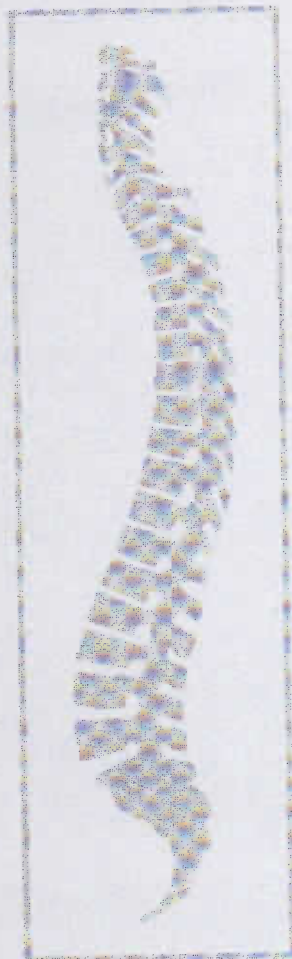


THE CHIROPRACTIC REPORT

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Professional Notes

Centennial Convention - Washington DC, July 6-8, 1995

Movie megastar Arnold Schwarzenegger, a strong advocate for the chiropractic profession, will be one of the VIP guests opening the Chiropractic Centennial Foundation's 100th Birthday Convention at the Washington Convention Center, July 6-8, 1995. CCF trustee organizations and members include the ACA, the ICA, all chiropractic colleges in North America, nearly every state chiropractic organization in the U.S., many national associations outside North America and the World Federation of Chiropractic.

It is hard to imagine any North American chiropractor willingly missing this tribute to the profession's 100th year which features:

- Over 160 select speakers from throughout the chiropractic world - science, history, philosophy, and business management.
- The largest number of chiropractic technique workshops ever presented at one meeting - choose when you are there, from 4 multi-track sessions Thursday and Friday afternoons.
- A half day seminar by Steven Covey, PhD, acclaimed lecturer and author of *The Seven Habits of Highly Effective People*, applying his 7 habits to chiropractic.
- A series of spectacular entertainments, culminating in a Saturday night gala featuring international cuisines, chiropractic talent (comedy, song and

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Primary Headaches and Cervical Spine Dysfunction

A Case for Better Management

A. Introduction

1. This Report last reviewed the management of headache - the new International Headache Society classifications, new recognition of the significant role of the cervical spine in headache, and the clinical and research basis for chiropractic management - in January 1991.¹

The four years since then have seen a wealth of research on the prevalence and cost of headache, the causes of benign headache (migraine, tension, cluster) and medical and chiropractic management.

2. Three recent surveys conducted in the United States and Canada have shown that chronic headaches constitute a large public health problem that has been greatly underestimated:

a) A comprehensive U.S. study by Stewart, Lipton et al, published in 1992 estimated that approximately 27% of females and 14% of males suffer from severe headaches, and found a 60% higher prevalence in the lowest economic group than in the two highest². They concluded that one reason for this socioeconomic relationship was that people with chronic severe headaches were less able to study or work. The survey reported that over 10 million Americans (4%) suffered moderate to severe disability from various forms of headache.

b) A 1993 paper in the journal *Headache* calculated that headache resulted in 74.2 million days of restricted work activity per annum in the U.S. with an estimated cost of \$1.4 billion dollars in lost productivity⁴.

c) A 1992 Canadian study found that 14% of the population of Canada suffer from migraine headaches, and that 50% of these (7%) have significant disability³. 36% suffer from chronic tension headaches, 18% with disability. 14% have both types of headaches. It was calculated that over 7 million work days

per annum were lost because of headaches. Pryse-Phillips, Findlay, Tugwell et al concluded that "the functional impact of migraine headaches has been seriously underestimated."

3. Headache is, therefore, a major public health problem. And there is growing evidence that headache patients are not satisfied with the care they are receiving for their problem. In a 1994 survey of readers the magazine *Consumer Reports* found that headache was the health condition for which there was the highest level of dissatisfaction with treatment - nearly 25% of patients were dissatisfied.⁵ Eisenberg's now famous study on alternative medicine published in the *New England Journal of Medicine* in 1993 found that 27% of headache sufferers sought treatment other than medicine and the most frequent non-medical health professional consulted for headaches was a chiropractor⁶.

