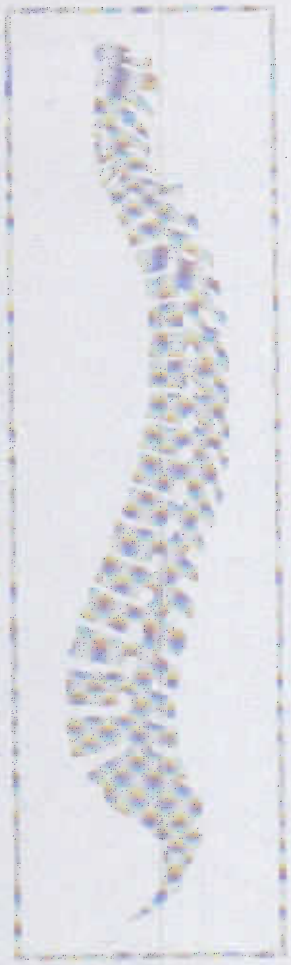


THE CHIROPRACTIC REPORT

An international review of professional and research issues, published bimonthly

Editor: David Chapman-Smith, LL.B. (Hons.), FICC (Hon.) **January 1996 Vol. 10 No. 1**

Representing Chiropractic in 1996

Main Issues, Best Evidence, Best Answers

A. Introduction

1. The last 15 years have produced explosive change and growth for the chiropractic profession - in education, in research and in practice. More textbooks and original research have been published in the last 10 years than in the previous history of the profession. Keeping abreast of this has been a huge challenge for the average clinician.

You have been invited to talk about chiropractic on the radio or cable television, to make a presentation to a service club, to medical students, at rounds at a local hospital, to HMO staff, or to a meeting of insurance claim managers or health department officials. You want to write a short letter enclosing or referring to the best evidence on the safety and effectiveness of chiropractic management of neck pain or headache. How?

It is no longer sufficient to talk about spinal nerves being pinched at the intervertebral foramen. Most audiences go to sleep on general principles. This Report gives a framework for presentations on chiropractic and lists main issues and best current evidence in support.

B. Where to Begin

2. In making a presentation on chiropractic, never assume that anyone is as interested in the subject as a chiropractor. Remember you only have a few seconds to capture and hold the attention of most people. Acknowledge that your audience will have preconceptions and questions.

As a fundamental rule, you should speak about what interests your listeners and answers their questions, rather than what interests you. If you are going to communicate well to a family physician or insurance manager or lay person you must think like each of them. They have never seen the results in your clinic. They do not see a changed approach to life through the wonders of chiropractic. They see a health care service in a marketplace and question whether it has any value or relevance to them. To them you are a sales person selling your product and therefore presumed to be biased. How convincing are you?

3. For these reasons abstract discussion of principles (e.g. the role of the nervous system and homeostasis) and complicated professional concepts (e.g. subluxation and the difference between adjustment and manipulation), are not the places to start. In the media or a lecture:

a) Start with "Let's say you have back pain or neck stiffness or headache and came to my office. What would happen to you?" (95% of people are immediately interested - they or someone close to them has one of these problems. Fear of the unknown has likely prevented them from trying chiropractic care - they want to know what happens when they walk into your clinic and about your education.)

b) Then explain diagnosis and assessment in practical terms. This may include comment on differential diagnosis to determine whether there is functional pathology within the scope of chiropractic practice or need to refer; then comment on a specific neuromusculoskeletal diagnosis - orthopedic and neurologic tests as in medical practice, imaging as necessary, and specialized chiropractic analysis (assessing function and reproducing pain through static and motion palpation; the interrelationship of pelvic balance and compensations throughout the spine; the relationship between sites of muscle and joint dysfunction and pain; referred pain; functional pathology - the concepts of biomechanical lesions and their neurophysiological effects.)

c) Then discuss treatment - no drugs or surgery but referral to the family physi-

continued on page 2

1996 International Meetings: European Chiropractors' Union Annual Convention, May 16 -18, 1996, Geneva, Switzerland. *Contact:* Anne Kemp, ECU Secretary, 9 Cross Deep Gardens, Twickenham, Middlesex, TW1 4QZ, Tel: (44)(0)181 891 2546, Fax: (44)(0)181 744 2902. FCER's International Conference on Spinal Manipulation, October 17 - 19, 1996, Bournemouth, England. *Contact:* Emma Davis, FCER, 1701 Clarendon Boulevard, Arlington, VA 22209 U.S.A. Tel: (703)276-7445.

Professional Notes

Barrett and Jarvis Once More

Chiropractic: The Victim's Perspective by George Magner, Prometheus Books, Amherst, New York, 1995. The profession should be aware of this physically impressive hard cover book released for the Christmas market in North America. It purports to be by a dissatisfied patient from Georgia and recycles some of the admittedly embarrassing material produced by extreme elements in the chiropractic profession over the years.

In fact the book is simply the latest 'consumer' attack orchestrated by Stephen Barrett MD and William Jarvis PhD who have been behind most attacks on chiropractic in the US and internationally since the 1970s. It is noted:

- Jarvis, President, National Council Against Health Fraud Inc., a grand-sounding but small front organization founded by him and Barrett, reveals his true colors in the introduction with the interesting assessment that "chiropractic has still not made a single noteworthy contribution to the scientific knowledge of health care." Slumber on Dr. Jarvis.

- Barrett, a psychiatrist from Allentown, Pennsylvania, is the key figure behind this book and its editor. His writings on chiropractic in the 1970s were submitted as evidence before a Commission of Inquiry into Chiropractic in New Zealand in 1978 and dismissed as "plainly propaganda". The Commission concluded:

"Nothing he has written on chiropractic that we have considered can be relied on as balanced."

