

### **Cervical Spine Manipulation and ICA (internal carotid artery) dissection**

“Although several case reports and case series raise the hypothesis of an association, we found no epidemiologic studies that validate this hypothesis.”<sup>1</sup>

Case reports represented the majority of the literature describing an association between cSMT (cervical spinal manipulative therapy) and CAD (carotid artery dissection). “This study has demonstrated that the literature infrequently reports useful data toward understanding the association between cSMT, CADs and stroke. As a result, the value of these reports toward informing our understanding of the relation between cSMT and CAD is minimal.”<sup>2</sup>

A 2008 population-based, case-control and case-crossover study found no evidence of increased risk of vertebrobasilar artery (VBA) stroke related to chiropractic care, compared to primary medical care.<sup>3</sup> This comprehensive study, published in *Spine*, involved evaluation of nine years of medical records in the Canadian province of Ontario (covering 100 million patient years).

Characterization of risk for adverse events related to SMT and comparison to adverse events from medications used for the same conditions:

Serious adverse events 5-6 per 100,000 cervical spine manipulations.

Serious adverse events no more than 1 per million patient visits for lumbar spine manipulation.<sup>4</sup>

In the trials included in a 2010 systematic review, the relative risk (RR) for high velocity manipulation causing minor/moderate adverse events was significantly less than the RR of the comparison medication (usually NSAIDs).<sup>5</sup>

Risk of death from NSAIDs for osteoarthritis has been estimated to be 100–400 times the risk of death from cervical manipulation.<sup>5</sup>

### **Serious Adverse Events and Spinal Manipulative Therapy of the Low Back Region**

“The anecdotal nature of these cases does not allow for causal inferences between SMT and the events identified in this review.”<sup>6</sup>

### **Intracranial Hypotension**

“To date, the evidence that CSMT is not a cause of IH is inconclusive. Further research is required before making any conclusions that CSMT is a cause of IH. Chiropractors and other health practitioners should be vigilant in recording established risk factors for IH in all cases. It is possible that the published cases of CSMT and IH may have missed important confounding risk factors (e.g. a new headache, or minor neck trauma in young or middle-aged adults).”<sup>7</sup>

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## Safety continued

Concerning adverse events related to chiropractic care/SMT for children, 2 systematic reviews, one covering databases from inception through 2004<sup>8</sup> and the other 2004-2010,<sup>9</sup> found 9 severe adverse events and 20 indirect adverse events (effects due to delayed diagnosis or inappropriate use of SMT for certain conditions).<sup>8,9</sup>

### References

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