4. However, from the point of view of patients, the issue is not whether headache should be treated by medical doctors or chiropractors. There is a clear role for both. The issue is how to integrate chiropractic and medical management. "When and why should my MD understand the need for chiropractic management" and vice versa. This Report addresses headache from that perspective:

- Describing a rational basis for management of primary headache.
- Identifying the strengths and limitations of medical and chiropractic management, and why both should be available for patients.
- Commenting on recent research confirming the link between cervical spine function and headache.

B. Primary v Secondary Headaches

5. The principal diagnostic question that must be answered by anyone treat-

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1995 Centennial Celebrations: Canada: May 31 to June 4, Toronto, Ontario. **Information:** (416) 781-5656. United States: July 6-8, 1995, Washington DC (incorporating the 1995 World Chiropractic Congress) and September 13-17, 1995, Davenport Iowa. **Registrations:** 1-800-324-1995.

ing a headache patient is whether the headaches are primary (benign) or secondary (sinister) in nature. Primary headaches, which account for over 90% of all headaches, are those not attributable to an underlying disease process. They include tension, migraine, and cluster headaches. While pain may be severe and patients would usually not choose the word 'benign' to describe them, primary headaches pose no danger to the patient beyond the headache itself.

Secondary headaches are those caused by underlying disease processes which may pose a serious threat to the patient's health. There are hundreds of possible causes of secondary headaches, but of most concern to the examining doctor in chiropractic and medical practice are space-occupying lesions (tumor), temporal arthritis, meningitis, acute glaucoma, and subarachnoid hemorrhage.

Red Flags

6. A good history is the most important part of any diagnostic work-up, and this is more true with headaches than with any other condition. A thorough history and physical examination will differentiate primary headaches from secondary headaches reliably. Only rarely will sophisticated and expensive diagnostic tests be necessary for an accurate diagnosis. 'Red flags' that should alert a doctor to the possibility of a serious underlying cause for the patient's headaches are:

- a) **Recent Onset.** Less than six months. Most patients with chronic primary headaches (tension or migraine) consult a health professional only after a long history of suffering. A patient with headaches caused by an underlying disease process is likely to consult a doctor much sooner because of the severity of the headaches or associated symptoms. Recent onset is a red flag particularly with adults.
- b) **Positional Headache.** A headache that is aggravated by changes in position, for example moving from a reclining to an upright position, suggests an increase in intra-cranial pressure and a sinister cause. If so, one would expect that

coughing, sneezing or similar activities would also exacerbate the headache. Migraine headaches or other vascular headaches may be sensitive to these activities, but to a lesser degree.

- c) **Focal Neurologic Signs.** The presence of any hard neurological signs accompanying a headache. These may include motor or sensory deficits, cranial nerve palsies, visual losses, or cerebellar signs. Any one of these signs indicates a likely intra-cranial lesion. A migraine aura may include some of these neurologic deficits, but only on a temporary or transient basis.
- d) **Cognitive Changes.** Memory loss or confusion are among the more common signs and symptoms accompanying a space-occupying lesion or increase in intra-cranial pressure. A spouse, close friend or relative can be very helpful in identifying these changes in a patient.
- e) **Progressive Headaches.** Headaches that are progressive in frequency, intensity or both, suggest an evolving process, and an intra-cranial mass or lesion. Any change in headache patterns should be viewed with suspicion.

Advanced Imaging and Headaches

7. Computerized tomography (CT) and magnetic resonance imaging (MRI) offer almost irresistible diagnostic tools to differentiate between primary and secondary headaches when available. How necessary or useful are they? They give one the ability to look inside the skull at the soft tissues of the brain, blood vessels, and meninges, and in theory better answer the question "Are this patient's headaches caused by some space occupying lesion (brain tumor, aneurysm) within the skull?" The use of these technologies has thus become commonplace in the evaluation of headache patients in the U.S. Headache studies conducted at Northwestern College of Chiropractic have found that 24% of tension headache patients and 32% of migraine patients had a history of CT or MRI exams for their headaches.⁷

