What happens in Vagus...

As a holistic practitioner you never really want to play favorites, but admittedly I have a favorite nerve. It is a nerve that most people have never heard of but it may play one of the most central roles in your quality of life and is critical to understand for those looking to bio-hack into the very foundation of their physiology. My favorite nerve is the vagus nerve, also known as the pneumogastric nerve. The vagus nerve is the longest nerve in the body and the master controller of our immune cells, organs, and stem cells.

In Greek, the word vagus means wanderer and as you will learn in this short article, it certainly lives up to its name. In this bio-hack blog post I’m going to share my favorite reasons to hack into the intelligence of this amazing nerve. As the name implies, the vagus nerve travels throughout the body. It originates as cranial nerve ten (CNX) in the brain and then travels down the front of the neck enveloping the digestive system, visceral organs, the heart and the lungs. It covers an incredible surface area and carries very important messages along its neuronal superhighway.

The tone of the vagus nerve is critical in activating the parasympathetic nervous system (PNS) also known as the “rest and digest” system. The PNS is the polar opposite of the fight or flight system (sympathetic nervous system). When stimulated, the vagus nerve produces many incredible health benefits that are critical for the digestive, cardiovascular, neurological, reproductive system, and repair mechanisms of the body.

Here are my 5 favorite features of the vagus nerve

The vagus nerve increases stomach acid and digestive enzyme production so you can effectively digest all the protein, carbs, and fats that you are consuming in your diet. Cutting the vagus nerve was once considered a treatment for acid reflux and stomach ulcers. Since the goal was to lower stomach acid and the vagus nerve is responsible for carrying the message, doctors would simply snip the nerve as a solution. Stimulation of the vagus nerve can increase the production of hydrochloric
acid in the stomach and production of bile by up to 30%. When we make more acid we can digest our proteins more completely and when we increase bile production we digest and absorb fats more effectively. Increased stomach acid also improves methylation and plays a critical role in killing any mold, bacteria, or parasite that tries to call your gut a home. Since the composition of bile acids are mainly toxic metabolites and waste products from the liver, it also means that vagal stimulation can increase detoxification. So instead of taking a bunch of expensive supplements try vagal stimulation to optimize digestion, absorption, and detoxification.

The vagus nerve effectively lowers blood pressure. Despite medication, 30% of people fail to respond to hypertension treatment. Vagus nerve stimulation has been shown to decrease blood pressure, heart rate and breathing rate. Healthy blood pressure depends on healthy vagal nerve tone. When stimulated correctly, the nerve will dramatically lower blood pressure in a very short period of time, with no side effects.

Vagus nerve stimulation can lower depression and improve cognitive function. Depression is a growing concern in developed countries. As depression rates skyrocket and billions are being spent on drugs annually to treat it, vagal stimulation has proven to be extremely effective in treating non-responsive depression. When used in combination with medications the results are even more amazing.

Recently, the scientific community has acknowledged that the gut micro-biome plays a critical role in an organisms overall health. In fact, the vagus nerve reads the micro-biome and initiates a response to modulate inflammation based on whether or not it detects pathogenic versus non pathogenic organisms. Even in the absence of overt inflammation the vagal pathways mediate signals that can induce both anxiogenic (anxiety causing) and anxiolytic (anxiety reducing) effects, depending on the nature of the stimulus. This further illustrates the important role that the gut micro-biome and vagus nerve play on mood.
Vagal stimulation decreases migraines. In a recent study, scientists demonstrated that stimulation of the vagus nerve reduced the frequency of migraine headaches by over 50% as well a marked reduction in epileptic seizures.

The incredible benefits of vagus nerve stimulation seem to be endless and future research will shed more light in the years to come. There should be no doubt in your mind about the amazing contribution that the vagus nerve has to your health and wellness. Ancient forms of medicine such as Ayurveda have known this for thousands of years. To have optimal health, one must also have optimal vagal tone. Now that you understand some of the many benefits of the vagus nerve, let’s look at ways to naturally stimulate the nerve and improve its tone. It should be noted that vagal stimulation can also be performed with a medical implant, but for practical reasons, let’s stick to some natural methods.

Some of the most effective ways to stimulate the vagus nerve and improve vagal tone are at your fingertips. Here are 5 easy ways:

1. **Mindful, slow, rhythmic breathing.** There are many different breathing techniques that can improve vagal tone. Let me share with you a very easy breathing practice. Start by sitting in a comfortable, upright position. You can be seated on the ground with your legs crossed or in a comfortable chair. Sitting upright ensures that your diaphragm can fully contract and your lungs can fully expand. While in this seated position, close your eyes to eliminate distractions. All breathing will be done though your nose. Start by taking a 4 second inhale, followed by a 4 second hold, 4 second exhale, 4 second hold and repeat. I suggest doing this 6-12 times 1-3 times per day. This is a great way to refocus your thoughts, reset your mind, and lower your heart rate and blood pressure.

2. **Humming, yes humming can mechanically stimulate the vagus nerve.** I strongly suggest that my patients hum their favorite tunes instead of singing them. In the car, in the shower, on your way to and from work, when you are stressed out, or when you need to get centered and focused. If you want greater benefits, try humming a mantra or simply repeating the sound “OM”. The beauty of humming is that it does not require that you take any additional time out of your day or away from what you are doing at the moment. This is something that can be done as often as you like.
Humming during meal preparation can increase gastric secretions, lower cortisol levels, and prime your digestive system for the incoming food.

Talk more. Speaking also stimulates the vagus nerve since it is connected to our vocal chords. In today’s world we are more likely to send emails and text messages instead of actually speaking to people. The more human and vocal interactions you have the better your vagal tone will be. Even talking to yourself out loud counts!

Wash your face with cold water. By mechanisms unknown, washing your face with cold water can improve vagal tone as well. When you need an mid-morning or mid-afternoon pick me up, wash your face with cold water to improve vagal tone.

Meditation and Yoga can be very beneficial to one’s health. Both practices provide an excellent form of stress reduction and can increase vagal tone. I always suggest working with a practitioner who understands your goals and your overall health status. A proper assessment can help to determine the type of Yoga and Meditation that is best suited for you. Much like an exercise program, Yoga and mediation may require some customization. This will ensure compliance, consistency, and most importantly results.

What happens in vagus...

...does not stay in vagus! In fact, the benefits of proper vagus nerve activity are widespread. For better health, strive for better vagal tone. Use the tips above and apply them to your daily routine. Soon you will find that your mood, digestion, memory, cognitive function, blood pressure, and many other aspects of your health with starting to improve.

References for studies on the vagus nerve

