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## Chiropractic Adjustments, Oxidative Stress and DNA Repair

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Dr Terry Notaras is a Doctor of Chiropractic and Doctor of Osteopathy. He is registered as a Chiropractor and Osteopath with the Chiropractic Board of Australia and is a member of the Chiropractors Association of Australia. Dr Notaras is also an Associate Member of the Australasian College of Chiropractors.

Dr Terry Notaras has lived in the local area for 39 years and has been in private practice for 26 years. He has served on the Executive Committees of the Chiropractors Association of Australia.

Dr Notaras has looked after the health of some of the world's best professional Golf Tour. He has also looked after the Olympic Cycling Squad as well as many other elite athletes. This background allows the technique used at Southern Spinal Care to be the latest and the most effective in the world.

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There is a growing body of evidence that wellness care provided by doctors of chiropractic may reduce health care costs, improve health behaviours 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 researchers measured serum thiol levels in 25 patients under short-term chiropractic care, and 21 patients under long-term chiropractic care. The results were compared to those of a non-chiropractic control group of 30 subjects. Long-term chiropractic care of more than one year was shown to be associated with re-establishment of 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 in non-chiropractic subjects.

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 ageing. Oxidative stress, metabolically generating free radicals, is now a broadly accepted theory of how we age and develop disease. 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 caused by vertebral subluxations. Chiropractic care appears to improve the ability of the body to adapt to stress. Further research is planned to gain additional insights into mechanisms that will ultimately lead to improved clinical outcomes.