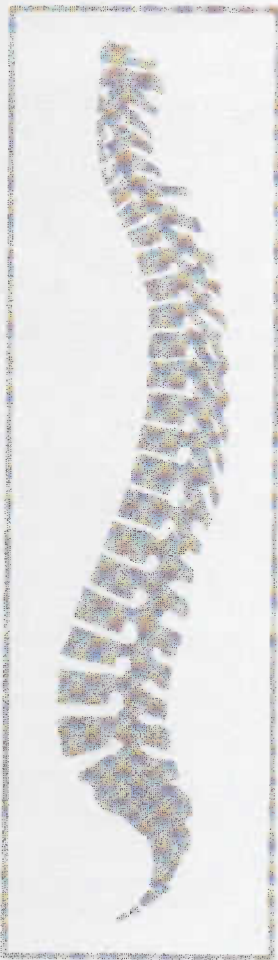
THE CHIROPRACTIC REPORT

An international review of professional and research issues, published bimonthly.

Editor: David Chapman-Smith, LL.B. (Hons.), FICC (Hon.) March 1993 Vol. 7 No. 3



The Chiropractic Profession

Table of Contents

A. Introduction
B. Basic Facts 1
C. Government Inquiries 2
D. Common Questions
- Subluxation 3
- Adjustment 4
- Manipulation 4
- Chiropractic and Medicine - Incompatible Philosophy? 4
- Conditions Treated 5
- Temporary or Permanent Relief 5
- Cost-effectiveness 5
- Safety 6
- Research 7
- Over-treatment/Patient Dependency 7

E. Conclusion 7

A. Introduction

Chiropractic (*Greek*: treatment by hand) arose as a separate profession in the United States in the 1890s. In that era of heroic medicine many alternative disciplines emerged - chiropractic has been the strongest survivor.

Through to the end of the 1939-45 war chiropractic was truly flamboyant and controversial. Under Bartlett J. Palmer, son of the profession's founder, the Palmer College of Chiropractic in Davenport Iowa grew from 24 students in 1906 to 3100 in 1923. Historian Russ Gibbons records that in 1912 the Illinois Medical Journal described B.J. Palmer as "...the most dangerous man in Iowa out of a prison cell. (He) is insane, a paranoiac, a man whose irresponsibility is criminal".[1]

After 1924, when Palmer's authority in the profession began to wane, many chiropractors agreed. U.S. state chiropractic associations passed resolutions condemning him. On the other hand a Harvard University medical professor who visited Palmer in the 1940s judged him "one of the three geniuses I have met in my life". He hosted three U.S. presidents - Coolidge, Hoover and Truman - at his home, and a prominent modern sociologist, Wardwell, has concluded that "without B.J. Palmer chiropractic would almost certainly not have survived".[2]

Under Palmer's influence and fuelled by a mixture of patient loyalty, intermittent imprisonment, and the vigorous opposition of organized medicine, chiropractors naturally enough indulged in overclaim and lionized their profession. Some viewed their role in frankly spiritual terms.

However, this, like Palmer himself, is history. Many things have changed since World War II ended in 1945, at which time medical science had yet to perform its first controlled clinical trial. Some changes, such as the transformation of Japanese trade, are well known. Some, such as the comparable transformation of the chiropractic profession - from controversial beginnings to considerable maturity - are less well known. What of chiropractic in 1993? This Report now presents:

i) Basic facts.

ii) The findings of government inquiries. In a world too full of un- researched opinions and partisan claims, the best government inquiries present the most reliable evidence.

iii) Common questions. Answers to questions that always arise when other professionals discuss chiropractic.

B. Basic Facts

1. Chiropractic is now the third largest primary health care profession in the western world after medicine and dentistry. There are approximately 45,000 chiropractors in the United States, 4,000 in Canada, 2,500 in Australia, 10,000 in Japan, 700 in the United Kingdom and 100-500 in each of Belgium, Denmark, Italy, Norway, Sweden, Switzerland, New Zealand and South Africa.

The profession is established, though in smaller numbers, in other European countries, Asia, Africa, the Middle East and South America.

2. Over 50% of the profession has graduated since 1980 - a statistic of great significance in appraisal of the profession today. (See para 6).

3. The profession has always presented itself as a natural and conservative source of health care, offering an alternative to medication and surgery. Accordingly it makes no use of drugs or surgery and, unlike osteopathy in the United States, has no aspirations to do so. Medical reservations on this point are quickly put to rest upon first-hand experience of chiropractors and chiropractic offices.

The profession's central interest has always been the relationship between impaired movement of spinal vertebrae and the nervous system, and the effect of this on health. Its principal treatment is joint adjustment (see para 20) or manipulation.

This is supplemented by physical therapy modalities, and there is a focus on lifestyle counselling, prevention, and patient responsibility for health. This focus, as research now shows, is an important factor in the success of chiropractic management and the high level of patient satisfaction reported.[3,4]

4. Legislation licensing the practice of chiropractic exists in all U.S. states, the Canadian provinces, the Australian states, Cyprus, Denmark, Hong Kong, Mexico, New Zealand, Norway, Panama, South Africa, Sweden, Switzerland, the West Indies

Current U.S. Medical Policies On Chiropractic

(Table 1)

American College of Surgeons (1987)

- "There are no ethical or collective restraints to full professional cooperation between doctors of chiropractic and medical physicians".
- Such cooperation should include "referrals, group practice, participation in all health care delivery systems, treatment and services in and through hospitals, participation in student exchange programs between chiropractic and medical colleges, and cooperation in research and continuing education programs".

