

Sympathetic vs Parasympathetic for Athletes



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Commonly referred to as the “fight or flight”, the sympathetic nervous system is part of the autonomic nervous system that prepares the body to react to stresses such as threat or injury. It causes muscles to contract and heart rate to increase.

Parasympathetic is the converse of sympathetic and is referred to as "rest and digest."

The sympathetic nervous system puts your body into a tense state, and increases blood flow to the muscles, increases awareness, heart rate, blood pressure, respiratory rate, and sweating. These functions help us survive when in danger, and also come into play when running and racing. The parasympathetic nervous system controls functions of the body at rest. It helps maintain homeostasis in the body by causing muscles to relax and heart rate to decrease.

Many of us believe the “fight or flight” response only happens if your life is in danger. But most of us are in a milder version of the sympathetic state for the majority of our waking lives. We are always ‘on’ and seldom feel like it’s OK to relax. Too much time spent in a sympathetic state has a lot of drawbacks.

Regardless of the cause of the stress, high levels of anxiety cause the human body to react by releasing stress hormones that result in physiological changes that include a pounding heart, quickening of breathing, tensing of muscles and sweating. Knowing how to use the parasympathetic nervous system to manage your stress and anxiety will promote health and healing by reducing inflammation in the body.

The sympathetic and parasympathetic nervous systems have a complementary, push-pull relationship that allows the body to respond very swiftly when necessary (through the sympathetic nervous system’s quick mobilization) and to slow down to perform other, less urgent activities in the background when appropriate (through the parasympathetic nervous system’s more gradual dampening). Together, these systems act a bit like an accelerator and a brake for our bodies and also help to maintain balance, or “homeostasis.”

During the fight or flight response, your body slows or shuts down many of the rest and repair processes so that more energy is available for the processes necessary for near-term survival. In non-emergency situations, the parasympathetic nervous system goes to work, conserving energy and directing it to rest and repair responses, including healing.

The parasympathetic system helps you save energy, lower blood pressure, decrease heart rate, and it allows digestion to start. It helps return the body to a state of balance after a period of higher sympathetic nervous system activity. Unlike the sympathetic nervous system, these responses are carried out as needed, rather than all at once.

In general, you want your body to be in a state of rest in order to heal, repair tissues, and grow new tissues. While stress hormones and the physiological changes they trigger can be helpful (maybe even life-saving) when we’re facing real physical threats, they can do significant damage to our health over the long term if they’re switched on all the time.

How Chiropractic Care Can Help

While the parasympathetic and sympathetic nervous systems are considered oppositional, they actually work together to make your body function better and be as safe and as healthy as possible. Since all of the sympathetic and parasympathetic nerves that initiate these responses originate in the spinal column, any misalignment in your spine can compromise the nerves, resulting in less than optimal function. Without a good

balance between the parasympathetic and sympathetic systems, you may experience excessive sympathetic responses, leading to increased anxiety and fatigue, and decreased health. Chiropractic care restores this balance and has been shown to positively affect the autonomic nervous system by helping to down-regulate the sympathetic nervous system and stimulate parasympathetic activity. Quieting the fight or flight response promotes healing, bolsters the immune system and helps relieve the immediate sensation of pain.

Active Release Technique, Graston Technique and Cold Laser therapy have been proven to be one of the most effective, safe, and completely natural methods to treat pain and balance the body. **ART®** combines intense active movement-based massage and joint mobilization techniques, which sets it apart from passive massage and physical therapy. At **Jonas Chiropractic Sports Injury Care** you receive a personal treatment plan geared to your training or recovery goals. We begin by understanding what you do, as it relates to your sport or daily activity, and create a plan with a goal. We are dedicated to keeping up with the most effective procedures that provide significant positive results. These can include stretching, strengthening, manipulation, cardiovascular exercise, and other modalities to thoroughly cover all the bases. Our multidisciplinary approach leaves no stone unturned. Our approach is as unique as you are.

Dr. Jon DeGorter is the USATF-Long Island Chair of the Sports Medicine Committee, and part of the Jonas Chiropractic Sports Injury Care team. Dr. Jon specializes in treating runners and triathletes — keeping athletes doing what they love to do.