

Autonomic Nervous System Dysfunction

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Editor's note: Tad Wanveer, author of this month's "CranioSacrally Speaking" column, has been the guest author for several previous "CranioSacrally Speaking" columns.

Dysfunction of the autonomic nervous system (ANS) may be central to impairing the quality of one's life and contributing to severe illness. CranioSacral Therapy (CST) has been shown to balance and correct dysfunctions of the ANS through gentle manual techniques.

The nervous system can be simplified into five basic branches dedicated to sensory processing, muscle planning and activity, memory processing, emotional processing and basic survival. The ANS is a component of the basic survival branch. It controls the body's vital functions, working to maintain homeostasis (a steady internal state) and optimal conditions for cell and tissue function. The ANS has two divisions, each having motor and sensory components: sympathetic division (known as fight/flight/freeze) and parasympathetic division (known as rest/relax/renew).

Both divisions innervate the internal organs, smooth muscles, cardiac muscles, exocrine glands and metabolic cells. The sympathetic division also controls blood flow, sweat gland activity and hair follicles. The ANS partly mediates the regulation of immune and inflammatory responses within the gut, lungs and skin.

The ANS divisions continually work together to maintain optimal function and create the most balanced operation of bodily systems. Normally, when one is more active then the other is less active, as in the control of blood pressure. If blood pressure suddenly rises, parasympathetic activity to the heart increases and sympathetic activity decreases. This slows the heart rate and brings the blood pressure back down. If blood pressure is low, sympathetic activity increases and parasympathetic activity decreases, which helps

blood pressure rise.

There are times when a division becomes chronically hyperactive (overactive) or hypoactive (underactive). The cause might stem from physical trauma, stressful experiences or biomechanical strain, to name a few. The effect is a body functioning in a non-optimal state, with its cells and systems excessively strained and overworked. The bodily stress can become enormous, leading to conditions ranging from mild chronic pain to devastating illness.

All organs, vessels, glands, nerves and cells of the ANS and every other part of the body are wrapped in fascia. The craniosacral system (CSS) is a specialized container that envelops the fluid and tissues of the brain and spinal cord within three continuous and interrelated layers of fascia.

The parasympathetic division also is referred to as the craniosacral division of the ANS because its motor cells originate in the brain stem and sacral portion of the spinal cord. The vagus nerves (there are two) are the primary parasympathetic nerves. Their route to the viscera begins in the brainstem. They exit the cranium by passing through the jugular foramina (two openings at the base of the skull) and traveling to the organs. Abnormal fascial strain may exist anywhere along the route of the vagus nerves, affecting the brain stem and spinal cord and resulting in altered structure and compromised function of the tissue with which it communicates.

CST techniques are used to locate and reduce adverse strain of the fascia. As the fascia returns to normal patterning and motion, neurological strain can subside and diminish the adverse strain on the smooth muscles, heart muscle, glands, blood vessels and organs. In response, the sensory input from the viscera to the nervous system can greatly improve.

Enhancing the mobility and balance of the CSS, also can increase the efficiency by which cerebrospinal fluid cleanses irritating elements from the brain and spinal cord tissue while delivering nutrients to the cells. These changes can help correct and improve the function of the ANS, which can significantly increase health and vitality.

Common causes of strain on the sympathetic division are stress, chronic illness or infection, scar tissue, traumatic impact and anxiety. Another is experiencing a highly stressful situation that the body is unable to process adequately. Sympathetic division strain can lead to dysfunction of central processing areas of the ANS (within the brain and spinal cord), particularly portions of the limbic system (emotional and memory

processing area), the hypothalamus (internal regulatory area) and the reticular alarm system (vital function area). A chronic internal state of fight, flight or freeze can occur, causing relentless challenges leading to dysfunction and illness.

CST can help correct ANS dysfunction by reducing adverse biomechanical forces that are straining the harmonious movement of body fluid and tissues. For example, strain of the dural tube (the CSS membrane layers surrounding the spinal cord tissue) can cause sympathetic division cells to become irritated and overactive, leading to chaotic neurological communication and visceral dysfunction.

Another example is abnormal strain on the muscles at the base of the cranium, which can strain the vagus nerves and compromise the body's ability to regenerate and heal. A third example is when disruptive information embedded in the tissue causes flashbacks. The flashbacks usually occur in response to some form of sensory input that brings about a reaction in the compromised tissue and ANS. This causes certain cells to communicate in a way that unexpectedly triggers the recall of past events.

CST, as well as a spontaneous therapeutic process called somatoemotional release, helps the body find tissue-movement patterns that can liberate and integrate disturbing cellular patterns to normalize neurological, vascular, biomechanical and biochemical processing. Since overall health is realized within the parameters set by the function of the organs and systems controlled by the ANS, increasing ANS function this way helps elevate the body to its optimal levels of vitality, well-being, balance, self-correction and harmony.



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