American College of Radiology (1987)

- "There are and should be no ethical or collective impediments to interprofessional association and cooperation between doctors of chiropractic and medical radiologists in any setting where such association may occur, such as in a hospital, private practice, research, education, care of a patient or other legal arrangement".
- "Radiologists are urged to be sensitive to and consider the legitimate radiologic needs of .... doctors of chiropractic".

American Hospital Association (1987)

- The AHA "has no objection to a hospital granting privileges to doctors of chiropractic for the purposes of administering chiropractic treatment, furthering the clinical education and training of doctors of chiropractic, or having x-rays, clinical laboratory tests and reports thereon made for doctors of chiropractic and their patients and/or previously taken x-rays, clinical laboratory tests and reports made available to them upon (patient) authorization".

An official publication of the *World Federation of Chiropractic,* representing national associations of chiropractors in over 50 countries. WFC Secretariat: 3080 Yonge Street, Suite 3002, Toronto, Ontario Canada M4N 3N1 Tel: 416-484-9978 Fax: 416-484-9665.

(Barbados, Leeward Islands) and Zimbabwe. Common features in these jurisdictions, together with others such as the United Kingdom where practice is legal without specific authorizing legislation, are:

a) Primary care (direct contact with patient)

b) The right and duty to diagnose

c) The right to use diagnostic x-ray.

5. Major chiropractic colleges exist in the United States (17), Australia (2), Canada (2), and England. Newer colleges exist in Denmark, France, Japan (2) and South Africa. A number of European countries, such as Scandinavian countries and Switzerland, have formal postgraduate requirements for returning graduates.

Depending on the country chiropractic education is either within the university system (e.g. Australia, Denmark, England and South Africa), or in private colleges (e.g. France, Japan and the United States). In Canada one program is in a university (University of Quebec), one in a private college (Canadian Memorial Chiropractic College, Toronto).

6. The foundation for the modern chiropractic profession was laid in the 1960s with the formation of the U.S. Council on Chiropractic Education (CCE), which gained formal recognition from the U.S. Office of Education in 1974. The CCE and its affiliates provide an international accrediting agency for chiropractic education, specifying uniform minimum educational standards. These include:

a) Entrance requirements. In North America, two years of university study in qualifying science courses is required. (In Canada approximately 70% of students during the 1980s had a university degree before entering chiropractic college).

b) A structured four or five year chiropractic college program. Government inquiries and independent investigations by medical practitioners have affirmed that today's chiropractic undergraduate training is of equivalent standard to medical training in all pre-clinical subjects.[5,6] On contemporary faculties, chiropractors are joined by appropriate basic science and medical specialists, whose absence in earlier times provided grounds for valid criticism of chiropractic education.

7. The move to a modern health science education in the 1960s created a splinter group, called the 'straights', within the chiropractic profession in the United States. The distinctive feature of straight chiropractors is that they base their practice solely on assessment and treatment of the spinal subluxation (see para 15), and claim no responsibility to diagnose. There is no 'straight' chiropractic group outside the U.S. The presence of the straight chiropractic faction in the U.S. has had a large adverse impact on the chiropractic profession internationally. There is obvious inconsistency in claiming the right of primary health care yet resisting the training and the duty to diagnose. This point, central to patient safety, has now been made by a number of U.S. courts dealing with malpractice claims against straights, most recently the New Jersey Supreme Court in *Rosenberg v Cahill.*[7]

Efforts by three small straight chiropractic colleges to gain recognition and accreditation independent of CCE have failed and there are now few U.S. states that will grant licensure and the right to practice to their graduates.

8. The cost of chiropractic treatment is met fully or in part under government health care plans in the United States (Medicaid and Medicare), Canada, Denmark, Norway, and Switzerland. All modern government inquiries into chiropractic - the most thorough being in New Zealand (1979), Australia (1986) and Sweden (1987) - have recommended government funding for chiropractic services. Workers are entitled to elect chiropractic care under workers compensation law in the United States, Canada, and Australia.

9. As a general rule private health insurance companies provide coverage for chiropractic services wherever the profession has become established. The degree of coverage varies. In North America, a number of large unions have negotiated unlimited coverage for their members. Generally, there is full coverage for diagnosis and treatment to a maximum dollar amount per individual or family per annum.

Sometimes only part of the cost is covered, and there is dovetailing with government funding. In Denmark, for example, chiropractic costs are generally met one-third each from government reimbursement, private insurance and the patient.

10. The international organization representing the chiropractic profession is the World Federation of Chiropractic, which is based in Toronto and Geneva. Members of the WFC are 55 national associations of chiropractors worldwide.

The WFC works in collaboration with individual countries developing chiropractic services and legislation, and with international health agencies such as the World Health Organization. (e.g. WHO and the WFC are currently co-sponsoring interprofessional scientific symposia and preparation of a WHO text 'Chiropractic in Occupational Health').

C. Government Inquiries

11. There have been six formal government inquiries into chiropractic worldwide during the past 25 years. These have criticized past excesses and the continuing practices of some elements within the profession, but found contemporary chiropractic health care safe, effective, cost-effective and recommended licensure and government funding. They have all criticized the level of antipathy and misinformation between the chiropractic and medical professions (with faults on both sides) and expressly called for cooperation in the interests of patients.

12. Government inquiries, like research, are of widely varying quality and some deserve little credibility. Of importance are the qualifications of the commissioners, the terms of reference, the procedures adopted for hearing and testing evidence, and the degree of opportunity to hear all relevant evidence.

On these criteria - see Table 2 - the most comprehensive and detailed independent examination of chiropractic ever undertaken was that in New Zealand in 1978/79.

The Commission's 377-page report, 'Chiropractic In New Zealand'[8] has obvious authority and balance. It followed extensive investigations by the Commission conducted in New Zealand, the United States, Canada, England and Australia.

