

Transitions and Major Life Events Have One Thing in Common...STRESS Chiropractic Proven to Help

Doctor,

This white paper discusses the significance of the 2014 study published in the **Journal of Orthopedic and Sports Physical Therapy** called "*Changes in Biochemical Markers of Pain Perception and Stress Response After Spinal Manipulation*".

More and more research has revealed the relationship between stress hormones and overall body function. Stress is everywhere, and it comes in many different forms. The brain and central nervous system process all stress both internally and externally. While many people only associate chiropractic with pain relief, reduced stress is a welcomed side effect of every adjustment. This study helps to show the influence of the chiropractic adjustment on stress. The aim of this research was to evaluate the effects of cervical and thoracic spinal adjustments on the plasma concentration of biochemical markers which are known to have significant autonomic influence. The findings were as follows:

- 30 asymptomatic subjects were split into three groups: Only cervical adjustment group, only thoracic adjustment group, and the no adjustment group.
- Blood samples were taken before, immediately after, and 2 hours after the intervention.
- Neurotensin, Oxytocin, and Cortisol were the 3 main plasma biomarkers evaluated.
- Neurotensin- a 13-amino acid produced in many areas of the central nervous system and is a noted biomarker for pain modulation.
- Oxytocin- plays an anti-nociceptive role in the CNS. Oxytocin also plays a major neuro-endocrine role in the CNS, modulating several physiological functions.
- Cortisol- correlates inversely with pain intensity. Also has an anti-nociceptive CNS effect.
- Immediately after both cervical and thoracic spinal adjustments, significantly higher values of neurotensin and oxytocin were recorded.
- Immediately after the cervical spinal adjustments only, significantly higher values of cortisol were recorded.
- Cortisol acts to decrease local edema and pain by blocking early stages of inflammation. This short-term increase in cortisol reduces inflammation.
- The effect size for the cervical adjustment group was larger than that for the thoracic adjustment group. This suggests an increase in the activation of possible descending inhibitory pathway mechanisms after cervical adjustments compared to thoracic. This indicates the upper cervical spinal adjustment influences the hypothalamus and other upper brain centers.



Chiropractic adjustments help hit the reset button on the central nervous system, reducing stress hormones, and helping alleviate the burden of mental and physical stress on the entire body. According to the American Institute of Stress, forty-four percent of Americans feel more stressed than they did just five years ago. With stress hormones at an all-time high, and more drugs created prescribed to mask the symptoms of stress, the need for Chiropractic has never been greater. Because of the intimate connection between the spine and the central nervous system, every adjustment helps to balance the autonomic nervous system. As a result, a calming effect occurs throughout the body. Chiropractic spinal adjustments are critical for improving healthy longevity, reducing the acceleration of stress hormones, and combating the consequences of stressful times of trial and transition.