

## VBA STROKE AND CHIROPRACTIC CARE: FACTS AND FALLACIES



You may have read articles or reports that implied that a spinal adjustment may increase the risk for developing a vertebrobasilar (VBA) stroke.

**The fact is there is no reliable medical or chiropractic evidence demonstrating that cervical manipulation is a cause of VBA stroke.**

Persons who experience cervical artery dissection (CAD) and subsequent stroke often experience neck pain and headache as their initial symptoms.

Neck pain and headache are conditions for which many patients seek chiropractic or medical care. In this context chiropractic care as well as medical care is associated with the development of CAD and stroke. Association, however, is not causation.

Regardless of whether a person seeks chiropractic care or medical care, a very small percentage of them go on to experience a dissection and possibly a stroke. Studies involving millions of patients over several years have not shown any increased risk for dissection and stroke among persons who seek chiropractic care versus primary medical care.

A 2019 study published in the *Annals of Medicine* cites 90+ references to studies covering millions of lives and concludes that:

- Manual therapy does not result in an increased risk of CAD. Epidemiologic studies with millions of patients do not reveal any greater association of stroke for persons under chiropractic care compared with persons under medical care.
- CAD being associated with a chiropractic setting is very rare, constituting as few as 1 per 8.1 million chiropractic office visits and 1 per 5.9 million cervical manipulations by practicing chiropractors in Canada.
- Due to the low incidence, conducting sufficiently powered clinical manual-therapy randomized controlled trials to evaluate causality is nearly impossible.
- The lack of established causality relates to the chicken and egg discussion, i.e. whether the CAD symptoms led the patient to seek cervical spinal manipulation therapy (SMT) or whether the cervical SMT provokes CAD along with the non-CAD presenting headache and/or neck complaint.

A recent meta-analysis by neurosurgeons at the Department of Neurosurgery, Pennsylvania State University's Hershey Medical Center and Johns Hopkins University evaluating this question is entitled: *Systematic Review and Meta-analysis of Chiropractic Care and Cervical Artery Dissection: No Evidence for Causation*. Numerous peer-reviewed published articles in medical and chiropractic journals continue to back up these findings.

## FOR EXAMPLE:

- In the journal *Spine* (Cassidy et al, 2008), researchers studied the population of the province of Ontario, Canada over nine years finding 818 VBA stroke events in that population and concluded that patients would have likely had a stroke whether or not they received chiropractic care or medical care because they were already experiencing symptoms that were ultimately related to an arterial dissection. They wrote:  
*"We found no evidence of excess risk of VBA stroke with associated chiropractic care compared to primary care."*
- In *Chiropractic & Manual Therapies* (Kosloff et al, 2015), researchers evaluated a population base equal to five percent of the population of the U.S. over a period of three years finding 1,829 VBA stroke cases. Authors concluded:  
*"We found no significant association between exposure to chiropractic care and the risk of VBA stroke. We conclude that manipulation is an unlikely cause of VBA stroke."*
- In *Cureus* (Church et al, 2016), researchers conducted a higher level epidemiologic study known as a systematic review and meta-analysis addressing the question of chiropractic care and CAD with related stroke. They concluded:  
*"There is no convincing evidence to support a causal link between chiropractic manipulation and cervical arterial dissection."*

## THINGS TO REMEMBER ABOUT CAD AND THE DEVELOPMENT OF A STROKE:

- CADs are a problem of a blood vessel that has the potential to cause neurological problems, it is not primarily a neurological problem.
- CADs occur 3-4 times in a population of 100,000 people and they may or may not be related to a specific activity.
- Sudden onset of neck pain and headache, especially when combined with problems of balance, speech, facial movement, arm weakness, visual disturbances and difficulty swallowing should be reported in detail to your healthcare provider(s) or to the emergency room.
- A personal or family history of connective tissue disorders, such as Marfan's Syndrome or fibromuscular dysplasia, warrants additional consideration with a new presentation of neck pain and/or headache with neurological symptoms and this information should be shared with your healthcare provider.

