

# Regulating a Stuck Nervous System

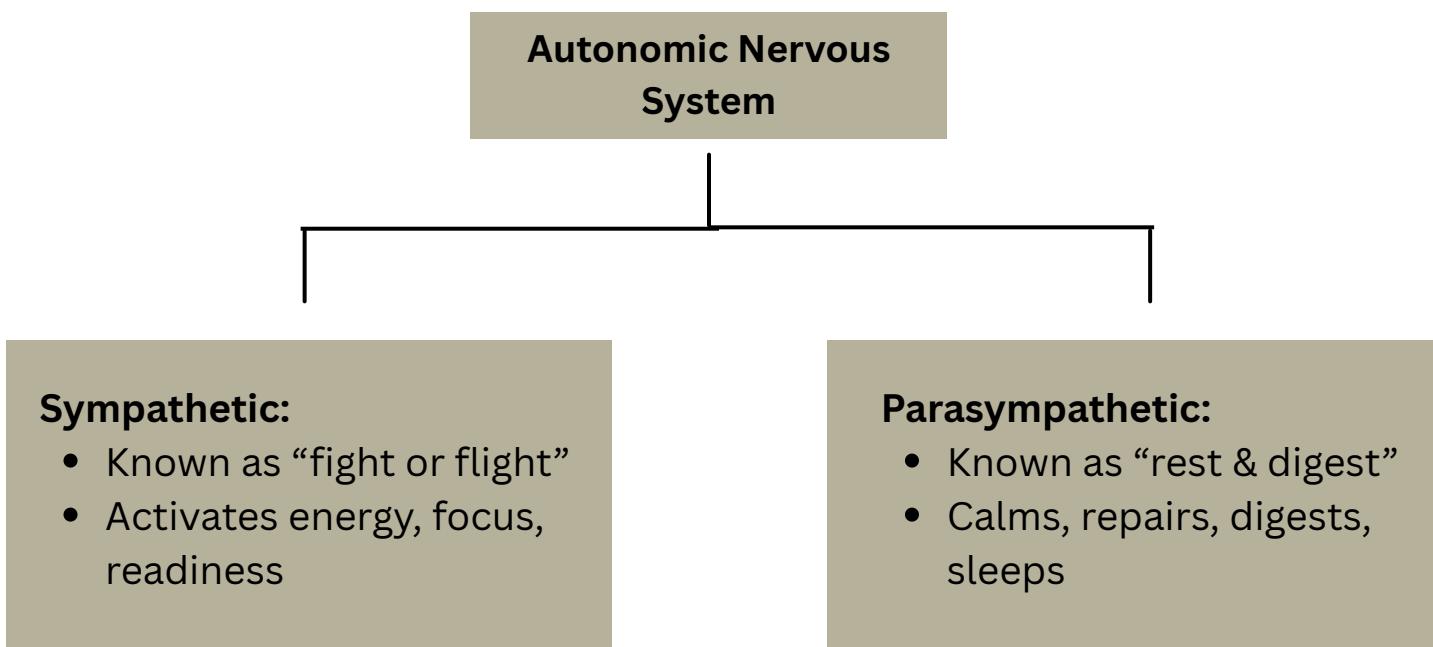
## A Guide to Finding Calm Again

### Understanding What is Going On

Many people describe feeling like their body is always on. Even when life has returned to a state of calm, there seems to be a constant background hum of tension or unease, where the heart beats a little too fast, sleep is fragmented, the mind continues to scan for the next threat. This is your nervous system doing exactly what it learned to do under stress.

### The Two Sides of Your Nervous System

Your Autonomic Nervous System (ANS) runs automatically, balancing two modes:



The Autonomic Nervous System (ANS) controls heart rate, breathing, digestion, and sleep. When balanced, it easily moves between “fight or flight” (sympathetic) and “rest and digest” (parasympathetic).

When dysregulated, it can get stuck in the sympathetic system or “stuck in high gear,” keeping you alert when you want to rest.

# HRV and HPA: The Science Behind the Feeling

## HRV: Heart Rate Variability

- HRV refers to the tiny beat-to-beat changes in your heart rate, measured in milliseconds.
- Meaning:
  - High HRV = your autonomic nervous system (ANS) is *flexible*. It can easily shift between “fight-or-flight” (sympathetic) and “rest-and-digest” (parasympathetic) modes.
  - Low HRV = the system is *stuck in high gear*, dominated by sympathetic activity, with poor recovery or rest tone.
- Trauma link: People with PTSD, chronic stress, or insomnia often show *lower HRV*, reflecting chronic hyperarousal and reduced vagal (parasympathetic) control.
- Why it matters: Healthy sleep onset and maintenance rely on the parasympathetic system taking over at night; low HRV suggests the body cannot fully down-shift.