Even an unbalanced psychiatrist should know better,
And cease his tiresome vendetta.

cian or a specialist when these are needed; manual techniques to restore function including soft tissue techniques for muscle, joint mobilization (slower techniques similar to physical therapists) and joint manipulation (quick, precise techniques that most people identify with chiropractic - called adjustments); greater use of adjustment or manipulation because it is more effective; patient education, prescription of exercises, physical therapy modalities, etc.

d) Then chiropractic education.

4. These are the things that people want to hear about - training, clinical skills, cooperation with other providers. They give rise naturally to the questions and issues dealt with below. If you are in a media interview remember that your time is up in no time. Therefore speak in headlines only. In other oral presentations brevity is a virtue. Question time is vital, and it is in answer to questions that you expand into details.

Use practical demonstrations of palpation and adjustment wherever possible - other than patients no one appreciates the levels of specificity and skill in chiropractic technique. Everyone has an exaggerated impression of forces used and ranges of movement.

C. Adjustment, Mobilization and Manipulation

5. Until recently 'spinal manipulation' has been used loosely, often to refer to all manual techniques used to treat muscles or joints. Chiropractors have preferred to use their own professional term 'adjustment' because it signifies more controlled, specific and skilled techniques.

However there are some new realities. Firstly medical manipulators are using the term adjustment with growing frequency.[1] Secondly the international health science research of the past 10 years has drawn a new and clear distinction between joint mobilization and manipulation. Thirdly the public clearly identifies chiropractors with spinal manipulation, and to talk about adjustment as if it is different from manipulation causes grave confusion. And this at a time when it is particularly unhelpful, a time when spinal manipulation has new acceptance, others with inadequate training claim to practise it, and there is increased decision-making by lay persons.

Excellent authorities to use in this area are David Cassidy DC PhD, William Kirkaldy-Willis MD and Haymo Thiel DC in their chapter on manipulation in the leading multidisciplinary text *Managing Low Back Pain*.[2] They, reflecting the general consensus of leading researchers and clinicians, accept that joint mobilization and joint manipulation are distinct and different treatments as follows:

- **Mobilization**: slower (low-velocity) techniques in which the joint remains within its passive range of movement. The treatment can be monitored and resisted by the patient, who therefore has final control.

- **Manipulation**: faster (high-velocity) techniques that take the joint beyond the passive range end barrier to what is known as the 'paraphysiological' space. Range of movement is greater. Because of the speed the patient does not have control. Potential for harm in unskilled hands is greater.

The importance of this distinction is underlined by a growing body of research showing that manipulation has superior results to mobilization in reducing back pain,[3] reducing neck pain,[4] and increasing range of movement in a joint.[4,5] Many medical doctors and physical therapists who take short postgraduate courses in manual therapy and claim to practise manipulation actually practise mobilization.

D. How Does Manipulation Work

What happens during joint manipulation and how does it work? Cassidy, et al are again good authorities, and say:

a) As the joint is taken beyond the normal range of movement the two surfaces separate, and then take approximately 20 minutes to return to their former position and pressure. The crack (cavitation) is not from bones, but is the collapse of a gas bubble (90% carbon dioxide) formed by low pressure in the joint fluid as the joint surfaces separate.

"The phenomenon of joint fluid cavitation is central to the definition and effect of manipulation." The negative pressure that normally helps to hold the cartilage joint surfaces together is temporarily decreased allowing more freedom and greater passive range of motion. "None of this occurs with mobilization."

b) ***Mechanisms***. Exactly how this helps a particular patient with back pain, for example, is uncertain but there are a number of well-described *mechanical* and *reflex* effects of manipulation. These include:

i) Cavitation and increased range of motion (*mechanical*) causing inhibition of pain (*reflex*). Through Melzack and Wall's gate mechanism, the transmission of pain up the spinal cord can be increased by lack of proprioceptive input (sensory information on the movements and positions of muscles) or reduced by greater proprioceptive input.

The spinal facet joints are rich in mechanoreceptors - the nerve endings that give proprioceptive input through large nerve fibers which compete for central transmission with adjacent smaller pain fibers.

Increased proprioceptive input from increased joint motion reduces - closes the gate on - pain transmission.

ii) Joint and muscle receptor stimulation (*mechanical*) causing relaxation of paraspinal muscles (*reflex*). Wyke and others[6] have shown that stimulation of the mechanoreceptors by stretching of the joint has a reflex effect on muscles over the joint, calming the muscle excitability and spasms that are often a part of low-back pain.

Breaking of joint adhesions (*mechanical*). With chronic pain there is shortening of connective tissue, long-term reduced joint mobility, and formation of adhesions. Manipulation can stretch or break these adhesions. This results in

continued on page 3

The Chiropractic Report is published by Fumia Publications Inc. **Subscriptions: for rates and order form see page 6.** Subscriptions are for the year commencing January. All subscriptions and changes of mailing instructions should be sent to The Chiropractic Report. 3080 Yonge Street, Suite 3002, Toronto. Ontario, Canada M4N 3N1 Tel: (416) 484-9601, Fax: (416) 484-9665. Printed by Harmony Printing Limited, 123 Eastside Drive, Toronto, Ontario, Canada M8Z 5S5. Canada Post Sales Agreement No. 389579. **ISSN 0836-1444.**

increased motion which has the reflex effects noted above.

iv) Release of trapped joint inclusions (*mechanical*). Impressive anatomical studies done by Lynton Giles DC PhD[7] at the Department of Anatomy and Human Biology, University of Western Australia during the 1980s demonstrated tags of fibrous and other tissue that had become trapped in lumbar and cervical facet joints. Giles discusses how these may cause irritation and traction in both the affected joints and adjacent joints, leading to the reflex muscle spasm associated with acute locked back or neck (torticollis). Manipulation can release these joint tags or inclusions.

