Chiropractic Cervical Adjustment

Cervical adjustment (also known as neck manipulation) is a precise procedure, generally applied by hand, to the joints of the neck and is beneficial for the treatment of headache and neck pain. Cervical adjustment works to improve joint mobility in the neck restoring range of motion, and reducing muscle hypertonicity thereby relieving pressure and tension.[1] Patients typically notice a reduction of pain, soreness, stiffness and improved mobility.

All health care interventions carry risks of varying significance and incidence. Cervical adjustment, particularly of the C1 and C2 vertebrae, has on rare occasions been associated with stroke and stroke-like symptoms. Two primary types of research have been conducted into this association: retrospective and progressive case series studies; and biomechanical research into the kinetics of cervical adjustment.

Recent Findings

The findings in the existing, published literature indicate that serious adverse events associated with cervical adjustment are very rare. While estimates vary, a range of one to two events per million cervical adjustments is generally considered to be a conservative risk ratio by the research community. This association is typically characterized by dissection of the vertebral artery extracranially on the side of the neck which was adjusted, accompanied by the onset of acute neck pain and neurological symptoms immediately or within hours.

An extensive commentary on chiropractic care, published in the February 2002 issue of the *Annals of Internal Medicine* reviewed more than 160 reports and studies on chiropractic. It states the following with regard to the safety of cervical adjustment: *"The apparent rarity of these accidental events has made it difficult to assess the magnitude of the complication risk. No serious complication has been noted in more than 73 controlled clinical trials or in any prospectively evaluated case series to date."* [2]

Similarly, a Canadian study, published in 2001 in *Stroke*, also concluded that stroke associated with cervical adjustment is so rare that it is difficult to calculate an accurate risk ratio.[3] The study authors have stated: *"The evidence to date indicates that the risk associated with chiropractic manipulation of the neck is both small and inaccurately estimated. The estimated level of risk is smaller than that associated with many commonly used diagnostic tests or prescription drugs."*

The most recent research into the association between cervical adjustment and stroke involves biomechanical studies to assess what strain, if any, cervical adjustment may place on the vertebral arteries. The preliminary findings of this ongoing work indicate that cervical adjustment is done well

[1] See Appendix of Research References

[2] Meeker WC, Haldeman S. Chiropractic: A profession at the crossroads of mainstream and alternative medicine. Annals of Internal Medicine February 5, 2002, Vol. 136, No. 3.

[3] Rothwell DM, Bondy SJ, Williams JI. Chiropractic manipulation and stroke: A population-based, case-controlled study. Stroke May 2001.

within the normal range of motion and that cervical adjustment is *"very unlikely to mechanically disrupt the VA [vertebral artery]."*[4]

Clinical Practice Guidelines

In 2005, the Canadian Federation of Chiropractic Regulatory Boards and the Canadian Chiropractic Association published a comprehensive Clinical Practice Guideline on Treatment of Neck Pain in Adults (not associated with whiplash) which contains a thorough review of the literature on risks associated with cervical manipulation. The Guideline provides clear direction on risk factors and contraindications to treatment based on best evidence. Two additional cervical care Guidelines are currently in development: one on treatment of headache and one on treatment of whiplash.

Informed Consent

Like all health professionals, chiropractors are required by law to obtain informed consent to treatment from their patients. The chiropractic profession takes this responsibility seriously and has been a leader in obtaining written informed consent to in-office examination and treatment procedures.

Ongoing Research

Chiropractic researchers are actively involved in studying the benefits and risks of manipulation in the treatment of neck and back pain through clinical trials and literature reviews, and by publishing the results. For example, the World Health Organization *Task Force on Neck Pain and its Associated Disorders* is an international, multi-disciplinary, multi-centre study in which the Canadian chiropractic profession is a partner. This is one example of the ongoing research that will ensure that care is provided as effectively and safely as possible.

For further information, please direct enquiries to:

Howard Vernon D.C., PhD.
Director, Centre for the Study of the Cervical Spine
Canadian Memorial Chiropractic College
(416) 482-2340

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