The following principal findings appear in the introduction to the Report - note that it is now 15 years since these independent findings:

- Modern chiropractic is far from being an "unscientific cult".
- Chiropractic is a branch of the healing arts specialising in the correction by spinal manual therapy of what chiropractors identify as biomechanical disorders of the spinal column. They carry out spinal diagnosis and therapy at a sophisticated and refined level.
- Chiropractors are the only health practitioners who are necessarily equipped by their education and training to carry out spinal manual therapy.
- General medical practitioners and physiotherapists have no adequate training in spinal manual therapy, though a few have acquired skill in it subsequent to graduation.
- Spinal manual therapy in the hands of a registered chiropractor is safe.
- The education and training of a registered chiropractor are sufficient to enable him/her to determine whether there are contra-indications to spinal manual therapy in a particular case, and whether the patient should have medical care instead of or as well as chiropractic care.
- Spinal manual therapy can be effective in relieving musculoskeletal symptoms, such as back pain and other symptoms known to respond to such therapy, such as migraine.
- In a limited number of cases where there are organic and/or visceral symptoms, chiropractic treatment may provide relief, but this is unpredictable, and in such cases the patient should be under concurrent medical care if that is practicable.
- Although the precise nature of the biomechanical dysfunction that chiropractors claim to treat has not yet been demonstrated

continued on page 3

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scientifically, and, although the precise reasons why spinal manual therapy provides relief have not yet been scientifically explained, chiropractors have reasonable grounds, based on clinical evidence, for their belief that symptoms of the kind described above can respond beneficially to spinal manual therapy.

- Chiropractors do not provide an alternative comprehensive system of health care, and should not hold themselves out as doing so.

- *In the public interest and in the interests of patients, there must be no impediment to full professional cooperation between chiropractors and medical practitioners.*

- It is wrong that the present law, or any medical ethical rules, should have the effect that a patient can receive spinal manual therapy which is subsidised by a health benefit only from those health professionals least qualified to deliver it.

- The responsibility for spinal manual therapy training, because of its specialised nature, should lie with the chiropractic profession. Part-time or vacation courses in spinal manual therapy for other health professionals should not be encouraged.

The Commission, in answer to the basic question before it, recommended government funding for chiropractic services. There were also recommendations concerning discipline, interprofessional ethics, hospital access and government-funded research to be conducted jointly by the chiropractic and medical professions.

Although there have been major developments since the New Zealand Report in 1979 (e.g. greatly increased cooperation between medicine and chiropractic, and a large volume of research on chiropractic manipulation and cost-effectiveness), this report remains the best reading for impartial conclusions on many aspects of the chiropractic profession.

13. In Australia a Medicare Benefits Review Committee[9] was established in July 1984 and asked by the Federal Minister for Health to "consider requests for extending the scope of Medicare (government funded health) arrangements to provide benefits for certain paramedical services". These included chiropractic services.

For various reasons, including breadth of terms of reference and non-judicial procedure (detailed written evidence was submitted, and the Committee met with participants, but evidence was not given orally under oath or subject to cross examination), the Australian report is of less weight on chiropractic.

However, all of the findings of the New Zealand report were accepted. In addition:

- In reviewing the international research evidence available to 1986, the Committee noted that it was "particularly true of chiropractic" that there had been "a significant shift in the last decade in attitude .... towards the issue of scientific research". The Committee regarded criticism of chiropractic research "as something of a 'red herring', as did the New Zealand report into chiropractic".[10]

- The Committee recommended funding for chiropractic in hospitals and other public institutions, saying:

"We are aware of the very considerable organizational and professional obstacles ... orthodox practitioners and, indeed, some chiropractors may initially find the experience an uneasy one, but we consider the differences that currently exist to be unreasonable and efforts should be made to bridge the gap".

"... *the continuing schism between the two professions does little to help improve the health of the many Australians who might benefit from a joint chiropractic/medical approach to their problems*".[11]

14. The most recent government report on chiropractic, in 1987, was from a Commission on Alternative Medicine in Sweden. Sweden then had no legislation regulating the practice of chiropractic, had approximately 100 chiropractors educated in accredited colleges, and several hundred other practitioners and lay persons who called themselves "chiropractor".

The Commission was comprised of representatives of government and education, one MD, and one chiropractor. It did not hold judicial hearings, but conducted detailed investigation of chiropractic education, had the scientific literature assessed by university medical faculty, and commissioned a demographic survey by Statistics Sweden.

The Commission's findings were consistent with those in Australia and New Zealand. It reported:[5]

- Chiropractors with the Doctor of Chiropractic degree "should become registered practitioners and be brought within the national insurance system in Sweden".

- "DCs follow a 4-5 year course of university level training ... in its pre-clinical parts ... found to be the equivalent to Swedish medical training". They have "competence in differential diagnosis" and should be regulated on a primary care basis.

- "*Measures to improve cooperation between chiropractors, registered medical practitioners and physiotherapists are vital" in the public interest.*

Following this report the Swedish government passed legislation recognizing and regulating the chiropractic profession. Then, together with the governments from Denmark, Finland and Norway, it established a school of chiropractic at the University of Odense to provide a regional chiropractic college for students from those countries.

D. Common Questions

The Chiropractic Subluxation

15. A common medical allegation is "the chiropractic subluxation (the spinal lesion that is one focus of chiropractic treatment) has no objective existence at all". This is said to be confirmed by the fact that medical radiologists cannot see such subluxations on x-ray. The position is complicated by the fact that modern medicine has a competing definition of 'subluxation'.