v) Stimulation of the autonomic nervous system (*reflex*) through cavitation and increased range of motion *(mechanical)*. The work of Korr and others[8] indicates that spinal manipulation, through reflex effects on the autonomic nervous system, influences the vasomotor tone (the calibre or diameter of blood vessels and their function) of the neuromusculoskeletal tissues.

vi) Relief of chronic nerve compression and irritation by correction of abnormal joint mechanics. Kirkaldy-Willis and Cassidy have reported good results with many back pain patients with central or lateral stenosis (narrowing of the bony canals that carry the central nervous system and nerve roots).[9] Sophisticated recent anatomical research by Giles[10] has shown that, while the entrance to the intervertebral foramen is quite spacious for the exiting spinal nerve root, the "neural and associated vascular structures within the important interpedicular zone" - where there is minimal extra space - may well be compromised by abnormal joint mechanics.

Some patients will have a combination of stenosis and restricted joint motion. For many of them joint manipulation will increase range of motion, thereby relieving chronic intermittent nerve root compression and stretch, and causing reflex effects that reduce pain and muscle dysfunction.

E. Objective Effects of an Adjustment

7. Critics once suggested that the benefits of joint manipulation were merely placebo or non-specific effects. The chiropractic research of the 1980s laid that criticism to rest. Many objective effects have now been demonstrated, including the following. (Note that these are the proven immediate effects of a single adjustment or chiropractic manipulation. Comment on clinical trials for treatment of conditions appears below.).

a) Effects on Sensory and Motor Function

i) Increased joint range of motion in all three planes, and reduction of pain.[11,12]

ii) Increased skin pain tolerance level.[13]

iii) Increased paraspinal muscle pressure pain tolerance.[14]

iv) Reduced muscle electrical activity and tension.[15]

With respect to skin pain tolerance, for example, Alan Terrett DC FACCS and Howard Vernon DC FCCS(C) tested the hypothesis that local pain tolerance would increase following a single chiropractic adjustment.

- 50 subjects without spinal pain, but found by electrical stimulus to the skin over the T1-T10 spinal segments to have identifiable zones of increased pain, were admitted to the trial. All were found to have movement restriction in an adjacent motion segment and were told they would receive a manipulation.
- Half, chosen randomly, were given one chiropractic adjustment (direct thrust/pisiform contact/to hypomobile aspect) at the level of increased pain. The other half received a P/A joint springing maneuver as a control procedure, to screen for any effect from simple laying on of hands.
- Pain tolerance to repeat electrical stimulus was assessed at 30 seconds, 2 minutes, 5 minutes and 10 minutes. The control group had unchanged pain tolerance/sensitivity. However the group receiving an adjustment experienced a statistically significant elevation of pain tolerance (140%).
- The researchers concluded that chiropractic adjustment, as performed, increases skin pain tolerance levels. Their findings suggested "an underlying sub-clinical facilitation of cutaneous sensory reflex pathways coupled with a biomechanical fault in an adjacent motion segment".

b) Effects on Sympathetic Function

The sympathetic division of the autonomic nervous system regulates visceral function, including vasomotor (blood circulation) and sudomotor (sweat gland) activity. Various studies and trials have demonstrated the immediate effect of a chiropractic adjustment or manipulation on sympathetic function including:

i) Blood flow and distal skin temperature (fingertips).[16]

ii) Blood pressure.[17,18]

iii) Blood chemistry. Effects include increased secretion of melatonin,[19] increased plasma beta endorphin levels,[20] and elevation of substance P and enhanced neutrophil respiratory burst.[21]

iv) Control of pupillary diameter.[22]

Briggs DC and Boone PhD[22] studied the effects of chiropractic adjustment on changes in pupillary diameter because this was related to a relatively well-defined autonomic pathway and was non-invasive.

15 subjects, chosen following screening by an optometrist, were evaluated for four days pre-treatment to determine a base line of pupillary diameter under controlled conditions, and to establish those having cervical subluxation.

Prior to treatment subjects were dark-adapted for 15 minutes to neutralize the predominant parasympathetic control of the pupil present under normal light conditions. Pupillary diameter (PD) was then measured from sophisticated photographic studies.

Subjects with subluxation (8) were given a single adjustment (toggle recoil or modified cervical break) at the compromised level - C1, C2 or C5. Those without subluxation (7) formed a control group and were given a sham adjustment comprising a slight muscle massage to the upper cervical spine. There was then repeat photographic procedures and measurement.

There were a number of interesting results. Firstly, in the 4-day pre-treatment observation period those with subluxation showed significant variations in PD day to day, whereas those without subluxation did not. Secondly those without subluxation experienced no PD change following sham adjustment whereas those in the treatment group showed clear changes. However these were variable - following adjustment to C2 and C5 there was a sympathetic response (dilation), following adjustment of C1 a parasympathetic response (constriction).

The investigators concluded that subluxation and adjustment

continued on page 4

effect a response in PD mediated by the autonomic nervous system. They suggest that "the observed autonomic responses seen in this investigation ... may be reflections of neural summation of segmental afferent and supra-spinal descending fibers on sympathetic preganglionic neurons".

F. What is an Appropriate Course of Treatment?

8. Those unfamiliar with manual treatment including joint manipulation, and medical manipulators in the UK and elsewhere influenced by the late Dr. James Cyriax, often think manipulation should work in 1 or 2 treatments, failing which the patient should be referred.

It is therefore important to explain why a continuing course of treatments is necessary as in other physical modalities - mentioning the effects of each treatment (as in para 6 above), multiple lesions, aggravations from ongoing daily activities, monitoring of patient compliance with exercises and postural advice, etc.