However a recent study from a U.S. health maintenance organization (HMO)

titled *The Effectiveness of Cerebral Imaging in the Diagnosis of Chronic Headaches* graphically illustrates the limitations of advanced imaging.⁸ It reports:

- a) For 89 headache patients examined with CT or MRI during the 12 months study period, there was not a single positive scan. (There was no important new information, nothing that aided diagnosis.) The patients were then followed for an additional two years and none was found to have any sinister cause for headaches).
- b) Of the 103 patients who presented to the HMO in the same 12 months period with malignant brain tumors or other conditions requiring craniotomy, only 5 (5%) presented with a primary complaint of headache.
- c) It was estimated that it would take 11,200 patients presenting with headache to produce one positive scan, and that given the cost and exposure to radiation (CT) and the comparative value of a competent history and examination, CT and MRI had a very low value in the diagnosis of headache.

Another study of MRI use for pediatric headaches has come to a similar conclusion⁹.

C. Forms of Primary Headache

8. Assuming that a patient's headaches are found to be benign in nature, the next question is, "what kind of benign or primary headaches does he/she have?" There are three broadly accepted categories - migraine, tension, and cluster. In order to address the diagnostic distinctions between these headaches, real or supposed, it is first necessary to understand the mechanisms of headache pain.

Mechanisms of Headache Pain

9. **Central vs Peripheral.** The essential question on mechanisms is whether the source of the pain is primarily in the central nervous system or the peripheral nervous system. Traditionally it was thought that headache pain was mainly peripheral in nature. For migraine

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headaches, the pain was believed to arise from dilated and inflamed blood vessels. It was known that vascular changes accompanied migraine headaches and the throbbing, pulsating pain of migraines was certainly consistent with this mechanism. Similarly, for tension headaches, or muscle contraction headaches as they were once known, the pain was thought to arise peripherally, primarily from hypertonic cranial musculature. The tight, dull, steady pain of these headaches supported this theory.

However new findings have now cast doubt on the peripheral theory of headaches. Research has shown that neither vascular changes nor muscle contraction occurs with sufficient regularity to account for the pain of migraine and tension headaches^{10,11}. In addition, new mechanisms of pain have been discovered. These new mechanisms show how pain perception is regulated by the central nervous system, and have given rise to a predominantly central theory of headache pain^{12,13}.

Several structures which act to inhibit pain impulses from the periphery are located in the midbrain. These structures are linked by projections to the pain cen-

ters in the medulla and cervical spinal cord which mediate headache pain. When functioning properly these projections act to inhibit pain impulses from the periphery. However, when this central pain inhibition system is malfunctioning it allows impulses from the head or neck, which would not normally be interpreted as pain, to be felt as pain.

This pain inhibition system has now been found to be abnormal in both tension and migraine headache patients. Jes Oleson, Professor of Neurology, University of Copenhagen, Denmark, a leading headache researcher, has proposed a theory of chronic headaches (tension and migraine) that combines both central and peripheral theories. His model for headaches incorporates three factors: vascular, myogenic, and supraspinal¹⁴.

10. Discrete vs. Continuum. The central vs peripheral debate gives rise to the question of whether tension and migraine headaches are separate entities or whether they are better understood as existing on a continuum. At one end of the continuum is a pure migraine headache, at the other end a pure tension

headache. There is abundant basic scientific and clinical evidence suggesting that tension and migraine headaches are in fact part of a continuum.^{15,16} Many chronic headaches seem to be an amalgam of both.

However, presently it is still clinically useful to ask the question: "To what extent is a patient's headache migrainous or tension-type in nature?" Table 1 assists in answering this question. The clinical characteristics on the left side of the table are those associated with tension headaches, those on the right with migraine headaches.

11. Transformed migraine. A concept related to the headache continuum is the transformed migraine. For many headache patients, particularly women, a headache problem begins in adolescence, perhaps as the result of hormonal changes. These headaches are classically migrainous - they are severe, pounding, unilateral, and infrequent. As the patient ages, the headaches seem to become less migrainous and more tension-like. They become more frequent, somewhat less severe, and otherwise appear to be more of an amalgam of migraine and tension headaches¹⁷. Thus, migraine headaches are transformed into a migraine/tension headache.

