

# CHIROPRACTIC & HEALTH: A Natural Connection

## Chiropractic Adjustments Improve Neuromuscular Function

### KEY FINDINGS

“The purpose of this study was to investigate whether there are alterations in cerebellar output in a subclinical neck pain (SCNP) group and whether spinal manipulation before motor sequence learning might restore the baseline functional relationship between the cerebellum and motor cortex.”

“The SCNP group showed a significant improvement in task performance as indicated by a 19% decrease in mean reaction time, which occurred concurrently with a decrease in CBI [cerebellar inhibition] following the combined spinal manipulation and motor sequence learning intervention.”

“**Conclusion:** Subclinical neck pain patients have altered CBI when compared with healthy controls, and spinal manipulation before a motor sequence learning task changes the CBI pattern to one similar to healthy controls.”

### CLINICAL IMPORTANCE

#### Key Concepts:

When a joint does not move properly the entire motion segment (joint, muscles, tendons, sensory and motor nerves, and associated spinal cord and brain areas) are all adversely affected.

An improperly moving joint, called vertebral subluxation complex (VSC) or joint dysfunction or motion unit dysfunction, via dysfunctional changes to all the components of the motion unit, leads to improper motor control.

Improper motor control leads to weakness, lack of balance and coordination, an inability to properly perform motor tasks, and, often but not always, to symptoms such as pain and stiffness.

#### Take-Home Points

Chiropractors are the only healthcare practitioners whose entire education and training is focused upon detecting vertebral subluxation complex (VSC) or joint dysfunction (motion unit dysfunction).

Chiropractors are also the only healthcare practitioners whose education and training is focused on how to correct VSC/motion unit dysfunction by restoring proper motion and thus restoring proper function to the muscles, tendons, sensory and motor nerves, and associated spinal cord and brain areas of the motion unit.

Chiropractic adjustments often seem too simple to have such profound benefits.

However, when you understand the devastating effects of motion unit dysfunction/vertebral subluxation complex, and the ability of chiropractic adjustments to restore motion and function via correction of motion unit dysfunction/VSC, you quickly realize why such a natural, seemingly simple intervention can have such profound effects and benefits.

There is a reason chiropractors get the best results – they have the most evidence-based, most effective education, training, and intervention. It's just science.

**Daligadu et al. (2013) Alterations in Cortical and Cerebellar Motor Processing in Subclinical Neck Pain Patients Following Spinal Manipulation. J Manipulative Physiol Ther 36:527-537**