The frequency and duration of treatment as set forth in national, consensus, literature-based chiropractic guidelines in the US[23] and Canada,[24] have now been widely accepted as appropriate. Key points are:

a) ***Acute Care.*** Explain that the RAND Report[25] and the recent US interdisciplinary government-sponsored guideline on *Acute Low-back Problems in Adults*[26] both recommend an *initial* course of *four weeks* of manipulation for patients with acute low-back pain. If there is documented *objective improvement*, as shown for example by improved scores on patient questionnaires on pain (e.g. VAS) and function (e.g. Oswestry, Roland Morris, Neck Disability Index), then chiropractic and multidisciplinary guidelines agree that the course of treatment may continue.

b) ***Long-Term Care.*** Explain the difference between supportive care (therapautically necessary care for patients who have reached maximum therapeutic benefit but have failed to sustain benefit on withdrawal of treatment) and preventative/maintenance care (elective care to treat functional pathology before pain and disability develop.)

c) ***Algorithms.*** Use of diagrams or algorithms is a most helpful way to explain a course of care. Table 1 gives an algorithm based on the US and Canadian Guidelines for management of patients with acute uncomplicated conditions.

d) ***Pain/Function.*** Explaining the difference between manipulation for pain and manipulation to restore *lost function* (the cause of pain), which is more skilful but provides much better results. The best non-chiropractic explanation to quote, because it provides independent validation which is always more convincing, is that by Lewit.[27]

G. Back Pain

9. Management of patients with mechanical low-back pain should be the single subject addressed most forcefully and commonly by chiropractors because:

a) It is so prevalent - 80% of people will be disabled by back pain during their adult lives, and it is the third most frequent reason (after respiratory disorders and headache) that people consult a health practitioner.

b) It is so costly. The World Health Organization describes disability from low-back pain as an epidemic.[28] In North America by far the most common work injury resulting in a workers' compensation claim is back strain/sprain (30% of claims) and, because of the huge cost of chronic cases, 50-60% of workers' compensation claims costs are for back pain.[29]

c) Back pain patients represent the majority of chiropractic practice.

d) There is such strong evidence demonstrating that chiropractic management is superior to any other - in terms of effectiveness, cost-effectiveness, safety and patient satisfaction.

10. Best evidence to use is:

a) ***Controlled trial.*** The British Medical Research Council trial by Meade et al, originally published in the British Medical Journal in June 1990[30] with long-term follow up results published in August 1995[31].

Reasons why this is the best evidence include the fact that it was independent and subsequently endorsed by the British Medical Association,[32] is well-designed, large, compared chiropractic practice with medical/physiotherapy hospital out-patient practice as these practices exist in the community, showed excellent short and long-term results for chiropractic patients, for patients with both acute and chronic pain, for patients with moderate or severe pain, and the researchers expressly argued for greater use of and government funding for chiropractic services because of superior effectiveness and cost-effectiveness.

b) ***General review.*** The government-commissioned 1993 report from Canada titled *The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain* by Professor Pran Manga et al, health economists from the University of Ottawa. Manga et al looked at all the international evidence, from hard science to workers' compensation and other economic data, and concluded:

"In our view, the constellation of the evidence of:

- the effectiveness and cost-effectiveness of chiropractic management of low-back pain.
- the untested, questionable or harmful nature of many current medical therapies.
- the economic efficiency of chiropractic care for low-back pain compared with medical care.
- the safety of chiropractic care.
- the higher satisfaction levels expressed by patients of chiropractors

together offers an overwhelming case in favour of much greater use of chiropractic services in the management of low-back pain. There should be a shift in policy to encourage and prefer chiropractic services for most patients with low-back pain ..."

Manga Report to Ontario Ministry of Health (August 1993)[33]

The Manga Report has an excellent Executive Summary, well-referenced chapters on each of *effectiveness, cost-effectiveness, safety* and *patient satisfaction*, and its independent findings have been accepted as well-founded by the government[34] and multidisciplinary observers.[35]

c) ***Guidelines.*** The December 1994 US[26] and UK[36] government-sponsored multidisciplinary guidelines for management of back pain. These review the controlled trial evidence and recommend only spinal manipulation and over-the-counter drugs for most patients with acute low-back pain. Patients should be encouraged to remain active and be given appropriate education on posture and exercises, as typical in chiropractic practice, and not be recommended to rest or 'wait and see'.

continued on page 5

The US Guideline, currently the single most important document anywhere on management of acute low-back pain (defined as a current episode of pain for up to three months), has clear recommendations *against* most traditional medical and physical therapy treatments.

11. ***Cost-effectiveness.*** The workers' compensation studies from the US and Australia referenced and summarized in the Manga Report show a trend of 50-60% overall savings in treatment and compensation costs when workers with similar injuries are treated by chiropractors as opposed to medical doctors. Given the vast cost of back pain these savings are dramatic. This is particularly so when combined with the evidence of greater patient satisfaction.

Why is chiropractic management cost-effective? The basic position is:

a) Over 80% of the cost of back pain to society arises from the 5-10% of patients who develop chronic back pain.[37]

b) Thus the three major concerns in the overall management of patients with back pain are:

i) Efficient management of acute back pain.

