Correctly identify practitioners and put adverse events of spinal manipulation into perspective

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Dear Editor,

We read with interest the paper by Struewer *et al*. in Orthopedic Reviews.[1] While appreciating their recognition of potential benefits of spinal manipulation, we would like to address two issues raised by the paper.

The first is accuracy in use of the term *chiropractic manipulation*. The terms *manipulation* and *chiropractic* appear to be used synonymously; if so we would recommend this practice be changed in the future. Even though an osteopathic physician performed the manipulation in the reported case, much of the *Introduction* and *Discussion* focused on *chiropractic spinal manipulation*. The authors make the same mistake in the body of the case presentation where they accurately describe the manipulative procedure as being performed by a doctor of osteopathy; however, immediately following this description they state: *Two days after the chiropractic procedure [emphasis added] he [the patient] was referred to our institution…*

Manipulation performed by doctors of osteopathy and chiropractic can differ,[2-5] as can manipulation and mobilization procedures performed by physical therapists.[6] Inappropriate use of the term *chiropractic manipulation* when describing adverse events was explored by Terrett who concluded that medical authors had misrepresented or inaccurately reported the literature by frequently attributing adverse events of manipulation as being performed by doctors of chiropractic when they had been performed by other health care practitioners or by *lay manipulators*.[7]

The next issue is Struewer *et al.*'s assumption that adverse events following spinal manipulation are underreported and based on *poor overall data*. Yet the authors do not indicate that several excellent recent studies have assessed adverse events related to spinal manipulation.[8-10] A recent systematic literature review concluded the risk of a major adverse event following spinal manipulation to be 0.003% (upper 95% confidence interval, *i.e*., conservative estimate).[8] This is a low risk, much lower than the risks attributed to medications and surgical procedures used to treat back and neck pain. For example, Struewer *et al.* list cauda equina syndrome as a potential life-threatening complication of manipulation. Shekelle *et al*. reviewed the literature on this topic and found the risk of cauda equina syndrome following spinal manipulation to be 1 case in 100,000,000.[11] To put this in perspective, a patient is approximately 20,000 times more likely to die of a lightning strike than experiencing cauda equina syndrome following a spinal manipulation, and cauda equina syndrome is 7400-37,000 times more likely to result from surgery than from spinal manipulation.[10]

Struewer *et al.* suggest that medical physicians should *remain vigilant for potential serious adverse effects that may arise after chiropractic [sic] treatment*, that *serious adverse events are only published on occasion…,* and that medical physicians should *deliberately educate their patients of dangers and possible harmful outcomes*. However, such intentional increased vigilance may lead to an over reporting of adverse events attributed to spinal manipulation.[12]

Again, we appreciate Struewer *et al*.'s interest in spinal manipulation and agree that reporting adverse events is important. However, we would suggest that the authors refrain from attributing adverse events following manipulation to *chiropractic manipulation* when the procedures are performed by other health care providers. We also would encourage physicians to have a balanced approach when discussing manipulation with their patients, understanding that the risk of serious adverse events following manipulation is very low.

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Received for publication: 18 December 2013.
Accepted for publication: 10 February 2014.

Orthopedic Reviews 2014; 6:5248
doi:10.4081/or.2014.5248

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