16. 'Vertebral subluxation' is the term given by chiropractors to an entity with these essential elements:

- Abnormal function (movement) in a spinal joint (motion segment);
- Neurological and vascular involvement;
- Often, but not necessarily, a structural (static) displacement of a vertebra.

continued on page 4

NEW ZEALAND COMMISSION

(Table 2)

Terms of Reference

To consider whether government health and accident compensation benefits should be made available for chiropractic services having regard to the practice and philosophy of chiropractic, its scientific and educational basis, whether it constituted a separate and distinct healing art, and the contribution it could make to New Zealand health services.

Membership

Brian D. Inglis QC, BA JD LLD Chairman. A senior litigation lawyer, and Professor of Law, Victoria University, Wellington. Now a judge.

Betty Fraser, MBE, MA a prominent educationalist.

Bruce R. Penfold, MSc, PhD, FRSNZ Professor of Chemistry, University of Christchurch.

Procedure

Public judicial hearings. Evidence given orally, but on basis of a written submission filed with the Commission and available to principal parties at least 30 days prior to allow time for informed cross-examination. On oath and subject to examination by all interested parties, including legal counsel representing the chiropractic, medical and physiotherapy professions.

Evidence was recorded verbatim and appears in a 3,638 page typewritten transcript. This record assisted cross-examination and proper evaluation of evidence, and is referenced by the Commission in its report in support findings made.

In addition there were some private hearings, impromptu visits to chiropractic practices to observe the profession at work, and personal investigation of chiropractic, medicine, and

physiotherapy in the United States, Canada, England and Australia - see Report for details.

Depth of Inquiry

The Commission's opportunity to hear evidence was extremely wide, since there were no restraints on time, and both medicine and chiropractic worldwide saw this as the test case for chiropractic. Consumer, chiropractic, medical and physiotherapy witnesses from the United States, Europe, Canada and Australia came to give evidence at the New Zealand hearings. The Commission and all parties contemplated an inquiry of under six months; the inquiry in fact required over 18 months.

Main Article: *continued from page 3*

It is essentially a functional entity, involving restricted vertebral movement in one or more planes of motion, and unless there is structural misalignment is no more visible on x-ray than, by analogy, a limp or headache or any other functional problem.

17. The concept of subluxation is not unique to chiropractic. Its equivalents are the 'osteopathic lesion' and the 'segmental blockage or blockade' of the European manual medical school.

On account of the confusion of terminology, and the artificial barriers to understanding this can create, many North American chiropractors today simply refer to 'spinal dysfunction' or a 'manipulable lesion'. There is irony in this since:

- Medical authors during the 18th and 19th centuries used subluxation in the chiropractic sense, as Terrett explains[12].

- During the past 10 years, during which there has been greatly increased cooperation between medicine and chiropractic in research and practice, many medical authors are again using the term subluxation as formerly. (See for example 'Sacroiliac Subluxation: A Common Treatable Cause of Low Back Pain in Pregnancy' (1991) by Daly, Frame et al MDs from the University School of Medicine, Rochester, New York which defines and accepts 'subluxation' in a manner completely consistent with chiropractic practice.[13])

18. The chiropractic subluxation attracts further criticism because, historically, chiropractors gave the simplistic explanation that it involved pinching the nerve at the intervertebral foramen thereby interfering with the nerve supply. At times it does, as medical authors agree. But, in the 1990s, the chiropractic profession understands (and provides a significant part of the research showing) that the mechanisms involved include compression, stretch, irritation and reflex pathways that health science is only beginning to understand.

19. The whole issue of subluxation was debated at length before the New Zealand Commission, the New Zealand Medical Association claiming there was no objective evidence of such lesion. After hearing all the expert evidence, the Commission disagreed with NZMA. It quoted an experienced orthopedic surgeon on the need for intensive training to recognize joint abnormalities:

"The necessity for this training is not always appreciated, and its neglect may well lead to the impression among non-manipulators that the manipulator is imagining the abnormality and that he spends his time treating something that does not exist. This difficulty can perhaps be compared to that of a novice trying to read Braille. Distinguishing the pattern of the raised dots is easy for those who have had sufficient practice. However, it is quite impossible for those like myself who have not - and, to the beginner, the idea that it might be possible seems unbelievable."[14]

Adjustment

20. Chiropractors prefer the word 'adjustment' to 'manipulation' because it signifies something more controlled, specific and skilled. Leading practitioners of manual medicine and osteopathy have now adopted the term also.[15]

Today, a wide range of manual techniques have been shared between the different schools of manual health care. It is not generally appreciated that the classic chiropractic adjustment techniques, although quick, are in no way forceful or violent.

To quote the New Zealand Commission:

"... it is alleged that (chiropractic) technique consists mainly of the 'dynamic thrust'. This is claimed to be dangerous because it is a sudden high-velocity movement, the patient cannot see what is being done, cannot resist the thrust, and is therefore at the chiropractor's mercy.

"Until the Commission saw chiropractors at work, it imagined from such descriptions that this was the only way the chiropractor operated, while the physiotherapist, with gentle articulations, extension, or mobilization was a very different practitioner. The truth is that, *while the chiropractor's movements are indeed often quick*, perhaps more so than those of the physiotherapist, *they are also usually small and precise. The most forceful manipulations we saw were performed by physiotherapists*".[16]

Manipulation

21. The term 'spinal manipulation' has been used loosely in the past, often to refer to all manual techniques used to treat muscles or joints. During the past ten years the following definitions have become distinct in the international health science literature with respect to treatment of joint disorders:

- **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 chiropractic adjustment is a skilled and specific form of manipulation. A recent study from the RAND Corporation indicates that over 90% of manipulative services provided in the U.S. are given by the chiropractic profession.[17] The importance of the distinction between manipulation and mobilization is emphasized by a growing body of research showing that manipulation has superior results to mobilization in:

- Reducing back pain,[18]
- reducing neck pain[19]
- increasing range of movement in a joint.[19,20]

Chiropractic and Medicine - Incompatible Philosophy?