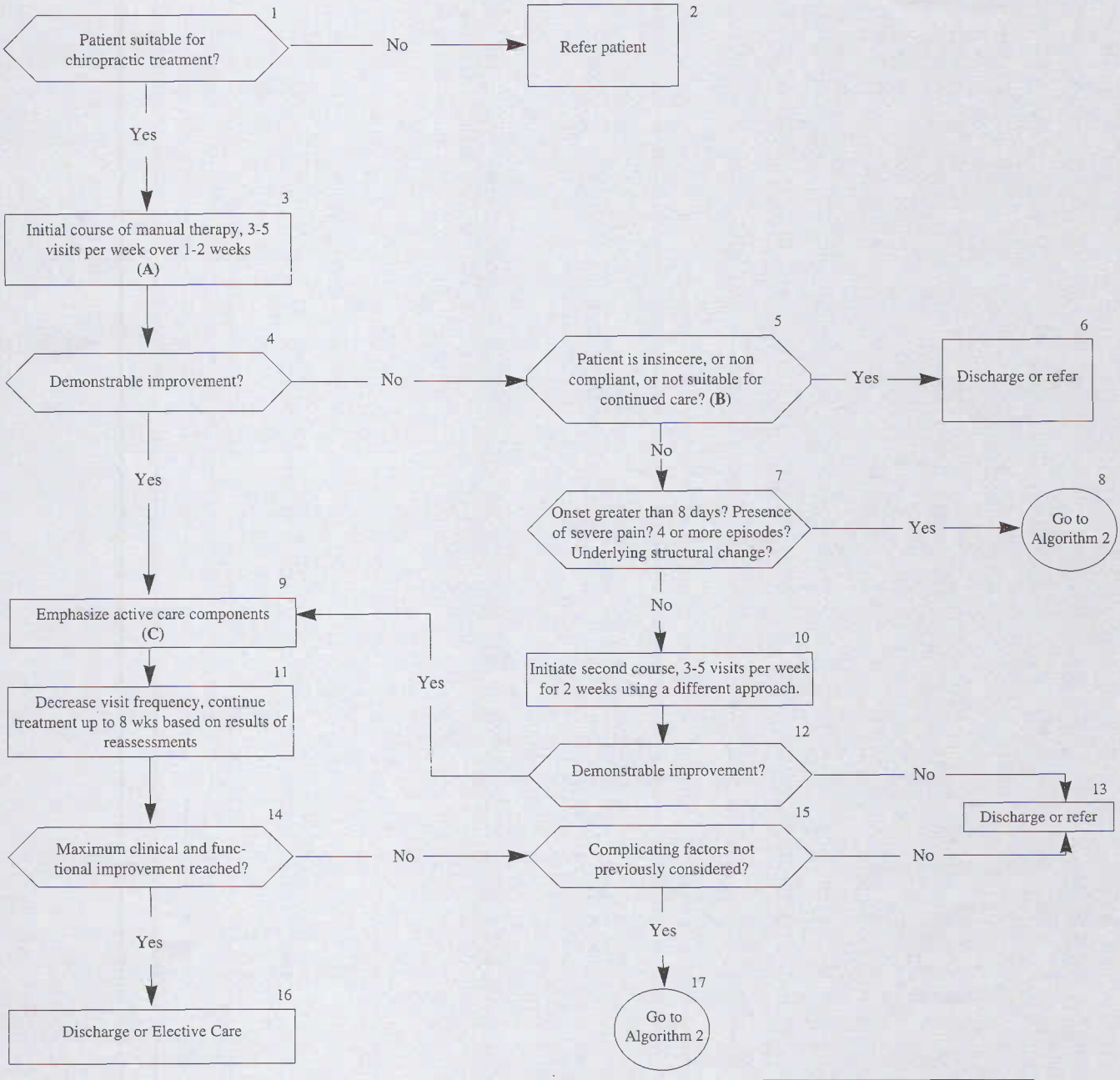
ii) Preventing acute pain patients from developing chronic pain. (This is part of i), but preventing chronicity is so important that it deserves mention as a separate goal).

iii) Effective management of chronic problems.

continued on page 6

Table 1 **Management Algorithm for Patients with Uncomplicated Acute Pain**

Frequency of Care Based on Canadian and US Guidelines. **Adapted from Hansen (1994) and Ontario Chiropractic Association (1995).**



c) The evidence shows that chiropractic is effective in all three areas. This is because it is based upon early aggressive intervention aimed at resolving largely mechanical problems with what is now known to be the most effective mechanical treatment. And this is in a context of education and earliest possible return to activities of daily living. Potential problems of illness behaviour and psychological overlay, which develop with more passive approaches to management, are avoided.

d) Early aggressive intervention, which involves more visits and more patient education and motivation, may cost more in short-term practitioner costs over the first 1-3 months. However it produces huge overall savings through less recurrences and disability, and fewer other costs (e.g. surgeries, hospital costs, specialist referrals, medications, etc).

Any study that looks just at short-term results and cost with acute patients, as in the new study from North Carolina discussed below, is of marginal relevance. It fails to deal with over 80% of the cost and the global problem.

12. ***North Carolina Study.*** Timothy Carey MD MPH and colleagues from the North Carolina Back Pain Project, affiliated with the University of North Carolina, Chapel Hill, and funded by the US AHCPR, have just published a regional survey suggesting that chiropractic care for back pain patients may not be cost-effective.[38] This was published in the New England Journal of Medicine and rapidly picked up by the general media. It is one in a series of continuing studies. Therefore it is addressed in some detail:

a) 208 health care practitioners providing primary care for patients with low-back pain in North Carolina were randomly selected from six groups - urban primary care physicians (n = 32), rural primary care physicians (n = 48), urban chiropractors (n = 32) rural chiropractors (n = 32), orthopedic surgeons (n = 29) and primary care providers at a health maintenance organization or HMO (n = 28).

b) A total of 1555 consecutive patients who saw these providers between June 1992 and March 1993 were surveyed by telephone for up to 24 weeks to assess functional status, work status, use of health care services and satisfaction with care.

c) Significantly these were patients with acute low-back pain - less than 10 weeks of back pain and no previous care for the pain. In fact approximately 65% of all patients had experienced pain *for less than two weeks.*

d) Results of the study were:

i) "The times to functional recovery, return to work, and complete recovery from low-back pain were similar among patients seen for all six groups of practitioners".

ii) "Satisfaction was greatest among the patients who went to the chiropractors."

iii) Median costs per episode of low-back pain, from lowest to highest, were urban primary care MD ($169), HMO provider ($184), rural primary care MD ($214), rural chiropractor ($348), orthopedist ($383) and urban chiropractor ($545).

