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The Vagus Nerve

Understanding the connection between brain, body and well-being

10 min read



Have you ever noticed your heart beating faster before a difficult conversation, your stomach tightening when something feels uncomfortable, or your breathing slowing as you begin to relax?

Our bodies continuously respond to what happens within us and around us. These responses are part of the complex communication between the brain, the body, and our environment.

One important pathway in this communication is the **vagus nerve**. It plays a significant role in regulating internal organs and carrying information between the brain and the body.

Understanding the vagus nerve can help us appreciate the relationship between bodily processes and our experience of stress, rest, and recovery. It also offers an opportunity to explore how greater body awareness can support our everyday well-being.

What is the vagus nerve?

The vagus nerve is the tenth cranial nerve, also known as cranial nerve X. Its name comes from the Latin word *vagus*, meaning “wandering”, reflecting its extensive pathway through the body.

It originates in the brainstem and travels through the neck and chest, sending branches to several internal organs, including the heart, lungs, and digestive tract.

The vagus nerve is a major component of the **parasympathetic nervous system**, which contributes to the regulation of bodily functions such as heart rate and digestion.

Communication travels in both directions. The vagus nerve carries signals from the brain to organs and sensory information from internal organs back towards the brain. This ongoing exchange helps the brain monitor and respond to changes in the body's internal state.

Its role in cardiovascular regulation is well established: vagal signals influence heart rate and aspects of cardiac function, working alongside the sympathetic nervous system and other regulatory mechanisms.

However, the vagus nerve does not work in isolation, nor is it solely responsible for relaxation, emotional regulation, or our experience of safety. These experiences emerge through interactions among multiple physiological, psychological, and environmental processes.

The body sends information to the brain

One fascinating aspect of the vagus nerve is the direction in which much of its information travels.

Approximately 80% of vagal nerve fibres are commonly described as *afferent*, meaning they carry sensory information from the body towards the brain. The remaining 20% are commonly described as *efferent*, carrying signals from the brain towards the body.

These are approximate, commonly cited proportions. The sensory information comes from several internal organs, including the digestive tract, heart, and lungs — not just the gut.

This means that communication between the brain and body is not simply a one-way process in which the brain issues commands. The brain also receives information about the body's internal state and uses it, alongside information from other sources, to coordinate physiological responses.

This ongoing exchange is one aspect of **interoception** — our capacity to sense and interpret signals arising from within the body.

Interoception contributes to our awareness of sensations such as hunger, fullness, changes in heart rate, and discomfort. These bodily signals can also interact with our emotional experiences, although no single bodily sensation has one fixed emotional meaning.

For Wellness Navigators, this offers an important perspective: becoming more aware of our inner experience means paying attention not only to our thoughts, but also to the sensations and signals arising from our bodies.

By noticing these signals with curiosity, we may become better able to recognize what is happening within us and respond more consciously.

The vagus nerve is one important pathway in this process, alongside other nerves and systems involved in communication between the body and brain.

The autonomic nervous system: adapting to changing demands

The autonomic nervous system helps regulate many bodily functions without requiring conscious effort. It continually adjusts our physiology in response to changing circumstances.

Two of its main branches are the sympathetic and parasympathetic nervous systems.

The sympathetic nervous system

When we encounter a challenge or perceive a threat, the sympathetic nervous system can prepare the body for action. Heart rate may increase, breathing may change, muscles may become tense, and attention may become more focused on the situation.

These responses are not inherently negative. They help us respond to danger, meet demands, and take action when needed.

The parasympathetic nervous system

The parasympathetic nervous system contributes to functions including digestion and the regulation of heart rate. It supports the body's ongoing adjustments during rest, activity, and recovery.

The vagus nerve is an important pathway within this system, particularly in the regulation of cardiac function.

These systems do not simply switch between two opposite states. They interact continuously, adapting to the demands of the moment.

We need activation to meet challenges, and we need opportunities for rest and recovery. Well-being involves the ability to respond to changing circumstances, rather than remaining calm at all times.

Stress, bodily sensations and emotions

Our responses to stress are not purely mental. They involve changes in the body that can influence how we think, feel, and behave.

Imagine that you are preparing for a difficult conversation. You notice your heart beating faster, your shoulders tightening, or a feeling of uneasiness in your stomach.

You might interpret these sensations as signs of anxiety, frustration, or uncertainty. You may feel an urge to defend yourself, withdraw, or prepare for an argument.

Sometimes, these responses arise before we have consciously understood what is happening.