22. The zealous and unsupportable assertion of many early chiropractors was that the vertebral subluxation influencing the nervous system was the source of all or most disease. This is as historical as a then current medical technique, bloodletting with the leech. This skeleton in the chiropractic cupboard, rattled by a fringe movement of extremists as exist in any profession, has sometimes been a continuing barrier to understanding and cooperation between the chiropractic and medical professions.

The best proof for MDs that chiropractic today is a modern health science compatible with medicine is to meet a local chiropractor and observe his/her practice. The next best evidence is to talk to a colleague who has a settled inter- referral relationship with a chiropractor. At the individual level there today is conspicuous and widespread cooperation between chiropractic and medicine at the levels of education, research and practice. In many North American cities a large number of MDs and DCs practice in offices in the same health centre with close cooperation and inter-referral, sometimes in full and formal partnership.

23. Independent respected health science journals have always published chiropractic research. In recent years journals published/endorsed by medical associations have dropped their former editorial bias. In 1992, for example:

a) The American College of Physicians, in its Annals of Internal Medicine, published medical research into chiropractic manipulation for back pain. MDs were asked to reappraise the roles of spinal manipulation and the chiropractic profession because of "recent research favourable to the chiropractic treatment of patients with low-back pain".[21]

For the last 50 years use of spinal manipulation had been "labelled as unorthodox treatment by the medical profession" but new research demanded a change in attitude.

b) The Journal of Family Practice, endorsed by the American Academy of Family Physicians, was more outspoken. An article by Peter Curtis, MD and Jeffrey Bove, DC from the University of Chapel Hill, North Carolina encouraged family physicians to "re-evaluate their relationship with chiropractors" and provided guidelines for referral.[22]

Three perceived problems - the education of chiropractors, including ability to diagnose; lack of scientific evidence of effectiveness of chiropractic manipulation; and potential danger from manipulation, especially cervical manipulation - were answered and dismissed as unfounded. The article was accompanied by two editorials:

- One by Reis, Borkan and Hermoni, Israeli MDs, agreeing that having regard to current research there is a "pressing need for family physicians to re-evaluate chiropractic in light of both the increasing role it plays in the treatment of musculoskeletal ailments and the epidemic proportion of low back pain sufferers".[23]

- A second by Daniel Cherkin PhD of Seattle who has published research in the U.S.[24,3] showing that, with respect to back pain, there is a far higher satisfaction level expressed by patients of chiropractors than MDs. Cherkin comments on his recent study of family physicians

continued on page 5

Main Article: *continued from page 4*

in the state of Washington showing "surprisingly little antipathy towards chiropractors". Thus:

i) Only 3% dismissed chiropractors as incompatible with MDs.

ii) A clear majority had encouraged patients to see a chiropractor and indicated a desire to learn more about what chiropractors do.

iii) 25% viewed chiropractors as "an excellent source of care for musculoskeletal problems".[25]

He urges more widespread cooperation in the interests of patients, MDs, and chiropractors.

24. In other countries than the U.S. there is a more established pattern of cooperation and inter-referral. Thus, for example:

a) In the United Kingdom, where the General Medical Council changed its ethic on referral to chiropractors and other non-medical health care providers in 1979[26], a 1986 survey of general medical practitioners showed that 50% had referred patients for non-medical spinal manipulation (chiropractors and osteopaths) during the past 12 months.[27]

b) In Canada a 1989 study from the Faculty of Medicine, University of Toronto, reported that a clear majority (62%) of family medical practitioners were referring patients to chiropractors and that 1 in 10 (9.5%) of MDs in family practice were chiropractic patients themselves.[28] A 1990 survey in Saskatoon, a city with 38 chiropractors, reported that 20% of all chiropractic practice related to neck and back pain patients referred by MDs.[29]

25. Notwithstanding these developments many MDs retain the impression that chiropractors have an incompatible approach to health care. One powerful source of this perception, now exposed in the courts, has been the American Medical Association (AMA) and it is noted:

- AMA changed its ethics to allow referral in 1980 but continued a campaign to discourage cooperation.

- In the *Wilk* Case,[30] litigation between a representative group of chiropractors and the AMA and affiliated organizations, the AMA was found to have breached antitrust laws during 1966-1980 in conspiring to restrict cooperation between individual MDs and chiropractors in order to eliminate chiropractic as a competitor in the U.S. health care system. A patient care defense advanced by the AMA, alleging justifiable concerns about the practice of chiropractic, failed. The court found itself obliged to make a direct ruling on credibility against the AMA on this matter.

- The court also found that the basis of the AMA's illegal boycott of chiropractic was the calculated portrayal of chiropractors as unscientific, cultist and having a philosophy incompatible with scientific medicine.

If you still have the feeling this may be true, you should reflect upon the sources of your information, and what direct evidence you have to contradict the findings of a number of detailed government investigations. Reflect also upon the growing evidence of interprofessional cooperation, including the existence of organizations - such as the American Back Society and now the North American Spine Society - that have chiropractors and MDs as officers and members sharing current research and clinical experience.

Conditions Treated

26. Studies in North America, Europe and Australia report that approximately 80% of chiropractic practice is for musculoskeletal pain, with low-back pain the predominant presenting complaint. Another 10% is for headache and migraine, concerning which there is a growing body of research evidence of effectiveness.[31,32,33]

The remaining 10% includes a wide variety of disorders caused fully or in part by spinal lesions. This is the 10% that concerns many MDs who have little exposure to manipulative health care. Much needs to be said here, but central issues are:

- No responsible chiropractor today claims to cure organic disease through adjustment of the spine. There is no research to support such a claim.

