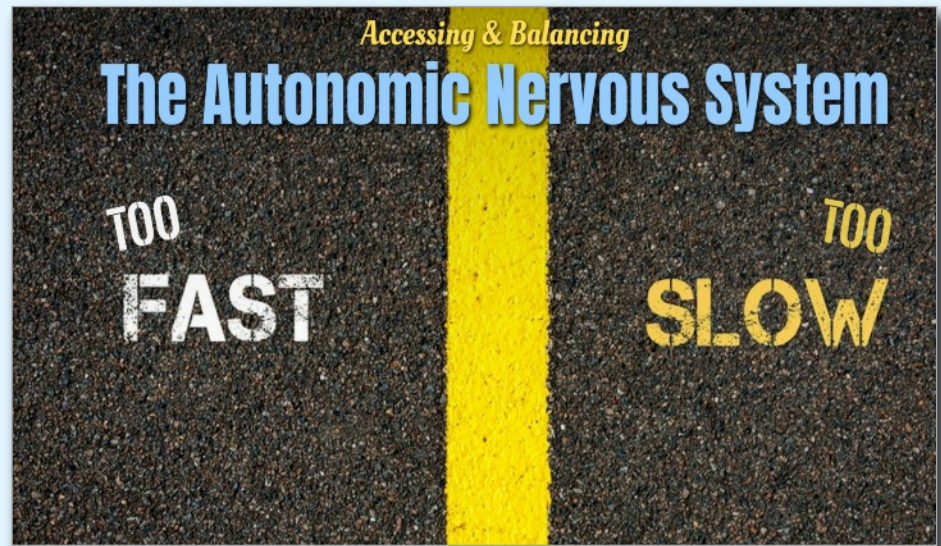


# Assessing & Balancing The Autonomic Nervous System

*"If a person isn't balanced in their autonomic nervous system, they're not going to get better regardless of the therapy."*

I love to study physicians whose training is different than mine because they make links to clinical applications I would never consider. A physician I greatly admire is Dr. Mark Force. One of the limitations of my training is assessing and balancing the autonomic nervous system. So I was excited when I found a paper written by Dr. Force on this subject which gave some practical assessment and treatment strategies. You can see a link to the right, but here are a few highlights.

As a reminder, the autonomic nervous system (ANS) regulates every part of the body. So if a person isn't balanced in their autonomic nervous system, they're not really going to get better regardless of the therapy. The autonomic nervous system consists of the parasympathetic nervous system (PNS) and the sympathetic nervous system (SNS). Your body is anabolic when your nervous system is in a parasympathetic dominant state and



catabolic when your nervous system is in a sympathetic dominant state.

Let's look at each separately. Like the brakes in your car, the parasympathetic nervous system slows you down and relaxes you; it controls all your body functions that work in a relaxed state.

Again, when you are in the parasympathetic state you are anabolic which is the repair and maintenance mode. You will have good digestion, absorption and elimination; you will sleep well and feel rested; you will

feel relaxed and energetic, your muscles, bones, joints, hair, and nails will be strong and healthy; cuts, strains, and injuries will heal readily. Athletes will be able to train intensely and frequently, recover quickly, and respond to exercise rapidly. Like stepping on the gas, the sympathetic nervous system speeds you up; it controls everything to do with the "flight or fight" response.

If you are catabolic, your body will be unable to heal itself; you will have digestive problems like heartburn, indigestion and poor elimination.

You will sleep fitfully and wake up tired; you will have joint and muscle aches and pains, weak and slow growing hair and nails, muscle atrophy, thin skin and hair. Cuts, strains, and injuries will heal very slowly, if at all. Athletes will tend to over-train yet still not get the full benefits of their workout.

Sympathetic dominance results in an increased cortisol level that causes all of these problems and a phenomenon called "cortisol steal" where DHEA is used up producing cortisol. When this happens DHEA is unavailable for production of testosterone resulting in lowered testosterone levels. High cortisol also results in insulin resistance where insulin is unable to exert its anabolic effect on repair, regeneration, and building up of body tissues. How important is this effect? Insulin is the most powerful anabolic hormone in your body; it is significantly more powerful than testosterone.

So, lowering cortisol and improving insulin sensitivity is incredibly important to your overall health and vital to any athlete. Lithium lowers cortisol. When someone doesn't have enough lithium they tend to be overstimulated. Like a bare wire, every nerve in their body is firing due to overstimulation.

A common element in this pattern is nervous exhaustion. Often patients are diagnosed with chronic fatigue syndrome and fibromyalgia because they are overstimulated and exhausted. Lithium is also important to reorient and re-pattern left and right brain activity. When supplemented with lithium, typically patients who are overstimulated feel tired for the first few days; their body is trying to return to homeostasis. So, if they feel tired, their body is healing. Don't be alarmed. They need to sleep. Their cortisol rhythm repairs and eventually will start to rise in the morning and they feel great. Dr. Force likes to use

lithium as Li-Zyme Forte, 1-2 tid for a few weeks, then 1-2 at bedtime.

Sometimes these patients also need zinc to modulate and tonify their nervous system. Dr. Force is a big believer in the zinc taste test and uses Aqueous Zinc with every patient. He supplements zinc as Zn-Zyme Forte at noon and dinner to calm limbic kindling and reset their cortisol circadian rhythm. Sometimes he uses as much as 150 mg of zinc but always when using more than 50 mg per day for 60 days, will add other trace minerals to assure adequate mineral balance.

The combination of Li-Zyme Forte and Zn-Zyme Forte with Butyric-Cal-Mag (a form of butyric acid) creates a strategy to control a receptor called the NMDA receptor and promotes the conversion of glutamate, the highly excitable neurotransmitter, to GABA, the brains natural tranquilizer.

Dr. Force's first choice to support GABA is Butyric-Cal-Mag because it has the benefit of also healing the tight junctions of the gut wall barrier and blood brain barrier. Butyrate is produced by the microbial fermentation of dietary fiber. As a histone deacetylase (HDAC) inhibitor, butyrate plays a role in gene regulation, immune modulation, cancer suppression, cell differentiation, intestinal barrier regulation, oxidative stress reduction, diarrhea control, visceral sensitivity and intestinal motility modulation. Bifidobacteria promote production of butyrate. *Saccharomyces boulardii* is also a powerful promoter of butyrate production.

By the way, any time you can attend one of Dr. Force's seminars online or in person, it will be worth your while.

Thanks for reading this week's edition. I'll see you next Tuesday.