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## **Stroke Risks While Under Chiropractic Care – Debunking the Myth that Chiropractic Causes Stroke**

By Gerard Clum and Mark Studin | November 2010

According to the American Heart Association (2010), a stroke "...is a disease that affects the arteries leading to and within the brain. It is the No. 3 cause of death in the United States, behind diseases of the heart and cancer. A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts. When that happens, part of the brain cannot get the blood (and oxygen) it needs, so it starts to die...Stroke can be caused either by a clot obstructing the flow of blood to the brain (called an ischemic stroke) or by a blood vessel rupturing and preventing blood flow to the brain (called a hemorrhagic stroke)...The brain is an extremely complex organ that controls various body functions. If a stroke occurs and blood flow can't reach the region that controls a particular body function, a stroke will ensue, then that part of the body won't work as it should"

The AHA (2010) also posts signs and symptoms of an impending stroke. These include numbness or weakness of one side of the face, sudden confusion, difficulty speaking or understanding, problems seeing out of one or both eyes, sudden trouble walking, dizziness, loss of balance or coordination, and severe and sudden headaches with no known cause.

The blood supply to the brain is provided through the vertebral arteries and the carotid arteries. Problems in any of these arteries can result in the development of a thrombus (clot) or an embolism. If the thrombus is large enough it can occlude the normal blood flow. If an embolism occurs, it can move through the circulation into the brain and occlude blood flow. Either way, a stroke can be the result of these situations. One of the unique characteristics of strokes of this nature is that they can involve neck pain and headache.

Many patients will seek chiropractor care for neck pain and headaches. In the great majority of cases, the pain involved is not related to a stroke. However, on occasion, it may be. When the pain is related to a stroke, some of these patients developed a full range of stroke symptoms. Over the years, reports in the popular press and the scientific literature have suggested or stated outright that in patients who experience a stroke following chiropractic care, the stroke was *caused* by the chiropractor! We now know that this is *very unlikely* to be the case. What is far more likely is that the patient developed a thrombus or embolism in their vertebral arteries, producing neck pain and headache. This person sought health care for the pain. Whether they saw a chiropractor or their medical provider, they would progress on to a stroke at virtually the same rate. While the argument that the chiropractor caused the problem is convenient, the science indicates that it is in all likelihood a mistake to draw such a conclusion.

In 2008, Cassidy, Boyle, Côté, He, Hogg-Johnson, Silver, and Bondy studied the occurrence of this problem in the province of Ontario over a nine year period with a database representing almost 110 million person-years (12.2 million people, studied over 9 years equals 110 million person-years). The purpose of this study was to investigate if an association between chiropractic care and vertebral basilar artery stroke exceeded the association between medical primary care providers and vertebral basilar artery stroke. The premise was that if there was a greater association between chiropractic care and this stroke then one could logically say there was a cause and effect relationship between chiropractic care and this problem. There was no greater likelihood of a patient experiencing a stroke following a visit to his/her chiropractor than there was after a visit to his/her primary care physician. The results were conclusive; there was no greater association between manipulation (chiropractic adjustments) and ischemic stroke or TIA's (transient ischemic attacks).

The research did conclude that overall, 4% of stroke victims had visited a chiropractor within 30 days of their strokes, while 53% of the stroke cases had visited their medical primary care providers within the same time frame. The authors offer the perspective that because neck pain is associated with some stroke, patients visit their doctors prior to the development of a full-blown stroke scenario. Cassidy et al. (2008) noted, "Because the association between chiropractic visits and [vertebral basilar artery] stroke is not greater than the association between PCP [medical primary care providers] visits and [vertebral basilar] stroke, there is no excess risk of [vertebral basilar] stroke from chiropractic care" (p. S180). In fact, the incident of chiropractic vs. medical care was substantially lower in certain situations based upon the data.

In 2010, Murphy considered the argument that a chiropractic manipulation could cause stroke and concluded, "...if this is a possibility, it would have to be considered so rare that a case-control and case crossover study covering over 109,000,000 person-years failed to detect it". He also reports that "... in 20% of cases of [vertebral artery dissection and stroke] the individual does not have neck pain or headache and in a very small percentage of vertebral artery dissections can occur in a person who has no symptoms of any kind. Thus, in cases in which an asymptomatic individual experiences [vertebral artery dissection and stroke] after [chiropractic manipulation] it is not clear whether manipulation was a cause or contributing factor to the dissection or whether the patient had an asymptomatic arterial dissection prior to the chiropractic visit" (Murphy, 2010). He concluded his report with the following, "...current evidence indicates that [vertebral artery dissection and stroke] is not a 'complication to [chiropractic manipulation]' *per se*. That is, the weight of the evidence suggests that [chiropractic manipulation] is not a cause of [vertebral artery dissection and stroke]...." (Murphy, 2010)

The real issue is not whether chiropractic or medical primary care causes stroke, as the research conclusively refutes this, but rather it is an issue of public awareness and perception. The argument must shift to the real issue of protecting the public and making people aware of the importance of recognizing risk factors and of getting immediate care to avoid long term disability or death.