

# How to Activate Vagus Nerve Pathways Naturally to Promote Authentic Rapport and Wellbeing

By Dorothy Bohntinsky, MA, CCC-SLP, DMin

Thank you for your interest in activating vagus nerve pathways naturally by using a specific kind of nonverbal language (postures, gestures, facial expressions, and vocalizations). These seven pages offer you more information about the theory of Nonverbal Language Integration (NvLI), ending with ways to exercise your vagus nerve directly. Page 4 has a script covering the basics of the theory. Page five has the Progressive Vagus Nerve Exercise for toning the vagus nerve. Page 7 has an illustration of the parts of the body that the vagus nerve serves. However, I hope you will read these first three pages about NvLI before beginning.

NvLI is more than just a ground-breaking theory that explains how certain nonverbal language behaviors that involve the omohyoid muscle in the neck serve as natural maneuvers that activate vagus nerve pathways. This reduces the level of stress so our bodies and minds can be more at ease. More importantly, NvLI provides the “how” – the kinds of nonverbal language maneuvers that can be used voluntarily to exercise this system. My comprehensive career as a speech-language pathologist since 1976 and my personal experiences with loss provided me with the knowledge, skills, expertise, and curiosity to develop this theory and the motivation and ability to share it with you.

## MY CREDENTIALS

I hold a Certificate of Clinical Competence (CCC) in speech-language pathology by the American Speech Language and Hearing Association (ASHA). I have a CA license in speech-language pathology and a CA specialized credential for speech and hearing therapy. Due to the loss of a young teenage child in 2000, I went to a post-graduate school in San Francisco and earned a doctorate of ministry (D.Min.) in 2006. Simultaneously, in 2006, I graduated from an interfaith seminary in Berkeley, CA as was ordained as an interfaith minister. My emphasis was on universal principals of grieving, recovery, resilience, and creativity.

While as a speech-language pathologist (SLP), I provide speech therapy services in California, NvLI is my educational platform for teaching practitioners and the general public (children and adults) worldwide. I provide this training as a mentoring service to practitioners and as a public service. That means this website is intended for all. There are no requests for purchases or donations on this website. However, you can click on Email Me to sign up to share ideas about application and research and stay informed. This is how I can “give back” to my profession.

## DISCLAIMER

My disclaimer is that I am not offering professional wellness advice. The ideas and approaches encompassed within NvLI do not substitute for consulting a physician on all matters of physical or mental health. I am the author of the book, *Nonverbal Language Integration for Exercising Vagus Nerve Pathways: Introducing the Theory and Practice of Enhancing Rapport Naturally through Pragmatics*. While this book is intended for practitioners, it is also being read by the general public. I am also the author of other books as well on Amazon.com. The section in this website, From Loss to Inspiration and Discovery, has a link to my author page. The illustrations that I use for this website are my own paintings or photography. (See Gallery and Location).

## **A HUMBLE THEORY**

While NvLI may seem to work like magic, it is not magical at all. NvLI is more of a humble theory because it exercises voluntarily what the bodies of all mammals do naturally to become calmer and more attentive. It is unpretentious because it is about how natural behaviors involving the omohyoid muscle in the neck activate vagus nerve pathways that return us to feeling safer after immediate perceived threats pass. This process involves the parasympathetic nervous system, which is how fears, worries, and sadness subside. The vagus nerve oversees the parasympathetic nervous system. (Read more under Building Upon the Polyvagal Theory). Vagus means “wandering” in Greek. The vagus nerve goes from the brain stem to the ear and “wanders” down to the reproductive organs. It does not involve the spinal column. (See the illustration on page 7).

## **A LITTLE BACKGROUND**

A little background information is important for understanding how NvLI evolved. In 2018, I discovered that certain postures, gestures, facial expressions, and vocalizations activate the vagus nerve in all mammals, therefore humans. My inspiration came from the invention of the Q Collar, a collar that is preventing concussion in contact sports. It gently compresses the jugular vein in the neck. (Go to Inspired by a Sports Collar for more information and a link to the q30 innovations website). The creation of the Q Collar is based on why woodpeckers and head-butting sheep do not get concussions.

