

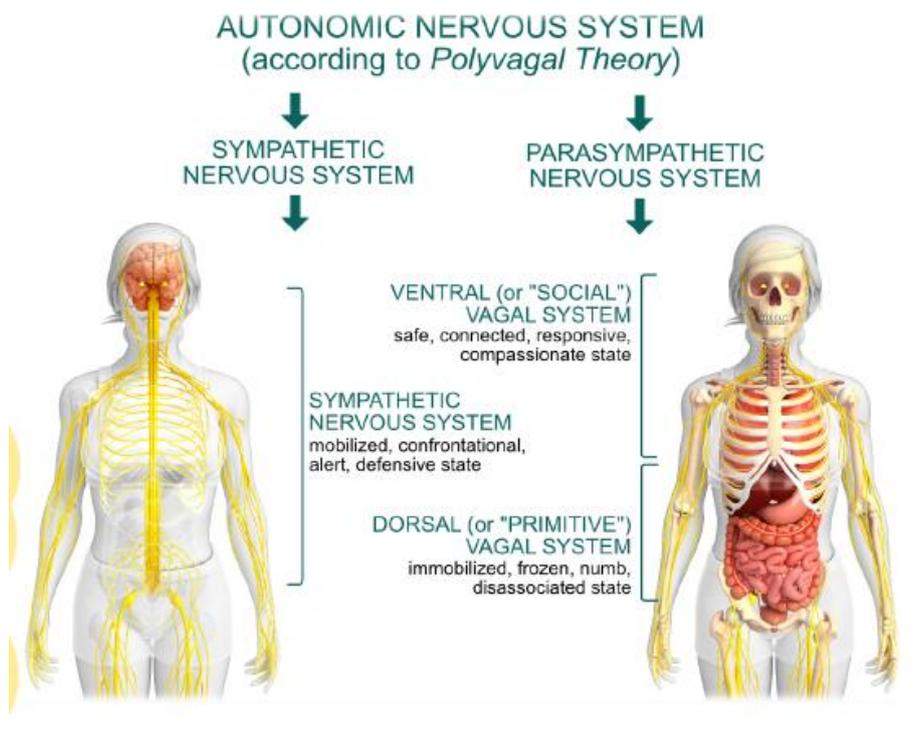
The Polyvagal Theory

What is Vagus Nerve?

The vagus nerve is the primary neural pathway for the parasympathetic nervous system (our rest and digest pathway). It is one of the twelve cranial nerves (skull nerves) responsible for our basic survival, homeostasis, and social engagement.

The vagus nerve (cranial nerve 10) wanders through the body, linking together vital bodily systems and regions (such as, digestive system (stomach, liver, pancreas, small intestine, and gall bladder), respiratory system (lungs and bronchioles), circulatory system (heart, arteries, coronary vessels) and eliminatory system (kidneys, large intestine, and ureters).

Should humans be threatened, i.e., experience a trauma or traumas, this system is triggered to take us out of the ventral vagal system into the sympathetic nervous system, where the body is mobilised to deal with danger. Should the danger continue, and we cannot get out of our situation, then the dorsal vagal system is triggered where we can 'power down', faint, dissociate and/or become numb.



Polyvagal Theory and Survival Hierarchy

Ventral vagal branch of the vagus nerve (mediates safety, healing, relaxation, social engagement, healthy curiosity, intimacy, healthy adventure, freedom)

Spinal sympathetic branch of the nervous system (mediates fight-or flight, mobilisation with fear).

Dorsal vagal branch of the vagus nerve (mediates immobility, shutdown, numbness, frozenness, death feigning, fainting, depressive behaviour, dissociation, flat affect, gaze aversion, monotonic voice).

Humans can get 'stuck' in the sympathetic nervous system or the dorsal vagal system and the exercises below support us to strengthen and stimulate us back into the ventral vagal system i.e., the rest & digest system.

Daily Exercises to Strengthen the Vagus Nerve for Anxiety and Trauma Management

The Basic Exercise:

Test first. Rotate your neck to the right and stop at the point of resistance, rotating your neck as far as it can comfortably go. Notice any strain or pain that may occur. Rotate your neck back to the centre. Now, rotate your head to the left as far as it can comfortably go and notice any pain or strain that you may feel. Notice how far both sides can rotate.

