

## Chiropractic, Stroke Risk and Informed Consent

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In their 1978 book, *The Web of Belief*, W.V. Quine and J. S. Ullian wrote: "The desire to be right and the desire to have been right are two desires, and the sooner we separate them the better off we are. The desire to be right is the thirst for truth. On all accounts, both practical and theoretical, there is nothing but good to be said for it. The desire to have been right, on the other hand, is the pride that goeth before a fall. It stands in the way of our seeing we were wrong, and thus blocks the progress of our knowledge."

Saying that one was wrong in the past isn't easy for most people. Personally, I try to keep this quote from Quine and Ullian in mind. This kind of thinking is important when it comes to health care because the state of our knowledge is or should be in a constant state of flux, with new research continually providing better answers to what we should do as chiropractors.

Back in 1987, a longtime patient of mine came back to me with a new problem. When she rotated her head in either direction and did extension and lateral flexion, she got profoundly dizzy. Well, in 1987 that looked as if she had bilateral positive George's test. Although she was much older than what I'd learned was the typical age for females who had vertebral artery disorders, she had extremely high serum cholesterol when she first became my patient and she smoked cigarettes.

I recommended that she have further vascular testing, but she was resistant. The state of our knowledge back then was that I *shouldn't* manipulate her upper cervical spine and *should* order Doppler ultrasound of the vertebral artery. Nevertheless, she trusted me and wanted me to adjust her, in part because her late brother-in-law was a chiropractor and didn't trust the medical profession.

I told her she had two choices: have the test done or find another chiropractor. Reluctantly, she went to the vascular specialist I recommended, who - much to my amazement - he reported to me that she had the vertebral arteries of a baby and that, in his opinion, cervical manipulation was safe and indicated. After just two office visits of manipulating C0/C1, her "positive" George's test was normal and she felt great.

To many this would be adequate evidence that [a positive George's test](#) is indicative of the need for cervical manipulation, but that isn't the takeaway message. My anecdote really revealed little more than that George's test did result in at least one false positive. In the time since I saw this patient, research has shown us that George's test and other similar provocative tests [are actually not of value](#).<sup>1</sup> As a result, chiropractic colleges have not been teaching or using these tests, nor has the National Board of Chiropractic Examiners included them in its examinations.

In several previous articles, I recommended that during informed consent, we should tell patients about the risk of stroke after cervical manipulation.<sup>2-4</sup> This is because the best evidence was that there was a risk.<sup>5-6</sup> Haldeman has suggested that these strokes are unpredictable events.<sup>7-8</sup> Then the winds of

change in science resulted in a new study by Cassidy, et al.<sup>9</sup> It now appears that chiropractic care is not a risk factor for vertebrobasilar stroke.

However, if one listens to the recent testimony at the Connecticut Board of Chiropractic Examiners' hearing on informed consent ([www.ctn.state.ct.us/ondemand.asp?search=chiropractic](http://www.ctn.state.ct.us/ondemand.asp?search=chiropractic)) given by the non-chiropractic groups, one would believe that cervical manipulation is the penultimate risk for stroke. In fact, they have lamented what they believe is the chiropractic profession's attempts to ignore "90 years" of scientific research on chiropractic stroke.

The reality is that there is a long history of case reports, which they consider invalid, documenting the effectiveness of chiropractic care, but they think is compelling scientific evidence of harm. They also believe that if a jury or a coroner affixes the blame for a stroke on chiropractic care, this is good scientific evidence. The reality is that the scientific evidence for risk is barely 10 years old<sup>5-6</sup> and Cassidy, et al.,<sup>9</sup> found a similar association between chiropractic care and stroke as did Rothwell, et al.,<sup>5</sup> and Smith, et al.,<sup>6</sup> but also found a similar association with medical care, which was a way of determining the background risk. Thus, Cassidy, et al., write: "We found no evidence of excess risk of VBA stroke associated chiropractic care compared to primary care."<sup>9</sup>

So, I was wrong, given our knowledge of today, when I wrote about the risks of stroke and chiropractic care (but not when I wrote it). However, as Dr. Cassidy said on the witness stand [at the Connecticut Board hearing](#), some future study might find there *is a risk* of manipulation, and when that happens, we will have to change.

That said, the best way to handle consent today is to tell patients what Canadian DCs have been telling their patients since the Cassidy, et al., study was released:

"There are reported cases of stroke associated with visits to medical doctors and chiropractors. Research and scientific evidence does not establish a cause and effect relationship between chiropractic treatment and the occurrence of stroke; rather, recent studies indicate that patients may be consulting medical doctors and chiropractors when they are in the early stages of a stroke. In essence, there is a stroke already in process. However, you are being informed of this reported association because a stroke may cause serious neurological impairment or even death. The possibility of such injuries occurring in association with upper cervical adjustment is extremely remote."

## References

1. Thiel H, Rix G. [Is it time to stop functional pre-manipulation testing of the cervical spine?](#) *Man Ther*, 2005 May;10(2):154-8.
2. Perle SM, Ferrance RJ. ["What's Good for the Goose Is ... Ethics and Vaccinations."](#) *Dynamic Chiropractic*, Feb. 12, 2005;23(4)
3. Perle SM. ["Informed Consent."](#) *Dynamic Chiropractic*, March 26, 2007;25(7):30.
4. Perle SM. ["Informed Consent."](#) *ACAnews*, July 2008:28.
5. Rothwell DM, Bondy SJ, Williams JI. [Chiropractic manipulation and stroke: a population-based case-control study.](#) *Stroke*, 2001;32(5):1054-60.
6. Smith WS, et al. [Spinal manipulative therapy is an independent risk factor for vertebral artery dissection.](#) *Neurology*, 2003 May 13;60(9):1424-8.
7. Haldeman S, Kohlbeck FJ, McGregor M. [Unpredictability of cerebrovascular ischemia associated with cervical spine manipulation therapy: a review of sixty-four cases after cervical spine](#)

- manipulation. *Spine*, 2002;27(1):49-55.
8. Rubinstein SM, Haldeman S, van Tulder MW. [An etiologic model to help explain the pathogenesis of cervical artery dissection](#): implications for cervical manipulation. *J Manipulative Physiol Ther*, 2006 May;29(4):336-8.
  9. Cassidy JD, Boyle E, Cote P, He Y, Hogg-Johnson S, Silver FL, et al. [Risk of vertebrobasilar stroke and chiropractic care](#): results of a population-based case-control and case-crossover study. *Spine*, 2008 Feb 15;33(4 Suppl):S176-83.

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