The Q Collar mimicks the function of the omohyoid muscle in all mammals. It is involved in the movements of the yawn, sipping through a straw, and grunting. As an SLP, I knew the omohyoid muscle was involved in voice and the swallow. I knew that the yawn activated the precuneus in the brain for attention, integrating information, imagery for motor planning, and memory. Therefore, I made my own collar. I immediately felt an improved sense of mood, and I concentrated longer when reading.

My curiosity triggered, I set out to solve the mystery of what the omohyoid muscle, yawn, jugular vein compression, and improved mood had in common. Researching the scientific literature and personal experimentation led me to theorize that it is the vagus nerve. I then discovered that specific nonverbal behaviors requiring omohyoid muscle movement activate the vagus nerve. I developed the theory of NvLI after exploring its activation with my grandchildren (ages 4, 6, and 8 at the beginning), family, friends, colleagues, and after sharing it with patients. (Go to How Nonverbal Language Integration Works to learn more about the theory and try out a voluntary yawn.)

In December 2019, due to my grandchildren’s insistence, I published my experiments, literature reviews, findings, and the theory of NvLI, including exercises for many specific behaviors that activate the vagus nerve. This book is called *Nonverbal Language Integration for Exercising Vagus Nerve Pathways: Introducing the Theory and Practice of Enhancing Rapport Naturally through Pragmatics*. While it is available at Amazon.com, all the information you need is here.

In 2020, the COVID-19 pandemic was constantly on the news. It has affected the lives, health, education, occupations, businesses, activities of daily, socialization, and recreational of people worldwide. We are all experiencing greater levels of fear and worry without traditional outlets for rest, relaxation, and socialization due to social distancing. When stress goes on for long periods without relief in sight, our health and overall state of wellness become threatened. I decided to create this website to make NvLI accessible to all as a way to help overcome stress and promote resilience. So, please read on to discover how you can tone your vagus nerve pathways.

## **THE VAGUS BRAKE**

The theory of NvLI shows an interrelationship between the omohyoid muscle, specific nonverbal language behaviors that show dislike, and vagus nerve pathways. The Polyvagal Theory by Stephen Porges, Ph.D. explains how the vagus nerve serves as a brake to lower the sympathetic nervous system's adrenalin production for fleeing or fighting when there is no longer any immediate personal danger. Heart rate goes back to normal and digestion increases. NvLI identifies the natural "pedal" of this brake to be specific nonverbal language behaviors that involve omohyoid muscle innervation. NvLI argues that activation of the omohyoid muscle is integrated with the production of nitric oxide, which is the chemical messenger to the vagus nerve.

The Polyvagal Theory explains the vagus nerve, which puts a brake on stressful reactions so that the autonomic nervous system goes back to the usual state of rest, digest, and social engagement. This is the parasympathetic nervous system, which is important for homeostasis or equilibrium. NvLI identifies this state as authentic rapport; a harmonious relationship within the body, with others, and with oneself.

## **TONING THE VAGUS NERVE**

Healthy bodies and minds are in this balanced state of authentic rapport naturally from infancy to the aged. However, prolonged stress (sympathetic nervous system state of flight or fight) can cause the vagus nerve to lose its tone. This can cause our autonomic nervous systems to become overactive. Blood pressure may rise unnecessarily or remain high (hypertension). Our systems may be overactive in general. Our overall health, wellness, and ability to relate to others and learn can become jeopardized.

The good news is the theory of NvLI explains how it is that the vagus nerve can be exercised and strengthened directly and simply. No special training is needed to master complex concepts or complicated exercises. This is because the exercises involve doing voluntarily what our bodies already do naturally. It does not require any physical endurance; even new-born infants do it naturally. The theory of NvLI and the exercises are applicable and accessible to all because our bodies already activate the vagus nerve many times during the day to reduce levels of stress.

This means that NvLI is a gateway for hope for being able to lessen our worries and fears because we can exercise our vagus nerve pathways voluntarily through these nonverbal language behaviors to improve the tone of the parasympathetic nervous system. We can do this anywhere and anytime to lower the levels of our stress and return to feeling safer. Continued exercise tones this system to maintain greater levels of calmness and positivity during uncertainty.