Cluster Headaches

12. Cluster headaches are distinct from both migraine and tension headaches and do not appear to be part of any continuum. In discussions of the worst possible pain, conditions frequently mentioned are kidney stones, trigeminal neuralgia, childbirth - and cluster headaches.

These are a vascular type of headache, sometimes mistakenly classified with or diagnosed as migraine headaches because of a superficial resemblance. However cluster headaches are distinct and different. They primarily afflict men over the age of 40. The headaches are of short duration, usually less than one hour, and are located unilaterally in the temporal region and often wake the patient in the middle of the night. They are incapacitatingly painful and occur in a series or cluster over a period of weeks or months then remit spontaneously for a variable amount of time. Alcohol and tobacco use can precipitate the attacks.

A reliable differentiating feature between cluster and migraine headache is how the patient behaves during the

Table 1
Clinical characteristics of tension and migraine headaches

Tension Headache	Migraine Headache
Dull pain	Sharp pain
Bilateral pain	Unilateral pain
No nausea	Nausea
Mild/Moderate pain	Severe pain
Steady pain	Throbbing pain
Suboccipital/Supraorbital pain	Periocular pain
Mild light and sound sensitivity	Extreme light and sound sensitivity
Frequent Headaches	Infrequent Headaches
Headaches long lasting	Headaches short lived
Able to exercise with headaches	Exertion exacerbates headaches
No prodromal symptoms	Prodromal symptoms
"Live with it" headaches	Disabling headaches

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headache. Migraneurs typically prefer to lie quietly in a dark room during an attack and perhaps attempt to nap, while a cluster headache patient will pace about agitatedly holding his head, doing anything to distract himself from the pain. The treatment of choice for cluster headaches is inhalation of pure oxygen. This rapidly ends or aborts the attack.

D. Treatment

Medical treatment

13. Treatment of primary headaches by medication is typically either abortive (to end current pain) or prophylactic (preventative). Prophylactic medications are taken by the patient on a daily basis whether headaches are present or not. The two most common classes of prophylactic medications are tri-cyclic antidepressants (amitriptyline) and beta-blockers (propranolol). A frequent prescribing error is to utilize prophylactic medication when abortive medication is indicated, and vice versa. A critical question is frequency of headaches. For infrequent headaches (four per month or fewer) abortive medication is more appropriate, and for frequent headaches (more than four per month) prophylactic medication may be indicated.

Abortive medications include vaso-constrictors (caffergot), barbiturates (butalbitol), and analgesics (codeine). Over-the-counter medications such as aspirin and acetaminophen are abortive in nature. For some patients with the most intractable and severe headaches, it may be necessary to visit the emergency room for injection of powerful narcotics such as Demerol. An effective non-narcotic alternative now available is sumatriptan. Sold under the brand name Imitrex, this medication can be self-administered and avoids the side effects of narcotics.

Spinal manipulation

14. Chiropractic adjustment or spinal manipulation may be used to provide symptomatic relief during a headache episode, but this and other manual techniques are more sensibly used with the therapeutic goal of preventing the future occurrence of headaches. Chiropractic manipulation is only of value where disorders of the cervical spine are a contributing factor to headaches. However there is now a firm basis, both in theory and empirical evidence, for a frequent relationship between the cervical spine and primary headaches.

Cervicogenic v Cervical Spine Dysfunction/Subluxation

15. In discussing headaches and the cervical spine there is an important diagnostic distinction to be made between 'cervicogenic headache' and 'headache attributed to cervical spine subluxation or dysfunction'. The former does not include migraine and tension-type headaches, the latter does.

a) **Cervicogenic Headache.** This is a diagnostic category defined by the International Headache Society (IHS).¹⁸ It is caused by pain radiating from the facet joints of the C2 and C3 vertebrae, and is characterized firstly by mild to moderate unilateral neck and head pain that does not sideshift, and secondly by limited cervical range of motion.¹⁹ The headache pain is often precipitated by movements of the neck and can be provoked by the examiner. Symptoms of nausea, photo- or phono-phobia, and other non-pain complaints occur less frequently and less intensely than in common migraine headaches. The IHS views cervicogenic headache as separate from and less common than tension or migraine headaches. However there would appear to be much diagnostic confusion in medical practice.

