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**1:** J Manipulative Physiol Ther. 1997 Oct;20(8):529-45.

**Erratum in:**
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# Changes in brain function after manipulation of the cervical spine.

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OBJECTIVE: To ascertain whether manipulation of the cervical spine is associated with changes in brain function. DESIGN: Physiological cortical maps were used as an integer of brain activity before and after manipulation of the cervical spine in a large (500 subjects), double-blind controlled study. SETTING: Institutional clinic Participants: Adult volunteers. INTERVENTION: Five hundred subjects were divided into six comparative groups and underwent specific manipulation of the second cervical motion segment. Blinded examiners obtained reproducible pre- and postmanipulative cortical maps, which were subjected to statistical analysis. MAIN OUTCOME MEASURES: Brain activity was demonstrated by reproducible circumferential measurements of cortical hemispheric blind-spot maps before and after manipulation of the second cervical motion segment. Twelve null hypotheses were developed. The critical alpha level was adjusted in accordance with Bonferroni's theorem to .004 (.05 divided by 12) to reduce the likelihood of wrongly rejecting the null hypothesis (i.e., committing a Type I error). RESULTS: Manipulation of the cervical spine on the side of an enlarged cortical map is associated with increased contralateral cortical activity with strong statistical significance ($p < .001$). Manipulation of the cervical spine on the side opposite an enlarged cortical map is associated with decreased cortical activity with strong statistical significance ($p < .001$). Manipulation of the cervical spine was specific for changes in only one cortical hemisphere with strong statistical significance ($p < .001$). CONCLUSIONS: Accurate reproducible maps of cortical responses can be used to measure the neurological consequences of spinal joint manipulation. Cervical manipulation activates specific neurological pathways. Manipulation of the cervical spine may be associated with an increase or a decrease in brain function depending upon the side of the manipulation and the cortical hemisphericity of a patient.

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