A NERVOUS TAP: YOUR NERVOUS SYSTEM IS TALKING. ARE YOU LISTENING?

by Jason Moore

EliteHRV.com/paleofx
ROADMAP

- The Nervous System
- Heart Rate Variability Crash Course
- Optimizing Nutrition
- Optimizing Sleep
- Optimizing Training
- How to Measure
THE NERVOUS SYSTEM

• Controls **everything** (with the help of hormones, etc.)

• The Autonomic system handles the unconscious processes (and even effects conscious behavior)

• Autonomic contains 2 branches - the Parasympathetic and the Sympathetic
THE NERVOUS SYSTEM

- Sympathetic is activated in times of stress
- Fight or Flight
- Sacrifice long term to get through the short term
- Flood energy, dilate pupils, slow digestion/peristalsis, increase heart rate
- All the necessary things for running late to an appointment
FIGHT OR FLIGHT

or dealing with coworkers...
THE NERVOUS SYSTEM

• Parasympathetic is activated in times of recovery

• Rest and digest

• Build for the long term

• Conserve energy, constrict pupils, aid digestion, **slows** heart rate

• Makes you grow stronger, faster, healthier
HRV CRASH COURSE

• Heart Rate Variability taps directly into your Autonomic nervous system

• The heart is not a metronome - it's actually "erratic"

• Every single beat your nervous system is saying "slow down", "speed up" based on feedback from all senses, emotions, etc.

• A healthy nervous system has a balanced but strong push and pull between Sympathetic and Parasympathetic causing high Heart Rate Variability
HRV CRASH COURSE

• The variations occur between every single heart beat

• Low variability typically means Sympathetic dominance (stress, fight or flight)

• High variability typically means good Parasympathetic activity (low stress, more rest and digest)

• Aim for Sympathetic and Parasympathetic balance

• Most meaningful when compared to your personal trends over time
VARIABILITY BETWEEN BEATS
OPTIMIZING NUTRITION

• What is one of the main goals of Paleo Nutrition?

• Offending foods trigger sympathetic response

• Dr. Coca test in the 50's - raise in Heart Rate after eating as compared to baseline

• Now correlating HRV for better accuracy - organizing comparison with ELISA Act and SpectraCell tests

• **What to do:** Get a baseline on AIP or similar, test individual foods (or whole Carb Nites) with HR and HRV as reintroduced
OPTIMIZING SLEEP

• You've heard of the studies of lack of sleep compared with alcohol consumption

• Popular recommendations say 7-9 hours, which is it?

• Upon waking is a great time to gauge sleep quality

• Sleep quality has the most direct affect on waking Heart Rate Variability measurements
OPTIMIZING SLEEP

• Determine sleep quality "via negativa"

• If HRV spikes upwards (parasympathetic) means you are in deep recovery

• If HRV spikes downwards (sympathetic) means your body is under stress (all those Monday morning heart attacks fit here)

• **What to do:** Adjust sleep time, mattress, pillow, use blue blockers, perform deep diaphragmatic breathing prior to bed (prime your Parasympathetic system)
OPTIMIZING TRAINING

- Popular application of HRV because A) Training is important B) it's fun and C) athletes always try the fringe stuff first

- Recent anecdote:
  - Two Hunter-Gatherers were training to overthrow the tribe's alpha male
  - Both lifted the same big rock 1000 times over the course of a year
  - HG-A lifted it 1000 times in 1 week and took the rest of the year off
  - HG-B lifted it a single set of 5 reps four days a week finishing at about a year
OPTIMIZING TRAINING

• Which approach is better? Is either optimal?

• Heart Rate Variability would tell HG-A when to take a break and recover

• Conversely it would tell HG-B when the stimulus is just not enough

• An experienced trainer can quickly and effectively tailor the workout stimulus to the maximum your body can handle without crossing the line (regardless if the goal is endurance, speed, power, etc.)

• **What to do:** Under proper guidance test different training volume, intensity, etc. and determine effect on recovery
WHO USES HRV?

• Olympic athletes - training stimulus, load and recovery

• Psychologists - cure psychological issues through guided breathing, meditation, etc.

• Chiropractors - guide structural improvements related to autonomic imbalance

• Doctors - see Dr. Grayson Wheatley Sunday at 1:35pm

• Top pro sports teams - tailor group training to each individual

• Now - anyone
HOW TO MEASURE

• Devices - from a $20,000 machine to a $50 HR Strap

• Baseline - Take about a 3 minute reading in the morning

• Continuous Readings - See how commuting or public speaking affects you

• Time domain (ex. RMSSD) - typically associated with overall HRV
  "score" - Green - Yellow - Red

• Frequency domain (ex. LF/HF) - gives insight into balance and strength of parasympathetic and sympathetic activity
WRAP UP

• Heart Rate Variability isn't required to improve health and performance
• Easy, cheap and objectively quantifiable
• Gives visibility of the entire picture of your health and performance
• Individualized by design
• Psychologists curing depression to Olympic athlete training optimization
• When to push it and when to back off