The higher cost for chiropractic care reflects a larger number of visits - patients saw urban chiropractors (average of 15.0 visits) and rural chiropractors (10.1) more frequently than orthopedists (5.5) urban (4.4) and rural (4.6) primary MDs and HMO providers (3.1).

e) The researchers conclude that their study "has implications for health care policy" because the cost of acute back pain is substantial.

13. There are several compelling reasons why this study is seriously flawed and deserves much less significance than it has already been given including:

a) The basic design is suspect in several respects. Most importantly, as the authors admit, there were no proper controls for *matching severity of condition* - to see that populations of patients who saw each type of provider were similar. For example only 15% of HMO patients had sciatica whereas almost twice as many urban chiropractic patients (28%) had this complicating condition. There is nothing on comparative severity of pain.

b) This is not a controlled trial, and is only one regional survey that is inconsistent with a large body of evidence. The literature shows that cost of care can be heavily influenced by local reimbursement laws and conditions. Even if the design was strong and the results were valid in North Carolina, they would have little external validity outside the state.

c) This study is misleading because it only looks at early treatment of patients with acute back pain. The costs given do not look at overall costs for these patients. To understand the importance of this, note that 31% of the patients reported *continuing low-grade disability at six months.* This fact, which may have been the most significant from the whole study, is not even analysed - there is no report on who treated these patients, their long-term results, frequency of reoccurrences, etc.

d) Finally there is evidence of a political agenda which would make this research highly biased and suspect. In a May 1994 proposal to AHCPR for funds for continuing research on back pain which will use medical physicians to provide spinal manipulation, Carey et al acknowledge that, "even if immediate chiropractic referral is an effective strategy in the treatment of low-back pain, it is unlikely to become a dominant strategy because of the *reluctance of primary care MDs to refer out to other providers such a common problem* as acute low-back pain." [39] The grant application explicitly acknowledges turf protection. It is made on the basis of reduced medical referrals to chiropractors, and adoption of the practice of spinal manipulation by MDs with manifestly inadequate training and far less skill and competence than chiropractors.

H. Neck Pain

Best evidence to use is the May 1995 Quebec Task Force Report *Redefining Whiplash and its Management*[40] which is an evidence-based guideline on management from an international interdisciplinary panel. The chiropractic member was David Cassidy DC PhD. Details of the Quebec Report are discussed in the July 1995 issue of The Chiropractic Report. Main issues to discuss on management of neck pain are:

a) The same principles apply as in the management of back pain. The Quebec Report supports the *safety* and *effectiveness* of cervical manipulation and makes management recommendations similar to the US and UK Guidelines on back pain.

b) It should be acknowledged that there is less controlled trial evidence for any treatments for non-specific mechanical neck pain than for back pain. However there are trials showing the effectiveness of joint manipulation, and one by Cassidy, Lopes

continued on page 7

et al[12] shows that manipulation has better immediate effects than mobilisation in terms of increased ranges of joint motion.

c) You may be asked questions on safety. Points to be made are that the occurrence of vertebral artery injury which may lead to stroke is appreciated and thoroughly dealt with in the chiropractic literature; that the risk is extremely rare (about 2 per million or .0002%), and that those in the medical profession who have considered the risk/ benefit ratio of cervical manipulation find it entirely acceptable - e.g. the Quebec Task Force, and Charles Godfrey MD, Professor Emeritus in Physical Medicine and Rehabilitation, University of Toronto, giving evidence in the recent Canadian case involving medical manipulation of *Leung v Campbell*.[41]

I. Headache

15. ***Cervicogenic Headache.*** Much headache arising from the cervical spine continues to be diagnosed as tension headache or migraine headache. Medical leaders acknowledge that there is still grave confusion in the diagnosis of headaches, and it was only in 1988 that the International Headache Society recognized cervicogenic headache as a distinct entity.[42]

16. ***Prevalence.*** The recent study from Niels Nilsson DC MD PhD, Faculties of Medicine and Biomechanics, University of Odense, Denmark, published in *Spine* reports that 8% of headache sufferers in the general population have cervicogenic headache - making it as common as migraine.[43]

17. ***Management.*** Details of chiropractic management, and the research in support, are given in the May 1995 issue of this Report. Note the new US trial by Patrick Boline DC and Kassem Kassak PhD showing chiropractic management to be more effective than standard medical management for patients diagnosed medically as having tension headaches.[44]

J. Other Conditions

18. Chiropractors treat neuromusculoskeletal functional pathology which they have traditionally called subluxation, rather than conditions. Patients with many conditions respond. The profession's effort to explain these matters outside the practice environment have not only been unsuccessful but consistently misunderstood and harmful to the profession's acceptance. Other than in exceptional circumstances, where there is adequate time and demonstrated interest, chiropractors should talk about musculoskeletal pain conditions and headache. Chiropractic management of headache remains controversial enough to people outside the profession.

A good illustration of this is the survey by Jennifer Jamison MD PhD, Professor of Diagnostic Sciences, Department of Chiropractic, RMIT University, Melbourne in JMPT titled *Chiropractic Referral: The Views of a Group of Conventional Medical Practitioners with an Interest in Unconventional Therapies*.[45] In a survey of 820 Australian MDs with an interest in alternative nutritional interventions, those who referred patients to chiropractors sometimes (at least once each month) or regularly (at least weekly) fully acknowledged "the usefulness of chiropractic management for musculoskeletal complaints" but even from these referring MDs "the role of chiropractic care in the management of visceral disorders received scant support."