However, clinical experience suggests that vertebrogenic pain plays an often unsuspected role in many conditions.

- The claims of modern chiropractors in this area, and their clinical experiences, are shared by all professions engaged in spinal manual therapy - including medicine, osteopathy and physiotherapy.

Kunert, a West German cardiologist, prominent in the European manual medicine school in the 1950s and 1960s, gives case examples where the medical diagnoses were respiratory block and heart disease. On reference to his specialized unit, the primary causes were found to be vertebral problems, corrected by spinal manipulation. Following extensive clinical and research experience he concluded that "lesions of the spinal column ... are perfectly capable of simulating, accentuating or making a major contribution to organic diseases. There can ... be no doubt that the state of the spinal column does have a bearing on the functional status of the internal organs".[34]

- Lewit, a Prague neurologist currently at the head of the manual medicine movement in Europe and whose major text is now available in English, writes at length of his experimental and clinical experience using spinal manipulation to treat patients with respiratory problems, heart disease, digestive problems, gynecological disorders, migraine, vertigo/dizziness and other conditions.[35]

- Grieve, a noted and well-published English physiotherapist says:

"All those experienced in manipulation can report numerous examples of migrainous headaches, disequilibrium (vertigo), subjective visual disturbances, feelings of retro-orbital pressure, dysphagia, dysphonia, heaviness of a limb, extrasegmental paraesthesia, restriction of respiratory excursion, abdominal nausea and the cold sciatic leg being relieved by manual or mechanical treatment of the vertebral column; but, while these effects are noted, and the underlying mechanisms investigated with the purpose of understanding better what we do, they are insufficient reason to put the cart before the horse.

In other words, the prime impulse for physical treatment of the vertebral column is properly vertebral column disorder, and not visceral disorder".[36]

The final sentence could well have been written by a chiropractor. (For more comprehensive treatment of this subject see this Report Vol 1 No. 3 (March 1987)).

Temporary or Permanent Relief

27. The early trials of spinal manipulation by chiropractic and medical researchers, which everyone now acknowledges were poorly designed, tended to show that the treatment was effective but that the benefits were short-lived. This, together with a need for continuing care for many patients, has sometimes led to the perception that chiropractic manipulation helps but only on a temporary basis.

Better designed clinical trials during the past 15 years have shown that the benefits of chiropractic manipulation, particularly when combined with appropriate modification of lifestyle by the patient, are long-term. Thus:

- With respect to back pain there are now strong research studies in the United States[37], Canada[38] and England[39] showing that patients with either acute or chronic back pain get excellent results under chiropractic care - and that the benefit of treatment remains one and two years after treatment has finished.

The English study, a large multi-center randomized controlled trial commissioned by the British Medical Research Council and published in the British Medical Journal in June, 1990, specifically addressed the perception that manipulation did not have long term benefit. The prominent medical researchers involved concluded:

"*For chiropractic our findings suggest otherwise*".

- With respect to headache and migraine, the multi-disciplinary trial by Parker et al funded by the Australian government showed that chiropractic manipulation was an effective treatment - and a follow-up study by the researchers showed that cure/improvement was maintained at 20 months.[31,32]

Cost Effectiveness

28. The great majority of chiropractic practice is for back pain, which has a vast socio-economic cost. In a chapter entitled 'Economics, Epidemiology and Risk Factors' in the leading text 'Managing Low Back Pain'[40] Dr. Charles Burton, neurosurgeon and Director, Institute for Low-Back Care, Minneapolis, Minnesota, and Dr. David Cassidy, chiropractor and Research Director, Department of Orthopedics, University Hospital, Saskatoon, Canada, note:

- In 1992 the best estimate of direct and indirect costs of low-back pain in the United States is $60 billion.

- In the U.S. in 1990 back care workers compensation costs were about $30 billion.

continued on page 6

Main Article: *continued from page 5*

- "Low back pain clearly represents the single greatest and most inefficient expenditure of health care resources in our society today."
- Low back pain "*also represents the greatest single opportunity for productive change and cost savings.*"

In the western world 80% of the population will experience disabling low-back pain during their lives. At any given time 6.8% of the adult U.S. population is experiencing a bout of back pain that has been continuing for more than two weeks.41

30% of WCB claims by injured workers are for back pain (more than twice the percentage of any other complaint) and, because of the huge cost of chronic cases, these generate 60% of total WCB compensation costs.[42]

29. It is fair to say that the international health care community today sees state-of-the- art management of back pain as consistent with the chiropractic model of treatment - early active intervention, supplemented by back education, exercises and earliest possible return to normal activities and work.

During the 1980s many prominent medical experts have admitted that the medical model for treating back pain has generally been a failure and has promoted low-back disability. These experts explain that there is a fundamental antithesis between the passive and active approaches to treatment, and that "the main theme of management must change from rest to rehabilitation and restoration of function".[43,44,45]

Mooney, a prominent orthopedic surgeon from the University of California, San Diego, says "prolonged rest and passive physical therapy modalities no longer have a place" and studies and experience now suggest "that mechanical therapy is the most rational approach ...".[44]

Following extensive research of spinal manipulation during the past 10 years - chiropractic, medical, and increasingly, research by both professions working together - there is today more evidence of the effectiveness and cost-effectiveness of spinal manipulation than any other treatment approach for both acute and chronic back pain.

