



Polyvagal nerve theory

It's not all in the head!

It's a big nerve that brings information from the very ends of our body and all in between back to our brain. Importantly there are more neurons firing in the direction of the brain than downwards toward the body.

Let's see why this is so helpful.

PolyVagal Nerve Theory

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There are two main parts to the vagus nerve:

1. The [Ventral \(front\) Vagus Nerve](#) is the newer part and has developed to help keep our systems calm and conversely to get us moving when needed (to escape danger!).

There are two sub-parts, one is to do with communication, the other goes to the organs especially the heart and digestive organs (the gut). When we are safe our system ticks along comfortably, working in a healthy (hopefully) expanded way. Our muscles are relaxed, we feel calm, digestion of our food can happen, we can think clearly as blood flows to all parts of our body and our breathing is deeper and slower. This is known as the Parasympathetic nervous response.

When danger is perceived we tense up, our heart rate increases, our breathing gets faster and higher up in our chest, blood goes to the parts of our body that will need to respond quickly (and therefore comes away from digestion) as we get ready to run away from the danger or stand and fight the danger.

This is the Fight Flight response and is part of the Sympathetic nervous response. The Ventral vagus nerve has a lot to do with these states of being.

2. Dorsal Vagus Nerve is an old primitive part of our body in evolutionary terms and it's function is immobilisation.

Its main function is for our survival no matter what. This response would have been fantastic to have when the sabre tooth tiger was chasing us and wanted us for its dinner! It kicks in when the ventral vagus system of defense isn't working well enough ie we ran as fast as we could but the tiger was still gaining on us and we were running out of oxygen and energy despite the body doing everything it could to maximize our response. The Dorsal vagus shuts us down... literally! We freeze, play dead. Predators don't like to eat anything already dead. If we are lucky it will go away and hunt elsewhere and we escape being a meal. Survival!

These days we don't have to worry so much about being eaten, but there are still dangers. Some are acute life threatening, others are everyday stresses that keep us on high alert all the time.

Whenever there is trauma our body responds via the Vagus Nerve. A major trauma will action the Dorsal nerve and can look like freeze, collapse (fake death in extreme event) or dissociation.

Most of us have at least some level of Ventral Vagus Nerve activation in dealing with everyday stress, then add on top any trauma (long term and /or a major trauma event) and our body is being always activated into a Sympathetic nervous response. Great for surviving, not so great for the health of our body and our mental and emotional wellbeing or for our relationships with others. If we are always in a heightened state of alert and our bodies are held ready to run fight or freeze then there is less opportunity to relax, digest, be calm, spend time "fire gazing" (activate the parasympathetic system).

Add in the energy that often gets held in the body with a traumatic event when we get stuck in the trauma and our lives get dominated by the effects of this activation on our body. We can often become sick, for example digestive issues are really common. (Remember that when activated ready to flee or fight the blood gets directed to the muscles that need it to run away fast or stand and fight, so our digestion slows rights down. If we are always activated then digestion never gets enough blood to do the job properly. (in very simple terms).

We can help ourselves though:

Right at the start I mentioned that more neurons fire up towards the brain. We can make use of those by learning to become more aware of when our own body is activated ready to fight or flee... or dissociate.

A key way is to calm the activation, **to slow our breathing down** and take air deeper into our lungs. Find a way to consciously slow the breath rate. This might be through exhaling more slowly, breathing exercises, singing or sighing. Another good way is **to say aaaaaah** from high to low tone. Develop skills of **mindfulness and meditation**. **Prayer** also can help to calm our system. Find a way that works for you. As the breath slows, the information goes up all those neurons in the Ventral Vagus nerve to the brain, usually the oldest more primitive part of the brain first, which then controls our behavior/reactions for survival. As the breath slows and calms the system the information can then be sent to the newer part of the brain (the neo-cortex) where we can start thinking again and we can then choose how to behave/respond.

A good mantra is **“stop, notice, slow breathe calm, choose”**.

Another way is to be with someone who is calm, with a safe rhythmic voice who can hold and model a more relaxed state. (this is what we were meant to learn from our Mama's when we were babies, to learn how to self regulate and self sooth). The newer ventral vagus nerve has a lot to do with social communication and control of the face and head muscles so that we could identify danger in and with others and when we could feel safe.

As we gather more information and learn about the events that ramp up and activate our system, then we potentially have more choice in how to manage the situation so that there is an appropriate response for that moment. We can also learn to find ways that allow us to calm or deactivate and self regulate our system so that we can rest and relax, to self sooth. Bring back the “fire gazing” time!

References:

“Polyvagal Solutions for Pain and Trauma: Where Self and Nervous Systems Meet” Dr. Maggie Phillips webinar 2016

“Beyond the brain: how the vagal system holds the secret to treating trauma” webinar with Dr. Ruth Buczynski and Dr. Stephen Porges. www.selfhacked.com 28 ways to stimulate your vagus nerve.