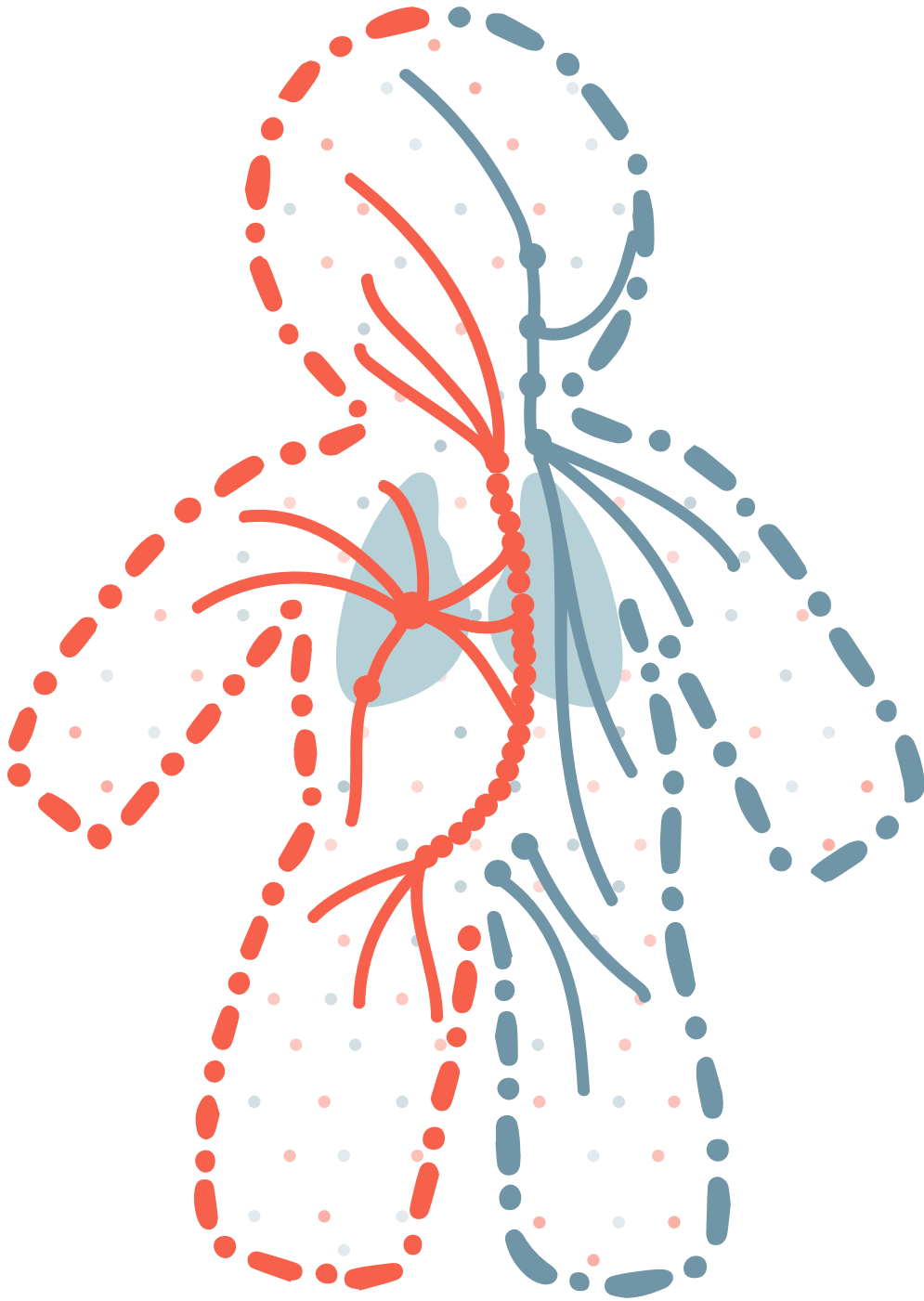


Dysregulation



Do you find it difficult to relax?

Dysregulation

Biology often finds its balance by swaying between opposite states. A bit like a tightrope walker, who must sway her weight from left to right as she walks, a balance is found that relies on this constant motion. For many functions in the body, equilibrium is found between states of relaxation and arousal. This dynamic balance is regulated by the autonomic nervous system (ANS).

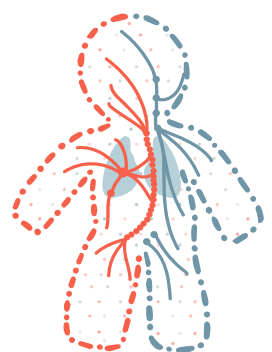
When there is dysregulation, physiological measurements (such as blood pressure or heart rate) are not always too high or always too low. Instead, high or low measurements vary and come at the wrong time. When measurements don't match what else is going on, or what the body needs to do in the moment, this can cause symptoms.