b) **Headache from Cervical Spine Dysfunction or Subluxation.** In chiropractic practice the terms 'cervicogenic' and 'vertebrogenic' are generally used as descriptors, not as an IHS diagnosis. To avoid confusion of diagnostic labels it may be best for chiropractors to refer to headaches caused fully or in part by the cervical spine as 'headache from cervical spine dysfunction' (CSD). (Use of the term 'subluxation' is more traditional for chiropractors, but may be confusing in an interdisciplinary environment because it has a different meaning (partial dislocation) in medical practice.)

This is important because with CSD the category of headaches is much wider, and includes tension and migraine headaches. The cervical spine dysfunction will often only be one of several causative or etiologic factors. The actual clinical presentation of the headache pain will vary widely depending upon the type of cervical dysfunction, and where on the tension-migraine continuum the headache may be.

16. **Anatomical Basis.** The anatomical basis for the contribution of the cervical spine to chronic headaches is well established. It is based upon the convergence of two peripheral systems of pain perception (nociception) - the trigeminal system and the cervical spinal nerve system, particularly from C1 to C3.²⁰ The primary cell body of each of the two systems is located in peripheral ganglia, from which the bodies send projections centrally to synapse with the second order neurons. It is there that the two systems converge.

The central projections from the trigeminal and cervical systems descend and ascend over several joint levels, and terminate upon common second order neurons located in the trigeminal nucleus and dorsal horn of the cervical spinal cord. These second order neurons form a continuous column of cell bodies for which no anatomic, physiologic, or functional distinctions can be drawn between the cervical and trigeminal systems.

The functional effect of this convergence is that pain signals from these two systems are very poorly localized and pain stimuli arising from one can be interpreted subjectively as arising from the other. In other words, cervical spine dysfunction produces pain that can be felt either as head pain or headache.

In Australia Bogduk has demonstrated experimentally that disorders of the cer-

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Table 3

Common Headache Triggers

Substances

- Chocolate
- Red Wine
- Caffeine containing beverages
- MSG
- Yeast breads
- Sausages
- Cured meats
- Tomatoes
- Aged cheese

Behaviors

- Too much sleep
- Too little sleep
- Excessively vigorous exercise
- Missing meals

Environmental Stimuli

- Bright Lights
- Loud noises
- Strong odors
- Emotional stresses

vical spine can cause headaches²¹. By administering anesthetic nerve blocks to the C2-3 zygapophyseal (facet) joints he was successful in eliminating headaches in 7 of 10 patients with suboccipital headaches. This confirms earlier work by Sluijter et al in The Netherlands.²²

17. **Clinical Basis.** There is also a well-established clinical basis for the cervical spine/headache connection. A number of studies have found functional disorders in the cervical spines of headache patients when compared with pain-free control patients. The range of abnormalities include EMG changes, reduced range of motion, palpable muscle spasm, and palpable tenderness^{23,24,25}. Other studies have found differences between controls and headache patients on plain film radiography of the cervical spine, although one did not.^{26,27,28}

The relationship between muscle contraction and headaches has always been uncertain. It has not been possible to demonstrate excessive muscular activity in the necks of many patients who suffer from muscle contraction headaches. Indeed, the term 'muscle contraction headache' has been abandoned in favor of the term 'tension-type headache'. Recent discoveries, however, have revived the connection between headaches and muscle contraction.

Walker Robinson, a U.S. neurosurgeon, has identified a previously undocumented anatomical connection between a muscle, the rectus capitis posterior minor (RCPM), and the dura mater²⁹. A band of fibrous connective tissue extends from the RCPM and attaches to the spinal dura between the atlas and the occiput. Walker has demonstrated that physical manipulation of the muscle causes traction on the spinal dura which is transmitted to the cranial dura. The dura mater, a pain sensitive structure, can then give rise to headache pain. Walker has noted that this membranous connection is often cut in certain neurosurgical procedures, and that many patients have reported a loss of headaches as a result. (He does not advocate this as a treatment for headaches!)

