

Polyvagal Theory and Chronic Illness



By Editorial Team March 9, 2022

Dr. Stephen Porges developed his polyvagal theory in 1994. You may already know that the vagus nerve is involved in how we respond to stress. The vagus nerve is the longest and most complex of the nerves running from the brain. This particular nerve connects the brain, face, mid-section, and stomach.^{2,3}

Dr. Porges theorized that there is also a connection between the vagus nerve and how we are able to engage socially.²

Our nervous system has 2 major functions:

- The **sympathetic nervous system** becomes active in times of danger or stress. It creates what is known as the "fight-flight-freeze" response.
- The **parasympathetic nervous system** becomes active in times of safety or rest. It creates what is known as the "rest and digest" response.

As part of his theory, Dr. Porges suggested that in addition to fight, flight, freeze, rest, and digest modes, our vagus nerve also manages a "social engagement system." He believes it is a mixture of the "fight or flight" response and the "rest and digest" response. Polyvagal therapy says that part of the nervous system tells our body how it can or cannot socially engage.²

Dr. Porges proposed that polyvagal theory is one way to explain the pain caused by certain chronic conditions such as fibromyalgia, inflammatory bowel syndrome, and other disorders with pain.^{2,4}

The polyvagal theory is unproven, and some doctors believe there is no evidence to support it. In fact, much of the support for polyvagal theory comes from Dr. Porges himself.⁵

What we do know about the vagus nerve

The vagus nerve is a major part of the parasympathetic nervous system. The vagus nerve affects several parts of the body, such as:^{2,4,6}

- Decreasing our heart rate
- Increasing our breathing rate
- Relaxing our gut so we can digest

Some research has shown that people with chronic illnesses can also have a problem with how well their vagus nerve works. This problem is measured by vagal tone, which is how the vagus nerve is activated.^{4,6}

High tone is considered a normal response. That means the body is good at handling stress. Low tone means the body may not be able to handle stress well. Low vagal tone is seen in people with chronic illnesses.^{4,6}

In the polyvagal theory, there is a dorsal and a ventral vagus branch of this nerve. The dorsal branch is the older branch and is responsible for our "shut down" response plus the traditional "rest and digest." This means in a stress situation, the body may shut down or freeze up.¹

The ventral branch is our "social engagement" branch, or our "safe space."²

Many doctors believe more research is needed to prove or disprove this theory.⁴

What could this mean for chronic illnesses?

Some believe this theory may offer an explanation for why people with chronic illnesses have pain. Polyvagal theory says that being in a chronic state of stress can cause fight or flight, shut down, or changes in our social engagement.^{2,4,6}

This chronic stress may cause long-term changes in the body's normal regulation of things like our pain and digestion. Basically, the theory is that some people who have had trauma in life or lived with high levels of stress for a long time may develop chronic illnesses.^{4,6}

If polyvagal theory is correct, stress management techniques and even drugs used for depression may help people with pain caused by chronic illness.

Common stress management techniques include:

- Developing good sleep habits
- Eating a balanced diet
- Getting enough exercise
- Meditation, yoga, or mindfulness

Dr. Porges believes these things may help improve vagal tone, which may help manage symptoms like chronic pain or bowel issues.^{2,5}

Final advice

Always remember to talk to a trust healthcare professional about any therapies you are curious about. Some non-traditional, complementary, integrative, and alternative options may be appropriate and helpful. However, make your choices based on evidence and with guidance from your healthcare provider.

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