

ADJUSTING MINDSETS ABOUT SAFETY

Four major studies have looked at the relationship of stroke and neck manipulation. Each has concluded that chiropractic spinal manipulation does not cause stroke; however, patients with symptoms of an impending stroke have a higher likelihood to seek care from a variety of provider types, including chiropractic physicians.

100 MILLION PERSON YEARS EXAMINED¹



The largest medical study to date, encompassing 100 million person years, found that strokes occur at a similar rate regardless of whether the patient sees a chiropractic physician for manipulation or their primary care physician for consultation. The authors found:

"no evidence of excess risk of stroke associated chiropractic care compared to primary care."

5% OF THE US POPULATION EXAMINED ²



Another study examined data for approximately 39 million insured patients, equivalent to approximately 12% of the total US population. The study analyzed a potential correlation between chiropractic visits, primary care visits, and stroke. The study found:

"No significant association between VBA stroke and chiropractic visits. We conclude that manipulation is an unlikely cause of stroke."

META-ANALYSIS AND REVIEW OF DATA 3



On Feb 16, 2016, a high-quality study was published in the respected online journal Cureus. The authors performed Systematic Review and Meta-analysis of data concerning spinal manipulation and stroke and found:

"There is no convincing evidence to support a causal link between chiropractic manipulation and Cervical Artery Dissection (stroke)."

HOSPITAL ADMISSIONS STUDIED⁴



A population-based, case-crossover study was undertaken in Ontario, Canada where cases of carotid artery stroke admitted to hospitals over a 9-year period were studied.

"No excess risk of carotid artery stroke after chiropractic care. Associations between chiropractic and PCP (MD) visits and stroke were similar and likely due to patients with early dissection-related symptoms seeking care prior to developing their strokes."

- ν 1. Cassidy JD et al. Risk of vertebrobasilar stroke and chiropractic care: results of a
- m v population based case-control and case-crossover study. Spine 2008 Feb 15;33(4
- U Suppl):S176-83
- 2. Kosloff TM, Elto D, Tao J, Bannister WM. Chiropractic care and the risk of
- $\frac{1}{0}$ vertebrobasilar stroke: results of a case-control study in U.S. commercial and
- Medicare Advantage populations. Chiropractic & Manual Therapies (2015) 23:19
 - 3. Church E W, Sieg E P, Zalatimo O, et al. (February 16, 2016) Systematic Review and Meta-analysis of Chiropractic Care and Cervical Artery Dissection: No Evidence for Causation. Cureus 8(2): e498. doi:10.7759/cureus.498

4. Cassidy, J. David et al. Risk of Carotid Stroke after Chiropractic Care: A Population-Based Case-Crossover Study. Journal of Stroke and Cerebrovascular Diseases, Volume 26, Issue 4 , 842 - 850