18. The cause and effect relationship between cervical spine dysfunction and headaches is frequently reciprocal. Cervical spine dysfunction may be a source of headache pain, but this pain may cause reflex changes in the cervical spine muscles and produce mechanical dysfunction of the cervical spine³⁰.

19. Craig Nelson DC, Associate Professor, Northwestern College of Chiropractic, Minneapolis, a leading researcher in this field, suggests that the studies on the cervical spine and headaches now firmly support these conclusions:

- a) The cervical spines of chronic headache patients, both tension and migraine, are functionally different from controls.
- b) The cervical spines of tension and migraine headache sufferers are not markedly different from each other.
- c) Pain stimuli arising from cervical spine disorders may cause or contribute to headache pain.⁷

Table 2 (see page 6) presents his summary of the literature.

Headache Triggers

20. An important part of treatment is identifying and avoiding headache triggers. There are many substances, behaviors, and environmental stimuli that can trigger headaches, particu-

Figure 1
Summary of Chiropractic Management of Headache

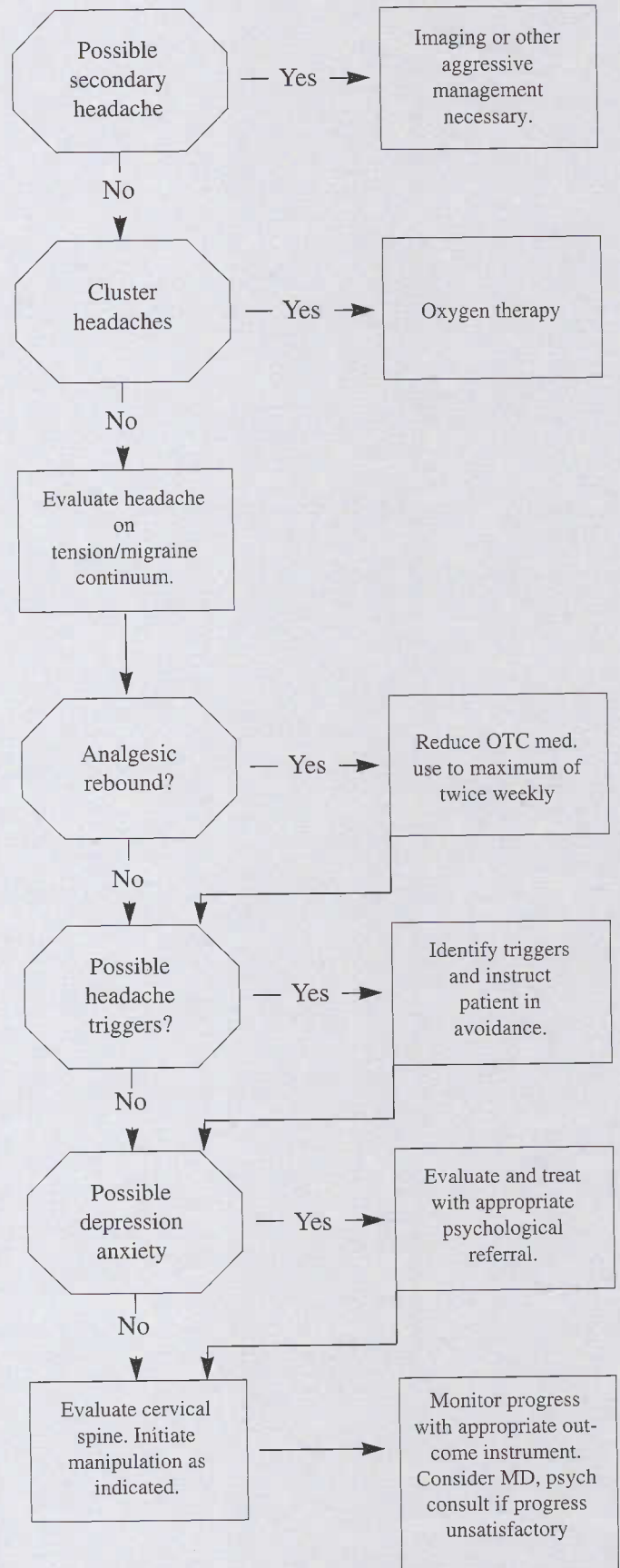


Table 2**Literature on the Cervical Spine and Headaches**

Author/Date	Headache type	Parameters Evaluated	Results
Pozniak-Patewicz 1976	U	Neck pain & stiffness	Increased cervical paraspinal myoelectric activity in headache patients
Bakal et al. 1979	M,T	Myoelectric activity	Increased cervical paraspinal myoelectric activity in headache patients
Hudzinski 1983	T	Myoelectric activity	Reduction in cervicalparaspinal myoelectric activity correlating with reduction in headaches
Bogduk et al. 1986	C	Headache pain	Resolution of headache pain in 7 of 10 patients
Inasek et al. 1987	T	Headache symptomatology	13% of patients with cervical spondylosis had headache as a prominent symptom
Winston 1987	M	Clinical observations	Temporal relationship between cervical trauma and onset of migraine headaches
Boquet et al. 1989	M	Trigger points, myoelectric activity	Trapezius tenderness & trigger points on ipsilateral side of headache in 17 & 18 patients out of 24, respectively
Jaeger 1989	C	Trigger points	Increased # of trigger points on symptomatic (headache) side
Jensen et al. 1990	T	Flexion/Extension	Decreased motion associated with severity of headaches
Lebbink et al. 1991	U	Neck tightness & soreness	Increased neck tightness in headache patients
Michler et al. 1991	C	Headache & radicular pain	Relief of symptoms following surgery
Macpherson et al. 1991	M	C2 spinous process rotation	No differences between migraine patients and controls in C2 spinous rotation