The clinical trial evidence has been authoritatively reviewed by:

- Chiropractic researchers.[46]
- Independent research authorities such as the RAND Corporation, which reported in 1991 that spinal manipulation was now proven an appropriate treatment for most back pain patients.[47]
- Medical organizations such as the North American Spine Society, which reported in 1991 that chiropractic adjustment or manipulation was an accepted and appropriate treatment for most patients with low-back (lumbosacral) disorders.[48]

30. WCB studies suggest a 45-55% saving in overall costs - treatment and compensation for lost time - when the treatment is chiropractic rather than medical. The most thorough studies have been in California (1972),[49] Wisconsin (1978),[50] Florida (1988),[51] Utah (1991),[52] and the State of Victoria, Australia (1992).[53]

31. Impartial clinical evidence of cost-effectiveness is emerging from U.S. hospitals now that many have chiropractors on staff. Freitag, a Chicago orthopedic surgeon, gave court testimony comparing the progress of hospitalized back pain patients in the two hospitals at which he is a consultant, the JFK Hospital in Chicago where patients receive combined chiropractic and medical management, and the Lutheran General Hospital, Park Ridge, which has no chiropractors. At JFK, the hospitalization of his orthopedic patients was cut by half from "an average of 14 days .... to an average of six or seven days.[30]

32. There is now also same controlled trial evidence from joint chiropractic and medical research of the cost-effectiveness of chiropractic treatment of migraine and tension headache,[31,32] the second major area of chiropractic practice after back pain.

33. The government inquiries in Sweden and Australia already mentioned expressly found chiropractic services cost-effective, and in a paper entitled 'Health Economics and Chiropractic' Dillon, an Australian economist, studies modern health care economics and concludes:

"Undoubtedly, in terms of economic appraisal of the current health scene ... chiropractic is in a very strong position. Compared to medical services, it is an extremely cheap avenue of health care for those who seek it. Unlike primary medical practice, it does not spiral costs into the system through ancillary and specialist services, hospitalization and pharmaceutics. On average, a dollar spent on a chiropractor's services causes no further costs".[54]

A Medical Perspective

Acceptance of chiropractic involves three distinct problems for the average MD - understanding the chiropractic profession, the historical antipathy of medicine towards spinal manipulation by anyone, and the large amount that remains unknown about the anatomy and neurophysiology of back pain. (What, for example, are the comparative roles of the disc, the facets, and the sacroiliac joint in the production of proximal and referred pain? Does the sacroiliac joint move, can it be fixated, is there any point to its adjustment or manipulation?)

Consider these comments from John Bourdillon, FRCS, trained in orthopedic surgery and manipulation at St. Thomas' Hospital, London, author of the text 'Spinal Manipulation' and past president of the North American Academy of Manipulative Medicine:

"My interest in the other schools of manipulative therapy was stimulated by a number of patients whose backs I had manipulated without success, who were kind enough to let me know that subsequent visits to non-medically qualified manipulators had given satisfactory relief ... One of the patients was a woman whose low lumbar spine I had explored on two occasions and from whom I had removed disc protrusions at both the lumbosacral joint and the L4-5 joint. In spite of this, she was still crippled by severe symptoms. (Dr. Turner) succeeded in relieving her and I continued to treat her for many years afterwards when she had recurrences.

The main trouble in her case was a sciatic radiation of pain caused by a sacroiliac strain and I well remember my blank feeling of disbelief when Dr. Turner suggested this possibility. "How", I said to myself, "can the sacroiliac joint possibly cause a sciatica when there is no conceivable means by which any of the nerves of the sacral plexus can be pressed on by such a joint strain?" Dr. Turner's results and my subsequent experience have, for me, completely proved that a sacroiliac strain can be the cause of a sciatica, but the precise means by which this pain reference is produced remains a matter of theory for which adequate experimental proof is still lacking". *Spinal Manipulation* (1982) Bourdillon J.F. Heinemann Medical Books, London, Appleton-Century-Crofts, New York,. 3rd Edn, 13.

34. Perhaps the single strongest statement on the cost-effectiveness of chiropractic care, because of the quality and independence of the research, comes from the British trial[39] comparing chiropractic, medical, and physiotherapy/PT management of patients with low-back pain. Tom Meade, MD, Director, Epidemiology Unit, Medical Research Council, and colleagues, in a trial published in the British Medical Journal in 1990, concluded:

- Chiropractic treatment was significantly more effective, particularly for patients with chronic (long term) and severe pain and "the benefit of chiropractic treatment became more evident throughout the follow-up period" of two years.
- "*The potential economic resource and policy implications of our results are extensive*", so much so that now "consideration should be given ... to providing chiropractic within the National Health Service either in hospitals or by purchasing chiropractic treatment from existing clinics."

The economic analysis published with the trial results showed that the British government would save in excess of $20 million per annum just on the category of low-back pain patients included in the trial if care was given by chiropractors.

Safety

35. The two safety issues, raised by medical associations before every inquiry into chiropractic, are safety of treatment and risks from delayed diagnosis. Both alleged dangers have never been substantiated as significant and, in a chapter devoted to safety, the New Zealand Commission concludes that chiropractic treatment "is remarkably safe".

36. The one material risk arising from chiropractic treatment is vertebral artery syndrome (VAS) following cervical adjustment, which may lead to stroke. The incidence and mechanisms are reported better in the chiropractic literature[55,56] than elsewhere.

The risk, however, is extremely remote - about .0002% or 2-3 cases per million treatments. Medical specialists agree.[57,58] This compares with a 1-2% risk of paralysis from neurosurgery on the cervical spine (15,000 cases per million),[59] often performed for similar degenerative conditions.

