

Breathing into Balance by Patty de Llosa

We've discovered that breathing more deeply helps us center ourselves, but did you know why? A friend recently emailed me an article by Dr. Shawna Darou, ND in the 11/30/15 issue of UPLIFT magazine (<http://upliftconnect.com>), on the mechanics of how it works. Included are exercises that can help us reduce inflammation in the body, as well as jack up a flagging immune system. The secret is to activate the Vagus nerve, which travels all the way from the brain to the digestive system, operating via the parasympathetic nervous system. So if you or someone you know complains of digestive disturbances, high blood pressure, depression or some inflammatory condition, don't miss the following information I've copied from her article.

What is the vagus nerve?

First of all, the vagus nerve is the longest nerve in the body, which originates in the brain as cranial nerve ten, travels down from the neck and then passes around the digestive system, liver, spleen, pancreas, heart and lungs. This nerve is a major player in the parasympathetic nervous system, which is the 'rest and digest' part (opposite to the sympathetic nervous system which is 'fight or flight').

Vagal tone

The tone of the vagus nerve is key to activating the parasympathetic nervous system. Vagal tone is measured by tracking your heart-rate alongside your breathing rate. Your heart-rate speeds up a little when you breathe in, and slows down a little when you breathe out. The bigger the difference between your inhalation heart-rate and your exhalation heart-rate, the higher your vagal tone. Higher vagal tone means that your body can relax faster after stress.

What is high vagal tone associated with?

High vagal tone improves the function of many body systems, causing better blood sugar regulation, reduced risk of stroke and cardiovascular disease, lower blood pressure, improved digestion via better production of stomach basic and digestive enzymes, and reduced migraines. Higher vagal tone is also associated with better mood, less anxiety and more stress resilience.

One of the most interesting roles of the vagus nerve is that it essentially reads the gut microbiome and initiates a response to modulate inflammation based on whether or not it detects pathogenic versus non-pathogenic organisms. In this way, the gut microbiome can have an affect on your mood, stress levels and overall inflammation.

What is low vagal tone associated with?

Low vagal tone is associated with cardiovascular conditions and strokes, depression, diabetes, chronic fatigue syndrome, cognitive impairment, and much higher rates of inflammatory conditions. Inflammatory conditions include all autoimmune diseases (rheumatoid arthritis, inflammatory bowel disease, endometriosis, autoimmune thyroid conditions, lupus and more).

Breathing exercises are a great way to tone your vagus nerve.

How do we increase vagal tone?

In the article above, vagal tone was increased through a device that stimulated the vagus nerve. The good news is that you have access to this on your own, but it does require regular practice. To some degree, you are genetically predisposed to varying levels of vagal tone, but this still doesn't mean that you can't change it. Here are some ways to tone the vagus nerve:

- Slow, rhythmic, diaphragmatic breathing. Breathing from your diaphragm, rather than shallowly from the top of the lungs stimulates and tones the vagus nerve.
- Humming. Since the vagus nerve is connected to the vocal cords, humming mechanically stimulates it. You can hum a song, or even better repeat the sound 'OM.'
- Speaking. Similarly speaking is helpful for vagal tone, due to the connection to the vocal cords.
- Washing your face with cold water. The mechanism here is not known, but cold water on your face stimulates the vagus nerve.
- Meditation, especially loving kindness meditation, which promotes feelings of goodwill towards yourself and others. A 2010 study by Barbara Fredrickson and Bethany Kik found that increasing positive emotions led to increased social closeness, and an improvement in vagal tone.
- Balancing the gut microbiome. The presence of healthy bacteria in the gut creates a positive feedback loop through the vagus nerve, increasing its tone.

Managing the body's inflammatory response

The implications of such simple and basic practices on your overall health, and in particular on inflammation are far-reaching. If you suffer from an inflammatory condition, digestive upset, high blood pressure or depression, a closer look at vagal tone is highly recommended. We've known for years that breathing exercises and meditation are helpful for our health, but it is so fascinating to learn the mechanism by which they work.