CRANIAL NERVE X: Vagus Nerve

(and how to take care of it)

The word “vagus” means wandering in Latin. This is a very appropriate name, as the vagus nerve is the longest cranial nerve. It runs all the way from the brain stem to part of the colon and carries messages to and from the brain. Through its parasympathetic nervous system involvement, it is believed to play a role in emotion regulation, social connection, and fear response. The vagus nerve has both sensory and motor functions in the body.

Sensory Functions of the Vagus Nerve

The sensory functions of the vagus nerve are divided into two components:

1. **Somatic** components 🡪 These are sensations felt on the **skin** or in the **muscles**.
2. **Visceral** components 🡪These are sensations felt in the **organs** of the body.

Sensory functions of the vagus nerve include:

* providing **somatic sensation** information for the skin behind the ear, the external part of the ear canal, and certain parts of the throat
* supplying **visceral sensation** information for the larynx, esophagus, lungs, trachea, heart, and most of the digestive tract
* playing a small role in the sensation of taste near the root of the tongue

Motor Functions of the Vagus Nerve

Motor functions of the vagus nerve include:

* stimulating muscles in the pharynx, larynx, and the soft palate, which is the fleshy area near the back of the roof of the mouth
* stimulating muscles in the heart, where it helps to **lower resting heart rate**
* stimulating involuntary contractions in the digestive tract, including the esophagus, stomach, and most of the intestines, which **allow food to move** through the tract

Activating Your Vagus Nerve

(try one, many, or all of these techniques on a regular basis)

Humming, Chanting, Singing

Activating the laryngeal muscles, which are located in the back of the throat where the vocal cords are, will help promote vagus nerve activity and tone. The vibrations of humming, chanting, or singing is a free and easy way to influence your nervous system states. Simply pick your favorite tune and you’re ready to go. Or if yoga fits your lifestyle, you can “OM” your way to wellbeing. Notice and enjoy the sensations in your chest, throat, and head.

Slow Deep Diaphragmatic Breathing

The breath is one of the fastest ways to influence our nervous system states. The aim is to move the belly and diaphragm with the breath and to slow down your breathing. Vagus nerve stimulation occurs when the breath is slowed from our typical 10-14 breaths per minute to 5-7 breaths per minute, specifically with quicker inhales and longer exhales. You can achieve this by inhaling a full breath in 3 seconds, hold briefly, and exhale fully to a count of 6 seconds. You can further stimulate the vagus nerve by creating a slight constriction at the back of the throat and creating an “hhh” sound. Breathe in through your nose and breathe out through your mouth as if you are trying to fog a mirror.

Valsalva Maneuver

This complicated name refers to a process of attempting to exhale against a closed airway. You can do this by keeping your mouth closed and pinching your nose while trying to breathe out. This increases the pressure inside of your chest cavity increasing vagal tone.

Diving Reflex

Considered a first-rate vagus nerve stimulation technique, splashing cold water on your face from your lips to your scalp line stimulates the diving reflex. You can also achieve the nervous system cooling effects by placing ice cubes in a ziplock bag and holding the ice against your face and a brief hold of your breath. The diving reflex slows your heart rate, increases blood flow to your brain, reduces anger and relaxes your body. An additional technique that stimulates the diving reflex is to submerge your tongue in liquid. Drink and hold lukewarm water in your mouth sensing the water with your tongue.

Connection

Healthy connections to others, whether this occurs in person, over the phone, or even via texts or social media in our modern world, can initiate regulation of our body and mind and evoke the spirit of playfulness, creativity, or relaxation. You could also try relationship expert, David Snarch’s simple, yet powerful exercise called “hugging until relaxed.” The instructions are to simply stand on your own two feet, place your arms around your partner, focus on yourself, and to quiet yourself way down.

Butterfly

Butterfly tapping, also known as the butterfly hug, is a bilateral stimulation technique that involves tapping your chest in a way that mimics a butterfly flapping its wings. You can do this by crossing your arms across your chest, resting your hands on the opposite forearm. Then alternating sides you’ll tap your hands on your arms in a rhythmic pattern. This technique helps to activate your vagus nerve to help you to feel more relaxed and at ease.

Gargling

The vagus nerve activates the muscles in the back of the throat that allow you to gargle. Gargling contracts these muscles, which activates the vagus nerve and stimulates the gastrointestinal tract. You should gargle long enough and deep enough to make it a bit challenging. A two-second light gargle may be equivalent to using a 2-pound dumbbell to strengthen your arm versus a 10-pound dumbbell. It will not work unless it is more challenging. We recommend 30-60 seconds of gargling twice per day – after brushing teeth in the morning and night is a great opportunity! Do this exercise for several weeks to help strengthen the vagal pathways.

Meditation and Music

Sitting in a calm environment and being still has been shown to improve heart rate variability – a sign that the vagus nerve is engaged and working well. Meditate or listen to classical music or nature sounds. Combine this with deep breathing practices for further stimulation of the vagus nerve, decreasing a fight or flight state, and improvement of heart rate variability.

Essential Oils

Certain essential oils, such as Clove and Lime, have been found to be supportive for our vagus nerve. Topically apply a diluted mixture of Clove and Lime to the area where your vagus nerve is most superficial to your skin. This area is located in the fleshy spot behind each of your earlobes. Oils can be applied twice per day.

Knowing practices for self-care are important. However, it is also important to know how and when to seek out professional therapeutic help. Asking for help can often be the hardest step.

**•** You do not need to walk the healing path alone **•**

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