37. Critics of neck manipulation might reply that risk must also be weighed against benefit, and that there are relatively few controlled trials evidencing the benefit of neck manipulation. Points in reply are:

continued on page 7

Main Article: *continued from page 6*

- There are no trials evidencing benefits from neck surgery, and few for any physical treatments by anyone.
- In a recent review of the literature the noted Australian researcher Nikolai Bogduk, MD, concludes that "early manual therapy has been shown to be superior to rest and a collar in the management of acute whiplash" and that "of all the various therapies for neck pain only early manual therapy for whiplash has been vindicated in the literature".[60]
- The only published trial comparing manipulation and mobilization for neck pain, performed by a joint chiropractic and medical team at the University Hospital, Saskatoon, Canada, found greater improvement for those patients treated with chiropractic manipulation - both in terms of ranges of motion and reduction of pain.[19]
- As with surgery and passive management, there is a wealth of clinical experience of success with neck manipulation. Robert Maigne, MD a prominent French specialist in manual medicine, writes:[61]

"The cervical region offers the manipulator a wide field of action" and "cervical painful syndromes - post-traumatic pain or pain associated with cervical arthrosis with a resulting stiff neck - always react well to manipulations".

"If one judges the results obtained by cervical manipulations, one must conclude that the headaches of cervical origin are the most frequent ones among common headaches".

"Let us state it once that although acute (low-back pain) constitutes a good indication for manipulation, traumatic cervical pain ... offers still better therapeutic opportunities for manipulation".

38. For reasons we can surmise, there are grossly exaggerated reports of danger. A recent case in Boston, first reported in the medical community as stroke following chiropractic treatment - and probably retained in memory by many as such - was subsequently analyzed in the New England Journal of Medicine and found to have no connection with chiropractic treatment.[62]

Research

39. In its earlier history the chiropractic profession failed to produce a reasonable volume of research. Chiropractors gave reasons that carried considerable force - such as major trial design problems[63] that resulted in a dearth of clinical research in physical medicine generally,[64] exclusion from public facilities and funding, and the financial priorities of survival and upgrading undergraduate education - but there was a neglect.

40. Over the last 15 years the profession has established a strong research presence for its size, and criticisms about lack of research are simply wrong. There is now an international network of fulltime researchers, many with PhDs and cross-appointments with health science universities, strong funding within the profession, and a new era of cooperation with medical and basic science researchers. The depth of chiropractic research can be assessed by reading publications such as:

- Peer reviewed journals such as the Journal of Manipulative and Physiological Therapeutics (JMPT), published by Williams and Wilkins.
- Proceedings of the major scientific meetings, held regularly by organizations such as the Consortium for Chiropractic Research (annually), Foundation for Chiropractic Education and Research (annually) and the World Federation of Chiropractic (biennially).

Over-treatment/Patient Dependency

41. Some chiropractors over-treat, most do not. This problem exists for all professions.

Points that can only be touched upon in the space available are:

- Figures worldwide show much fewer visits per patient than critics suppose.

In Ontario, Canada, where government benefits are available for up to 22 treatments per annum, only approximately 8% of patients have used that maximum in recent years.

- Some conditions require ongoing treatment, as in medicine and physical therapy. This is readily apparent if one thinks of the nature of spinal disorders and the impact of continuing with a lifestyle that aggravates them.
- The view that manipulation either works in one or two treatments or not at all, which came from the British medical approach in the 1960s, is not now accepted by anyone familiar with the literature and this field of practice. On this see Lewit's editorial entitled 'Manipulation - Reflex Therapy and/or Restitution of Impaired Locomotor Function' which concludes:[65]

a) Manipulation has received much greater acceptance by medicine in recent years, but its real importance is not recognized.

b) Most medical manipulators stop treatment "after obtaining a striking short-lived effect ... (but) here precisely lies the main source of therapeutic failure and frustration; ...".

c) "The great majority of (medical) students and doctors who learn manipulation are taught far too little about how, where, and when to use it ... they are clinically blindfolded".

d) The practice of spinal manipulation and the understanding of all the many forms of disturbed function of the motor system "requires great skill demanding long training".

- In the U.S. a recent report from the RAND Corporation, presenting the unanimous view of a multi-disciplinary consensus panel, with chiropractors but the majority being medical specialists, concludes that:

"For acute, uncomplicated low-back pain, an adequate trial of spinal manipulation is a course of two weeks for each of two different types of spinal manipulation (four weeks total) after which, in the absence of documented improvement, spinal manipulation is no longer indicated".[47]

For fuller details on appropriate frequency and duration of care for acute, sub-acute and chronic conditions reference should be made to formal practice guidelines that have been established by the profession - in the U.S., for example, the nationally based Mercy Center proceedings.[66]

E. Conclusion

42. At a 1991 interprofessional meeting in Toronto co-sponsored by the American Back Society and the World Federation of Chiropractic, 1400 medical and chiropractic researchers and clinicians - about exactly half from each profession - welcomed the new spirit of cooperation between their professions. They agreed with the finding of recent government inquiries that better interprofessional understanding and cooperation were overdue and vital to the interests of patients.

At another large interdisciplinary meeting in London, prominent British orthopedic surgeon, John O'Brien, gave a stark illustration of the possible benefits of cooperation -observing that thousands of hysterectomy operations are performed annually following misdiagnosis of referred pain from the lumbar spine which would generally respond excellently to skilled chiropractic spinal manipulation.

The New Zealand Inquiry, after looking at the matter more thoroughly than anyone before or since, decided in 1979 that the history of "remorseless and unrelenting opposition of organized medicine" to chiropractic was based on three main factors:

- "the history of chiropractic".
- "ignorance coupled with misinformation about modern chiropractic theory and practice".
- "unprofessional conduct by some chiropractors".

43. This review seeks to dispel continuing misunderstanding of the modern chiropractic profession, and to give impetus to the growing cooperation between the chiropractic, medicine and other health care professions.

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