The relationship between bodily sensations, emotions, thoughts, and behaviour is complex and reciprocal. Our physical state can influence our emotional experience, while our thoughts, memories, and interpretations can also influence our bodily responses.

The vagus nerve contributes to communication between the brain and internal organs, but it is only one part of this larger process.

Becoming more aware of bodily signals can help us recognize when we are becoming stressed or overwhelmed and consider what might support us.

This does not mean that every bodily sensation has a specific emotional meaning. Rather, our bodies can offer information that we can explore with curiosity, without immediately jumping to conclusions.

Relationships and co-regulation

Human beings are relational. Our experiences are influenced not only by what happens within us, but also by the people with whom we interact.

A calm voice, attentive listening, a reassuring presence, or the experience of being understood may help us feel more at ease. In contrast, criticism, unpredictability, or conflict can contribute to tension and distress.

Co-regulation describes the ways people influence one another's emotional and physiological states through interaction.

Consider a conversation that becomes difficult. One person may feel overwhelmed and begin speaking defensively. If the other responds with further criticism, the interaction may intensify. If they slow down, listen, and acknowledge what they hear, the conversation may become easier to navigate.

This does not mean that one person can control another person's nervous system or guarantee that someone else will feel safe. Each person has their own experiences, needs, and boundaries.

However, our presence, tone, responsiveness, and behaviour can influence the conditions in which connection and understanding become more possible.

Body awareness: from automatic reactions to conscious responses

Developing awareness of our bodily experience can help us notice when we are becoming activated and create opportunities to respond more intentionally.

For example, during a disagreement, we might notice tension in our shoulders, a racing heart, or an urge to interrupt. Instead of immediately acting on that impulse, we can pause and become curious about what is happening.

◆ WE MIGHT ASK OURSELVES

- ◆ What am I noticing in my body?
- ◆ What emotions am I experiencing?
- ◆ What is important to me in this situation?
- ◆ Would a pause or some support help?
- ◆ How would I like to respond?

These questions do not require us to control our physiological responses. They help us become more attentive to our experience and consider what might be helpful.

Sometimes, this means taking a short break. Sometimes, it means asking for support, moving our body, or returning to a conversation when we feel more able to listen.

The goal is not to eliminate difficult emotions. It is to recognize them, understand our experience, and develop greater flexibility in how we respond.

Everyday practices that may support well-being

Certain everyday practices can support relaxation, body awareness, and general stress management. Their effects vary between individuals, and none should be understood as a guaranteed way to stimulate the vagus nerve or treat a health condition.

1. Notice your breathing

Take a moment to observe your natural breathing. If comfortable, allow your breath to become a little slower and gentler, with an easy, unforced exhalation.

Slow-paced breathing can influence cardiovascular regulation and may help some people feel less stressed. There is no need to force deep breaths or hold your breath. If you feel uncomfortable or light-headed, return to your usual breathing.

2. Pay attention to bodily sensations

Pause and notice what you can feel in your body. Perhaps your shoulders are tense, your stomach feels unsettled, or your hands are warm.

You do not need to interpret these sensations immediately. Simply noticing them can help you become more aware of your internal experience.

You might ask yourself: *What am I noticing right now, and what might help me?*

3. Find a comfortable rhythm of movement

Walking, stretching, dancing, yoga, or other enjoyable forms of movement can support general physical and emotional well-being.

Choose an activity that feels appropriate for your body and circumstances. The intention is to support your overall well-being, not to achieve a particular physiological measurement.

4. Make space for meaningful connection

Spend time with people with whom you feel respected and comfortable. Allow yourself to listen, share, ask for support, and express your boundaries.

Connection does not require agreement on everything. Relationships can also provide opportunities to practise honesty, navigate differences, and repair misunderstandings.

5. Practise pausing before responding

When you notice yourself becoming emotionally activated, consider whether you need a moment before continuing.

You might feel your feet on the ground, look around the room, take a comfortable breath, or ask for a short break.

A pause will not necessarily resolve the difficulty, but it can create space to choose your next step.

The Wellness Navigators perspective

At Wellness Navigators, understanding the vagus nerve is part of a wider exploration of how we navigate our inner experiences and our relationships.

Our bodies, emotions, thoughts, and social environments are interconnected. By becoming more aware of these connections, we can develop a more compassionate understanding of our responses and discover new ways to meet life's challenges.

The vagus nerve offers an important example of communication between the brain and the body. It reminds us that our experience is not only something we think about; it is also something we live through our bodies.

We cannot always choose what we feel or how our bodies initially respond. We can, however, gradually learn to listen to our experience, understand what matters to us, and respond with greater awareness and care.



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