## **RAPPORT AND WELLBEING**

Remaining calm and positive involves rapport, which is not only important for health and wellness but for problem solving and learning. In this respect, a toned vagus nerve builds resilience. While I cannot say it improves health, my levels of anxiety have greatly resolved after exercising my vagus nerve this way since 2018. I had "white coat anxiety" but now pass my blood pressure test at a medical office. I have also become more relaxed in general and am able to concentrate for longer periods of time. Others have reported similar results.

## **SHARING DUE TO COVID-19**

Due to these unprecedented times caused by COVID-19 and the accompanying stress and anxiety, I have decided to share the basic principles of NvLI and some simple exercises with you through this website. The script and exercises on pages 4 and 5 are intended for all: the general public, clinical practitioners, and educators. My only request is that you try them for yourself first. Then pass on

the information and your findings to your family and friends. I would also appreciate hearing from you. You can click on "Email Me," to stay connected.

### **NO RIGHT OR WRONG WAY. JUST TRY IT.**

Feeling safe is the right of all. I have validated in my book that voluntarily exercising nonverbal language behaviors that stimulate the omohyoid muscle and activate the vagus nerve is a natural way that the body returns to homeostasis and builds resilience. NvLI involves using this natural process as a tool. Therefore everyone has the right to learn about and explore NvLI. Since these stress-reducing maneuvers are what we do naturally already, there is no right or wrong way to do these postures, gestures, or facial expressions. Just try it.

You can use the following script to increase your understanding and share the theory with family, your friends, co-workers or employees. You can do the Progressive Vagus Nerve Activation Exercise alone and lead others in it as well. Feel free to pass it on. However, I would love to hear about your findings and ideas for application or even research. Contact me through Email Me.

### **GENERAL NvLI SCRIPT**

*Have you heard of how our systems go into fight or flight? This has to do with the autonomic nervous system, which is functioning all the time without our awareness. When something disturbing happens, our sympathetic nervous system is activated and our bodies produce adrenalin. That causes us to move into a higher state of stress in preparation for powerful action. If a true danger exists, we will either fight or run away. If there is no immediate threat to our safety, our nervous system is designed to move back into a state of ease. This is the parasympathetic nervous system. At one time it was believed we would only be in one of these two states, that the states were antagonistic of each other. But that has changed.*

*According to the Polyvagal Theory by psychologist Stephen Porges, Ph.D., the sympathetic nervous system does not just involve the fight or flight reactions triggered by adrenalin. It also includes the state of immobilization triggered by the dorsal vagus nerve. This is the action of freezing or being motionless when there is a threat. It is the most primitive reaction and what often happens first.*

*The third system is the parasympathetic nervous system, which is regulated by the ventral vagus nerve. The ventral vagus nerve returns the body and mind to a state of balance for optimal rapport and social engagement by putting a brake on the adrenalin. Instead of one or the other, there needs to be a healthy balance between the sympathetic and parasympathetic nervous systems for social engagement, concentration, focus, healthy imagination, interpersonal communication, and learning. This is called homeostasis or equilibrium.*

*However, when something continues to happen to us over a period of time, our system can get out of balance. The body and mind may begin to spend too much time in the fight or flight states or in the immobilized state due to the dorsal vagus nerve. We may become over reactive (fighting or fleeing) or unable to do much at all (immobilized). The ventral vagus nerve can lose its tone just like muscles do when they are not used.*

*According to speech-language pathologist Dorothy Bohntinsky, D.Min, CCC-SLP, there are certain natural behaviors that actually activate the ventral vagus nerve. This is called the theory of Nonverbal Language Integration. These behaviors involve our nonverbal language behaviors or body language. We move into certain postures, gesture, or make various vocalizations when we experience something challenging but not immediately life threatening. Most of them are misunderstood – like the yawn.*

*Neuroscience has discovered that yawn helps us to re-engage. Instead of it being a sign of boredom, the yawn is actually a natural behavior that stimulates the precuneus. This is area of the brain that promotes attention, focus, memory, motor planning, and reasoning. The yawn requires movement of the omohyoid muscle, which then activates the vagus nerve. Thus, movements that stimulate the omohyoid muscle are activating the vagus nerve.*