Dysregulation of the ANS is sometimes called 'dysautonomia'. Dysautonomia is a common form of dysregulation that leads to a group of recognizable symptoms effecting almost every system of the body. To understand these symptoms and what to do about them, it is helpful to understand more about the autonomic nervous system.

The autonomic nervous system (ANS)

The ANS is a neural network that sends fast electrical messages between different parts of the body. This helps optimise the body's functions as we move through daily cycles of activity, eating, resting and sleeping.

In general, we can think of the ANS as having 2 branches that work together: the Sympathetic Nervous System (SNS) and the Parasympathetic Nervous System (PNS)



1. The sympathetic nervous system (SNS), (also known as fight-flight-freeze)

The SNS is responsible for the body's front line stress response. It shifts the body into emergency mode.

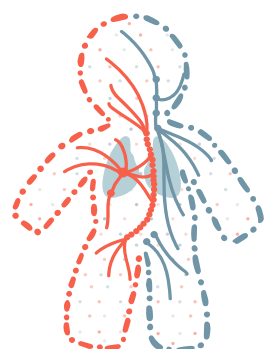
Emergency mode evolved for survival, so is triggered easily. Think about it: if a deer is startled by every rustle in the bush, it might be over-reacting 99/100 times. However, because it is prepared to run, it stays alive to pass on its genes that one time the rustle was a tiger. Evolution favors a 'better safe than sorry' approach.

Although this safety-first approach might have benefitted us when we lived in the wild, these responses are still our body's front line response to stress. It doesn't matter whether the stress comes from the body, mind, or the environment.

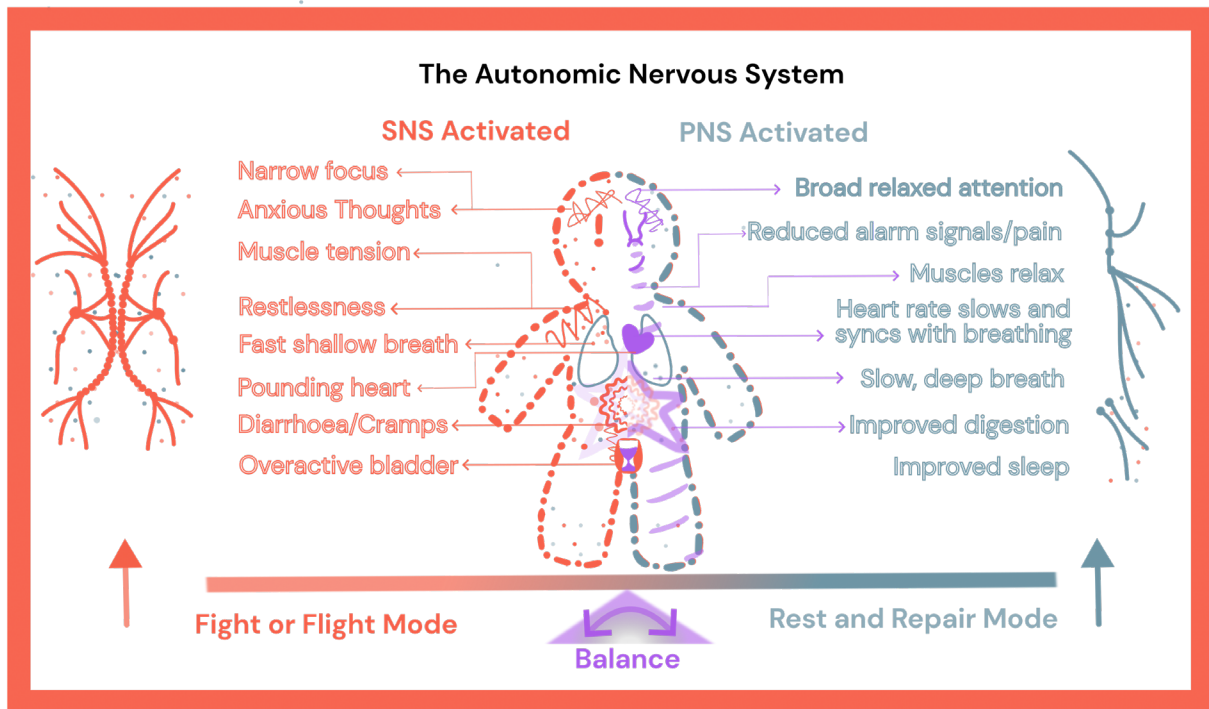
Symptoms of SNS activation

When the SNS is activated, it sends blood to the heart and large muscles. We might sweat or feel the heart racing. This helps our muscles prepare when we need to climb a hill or simply get up in the morning.