K. Education and Literature

19. ***Education.*** There are still wide misconceptions about the length and quality of chiropractic education and the importance of dealing with these cannot be over-emphasized. Emphasis should be given to the independent medical and government studies that find that basic and clinical sciences are taught at the same level as in medical school, and secondly to the elements distinctive to chiropractic education - applied biomechanics, applied neurology, manual sciences, and clinical training. For details see the July 1994 issue of The Chiropractic Report.

20. ***Literature.*** A picture is worth a thousand words. What this means in this context is that, when you are speaking on chiropractic, you should have impressive samples of chiropractic literature with you. Some of the best are:

a) ***Technique.*** *Chiropractic Technique: Principles and Procedures* by Bergmann TF (Northwestern), Peterson DH (Western States) and Lawrence DL (National), Churchill Livingston, New York 1993, 803 pages. This is extremely impressive. It is unquestionably the best text on manual technique by anyone anywhere. It illustrates vividly why joint manipulation is a complex and sophisticated matter, and why short-term or part-time postgraduate courses are an inadequate and unacceptable basis for practice.

b) ***General Principles.*** *Principles and Practice of Chiropractic* ed. by Haldeman S, Appleton and Lange, Norwalk, CT, 1992. Comprehensive, impressive and notable for its contributions from leading chiropractic and medical authors from North America, Europe, Australia and Japan.

c) ***Back Pain.*** *Managing Low-Back Pain*, by Kirkaldy-Willis WH (orthopedic surgeon) and Burton CV (neurosurgeon), Churchill Livingston, New York, 3rd edition 1992. A multidisciplinary text with an excellent chapter on spinal manipulation, written appropriately by chiropractors. The text describes a whole approach to management of back pain that gives a primary role to chiropractic management, including the conservative management of back pain patients where there is frank pathology such as disc herniation or spinal stenosis.

d) ***Scientific Periodicals.*** A recent issue of the *Journal of Manipulative and Physiological Therapeutics* (JMPT) ed. by Dana Lawrence DC, Williams and Wilkins, Baltimore, MD. Many chiropractors may not have seen a copy of JMPT since it changed its artwork in January 1995. In appearance and substance this journal illustrates the maturity and commitment to research of the chiropractic profession better than any other words or pictures.

e) ***Clinical Practice Guidelines.*** All health professionals have lacked, and are now being asked for, clinical guidelines describing their practices. The US and Canadian national consensus guidelines are important documents to discuss and display before many audiences.

References

1. Pearson JK (1995) *Stiff Neck: An Occupational Hazard*, Patient Care (July 15):172-174.

2. Cassidy JD, Kirkaldy-Willis WH, Thiel H (1992) *Manipulation* Chapter 16 in *Managing Low-Back Pain*, by Kirkaldy-Willis WH and Burton CV, Churchill Livingston, New York, 3rd edition.

3. Hadler NM, Curtis P et al (1987) *A Benefit of Spinal Manipulation as Adjunctive Therapy for Acute Low-Back Pain: A Stratified Controlled Trial*, Spine 12(7):703-706.

4. Cassidy JD, Lopes AA et al *The Immediate Effect of Manipulation versus Mobilization on Pain and Range of Motion in the Cervical Spine: A Randomized Controlled Trial*, J Manipulative Physiol Ther 15:570-575.

5. Mierau D et al, (1988) 'Manipulation and Mobilization of the Third Metacarpophalangeal Joint: A Quantitative Radiographic and Range of Motion Study', Manual

continued on page 8

References: *continued from page 7*

Medicine 3:135-140. back pain

6. See Ref 2 for references.

7. Giles LGF (1986) *Lumbo-Sacral and Cervical Zygapophyseal Joint Inclusions*, Manual Med 2:89-92.

8. All of Korr's original work has been republished in the single volume *The Collected Pages of Ivan M. Korr* (1979), American Academy of Osteopathy, 12 W. Locust Street, P.O. Box 750, Newark, Ohio 43055, U.S.A.

9. Kirkaldy-Willis WH and Cassidy JD (1985) *Spinal Manipulation in the Treatment of Low Back Pain*, Can Fam Phys 31:535-540.

10. Giles LGF (1994) *A Histological Investigation of Human Lower Lumbar Intervertebral Canal (Foramen) Dimensions*, J Manip Physiol Ther, 17(1):4-14.

11. Cassidy JD, Quon JA et al (1992) *The Effect of Manipulation on Pain and Range of Motion in the Cervical Spine: A Pilot Study*, J Manip Physiol Ther 15(8):495-500.

12. Cassidy JD, Lopes AA et al (1992) *The Immediate Effect of Manipulation versus Mobilization on Pain and Range of Motion in the Cervical Spine: A Randomized Controlled Trial*, J Manip Physiol Ther 15(9):570-575.

13. Terrett ACJ and Vernon H (1984) *Manipulation and Pain Tolerance*, Am J Phys Med 63(5):217-225.

14. Vernon T, Aker P et al (1990) *Pressure Pain Threshold Evaluation of the Effect of Spinal Manipulation in the Treatment of Chronic Neck Pain: A Pilot Study*, J Manip Physiol Ther 13(1):13-16.

15. Shambaugh P (1987) *Changes in Electrical Activity in Muscles Resulting from Chiropractic Adjustment: A Pilot Study*, J Manip Physiol Ther 10(6):300-304.

16. Harris W and Wagnon RJ (1987) *The Effects of Chiropractic Adjustments on Distal Skin Temperature*, J Manip Physiol Ther 10(2):57-60.