*Placing the fingertips on the neck is a natural gesture when we are disturbed but not directly threatened. The omohyoid muscle's movement can be felt just above your collarbone. Practice feeling its movement when you yawn, grunt, or blow through pursed lips. Pay attention to how you feel.*

### **PROGRESSIVE VAGUS NERVE ACTIVATION EXERCISE**

Before doing this exercise, you may want to “measure” your current sensations of stress using a 0-10 scale. The 0 represents no stress and a complete sense of calmness and readiness. The number 10 represents the most extreme sense of stress and feeling highly disrupted. Then rate how you feel after doing this progressive exercise. If you were at 0, do you find you feel even better?

*There are many other natural nonverbal language behaviors that activate the vagus nerve. This exercise combines ten of them. It goes from your toes to the top of your head. Think of how you feel now. Then check in with yourself after doing the exercise. It takes less than two minutes to exercise your vagus nerve this way.*

*Focus on your toes and bring them towards your nose. Imagine you are standing on tiptoe. We must be calm to stretch and reach up for something. Hold the toes-to-the-nose position for a count of ten.*

*Now, bring your focus upwards to your lower belly. Imagine that you are preventing yourself from urinating. This is called a Kegel. We have to be calm when looking for a bathroom. Hold for a count of ten.*

*Bring your focus to your diaphragm. Take a deep breath and then sigh out through pursed lips. Keep the diaphragm still for a count of five. We hold our breath to prepare to fight or run. We let it out and inhale momentarily after everything is all clear*

*Now, bring your attention to your heart. Imagine that you can feel the beat of your heart. Research shows that people who are aware of heartbeats have less stress. Imagine counting ten heartbeats.*

*Pretend one slow long yawn followed by a sigh. The yawn activates the precuneus.*

*Focus on your nose and widen your nostrils while imagining smelling an interesting aroma. Breathe in slowly. The nose truly does “know.”*

*Keep your head facing forward. Move your eyes to the far right and hold for a count of ten. Now, move your eyes to the left and hold for a count of ten. We must remain calm when multitasking, such as looking forward while also glancing to the side to see what is happening. Ideally a yawn follows.*

*Move your attention to just above your nose and between your eyebrows. Hold an inquisitive frown for a count of ten. We must be calm to concentrate on something new that interests us.*

*And now, pretend to sneeze. Notice how you bring your toes towards you nose, do a kegel, tighten your diaphragm, wrinkle you nose, and furrow your brow during the long “ah” followed by release during the short “chew.”*

*Allowing your focus to go to the top of your head, gently pat yourself on the head for having exercised your vagus nerve pathways. This relates to the dive reflex, which protects the brain by preventing slosh.*

