

Surrogate Indication of DNA Repair in Serum After Long Term Chiropractic Intervention: A Retrospective Study

[Journal of Vertebral Subluxation Research](#)

There is a growing body of evidence that wellness care provided by doctors of chiropractic may reduce health care costs, improve health behaviors, and enhance patient perceived quality of life. Until recently, however, little was known about how chiropractic adjustments affected the chemistry of biological processes on a cellular level.

In a landmark study published in the *Journal of Vertebral Subluxation Research*, chiropractors collaborating with researchers at the University of Lund found that chiropractic care could influence basic physiological processes affecting oxidative stress and DNA repair. These findings offer a scientific explanation for the positive health benefits reported by patients receiving chiropractic care.

The study was a collaborative involving Camgen, Inc. of Victoria, B.C. Canada; Chiropractic Leadership Alliance in Mahwah, NJ; Biomedical Diagnostic Research, LLC in Chesterland, Ohio; and Department of Cell and Molecular Biology of Tumor Immunology, University of Lund, Sweden.

The researchers measured serum thiol levels in 21 patients under short-term chiropractic care and 25 patients under long-term chiropractic care. The results were compared to those of a non-chiropractic treated control group of 30 subjects. Long-term chiropractic care of two or more years was shown to re-establish a normal physiological state independent of age, sex, or nutritional supplements. Symptom-free or primary wellness subjects under chiropractic care demonstrated higher mean serum thiol levels than patients with active disease, and produced some values that were higher than normal wellness values.

Serum thiols are primary antioxidants, and serve as a measure of human health status. The test provides a surrogate estimate of DNA repair enzyme activity, which has been shown to correlate with lifespan and aging.

Dr. Christopher Kent, one of the authors explained, "Going through life, we experience physical, chemical, and emotional stress. These stresses affect the function of the nervous system. We hypothesized that these disturbances in nerve function could affect oxidative stress and DNA repair on a cellular level."

"Oxidative stress, metabolically generating free radicals, is now a broadly accepted theory of how we age and develop disease," Kent continued. "Oxidative stress results in DNA damage, and inhibits DNA repair. DNA repair is the mechanism which fixes the damage caused by environmental impact."

Chiropractors apply spinal adjustments to correct disturbances of nerve function. "Chiropractic care appears to improve the ability of the body to adapt to stress," continued Kent. "Further research is needed to gain additional insights that will ultimately lead to improved clinical outcomes," he said.