

FACT SHEET

CHIROPRACTIC CARE AND THE CORTICAL SILENT PERIOD

DR HEIDI HAAVIK &
PROFESSOR KEMAL TÜRKER
NEW ZEALAND COLLEGE OF CHIROPRACTIC



Research Project Summary

Project Complete

Chiropractic patients frequently report feeling great after an adjustment and experience results such as getting more out of their body, and coping more effectively with the stresses of daily life. Yet the 'why' behind these results has remained a subject of debate. Ground-breaking results of a recent research study suggest these positive outcomes are due to changes in brain function.

Research conducted in partnership by Dr Heidi Haavik, a leading chiropractor and neurophysiology researcher at the New Zealand College of Chiropractic, and world-renowned neurophysiologist, Professor Kemal Türker, found that subjects' ability to flex their lower limb muscles increased by over 70% following just one full spine chiropractic adjustment session.

The results also indicated that the adjustment session allowed for greater drive from the brain to the muscle and prevented the muscles becoming fatigued. This research, which is pending publication, suggests that chiropractic care changes the way the brain sends messages down the spinal cord and out to muscles. It also suggests that the nervous system is able to produce greater muscle contractions following an adjustment, which may mean muscles become stronger.

Perhaps the most interesting finding was that the results recorded from the research subjects occurred after just one session of chiropractic care, yet were similar to what has been shown to occur in the body after three weeks of strength training¹.

This research was conducted at the New Zealand College of Chiropractic thanks to a recent grant partnership between the Australian Spinal Research Foundation, The New Zealand Hamblin Trust and the New Zealand College of Chiropractic.

Importantly, it will contribute to building the base of scientific evidence for what has long been understood from anecdotal reports; that chiropractic adjustments can result in greater energy, strength, better brain control, and less fatigue. This research demonstrates the ongoing benefits that flow directly from the Chiropractic Research Partnership, an initiative of Australian Spinal Research Foundation.

¹ Vila-Chã, C., Falla, D., Correia, M. V., & Farina, D. (2012). Changes in H reflex and V wave following short-term endurance and strength training. *Journal of Applied Physiology*, 112(1), 54-63. doi:10.1152/jappphysiol.00802.2011

Impact of Research

Publication

- Niazi IK, Turker KS, Flavel S, Kinget M, Duehr J, Haavik H. Changes in H-reflex and V-waves following spinal manipulation. *Exp Brain Res*. Jan 13 2015.

Presentation

- Niazi IK, Turker KS, Flavel SC, Kingett M, Duehr J, Haavik Taylor H. Increased cortical drive and altered net excitability of low-threshold motor unit levels to the lower limb following spinal manipulation. Paper presented at: World Federation of Chiropractic's 12th Biennial Congress, 2013.
- Haavik H, Niazi IK, Duehr J, Kinget M, Ugincius P, Sebiq O, Yılmaz G & Türker KS (2014). Chiropractic alters TMS induced motor neuronal excitability: Preliminary findings. The International Conference on NeuroRehabilitation, June 2014, Aalborg, Denmark.
- Haavik H, Niazi IK, Kingett M, Duehr J, Holt K. The effects of a single session of chiropractic care on lower limb muscle strength. WFC Conference May 2015; Athens, Greece



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CHIROPRACTIC “SUBLUXATION” MODEL FOR HUMAN RESEARCH

DR BARBARA POLUS, RMIT

AUSTRALIAN
spinal
research
FOUNDATION

- Haavik H, Niazi IK, Kingett M, Duehr J, Holt K. The effects of a single session of chiropractic care on lower limb muscle strength. ACC RAC; March 2015; Las Vegas, USA
- Haavik H, Niazi IK, Duehr J, Kinget M, Ugincius P, Sebik O, Yilmaz G & Türker. Chiropractic alters TMS induced I-wave excitability and cortical silent period duration. International MotoNeuron Society Meeting: June 2016, Istanbul, Turkey.
- Niazi IK, Turker KS, Flavel SC, Kingett M, Duehr J, Haavik Taylor H. Changes in H-reflex and V-waves following spinal manipulation. International MotoNeuron Society Meeting: June 2016, Istanbul, Turkey.