17. Tran TA and Kirby JD (1977) *The Effectiveness of Upper Cervical Adjustment upon the Normal Physiology of the Heart*, ACA J Chiro XI S 58-62.

18. Yates RG, Lamping DL et al (1988) *Effects of Chiropractic Treatment on Blood Pressure and Anxiety: A Randomized, Controlled Trial*, J Manip Physiol Ther 11(6):484-488.

19. Dhami MSI, Coyle BA et al (1986) *Evidence for Sympathetic Neuron Stimulation by Cervicospinal Manipulation*, in *Proceedings of the First Annual Conference on Research and Education of Pacific Consortium for Chiropractic Research*, California Chiropractic Association, Sacramento. CA:A5 1-5.

20. Vernon HT, Dhami MSI et al (1986) *Spinal Manipulation and Beta-Endorphin: A Controlled Study of the Effect of a Spinal Manipulation on Plasma Beta-Endorphin Levels in Normal Males*, J Manipulative Physiol Ther 9(2):115-123.

21. Brennan PC, Triano JJ et al (1992) *Enhanced Neutrophil Respiratory Burst as a Biological Marker for Manipulation Forces: Duration of the Effect and Association with Substance P and Tumor Necrosis Factor*, J Manip Physiol Ther 15(2):83-89.

22. Briggs L and Boone WR (1988) *Effects of a Chiropractic Adjustment on Changes in Pupillary Diameter: A Model for Evaluating Somatovisceral Response*, J Manipulative Physio Ther 11(3):181-189.

23. *Guidelines for Chiropractic Quality Assurance and Practice Parameters*, (1993) Proceedings of the Mercy Center Consensus Conference, ed. Haldeman S, Chapman-Smith D, Petersen DM, Aspen Publishers, Gaithersburg, Maryland, Chapter 13.

24. *Clinical Guidelines for Chiropractic Practice in Canada* (1994), ed Henderson DJ et al, Suppl. to J Can Chiropractic Ass 38(1): March 1994.

25. Shekelle PG, Adams AH et al (1991) *The Appropriateness of Spinal Manipulation for Low Back Pain: Indications and Ratings by a Multidisciplinary Expert Panel*, RAND, Santa Monica, California. Monograph No. R-4025/2 - CCR/FCER.

26. Bigos S, Bowyer O, Braen G et al (1994) *Acute Low Back Problems in Adults. Clinical Practice Guideline No.14*. AHCPR Publication No. 95-0642. Rockville, MD; Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services.

27. Lewit K (1986) *Manipulation - Reflex Therapy or Restitution of Impaired Locomotor Function*, Manual Med 2:99-100.

28. Dr. Mikhail Mikheev, Chief Medical Officer, Office of Occupational Health, World Health Organization, Opening Address, 1993 World Chiropractic Congress, London, England, May 27, 1993.

29. Burton CV and Cassidy JD (1992) *Economics, Epidemiology, and Risk Factors*, Chapter 1 in *Manipulation, Managing Low-Back Pain*, by Kirkaldy-Willis WH and Burton CV, Churchill Livingston, New York, 3rdedition.

30. Meade TW, Dyer S et al (1990) *Low-Back Pain of Mechanical Origin: Randomised Comparison of Chiropractic and Hospital Outpatient Treatment*, Br Med J 300:1431-37.

31. Meade TS, Dyer S et al (1995) *Randomised Comparison of Chiropractic and Hospital Outpatient Management for Low-Back Pain: Results from Extended Follow Up*, Br Med J 311:349-351.

32. *Complementary Medicine: New Approaches to Good Practice* (1993) British Medical Ass, Oxford Univ Press, 138.

33. Manga P, Angus D et al (1993) *The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain*, Pran Manga and Associates, University of Ottawa, Canada.

34. Chiropractic Services Review Committee Report (1994), Ontario Ministry of Health, Chapter 1.

35. *The Manga Report* (1994), Spineletter 4(1):1-5.

36. Rosen M, Breen A et al (1994), *Management Guidelines for Back Pain* Appendix B in *Report of a Clinical Standards Advisory Group Committee on Back Pain*, Her Majesty's Stationery Office (HMSO), London.

37. Frymoyer JW (1992) *Can Low-Back Pain Disability be Prevented? Common Low-Back Pain: Prevention of Chronicity*, Clin Rheumatol 6:595-606.

38. Carey TS, Garrett J et al *(1995) The Outcomes of Care for Acute Low-Back Pain Among Patients Seen by Primary Care Practitioners, Chiropractors and Orthopedic Surgeons*, New Engl J Med 333(14):913-917.

39. *Manual Therapy in Primary Care of Acute Low-Back Pain*, Grant Application to US Agency for Health Care Policy and Research, Department of Health and Human Services by Carey TS et al dated May 4, 1994.

40. Spitzer WO, Skovron ML et al (1995) *Scientific Monograph of the Quebec Task Force on Whiplash-Associated Disorders: Redefining Whiplash and its Management*, Spine 20:8S.

41. File No. 23108/87, Ontario Court of Justice (General Division), Judgement dated January 6, 1995, Dr. Godfrey's report dated November 18, 1992.

42. For details see The Chiropractic Report, January 1991 (Vol 5, No.2)

43. Nilsson N (1995), *The Prevalence of Cervicogenic Headache in a Random Population Sample of 20-59 Year Olds*, Spine 20(17)1884-1888.

44. Boline P, Kassak K et al (1995) *Spinal Manipulation vs Amitriptyline for the Treatment of Chronic Tension-Type Headaches* J Manip Physiol Ther 18:148-154.

45. Jamison J (1995) *Chiropractic Referral: The Views of a Group of Conventional Medical Practitioners with an Interest in Unconventional Therapies*, J Manip Physiol Ther 18(8):512-518.