

contributing factor in headache pain and supports the use of TPR massage therapy to treat patients with TTH. (doi:10.7556/jaoa.2016.009)

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Spinal Manipulation Unable to Demonstrate Improved Sensorimotor Function

Goertz CM, Xia T, Long CR, et al. Effects of spinal manipulation on sensorimotor function in low back pain patients—a randomized controlled trial [published online August 8, 2015]. *Manual Ther*. In press. doi:10.1016/j.math.2015.08.001.

Osteopathic manipulative treatment has been shown to improve balance in patients with vertigo.¹ Researchers at the Palmer Institute in Des Moines, Iowa, conducted a randomized clinical trial to assess whether chiropractic spinal manipulation improves balance control as an outcome measure for sensorimotor functioning in patients with low back pain.

Researchers randomly allocated 221 participants between the ages of 21 to 65 years (120 men, 101 women; mean age, 44 years) with low back pain that was either acute (<4 weeks), subacute (4-12 weeks), or chronic (>12 weeks) to 1 (n=73) of 3 groups, which were identified by different spinal manipulation techniques. For 4 visits during a 2-week period, participants received high-velocity, low-amplitude (HVLA) spinal manipulation; low-velocity, variable-amplitude spinal manipulation; or a control protocol involving light effleurage and mechanically-assisted sham therapy. Before and after the first visit and at 2 weeks, 2 sensorimotor function tests were conducted: (1) postural sway

test, which assessed balance control of the participant during his or her natural stance, and (2) sudden load test, which assessed response time of erector spinae musculature to the dropping of a 1.6 kg load that disturbed the participant's balance.

Fit analysis of covariance models demonstrated that there was no difference between HVLA and sham control (hard surface sway: adjusted mean, 0.09; 95% CI, -0.06, 0.23; soft surface sway: adjusted mean, 0.35; 95% CI, -0.03, 0.73). There were no between-group differences on balance control for any of the interventions.

The authors conclude that there were no significant changes in sensorimotor functions after chiropractic spinal manipulation in patients with mild to moderate LBP. However, because it had been previously noted that postural sway may not be affected after short-term treatment,² the authors concluded that a longer treatment period is necessary. Additionally, further research regarding the efficacy of osteopathic manipulative treatment in managing sensorimotor dysfunctions in patients with somatic dysfunction and low back pain should be conducted. (doi:10.7556/jaoa.2016.010)

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