds for 30 seconds is breathing for two people – 60/30. That is like eating enough for two people. We are concerned with how much we eat and how much light from the sun we receive. We should equally be concerned with how much air we breathe. The counterintuitive part is to realize the problem really is too much air.

If you doubt deep breathing is not good for us, try this (only if you don't have respiratory illness or epilepsy): Take big, deep rapid breaths through the mouth. Continue and notice what happens. Perhaps you might experience headache, dizziness, nausea, coughing, feeling faint or worse. Stop before any symptom gets severe.

Buteyko believes these symptoms happen because deep breathing creates a deficiency in CO<sub>2</sub>. To recover, simply breathe shallowly and slowly through the nose and close the mouth. The O<sub>2</sub> and CO<sub>2</sub> will soon become balanced again. The trick is to breathe with as little volume per breath as possible. Don't worry about rate, just volume. The rate will naturalize by itself. Breathing through the nose and taking in small volume is called shallow breathing and is the main practice in concert with taking the pulse rate and doing the control pause. Basically, you can train yourself to become accustomed to smaller volumes of air, thus stopping the chronic hyperventilation.

Hyperventilation causes CO<sub>2</sub> levels to decrease, which leads to smooth muscles, including bronchial tubes, constricting. The natural response to CO<sub>2</sub> depletion is to shut down the pathway for its loss. The person experiences this as difficulty in breathing. Orthodox medicine will treat by dilating the airways, thus causing more hyperventilation.

Crisis management yes, but it's the opposite of what will be the long-term cure. Those who have tried the Buteyko method can experience enough change in a number of days to begin to reduce medications. (This is not a medical recommendation. Please consult a physician before changing medications.)

Of course, there are critics. Buteyko himself struggled to gain credibility for many years before the Soviet system began to take notice. Eventually, it became a credible treatment method within Russia. Westerners treated by this method took it to the U.K. and Australia. The results of trials were not without controversy. However, in all of the trials, reductions in medications, both beta-agonist and steroids, were dramatic.

The criticism was in the lack of measurable lung-function improvement. In some trials, there was interference in subjective reporting on quality-of-life indicators. That notwithstanding, if any drug achieved the same results the breathing method achieved, it would be celebrated. Needless to say, a method that is cheap, self-administered and without surgery or drugs should be pursued rigorously. It's clear the method caused no harm.

What makes this method so appealing to me, as an acupuncturist, is how beautifully it ties into classical Chinese medicine. The *yin* and *yang* of O<sub>2</sub> and CO<sub>2</sub> is right out of the *Tao Te Ching*. Exhaling and inhaling are inseparable. One is not waste while the other is nourishment. The Buteyko method is a form of *qi gong* or *pranayama*. I encourage an examination into this potentially groundbreaking practice.



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