Nakashima et al. 1991	M,T	Exteroceptive suppression	Decreased duration and degree of ES2 suppression
Schoenen et al. 1991	M,T	Palpable tenderness	Reduced pain thresholds in tension headache patients
Vernon et al. 1992	M,T	Tenderness, postural changes	Decreased lordosis & cervical tenderness in headache patients
Wober-Bingol et al. 1992	T	Functional & organic X-ray changes	No changes found in headache patients
Jensen et al. 1993	M,T	Pain thresholds	Increased palpable tenderness in tension headache patients
Kidd et al. 1993	M,T	Cervical ROM	Decreased ROM in headache patients
Nagasawa et al. 1993	T	Postural changes & instability	Decreased cervical lordosis, increased low-set shoulder, in headache patients
Schoenen et al. 1993	T	Myoelectric activity	Increased hypertonicity of trapezius muscles in tension headache patients
Blau et al. 1994	M	Neck & pain stiffness	32 patients reported neck pain or stiffness related to migraine

Key: M=migraine, T=tension, C=cervicogenic, U=unspecified

larly migraine. Many food and beverage triggers contain vasoactive substances such as caffeine or the amino-acid tyramine.

What all the triggers have in common is that they are disruptive of the body's homeostatic mechanisms. Migraineurs appear to have more difficulty in re-establishing a physiologic balance in response to these disruptions, leading to headache. Disruptions as seemingly trivial as sleeping late on weekends or eating meals at different times can be sufficient to provoke an attack. Table 3 lists the more common headache triggers.

Rebound Headaches

21. The phenomenon of medication rebound is increasingly being recognized as a cause of headaches.³¹ Migraine patients who make frequent use of powerful vasoconstrictors such as ergotamine tartrate experience a vascular rebound - a vasodilation when the medication is discontinued or its effects wear off. This requires additional vasoconstriction medication to compensate, and a vicious cycle is established. The same cycle can arise from daily use of over-the-counter (OTC) medication such as aspirin or acetaminophen. Effective treatment of patients' headaches may require weaning them from their OTC medications. A headache diary, in which a patient records his or her use of prescription or OTC medication, is helpful in identifying this problem.

The Psychological Factor

22. The last thing a headache patient wants to hear, but often does, is "It's all in your head". This is said dismissively, suggesting that the pain is not real. The pain *is* real - but it is also true that psychological factors play an important role in headache. Headaches, like all chronic pain syndromes, can create altered and abnormal psychological states.

