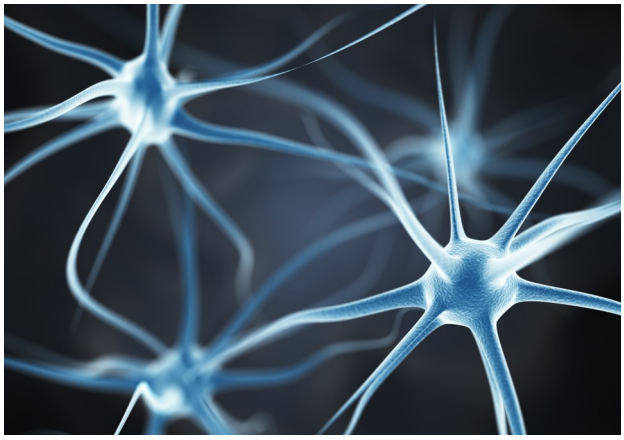
Chiropractic Newsletter
Well-Being

The Importance of the Vagus Nerve

The vagus nerve is the tenth cranial nerve, and has the most extensive distribution out of all of the cranial nerves. Named for its tendency to wander, the vagus nerve acts like a central switchboard, sending out nerve impulses to and from the brain and most of the organs in our body. Its main role is to calm us down by activating the parasympathetic nervous system.

The vagus nerve emerges from the brainstem, exiting the skull through a small opening called the jugular foramen. From there, it reaches the ears, throat (pharynx and larynx), tongue, stomach, intestines, heart, liver, spleen, pancreas, gallbladder, kidneys, ureter, and reproductive organs.

Conditions resulting from vagus nerve impairment are numerous and diverse including anxiety and depression, ringing in the ears, hoarseness or dysphagia (difficulty in swallowing), abnormal articulation of speech such as dysarthria, irritable bowel syndrome, gastroesophageal reflux disease (GERD), heartburn, inflammatory bowel diseases such as Crohn's, ulcerative colitis (UC), and gastroparesis (stomach paralysis). Research continues to reveal even more.



Research on vagus tone (response) suggests vagal activation to be associated with infant growth and weight gain. In a study of preterm infants, researchers found an enhancement of gastric motility by stimulating vagus activity, leading to more efficient food absorption and ultimately greater weight gain. At the heart of the matter, the vagus nerve controls heart rate and blood pressure. Reinforced vagus nerve tone enhances general kidney function by increasing blood flow filtration, releasing amounts of dopamine in the kidneys, and excreting sodium—and by doing so, lowers blood pressure.

It is well-documented that vagus nerve activation will release acetylcholine, which decreases inflammation in targeted organs. Additionally, the reproductive

organs are affected thereby making the vagus nerve a major role-player in fertility.

Chiropractic and the Innate Intelligence

Dr. Tashiro Ogura, a chiropractor and Ph.D., along with six medical doctors and fellow Ph.D.'s, demonstrated in a study the dramatic effect one chiropractic adjustment can have on the tone of the nervous system. With positron emission tomography (PET) scans, they showed that regional metabolic brain changes had occurred, and the sympathetic tone of the nervous system had decreased. Taking saliva samples, test subjects showed a decrease in overall amounts of salivary amylase, indicating a decrease in fight-or-flight physiology. Muscle tone and pain intensities also decreased, literally taking pressure off the spine. All of these results revealed the positive impact of a chiropractic adjustment to the autonomic response.

Another study, published by Dr. John Zhang and his colleagues, proved the effectiveness of chiropractic adjustments to improve vagus nerve activation. The strength of the vagus response can be measured by heart rate variability (HRV), and patients in the study who received regular chiropractic care showed improvement in their HRV measures. Remember, the vagus nerve exits the skull through the small opening called the jugular foramen. Any alteration of the shape or size of the foramen can cause compression or stretching of the cranial nerves as they pass through this limited opening.

Muscle pressure or tension on the bones of the skull may change the shape of the foramen opening. This tension can happen anywhere from the top of the head, tightness along the neck, spasms in the upper back, or from strain and stress on the low back.

The enhanced vagal activity through chiropractors' gentle care gives us a promising avenue for understanding the dynamics of health and it offers parents a reliable way to promote their families' well-being. This is the power of chiropractic. By eliminating interferences within the cranium and spine, we are allowed to find our body's natural harmony, what nature created for our survival—our innate intelligence.

—Michelle Parker, D.C. Pathways Issue #59