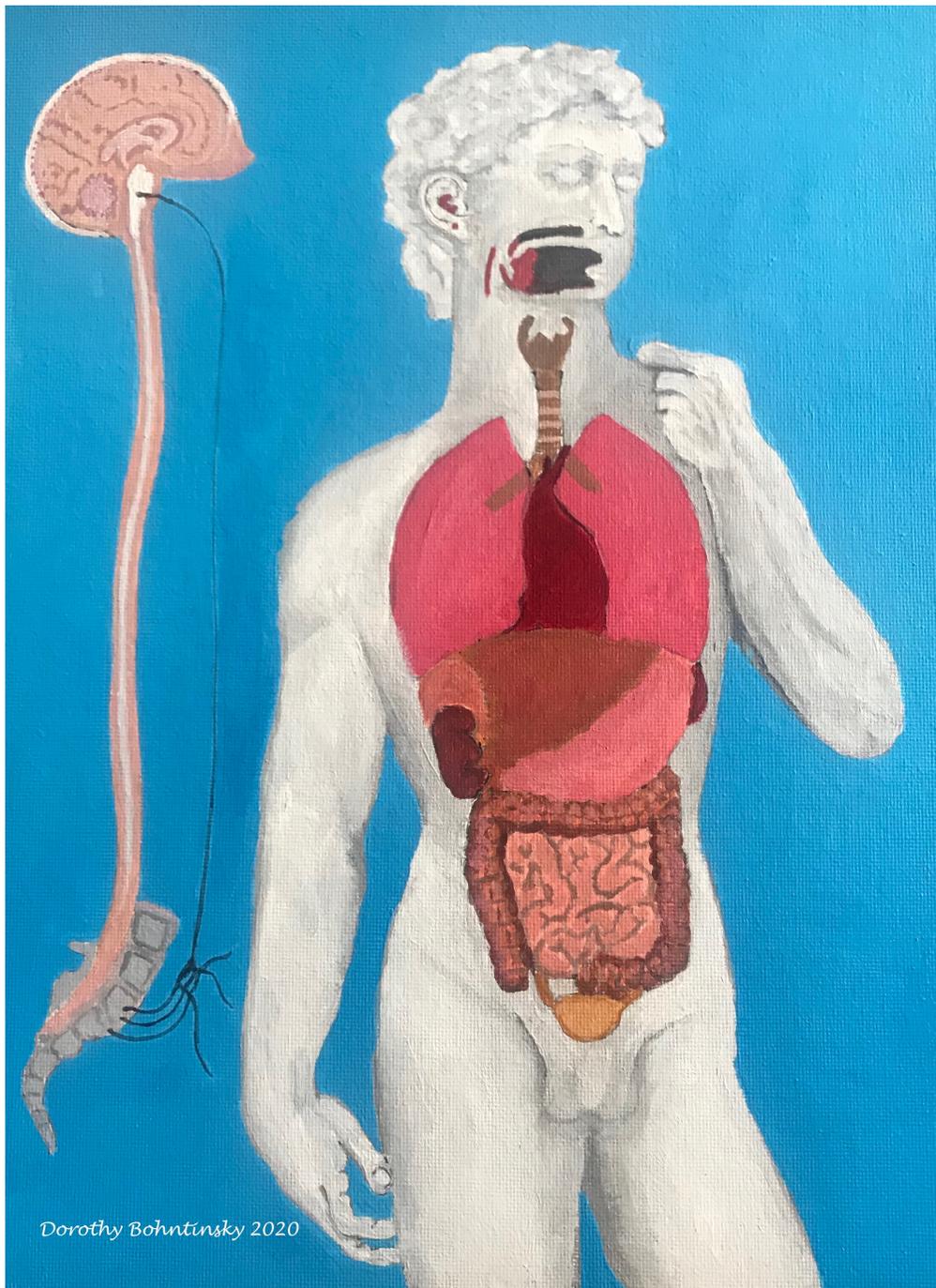
Now how do you feel?

You do not have to do all of these exercises to activate the vagus nerve. Just one does it because it is the activation of the omohyoid muscle that triggers the activation. There are many more behaviors, and even vocalizations, that trigger the vagus nerve as well. These are in my book. However, they are not necessary to know to exercise your vagus nerve.

I suggest that you do the progressive exercise one or twice a day. Then pick your favorite one. Do it throughout the day. Touch your neck and begin to feel the omohyoid muscle activate.

Slowly, you will begin to recognize the habitual nonverbal. actions that you do when startled, disappointed or angered. You will come to realize that they actually help you feel calm in times of stress or when challenged because they actually activate the omohyoid muscle. Many vocalizations under the category of profanity activate the omohyoid muscle. Shrugging the shoulders, bowing the head, closing the eyes tight, twiddling the thumb, clapping the hands, pinching the bridge of the nose, and sniffing are just a few. You will be able to identify more and more behaviors that activate the vagus nerve by becoming aware of the movement of your omohyoid muscle. The next page has a picture of the parts of the body that the vagus nerve activates as part of the parasympathetic nervous system.

## VAGUS NERVE PATHWAYS



*Art copyrighted ©by Dorothy Bohntinsky*

The vagus nerve returns the organs of the body back to the state of rest, digest, socialization, reproduction and engagement in activities of daily living. It originates in the brain stem runs from the ears down to the reproductive organs (comingling with the pelvic nerves). It is 80% sensory and 20% motor. Its motor functions involve the larynx for voice and the swallow. The vagus nerve does not travel in the spinal cord.