

Because — in *very rare* instances — people have experienced a CAD-related stroke following cervical manipulation, some theorized that in these cases the manipulation caused the stroke. Recent research, however, disputes this belief. A new study, published in the February 15, 2008 issue of *Spine*, examined the risk of stroke for patients seeking chiropractic care for headache or neck pain and compared the results to similar patients seeking medical care for headache or neck pain from a primary care provider (PCP).⁴ **The researchers found no difference between chiropractic care and medical care and the risk of stroke;** the research supports the theory that people who suffer stroke following treatment—whether from a DC or MD—have already had a CAD and seek treatment for the accompanying head or neck pain.

Numerous other studies have been performed by chiropractic and medical researchers which put the likelihood of injury from chiropractic adjustment of the neck very low. Current estimates range from one stroke (cerebrovascular accident [CVA]) in nearly 4 million cervical manipulations to one stroke per 400,000 upper cervical spine manipulations that include rotation of the neck.³ It should be noted that these estimates are *per manipulation*. In contrast, the risk associated with non-steroidal anti-inflammatory drugs (NSAIDs) has been estimated at 15.3 deaths

per 100,000 people using NSAIDs⁵ to 1 death per 1,200 regular NSAID users⁶.

No matter how small, ANY risk of injury is too big and all responsible health care providers — including chiropractors — will do all in their power to both identify those patients at greatest risk while choosing the treatment that is likely to provide the greatest benefit compared to risk.

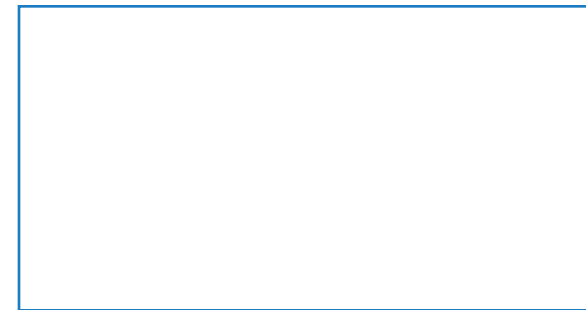
As a patient, you can take some of the control by understanding the potential for harm, when to avoid various treatments, and the comparative risks for each of your treatment options so that you can then choose the treatment that is right for you. **It is also important for you to recognize the potential symptoms of cervical artery dissection as listed in this pamphlet and seek immediate emergency care if you believe you are experiencing a stroke.**

REFERENCES:

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3. Triano JJ, et al. *Current Concepts in Spinal Manipulation and Cervical Arterial Incidents*. NCMIC Insurance Company: West Des Moines, IA; 2006.
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5. Lanas A, et al. "A Nationwide study of mortality Associated with Hospital Admission Due to Severe Gastrointestinal Events and Those Associated with Nonsteroidal Antiinflammatory Drug Use." *American Journal of Gastroenterology*. 2005; Vol. 100, pp. 1685.

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This information is provided by the Foundation for Chiropractic Education and Research (FCER) as a public service. FCER and the chiropractic profession are interested in educating the public about the symptoms of impending CAD and stroke. Your doctor of chiropractic is well-trained and educated to recognize the signs and symptoms of CAD/stroke and can answer your questions and address your concerns about this disorder.



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When it's Not "Just" Head or Neck Pain: Cervical Artery Dissection

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It is an unfortunate fact of modern life that many people suffer from headache and neck pain each year. According to statistics from the U.S. Centers for Disease Control and Prevention (CDC), the percentage of people who suffered from severe headache or migraine in 2004 ranged from 6% of those over the age of 75 years up to approximately 25% of women between the ages of 18 and 44 years.¹ Statistics for neck pain are less reliable as it is sometimes included in back pain or counted only as whiplash. An estimated 80% of the population has "back pain,"² but the percentage of this number representing neck pain is uncertain. Regardless, based on these figures, there are a great many people seeking health care for these problems each year.

In some instances, people seeking care for headache or neck pain may actually be experiencing the symptoms of a rare condition called cervical artery dissection (CAD), a split in the artery that may lead to stroke. Due to injury or possibly genetics, susceptible people have weaknesses in their cervical arteries which may ultimately lead to stroke. Because there are no symptoms of the arterial weakness, the symptoms of the dissection are sometimes mistaken and the sought after treatment focuses on the headache or neck pain rather than the underlying condition.

As a patient, it is important to know and recognize when a headache or neck pain may be a sign of something considerably more serious. The chart below lists the differences in symptoms. **If you ever suffer from a headache or neck pain that is worse than any you've had before, CALL 911. If you have a severe headache or neck pain and additional symptoms associated with CAD (see chart below) call 911.**

CAD	Migraine	Tension-Type Headache	Neck Pain
<ul style="list-style-type: none"> • Dizziness - this includes a feeling of being off balance, a feeling that you are spinning or that the room is spinning, a giddy feeling, feeling that you are going to faint or if you have actually had a fainting spell • Double vision • Difficulty swallowing • Difficulty speaking - this includes difficulty in forming words as well as scratchy voice that does not resolve with clearing your throat • Difficulty walking - particularly losing balance or having trouble coordinating your leg movements • Intense nausea and/or vomiting • Numbness on one side of your body and/or your face • Confusion 	<ul style="list-style-type: none"> • Pounding or throbbing pain, may shift sides of the head • Sensitivity to lights, noise, and/or odors • Nausea, vomiting, and/or diarrhea • Loss of appetite • Paleness • Fatigue • Dizziness • Visual disturbances 	<ul style="list-style-type: none"> • Constant headache (without pounding) • Pain on both sides of the head • Tightness around the forehead • Ache in temples, back of the head, and/or neck 	<ul style="list-style-type: none"> • Knot, stiffness, or pain in the neck • Pain may radiate to shoulders, arms, and/or upper back • Restricted range of motion in the neck • Shooting pain, numbness, tingling, or weakness down one arm

It is important to note that having one of these symptoms in isolation does not indicate CAD, however, if you have these symptoms *in addition to severe headache* you should call 911 immediately. Do not allow someone to drive you to the emergency room as you may need medical attention during transit—CALL 911.

The presence of these symptoms is especially important if you have an underlying disorder such as the following, which may increase your risk of CAD³:

- Polycystic kidney disease
- Ehlers-Danlos Syndrome
- Marfan Syndrome
- Fibromuscular Dystrophy

There are a number of every day, "normal" activities that have been associated with CAD. Although none of these activities is thought to "cause" stroke, if a person is already experiencing a CAD, these activities may progress to stroke—which is why it is important to recognize the signs and symptoms of CAD and seek immediate emergency care. These normal activities include³:

- Childbirth
- Callisthenics, athletics, fitness exercise
- Yoga
- Hanging out the laundry
- Neck extension for a bleeding nose
- Protracted dental work
- Sneezing/nose blowing/coughing
- Star gazing, watching aircraft
- Break dancing
- Sitting in a beauty or barber's chair
- Overhead work, painting a wall
- Archery
- Neck turn while driving
- Amusement park ride
- Wrestling
- Emergency resuscitation
- Sleeping position
- Football
- Tai Chi
- Swimming