



# Mastering Your Autonomic Nervous System

## Key Takeaways

- 1 Mysterious Yogis, Icemen and Voluntary Goosebumps
- 2 We Have More Control over Physiological Processes Than We Think
- 3 The What of Our Nervous System  
The Two Branches of the ANS: Parasympathetic & Sympathetic
- 4 The Vagus Nerve & Vagal Tone
- 5 Heart Rate Variability as A Measure Of Vagal Tone
- 6 Chronic Stress in the Context of the Autonomic Nervous System
- 7 Heart Rate Variability as a Measure of Vagal Tone
- 8 Cortisol Secretion & the HPA Axis
- 9 Optimal Stress Is Key for Flow
- 10 Tools to Master the ANS

## Quote:

“We love stress that is mild and transient and occurs in a benevolent context.”

— Robert M. Sapolsky

## Diagnostic

Zero & Dangerous Self Diagnostic 

## Exercise

1. Breathing Yourself to Calm!

2. Going Stoic on It

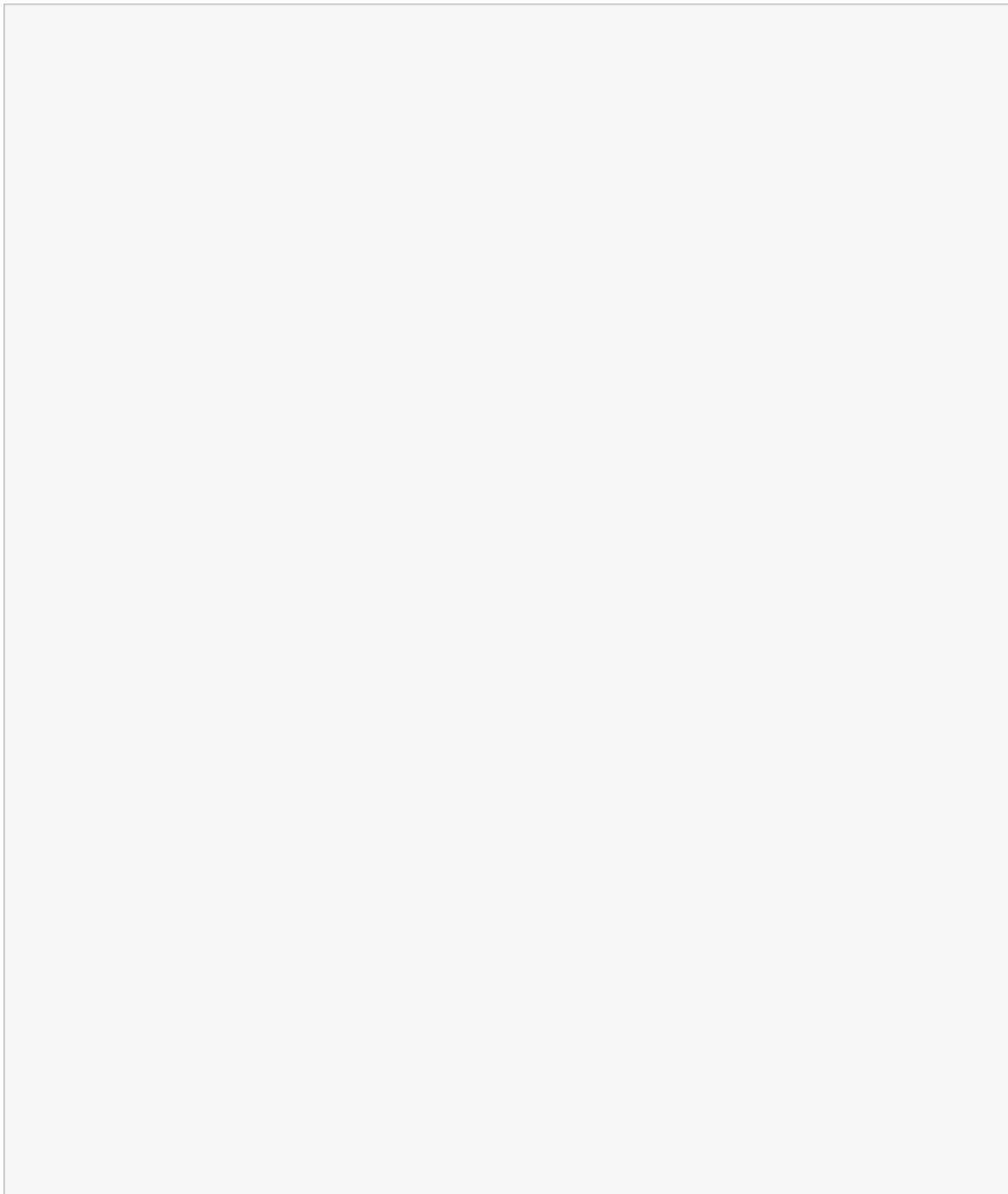
See next page for details

## Exercise

### Breathing Your Way to Calm

Focus on nasal breathing when you are awake.  
Consider experimenting with mouth taping while sleeping, if appropriate for you.

When you get stressed use the doublet and then 5x5x5 breath.