## HPA Axis: Hypothalamic-Pituitary-Adrenal Axis

- The HPA axis is the body’s core stress-hormone circuit linking the brain and adrenal glands.
- Hypothalamus → releases CRH (corticotropin-releasing hormone)
- Pituitary gland → releases ACTH (adrenocorticotropic hormone)
- Adrenal glands → release cortisol, the main stress hormone
- Normal function: Cortisol rises in the morning (to wake you up) and falls at night (to let you sleep).
- In trauma or chronic stress: The system can become dysregulated, either over-active (high nighttime cortisol) or “blunted” (low morning peak), both of which disturb sleep and energy patterns.

## Putting it together

After trauma, the ANS (HRV) and HPA axis can stay “switched on” long after conscious danger has passed.

Even when the person has processed the trauma intellectually, their body may still behave as if it is under threat: heart rhythm less variable, cortisol rhythm skewed, leading to persistent insomnia or shallow, un-restorative sleep.

# How to Re-Regulate a Stressed Nervous System

The goal is to send consistent signals of safety to the body. The following strategies are all evidence-based or low-risk ways to strengthen your “rest-and-digest” (parasympathetic) system and improve heart-rate variability (HRV) and sleep.

## 1. Grounding & Sensory Regulation

- Barefoot walking on grass, sand, or soil: slow, mindful contact with the ground calms sensory input.
- Weighted blanket or gentle compression clothing: provides deep pressure that quiets the stress response.
- Temperature therapy:
  - Cold exposure (cool shower, sea dip) can reset arousal levels.
  - Heat exposure (sauna, hot bath) relaxes muscles and promotes endorphins.
  - Alternating hot/cold stimulates vagal tone and improves circulation.

## 2. Breath & Vocal Exercises

- **Slow diaphragmatic breathing** (4-6 breaths/min) activates the vagus nerve.
- **Box breathing:** inhale 4 s → hold 4 s → exhale 4 s → hold 4 s.
- **Humming, chanting, or singing:** vibrates the vagus nerve through the throat, encouraging calm.
- **Extended exhale breathing** (e.g., in 4 s / out 8 s): especially effective for reducing heart rate.

## 3. Movement & Somatic Practices

- **Somatic or trauma-sensitive yoga:** combines slow movement, breath, and interoception (body awareness).
- **Tai Chi / Qigong:** gentle rhythmic movements that regulate heart rate and attention.
- **Strength training:** builds physical safety and body confidence; steady lifting patterns help discharge residual stress energy.
- **Rhythmic activities:** walking, swimming, cycling, dancing: repetitive bilateral movement helps the brain integrate stress.

## 4. Connection & Co-Regulation

- Hug loved ones or pets: deep, sustained contact releases oxytocin and lowers cortisol.
- Laughter, safe touch, affectionate conversation: cues the nervous system that connection is safe again.
- Therapeutic massage or craniosacral therapy: may support parasympathetic activation through touch.

## 5. Calming Mind-Body Routines

- **Mindfulness or body scan meditation:** notice sensations without judgment, labelling them “safe to feel.”
- **Progressive muscle relaxation:** tense/release muscle groups to re-teach the body what “relaxed” feels like.
- **Guided imagery:** imagine warm light, secure places, or comforting memories.
- **Journaling or expressive writing:** puts unspoken tension into words, reducing physiological arousal.
- **CBT-I techniques:** fixed wake-up time, limited time in bed, no screens late at night, etc., to retrain the sleep-wake rhythm.

## 6. Lifestyle Foundations

- Morning light exposure: dim light at night, anchors circadian rhythms and supports cortisol and melatonin rhythms.
- Balanced meals & hydration: stable blood sugar (avoid heavy caffeine/alcohol late in day).
- Time in nature: even 20 minutes outdoors lowers blood pressure, reduces sympathetic activity and inflammation.
- Music with slow rhythm or drumming: can entrain heart rate to calmer patterns.
- Digital hygiene: reduce evening screen stimulation; allow quiet, unstructured time

### Building Your Regulation Practice

- Start with 1-2 practices daily that feel natural rather than demanding.
- Approach them with curiosity, not perfection.
- Keep a short “regulation list” on your phone or fridge, so when you feel on edge, you can choose one quick reset.
- Track your sleep, energy, and mood for a few weeks; small shifts add up.
- Over time, your body learns: I can come down from high alert safely.

### When to Get Extra Help

If constant tension, irritability, or sleep disruption persist despite self-care:

- A therapist trained in somatic or trauma-informed approaches can help you re-establish safety signals.
- Ask about a sleep-specific therapy (CBT-I).
- CBT-based or mind-body therapies can retrain patterns of threat detection and hypervigilance.
- If physical symptoms (palpitations, pain, gut distress) dominate, consult a healthcare provider to rule out other causes.