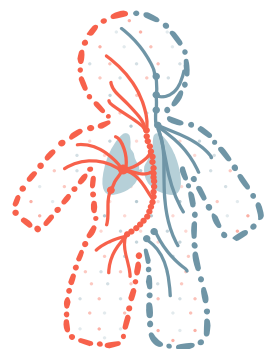
At the same time, the SNS diverts blood away from other organs. If the SNS is active too much of the day other organs, like the gut, are not able to perform their functions as efficiently. This is why, when we are under stress, we find it hard to digest food, leading to bloating and food intolerance.



Bodysymptoms.



An overactive bladder is also part of the evolutionary sympathetic response to stress. Automatically emptying the bladder under stress prepares the body to run from a predator (think of it as 'dumping' any excess weight to so we can escape faster). Diarrhea, or urgently needing to go to the toilet, can be thought of in a similar way.



Remember, there is nothing unhealthy about activating the SNS. Arousal is a necessary function of a nervous system that can adapt to all kinds of day-to-day stress. The problems come when the SNS is active at the wrong time or for too long. It is easy to see why an overactive SNS causes so many of us symptoms in modern life. Feeling 'pumped' or restless is hardly ever helpful when we have to check our emails, or are lying in bed worrying about something we have to do tomorrow.

2. The parasympathetic nervous system (PNS) and symptoms

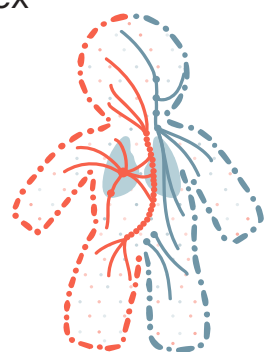
The good news is that the ANS has another branch, that balances the actions of the SNS This is called the Parasympathetic nervous system (PNS). The Vagus nerve is the longest and most important nerve in the PNS. It wanders down from the brainstem, connecting many organs where it creates the bodily conditions for rest and restoration.

Ideally, after the stressful situation passes, the SNS switches down, the PNS takes over again, and we return quickly to a state of rest and recovery. When this happens, stress is healthy. Being able to move flexibly between both branches of the ANS helps us build resilience. We are training the body's autopilot to deal with future stressors.

However, reduced PNS tone is one of the most common forms of dysautonomia in people with functional somatic symptoms. This causes widespread symptoms as many functions in the body require good PNS tone.

For example the bladder wall is made up of muscle that needs to relax to allow you to pee. The relaxation of these muscles is influenced by the PNS. Reduced PNS tone can lead to urinary frequency and urinary retention.

Another bodily function that requires good PNS tone, is the reflex that helps boost blood pressure when we stand up. Orthostatic



hypotension (the medical term for blood pressure related dizziness when you stand up) is a common symptom that points to low PNS tone. Normally when you stand up, blood flow to the brain is temporarily increased. This counteracts the effects of gravity, which naturally draws blood down into the legs. However if this reflex kicks in too slowly, you can feel dizzy. This reflex is regulated by the vagus nerve and gives us a good sense of overall PNS tone.

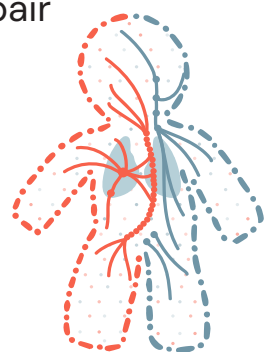
Returning to balance

It is helpful to understand if you have symptoms that fit with dysautonomia. In this case, rebalancing the ANS can help you recover. Although we don't have direct control over the ANS, it responds to what is going on in and around the body. This means there are lots of ways we can influence the ANS and bring the two branches back in balance.

Remember, human beings are a bit like deer, but also a bit like cats. A cat spends most of the day completely relaxed, stretching and grooming itself. This physiological relaxation, with the PNS active, means that its muscles are fully rested and ready for action.

Like cats, we need physiological rest to be part of our daily routine to stay healthy in the long term. When we are in physiological rest, our muscles are relaxed, our breathing is soft and even and our thoughts are quiet.

However we often have forgotten how to enter physiological rest, and how to feel comfortable staying there. Functional somatic symptoms are usually associated with high SNS activity and low PNS activity. Restoring balance means learning ways to enter physiological rest. Without regularly making the space to enter this state of physiological rest, symptoms of bodily stress can easily accumulate. When the PNS is in the driver's seat, healing, restoration and repair naturally happen.



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