## Exercise: Going Stoic on It

**1** List your biggest stressors:

**2** Which of these stressors can you change even if extremely difficult?

**3** Which of these stressors are totally outside your control?

**4** Discern, then, accept or execute.

## Glossary

**Parasympathetic Activation:** When the parasympathetic nervous system is activated, it produces a calm and relaxed feeling in the mind and body.

**The Vagus Nerve:** The vagus nerve is the tenth cranial nerve and projects to almost all organs in the viscera (including the heart) as well as the 500-million-neuron enteric nervous system in the gut (vagus means wandering). It also projects up to the key brain areas involved in learning, memory, emotions, attention, and decision-making, like the locus coeruleus, limbic structures, and higher cortical structures like the prefrontal cortex. In fact, 80% of its nerve fibers go from the gut and viscera to the brain, and 20% go from the brain to the body.

**The Gut-Brain Axis:** The gut-brain axis is the connection between the enteric nervous system in the gastrointestinal tract and the brain. In the GI tract, there are 500 million neurons, and 90% of your serotonin is made there and sends signals to the brain. Central to this communication is the vagus nerve, where 80% of the fibers go from the gut and viscera to the brain. In fact, we now know that many supposed neuropsychiatric disorders are heavily influenced by the gut and its microbiome, including, ASD, depression, and schizophrenia.

**Vagal activity (or what is called vagal tone):** Vagal activity is PSNS activity, and more vagal tone equals less stress. If you understand your vagus nerve, you can perform better, as well as increase your overall well-being. Increased vagal tone (and thus vagal action) is generally associated with a lower heart rate and increased heart rate variability. These include, significantly reduced inflammation and better digestion, better immune system response, increased resilience to stress and anxiety, better recovery, increased mood, calm, working memory, more intonation in voice, more active facial expressions, more willpower, better attentional regulation, better decision-making skills, increased social functioning, increased emotional regulation and recognition.

## Glossary

**Heart Rate Variability (HRV):** HRV is tiny variations in time between successive heartbeats. Higher HRV is associated with those benefits, and lower HRV the opposite. This is because the vagus nerve innervates the heart. More vagal signals to the heart, more variation in the beats, but also calmer, rest and digest, because the vagus nerve governs the PSNS. Thus, the more variation in the heartbeat, the better. Because of this, HRV is a biomarker for all those benefits.

**HPA Axis:** This network consists of the hypothalamus, the pituitary gland, and the adrenal glands.

The HPA axis relies on a series of hormonal signals to keep the sympathetic nervous system — the "gas pedal" — pressed down. If the brain continues to perceive something as dangerous, the hypothalamus releases corticotropin-releasing hormone (CRH), which travels to the pituitary gland, triggering the release of adrenocorticotrophic hormone (ACTH). This hormone travels to the adrenal glands, prompting them to release cortisol. The body thus stays revved up and on high alert. When the threat passes, cortisol levels fall. The parasympathetic nervous system — the "brake" — then dampens the stress response.

## Notes

## Lesson Resources

1. Behave,  
By Robert M. Sapolsky
2. Why Zebras Don't Get Ulcers,  
By Robert M. Sapolsky
3. The Relaxation Response,  
By Herbert Benson
4. [Finding Mastery Podcast with Andrew Huberman](#)
5. [Flow Research Collective Radio: How to Develop Autonomic Fitness](#)
6. [Mastering the Mind And Body: Conscious Control of the Autonomic Nervous System,](#)  
By Eugene Kwok
7. [Touch for socioemotional and physical well-being: A review](#)  
Field, T., 2010
8. Heart Breath Mind: Train Your Heart to Conquer Stress and Achieve Success,  
By Leah Lagos
9. [Integrating Mindfulness and Heart Rate Variability Biofeedback Therapies to Foster Courage, Confidence, and Resilience,](#)  
Lagos, L., 2018
10. [Vagus Nerve and Vagus Nerve Stimulation, a Comprehensive Review: Part I](#)  
Silberstein, S.; Yuan, H., 2015
11. [Stressed or stressed out: What is the difference?](#)  
McKewen,B., 2005



## Lesson Resources

### Three Forms of Stress Management:

1. Tools that raise the ceiling on what you perceive as stress
  - Physiological
    - Active Recovery
    - Burnout Proofing
    - Sleep
    - Positive Psychology Basics (Mindfulness, Gratitude, Fuel, Social Support)
  - Psychological
    - Cognitive Restructuring
    - Perspective Reframing
2. Tools that reduce the stress once it's been activated
3. Tools that activate the stress response if underaroused

### Tools to Master Our ANS:

1. Diaphragmatic Breathing
2. Belly Laughing
3. Cold Exposure
4. The Doublet Breath
5. Ear Massage
6. Humming, Singing, Chanting
7. Nature Exposure
8. Yoga
9. Nasal Breathing
10. Valsalva Maneuver
11. Exercise
12. Gut Health
13. Fasting
14. Cognitive Restoring Techniques

### Stoicism For Cognitive Reframing:

1. Discern between what you do and do not have control over
2. Accept the things you cannot control or change
3. Change the things you can control