After completing this activity, do the above test again to see if there is any improvement in the range of your neck rotation and in your strain, stiffness, or pain.

Basic Exercise: lie comfortably on your back or sit up with your spine upright and in line with your head. Weave the fingers of both hands together and place them tightly behind the back of your head. You should feel the hardness of the back of your head with your fingers.

Keep your head straight ahead and still in line with your spine. Now moving only your eyes, look to the right as though you are gazing at the tip of your right elbow. Stay in this position for about thirty to sixty seconds until there is a sign of release from the autonomic nervous system in a form of a sigh, yawn, or swallow.

Move your eyes back to looking straight ahead. Now, it's time to do the left side while maintaining a still with weaved fingers tight to the back of your head. Look at the top of your left elbow until you notice a yawn, sigh, or swallow.

Now that you have completed the Basic Exercise, take your hands away from the back of your head and test if there has been any improvement in the mobility of your neck.

Repeat this exercise daily to ensure that you are constantly in ventral dorsal state of healing and social engagement.

Other Ways to Stimulate the Vagus Nerve

Stimulating the Vagus Nerve

Movement: e.g., walking, jogging, yoga, tai chi, and other Eastern disciplines that use bodily movements and co-ordinations. Mindful movements stimulate the vagus.

Breathing exercises: e.g., meditation, mindfulness, and other breathing techniques. The breathing should be deep and slow, and the exhalation longer than the inhalation. Expanding your diaphragm as you inhale and aim for around six breaths per minute.

Good and balanced nutrition: There is a strong connection between the digestive system and the vagus. Eat a balanced diet that include probiotic and prebiotic (also strengthen the immune system and ease depressive symptoms), while cutting down on simple sugar and high-density carbs. Eating fibre stimulates the vagus impulses to the brain.

Laughter: Having a good laugh boosts your mood, strengthens your immune system, and stimulates the vagus nerve.

Singing/chanting: Loud singing activates the vagal break on the heart's pacemaker (sinoatrial node) which triggers a parasympathetic response.

Massage: body/foot/head massage also stimulates the vagus and activates oxytocin which inhibits the release of stress chemicals.

Other ways to stimulate the vagus nerve include playing wind instruments, dancing, cold water face immersion, loud gargling with water, filling the mouth with saliva, positive affirmations, positive social connection, intermittent fasting, prayer, seafood (EPA and DHA), sleep, laying on your right side, acupuncture, sun exposure.

Testing for Ventral Vagal Dysfunction

The Wrist Pulse Test

Track your index finger down to your wrist. Now be mindfully aware of your pulses.

Take a deep breath and pay attention to the time-interval between pulses as you breathe in and out.

Good ventral vagal function requires longer time-intervals between pulses on the outbreaths than on the inbreaths.

The variance in time between the beats should be faster and stronger on the inbreath than on the outbreath.

Doing basic exercise regularly can help restore healthy ventral vagal function.

The Trap Squeeze Test

Squeeze lightly and slowly, using your thumb and your first finger, the muscle on the top of the shoulder (trapezius muscle) on each side.

Compare the tonus of the muscles on both sides. Do they feel the same or is one side harder than the other?

A good ventral vagal state requires both muscles to be reasonably soft and elastic, and not be chronically tense or flaccid.

If one side is harder than the other, this may suggest ventral vagal dysfunction.

Now, squeeze lightly and hold the side that is harder for about 10-20 seconds until you yawn, swallow, or sigh. Basic exercise can also help to restore full vagal functions.

The trap squeeze test is also helpful in neck and shoulder problems (including forward head posture (FHP)) as neck and shoulder muscles (trapezius and sternocleidomastoid) are innervated by the CN XI (spinal accessory nerve)

The trap squeeze test takes a few seconds to complete and is suitable for use on children and people on the autism spectrum.

Extracted from MindBody Breakthrough training on The Power of the Vagus Nerve with Wale Oladipo.

For more information about the polyvagal theory see 'the Pocket Guide to The Polyvagal Theory' by Stephen W. Porges.