

Rolfing and the Buteyko Breathing Method

By Robert Litman and Helen Luce

The premise of this article demonstrates that true respiratory health facilitates structural change. As breathing rhythms return to their adaptable nature structural changes of the connective tissue are easier to affect, reducing effort on the part of the Rolfer.

Adaptable, fluid breathing rhythms facilitate both a balance of the respiratory gases and a responsive, relaxed body.

The Buteyko Method evolved from the scientific principle discovered in 1904 by Christian Bohr and became known as the Bohr Effect. This principle states that when levels of carbon dioxide in the blood become too low due to chronic over breathing, blood pH becomes too alkaline (known as Respiratory Alkalosis) causing the distribution of oxygen from the hemoglobin in the red blood cells to the tissue cells to slow down. As a result, the cells of the tissue switch from aerobic respiration to anaerobic respiration and lactic acid build-up begins, causing tissue acidity - also known as Metabolic Acidosis.

As respiratory gases become unbalanced our organisms operate on survival circuits due to a decrease in the flow of oxygen from the blood to the cells. This response causes deep organ distress and deterioration.

Let's take a look at how this works. The three primary respiratory gases that need balanced proportions within the organism are nitrogen, oxygen and carbon dioxide. Most people assume that the need for oxygen drives the breathing rate and that when we feel we cannot get enough air we need to breathe more deeply. In actuality, carbon dioxide drives both the rate and depth of breathing. Carbon dioxide, often labeled as a waste gas, is actually a hormone, performing many regulatory processes in the body. In the "old paradigm" thinking, that CO₂ is a waste gas, it is then mistakenly perceived as something to get rid of - hence the frequently heard exhortations, "IN with the good (on inhalation) and OUT with the bad!" (on exhalation) and, "Take a BIG breath in through the nose and then blow it all out your mouth!"

These instructions are dangerous. They invite people to release more CO₂ than the body intended. Think about someone terrified of public speaking as they stand behind a podium. You might see them hyperventilating to the point that they begin to feel as if they might faint. If you know the old folk remedy, you will rush up with a paper bag and instruct them to breathe in and out into it and soon they will start to feel better. What do you suppose happens? This person breathing in their own carbon dioxide regains consciousness as CO₂ levels return to normal, causing an increase in oxygen distribution into the brain, clearly demonstrating the Bohr Effect.

CO₂ IS also a poison, however. The respiratory center of the brain always monitors CO₂ to keep levels steady. It does this by setting the respiratory set point (rate and depth of breathing) in the brain stem. When more CO₂ is needed to be released it increases the rate of breathing, when less CO₂ is needed our breathing slows down. Our bodies self-regulate these amounts properly if our breathing habits do not interrupt this process. Unfortunately we all have developed survival skills, which can limit the range of responsiveness in breathing leading to a compression of structure. Since the tissues will not move, the brain accommodates by limiting respiration. Here we are able to see the negative feedback loop: compressed structure-reduced respiratory adaptability-less breath-reduced requirement for adaptable tissue. Breathing rate locks into a very specific and non-variable frequency.

This way of thinking alters the paradigm from symptoms causing breathing difficulties to stress disrupting breathing and producing symptoms. Dr. Buteyko revealed over 150 diseases that are breathing related. His scientific research validated this hypothesis and his method was accepted into the Russian medical system, becoming part of hospital protocols. In this scientifically-based paradigm, shifting a person's breathing patterns can ameliorate symptoms and alleviate the need for medications.

The most essential point that Buteyko makes regarding learning to breathe for optimal health is that ONLY the nose is used, both in inhalation and exhalation, whenever possible. We also stress the importance of pacing your daily activity so that you can breathe through your nose most of the time. "Fight or Flight" circumstances and moments of sudden excitement are exceptions to this rule.

Mouth-breathing triggers the sympathetic response for "fight and flight". Nose breathing regulates the nervous system to balance the parasympathetic ("rest and settle") with the sympathetic so that the organism spends more time settled and rested. This allows more sustainable resources in handling the stresses of everyday life. We develop a more responsive attitude to stress rather than a reactive one. Mouth breathing, which keeps the nervous system in a high state of activation, then translates into a state of anxiety in our organism. We are capable then, of inducing our own anxiety by the way we breathe! There are some forms of exercise, i.e. yoga, Pilates, etc. that use mouth breathing to create specific results, and these are also exceptions to the rule. Nose breathing, with its numerous positive physiological benefits therefore becomes a mandate for everyday living. (See side bar for Reasons to Nose Breathe)

By teaching the client to understand the science and art of breathing, we empower the client to permanently self-correct their breathing style. As blood chemistry is balanced mutability and adaptability return, oxygenation of the body's tissues returns and fluidity of movement once again becomes possible. This is the interface of Rolwing and the Buteyko Method. Rolwing

prepares the body to accommodate the various changes in air volume that represent healthy breathing which in turn facilitates deeper structural change due to the increase in tissue oxygenation which practicing the principles of Buteyko makes available.

The implication for Rolfing goes deeper. Carbon dioxide in its role as a hormone (regulating oxygen distribution from the red blood cells to tissue cells and mitochondria) also dilates smooth muscle. It relaxes the breathing airways and the vessels of the circulatory system, as well as the connective tissue. The recent discoveries that smooth muscle cells populate within the connective tissue has implications in the pliability of the CT as well as the ability of Rolfing to effect change.

As connective tissue moves into a more receptive and relaxed state due to the dilating effect of Carbon Dioxide, the Rolfer finds the tissue more responsive and easier to effect change upon. Wow, if breathing prepared the tissue for Rolfing, imagine how much less stressed you would work and the ease on your bodies.