There is also a common mechanism between headaches and depression. Serotonin, the neurotransmitter for the pain inhibition system discussed above (para 16), is also the biochemical component most closely associated with depression. Indeed, serotonin agonist-type medications are used both for the treatment of depression and headaches. As with the cervical spine, there is a reciprocal relationship between depression, anxiety and headaches. Headaches can be both a cause and an effect of these problems. This should be considered in all headache patients.

E. The Research

23. One of the first clinical trials ever conducted on spinal manipulation was for the treatment of patients with migraine headaches³². This trial, conducted in Australia, compared chiropractic manipulation, medical manipulation, and mobilization by physical therapists. All groups of patients benefited from the treatment. The chiropractic patients improved most on all measures - complete cure, frequency of attack, mean duration, mean disability, mean intensity of pain - but the number of patients was too small (n 85) to demonstrate statistically significant differences. A follow-up study showed that the patients who improved maintained this benefit after 20 months.³³

In another Australian trial, just completed by Wayne Whittingham M App Sci (Chiro) at the Phillip Chiropractic Research Centre, RMIT University, Melbourne, 105 patients with chronic primary headaches were randomly assigned to chiropractic management (3 toggle recoil adjustments per week for 3 weeks) or a

control group (same frequency of treatments, but with a deactivated Pettibon adjusting instrument).

Results after treatment and at 6 months follow-up, measured subjectively (Neck Disability Index, Sickness Impact Profile, pain drawings, and daily headache diaries) and objectively (cervical range of motion and pressure algometry readings), showed statistically significant improvement in the treated patients but not in the control group patients.³⁴

24. In the U.S. a trial by Patrick Boline DC, Kassem Kassak PhD et al just published in JMPT compared the effectiveness of spinal manipulation and medication, amitriptyline, for the treatment of tension headaches³⁵. 150 patients were randomly assigned to each of these two treatment groups. They were treated for 6 weeks and then followed for 4 weeks after the end of treatment. The study found that, at the end of the 4 weeks follow-up period, the patients in the spinal manipulation group showed a reduction of 42% in headache frequency, 32% in headache intensity, and 30% in usage of over-the-counter medication. Additionally, there was an improvement of 16% in functional health status. The group receiving medication showed an improvement of only 6% or less in all of these outcome measures. A one year follow-up study of these patients is underway.

The above trial is part of an ambitious program of headache research at Northwestern College of Chiropractic. A second trial at NWCC, by Craig Nelson DC and Patrick Boline DC and dealing with migraine headaches, has just been completed. A total of 216 patients were randomly assigned to one of three treatment groups - spinal manipulation, medication (amitriptyline), and combined chiropractic and medical treatments. The results of this study are expected to be published this year, and are being measured principally by pain ratings and headache frequency.

NWCC has two other headache studies in planning stages:

- a) A controlled trial which will compare the effectiveness of spinal manipulation and a sham manipulative procedure for the treatment of tension headaches.
- b) A practice-based study to compare chiropractic and medical treatment for headaches as performed in practice in outpatient clinics. This study will compare the type and severity of headaches seen in these clinics, the nature and duration of treatments administered, and outcomes of treatment, including patient satisfaction.

25. There is insufficient space for a full review of current research. Recent issues of this Report have described two trials underway in Europe - one by Neils Nilsson DC MD at the University of Odense, Denmark (chiropractic manipulation v massage and low level laser for patients with cervicogenic headache) and Udo Kastner BSc (Chiro) MD, at the Karl-Franzens University, Graz, Austria (chiropractic manipulation v placebo manual therapy v biofeedback for pediatric primary headache).

F. Conclusion

26. Optimal management of headache for many patients will be achieved through a multi-disciplinary approach. Figure 1 summarizes the principles outlined above and illustrates how chiropractic care fits into an overall scheme of management for headache (see page 5).

Various factors mentioned suggest, however, that a much higher number of headache patients should be receiving examination and treatment for cervical spine dysfunction.

Note: This issue includes clinical advice for the management of headaches. For assistance in this area the Report is indebted to Dr. Craig Nelson, Associate Professor, Northwestern College of Chiropractic, Minneapolis, who was in private practice for 17 years and has extensive clinical experience in this field. The accuracy of all facts and opinions offered, however, are the sole responsibility of The Chiropractic Report.

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