

[IMAGE]

As Safe as Can Be

Some people refuse to go to a chiropractor because they fear suffering a stroke after neck manipulation. Recent media attention has focused on the claim of a cause-effect relationship between chiropractic and stroke, yet little evidence actually supports the hypothesis that neck manipulations can cause a stroke. A recent study in the *Journal of Manipulative and Physiological Therapeutics* makes this relationship seem even more implausible.

To determine the extent of strain on the vertebral artery of the neck during spinal manipulative therapy, six vertebral arteries were utilized from five cadaveric specimens, with only the necessary arterial loops exposed. Strains on the arteries were measured during range-of-motion tests, diagnostic tests and a number of manipulation procedures. Next, each artery was removed and strained until failure on a materials-testing machine, with the level of mechanical failure recorded.

Spinal manipulative therapy on the cervical spine caused an average strain of about 2-6% over resting artery length to the arterial loops, similar to strains measured during range-of-motion tests. The failure tests showed that the vertebral arteries could be stretched to 39-62% over resting length before causing mechanical failure, however. The strain required to damage the vertebral arteries was approximately nine times greater than strain actually produced by spinal manipulation.

The researchers who conducted this study concluded that in normal circumstances, typical chiropractic manipulations to the neck are highly unlikely to tear the vertebral artery, and that the strains measured on the arteries in this study were within the range of those generated during normal activities. In fact, the estimated occurrence of stroke following cervical manipulations is approximately one per 6 million manipulations; even in these cases, the manipulations aren't necessarily the cause of the strokes. By comparison, a person's odds of getting struck by lightning in his or her lifetime are much higher: about one in 3,000.

Reference:

Symons BP, Leonard T, Herzog W. Internal forces sustained by the vertebral artery during spinal manipulative therapy. *Journal of Manipulative and Physiological Therapeutics* 2002;25(8), pp. 504-510.

To read about neck pain, go to <http://www.chiroweb.com/tyh/neckpain.html>.

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