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Heart Rate Variability and How Chiropractic Improves Heart & Organ Health

Doctor,

This white paper discusses the significance of the 2006 study published in the **Journal of Manipulative and Physiological Therapeutics** called *"Effect of chiropractic care on heart rate variability and pain in a multisite clinical study".*

February is heart disease awareness month. And most people are unaware of the benefits that chiropractic spinal adjustments can provide for patients who suffer from heart disease or those looking to avoid suffering from the world's most popular disease killer. No single disease or condition kills more people every year as heart disease. Over 600,000 people die of heart disease in the United States each year alone, equating to one in every four deaths. One of the new predominant ways to evaluate and monitor a person's risk of heart disease is through a test called heart rate variability. **Heart rate variability (HRV) is the physiological measurement of variation in the time interval between heartbeats.** It is measured by the variation in the beat-to-beat interval. The greater ability to increase and lower one's heart rate is an indicator of good heart health and overall body function. Having a high HRV means the body can efficiently change its heart rate depending on the activity. Studies suggest that people who have a higher HRV are healthier and live longer with less risk of disease. A lower HRV is associated with increased risk of heart attacks, strokes, and diabetes." This study evaluated and monitored the patients' HRV before and after a chiropractic adjustment; the findings were remarkable.

- The purpose of this study was to investigate the effect of chiropractic care in a multi-clinic setting on sympathetic and parasympathetic nervous system activities using heart rate variability (HRV) analysis.
- Chiropractors in private practice were provided with an HRV device to perform analysis before and after chiropractic adjustments on 10 subjects.
- At each site, 8 subjects were monitored before and after a single chiropractic adjustment, and 2 additional patients were followed for a 4-week period with 2 HRV recordings per week.
- Patient information forms and a visual analog scale (VAS) questionnaire were completed both before and after each chiropractic adjustment.
- Data from 96 physicians were divided into single-visit and 4-week groups. After 1 chiropractic adjustment, pain as analyzed by VAS was reduced significantly and the mean heart rate reduced from 76.7 +/- 12.7 to 74.3 +/- 12.4 ($P < .01$).
- The standard deviation of normal-to-normal QRS increased from a range of 55.8 to 44.6 to a range of 60.6 to 47.2, the high-frequency component increased from 359 +/- 968 to 444 +/- 1069.
- The low-frequency component increased from 403 +/- 753 to 465 +/- 755, and the total power increased from 1063 +/- 1886 to 1265 +/- 2048.
- After 4 weeks of chiropractic adjustments, pain measured by the VAS was reduced significantly before and after each visit as analyzed by testing.
- The analysis of variance on the HRV 4-week data found that changes in the standard deviation of normal-to-normal QRS, total power, and low-frequency components reached statistically significant levels ($P < .05$).
- Authors of this study concluded that HRV and VAS changed significantly in patients as a result of chiropractic care.

Scientific evidence reveals an intimate connection between the spine and the autonomic nervous system. Since the modulation of HRV is governed by the autonomic nervous system, chiropractic adjustments have proven to influence HRV in a positive manor. Subluxations add stress to the nervous system and decrease the ability for the brain to properly recognize and respond to its specific needs. This interference results in lowered heart rate variability, making a person more susceptible to conditions such as heart disease. This study helps to show what happens to the HRV and subsequent physiology when subluxations are located and adjusted.

TCA THE CHIROPRACTIC ADVOCATE