

Vagus Nerve

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While researching the vagus nerve I quickly discovered that there is a lot of controversy about how to treat the nerve when it becomes dysfunctional. Some people argue that the nerve needs stimulation while others argue that the nerve needs to be calmed. These theories stem from the belief that vagus nerve disorders are caused by the nerve being under or over active. If the vagus nerve is not functioning properly it can cause a variety of problems in the body. This is because the vagus nerve is directly connected to the brain, heart, intestine, stomach, liver, pancreas, kidney, gallbladder, ureter, spleen, lungs, fertility organs, pharynx, larynx, esophagus, tongue and ears. Thus the name vagus is appropriate because it means wandering in Latin. The wide range of functions the vagus nerve serves is the main part of the parasympathetic nervous system, otherwise known as the state of rest and digest. Alternatively the sympathetic nervous system is known as the fight or flight response.

To help determine how the vagus nerve is functioning one must examine their vagal tone. This is measured by keeping track of your heart and breath rates while inhaling and exhaling. When someone takes a breath in their heart rate speeds up a bit. When they breath out their heart rate slows back down. The less difference between the heart rate when one inhales and exhales, the lower the vagal tone will be. A low vagal tone results in a slower ability to relax after stress. This suggests to me that too high of a vagal tone is what causes people to faint in response to stress.

Communication between the brain and the organs is a key factor regardless of the type of disorder a person may or may not have. There are three main types of communication that are present in the vagus nerve system: communication to the brain from the organs, communication within the brain alone, and communication from the brain to the organs. It is interesting to note that 80 to 90 percent of the communication happening along the vagus nerve is not from the brain, but rather to the brain. This suggests to me that positive thinking and being an overall happy person will only go so far, depending on where the vagus nerve is acting up and how the feedback loop is being perpetuated. However, multiple studies have shown that people that are optimistic and altruistic are healthier in general. A big part of this could be that the vagus nerve helps regulate depression and anxiety in the brain.

On top of having a positive outlook there are many things one can do to benefit their vagus nerve. Again, there is controversy about how you are effecting the vagus nerve when participating in these exercises. For example, some people argue that a certain exercise will stimulate the nerve while others argue that the exercise will calm it. It is possible that stimulation can have a calming effect. I have concluded that rather than focusing on whether you are stimulating or calming the vagus nerve, it is better to simply give the vagus nerve attention. I believe it is important to do so whether your vagus nerve is functioning properly or not.

The method that I found the most effective for benefitting my vagus nerve originated in Tibet thousands of years ago. Begin by taking a seat with your feet flat on the ground. Notice the support from the chair. In particular notice how the chair is supporting your pelvis. Take a deep inhale and exhale saying the sound “Voooooooooooooooooo”. Relax into the chair letting gravity drop and release the pelvic muscles. Repeat as long as necessary. Often only a few breaths are needed before I feel a difference in my homeostasis.

Since the vagus nerve is intimately involved with the functions of the throat and inner ear it makes sense that humming is beneficial for it. In fact singing, chanting and even just speaking in a prosodic way will help the vagus nerve. I do think that consistency is key when trying to reach homeostasis. If someone is having difficulty with their vagus nerve I would suggest that a good first step would be to hum a single note.

Breathing is another easily accessible method for those seeking help with their vagus nerve. Taking deep breaths in and holding them for a few seconds will aid the vagus nerve. This reminds me of how one breathes when they are doing lap swimming. I have often been told that swimming is the most beneficial exercise one can participate in. In addition to the ease it gives to the joints in ones body, maybe it also has something to do with how it affects the parasympathetic nervous system. Flutes can be a wonderful instrument aid if someone does not like to swim and or has a hard time regulating their breathing.

Cold water has been found to trigger the rest and digest state. There is caution to use this method in excess because it is also linked to the sympathetic nervous system. However, it has been found effective when it is just splashed on your face. When I discovered this I though

of using breath, sound, water and temperature all together to amplify the beneficial effects of each. This could be as simple as humming while you are swimming in cold water.

In addition to practicing the above exercises, a mother can help prevent a vagus nerve disorder by being as stress free as possible while her child is in the womb. This is because a child is more likely to have lower vagus nerve activity when the mother was anxious, angry or depressed during the pregnancy. It is also possible that mercury is a culprit for an under active vagus nerve. High levels of mercury are found in sea foods, vaccines, and areas with poor air quality. One can take precautions when they are pregnant by eating less sea foods, administering minimal vaccines, and moving to areas with cleaner air. That being said, we can only control a fraction of our external environment. However, we can have a huge impact on our internal environment by thinking positive thoughts and expressing them with sound. I have been working with infants for years and I have found that singing is one of the best ways to sooth.

Whatever one does to help bring their vagus nerve back into alignment it cannot stay in a functioning state without a healthy supportive community. Our bodies require human interaction to feel safe. As mammals, we did not evolve to take care of ourselves. We evolved to take care of others and for others to take care of us. Our bodies are asking for a community of support. However, forced social engagement is a threat to many people. So it has to be voluntary social engagement. It is true that “we all need a little help from our friends”.

I have experience with two of the main types of vagus disorders. One on a more personal level than the other. For the past two years I have been the care taker of a child who I suspect has an under active vagus nerve. This is because I have seen signs that she is possibly autistic. One of the most obvious symptoms of an autistic person is a rocking of the body backwards and forwards. Dr Stephen Porges suggests that “The frequently observed rocking and swinging behaviors in autistic individuals may reflect a naturally occurring bio-behavioral strategy to stimulate and regulate a vagus system that is not efficiently functioning”. I was always fascinated when she would go into these trances. There is a definite rhythm to this motion as if swaying to music. Another aspect of her behavior that was possibly regulating her

vagus system was her tendency to cover her ears and hum a single note when she heard a loud noise that she did not like. She was the first to teach me to sing with irritating sounds.

I also believe that I have been suffering from an overactive vagus nerve for the past fourteen years. I did not know this possibility before I started to research this topic. I have been misdiagnosed repeatedly. For example, I have a theory that I fainted from over stimulation of my vagus nerve. However, my doctor had a different theory that it was a seizure even though my test results from my EEG came back normal. As a result I am a victim of taking prescription medications that I did not need for years. It has been a long road to have the confidence to push back against western medicine. In particular because my mother prescribed me anything she thought would help “cure” my current ailment. However, I always held on to the inkling of hope that if I found the source that I would no longer need to “fix” anything. I have been prescription free and healthy for over a year now. It is interesting to note that I found my singing voice simultaneously. Researching and writing this paper has encouraged me that I made the right choice.

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