

# INSIGHTS INTO CHIROPRACTIC

*Discerning the true nature of an alternative health care method*

## Chiropractic and Headaches of Cervical Origin

### INTRODUCTION

Headache is one of the most ubiquitous complaints in modern society. Headache is also one of the most common complaints for which patients seek treatment from a doctor of chiropractic. Fortunately, chiropractors have a long tradition of headache management and success, especially for the types of headaches known as cervicogenic headache or headache of cervical origin.

### HEADACHE & THE CERVICAL SPINE

Chiropractors have long held the notion that dysfunction in the joints of the cervical spine may be a causative factor in tension headache. Recently, a study published in the medical journal *Headache* has found a statistical connection between tension type headache and abnormal alignment of the cervical spine. The study compared 372 patients with tension-type headache (pain located at the base of the skull, radiating into the crown of the head, or to the temples and forehead, or both) and 225 normal control subjects.(1)

The study states that, when viewed from the side, the normal circumstance is for the cervical spine to assume the shape of a gently forward bending lordotic curve. The headache patients were found to have abnormally straightened cervical curves compared to the control subjects. The researchers go on to conclude that the abnormally aligned neck position requires greater muscular effort to support the weight of the head and neck, likely leading to tension-type headache.

In addition, another study of 47 migraine and tension headache sufferers found that 77% of their subjects and 89% of their women subjects were found to have abnormally straightened cervical curves. The study goes on to conclude that these findings support the theory that the neck plays an important, but largely ignored role, in the cause of many types of headache pain. Furthermore, if the neck can be restored to its normal alignment, the frequency, intensity, or length of headache attacks may be reduced or eliminated.

### CHIROPRACTIC METHOD RESTORES NORMAL NECK ALIGNMENT

As described above, an abnormally straightened lordotic curvature may be an underlying mechanical cause of tension-type or migraine headaches. Few studies have been undertaken to investigate the effectiveness of various methods used to restore the normal lordotic curvature of the neck. However, one such study has been published in the indexed medical literature.

In late 1994, a study of two treatment methods intended to restore the normal cervical lordosis was published in the *Journal of Manipulative and Physiological Therapeutics*.(3) In this study, one treatment group received chiropractic manipulation alone while a second group received chiropractic manipulation and a form of cervical traction intended to restore or increase the depth of the normal lordotic cervical curve.

The two patient groups were x-rayed and the depth of their neck curves were measured. The patients received treatment over a three month period and were then x-rayed again so their cervical curves could be measured to see what effect, if any, the chiropractic treatment had on their abnormally straightened neck curvatures. These groups of patients were compared to the radiographs of a control group receiving no treatment intervention over a similar three month period.

The control group and the group receiving only chiropractic manipulation demonstrated no net improvement in lordotic curvature while the group receiving the combination of chiropractic manipulation and cervical extension traction showed an average improvement in their neck curvatures of 13.2 degrees. The study concluded that chiropractic manipulation along with this specific form of traction was necessary to restore or enhance the normal lordotic alignment of the cervical spine.

#### MULTIPLE STUDIES DEMONSTRATE SUPERIORITY OF NECK MANIPULATION IN TREATMENT OF HEADACHE

A review article published in the medical journal *Spine* has reviewed the effectiveness of spinal manipulation for the treatment of neck pain and headaches.(4) The article summarized the findings of multiple clinical trials of chiropractic manipulation as compared to different medications, physical therapy, cold packs, acupuncture, etc. Almost without exception, chiropractic manipulation of the neck was found to be superior in terms of reducing tension headache frequency, intensity, and improving functional status of patients when compared to other standard medical treatments. In the case of chiropractic manipulation of the neck for the treatment of migraine headache, which is also thought to have a cervical etiology in some cases, the article states, "Chiropractic patients reported greater reductions in frequency and intensity of attacks after 2 months and statistically significantly less pain intensity compared with

the other groups. Chiropractic patients were more likely to have had no recent attacks after 20 months."(4)

#### SAFETY

It is widely thought that cervical spine manipulation is a dangerous treatment modality. Nothing could be further from the truth. An article authored in 1996 by Dabbs and Lauretti(5) compared the risks of serious complications or death for patients receiving a course of manipulative treatment or nonsteroidal anti-inflammatory drugs for the treatment of neck pain. As a result of their review of the scientific literature on the subject the authors stated, ". . . the best available data suggests that the risk of serious neurovascular complication from cervical manipulation is approximately one incident per 100,000 patients receiving a course of treatment per yr, or 0.00025%. The risk of serious gastrointestinal complication requiring hospitalization because of NSAID use for similar conditions (i.e., a diagnosis of osteoarthritis [OA]) is 0.4% per year. The risk of death from hemorrhage or ulcer perforation attributable to NSAID use for OA is 0.04%. Therefore, based on the best available evidence, we calculate the risk of serious complications or death is 100-400 times greater for the use of NSAIDs than for the use of cervical manipulation in the treatment of similar conditions."(5, emphasis added)

In addition the article described by Hurwitz et al.(4) compares the risks for cervical spine manipulations, use of NSAIDs, and cervical spine surgery. Hurwitz et al. report an average risk of vertebrobasilar accident, major impairment or death as 7.5 per 10,000,000 manipulations. They further report an average incidence rate of serious gastrointestinal event (bleeding, perforation, or other adverse event resulting in hospitalization or death) from the use of NSAIDs as 1 per 1000 subjects. And finally, they report an average incidence rate of neurologic complication or death from cervical spine surgeries as 11.25 per 1000.

Although anyone would agree that even one tragic event is one too many, when placed in the proper context it becomes readily apparent that cervical spine manipulation is an extremely safe procedure.

#### CONCLUSION

Cervical spine manipulation is a safe and effective treatment for individuals with headaches of cervical origin. Because chiropractic treatment has been shown to be clinically effective and safe, with high levels of patient satisfaction, it seems logical that a clinical trial of chiropractic treatment should perhaps be the standard of care for patients with conditions known to be responsive to such interventions.

#### REFERENCES

1. Nagasawa A, et al. Roentgenographic findings of the cervical spine in tension-type headache. *Headache* 1993;33:90-95.
2. Vernon H, et al. Cervicogenic dysfunction in muscle contraction headache and migraine: A descriptive study. *Journal of Manipulative and Physiological Therapeutics* 1992;15:418-429.
3. Harrison DD, Jackson BL, Troyanovich S, et al. The efficacy of cervical extension-compression traction combined with diversified manipulation and drop table adjustments in the rehabilitation of cervical lordosis: A pilot study. *Journal of Manipulative and Physiological Therapeutics* 1994;17:454-464.
4. Hurwitz EL, Aker PD, Adams AH, Meeker WC, Shekelle PG. Manipulation and mobilization of the cervical spine: A systematic review of the literature. *Spine* 1996;21:1746-1760.
5. Dabbs V, Lauretti WJ. Risk assessment of cervical manipulation vs. NSAIDs for the treatment of neck pain. *J Manip Physiol Ther* 1995;18:530-536.