

# THE CHIROPRACTIC REPORT

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

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## Professional Notes

### 1992 Chiropractic Consensus Conference

The last issue of this Report discussed a Standards of Practice Consensus Conference to be held in California in early 1992 – final venue now determined is the Mercy Center, Burlingame California, January 25-30, 1992.

Announcement of this important event has brought expressions of relief – and of concern. To answer two of the most frequent questions:

#### Q. Why is this process being dominated by researchers?

A. It is not. The Steering Committee is dominated by researchers, who are familiar with the standards-setting procedure.

The consensus group of 30 chiropractors that will be setting guidelines for standards of care must, and will, have strong representation from field practitioners representing mainstream chiropractic practice. The names of the 30 will be determined soon and then released – they are currently being chosen with care on suitable advice from sponsoring organizations. The 30 include, however, respected leaders and practitioners such as Dr. Louis Sportelli, Past-Chairman, ACA, Dr. Jim Gregg, President ICA and Dr. Michael Pedigo, Past-President ICA.

No exercise to establish guidelines for practice can succeed unless it has widespread support from those to be governed by the guidelines – and in this instance that includes individual DCs and the ACA, ICA and the Council of Chiropractic State Associations. The Steering Committee may be comprised of researchers, but they are alive to this fundamental reality underpinning the whole process.

#### Q. What happens when there is disagreement within the consensus group on guidelines for a certain aspect of practice?

A. Any significant disagreement will be recorded in the form of a minority report which will be published as an integral part of the guidelines document.

## 1991 World Chiropractic Congress

### A. Introduction

1. The World Federation of Chiropractic, which has the membership and support of all national associations of chiropractors worldwide, was formed in 1988.

Its first Congress, held at the Royal York Hotel, Toronto, Canada April 30 to May 6, 1991, will be seen as a landmark in the history of the profession. It featured:

- An attendance of approximately 1400.
- An assembly of nations with many highlights – the predominant one being the negotiation and formation of The Chiropractic Council of Japan, a new organization unifying and representing all chiropractors in Japan. This was the culmination of years of work.
- A four day multi-disciplinary clinical and scientific program that was arguably the best spinal care meeting ever held anywhere.

This Report, delayed to report on the Congress, reviews the Assembly and the WFC Scientific Symposium, with special emphasis on the keynote address of Symposium Course Chairman, Scott Haldeman, DC MD PhD.

### B. Assembly

2. The two day Assembly was attended by 68 delegates representing 37 countries as detailed in Table 1. Reports were received from chiropractic associations in a further ten countries, a total of 47.

### Country reports.

3. These evidenced the rapid international development of the chiropractic profession during recent years. For example:

- There is new legislation recognizing chiropractic in Mexico (1989), Iceland (1990) and Cyprus (1991).
- Government funded educational programs are now established in Australia and South Africa, and imminent in Canada and Denmark. In the United States the University of Bridgeport, Connecticut, commences a chiropractic program this September. There are current negotiations for university programs in Mexico and New Zealand.
- Public funding of chiropractic research is growing in Australia, Europe and North America. In one project an inter-disciplinary team from the University of Limburg, Netherlands and The Netherlands

Chiropractic Association are embarking upon a major trial of chiropractic treatment for tension headache. Dr. Jean Robert, Chairman, Professional Council, European Chiropractors' Union, represents chiropractic in a large multi-disciplinary study of low back pain in Geneva and funded by the Swiss government.

- Two Egyptian MDs have now graduated as chiropractors from Life Chiropractic College and a third will graduate in 1992. These three, in cooperation with Dr. Talaat Ezzeldin, a senior orthopaedic surgeon in the Egyptian Ministry of Health, will work in a multi-disciplinary clinic at Enchimes University, Cairo to establish the chiropractic profession in Egypt. This development arises from a clinical research project in Egypt in 1983 coordinated by the International Chiropractors' Association.

- The Venezuelan Chiropractic Association now has 14 members and a strong and secure presence in that country. Sira Borges MD DC, a 1990 graduate of Palmer College, has now returned to Brazil and is already active with local chiropractors and government in seeking recognition for chiropractic.

In Asia, South Korea has three new graduates from Palmer in fulltime practice, and they will soon be joined by two other Koreans nearing graduation. In the Middle East successful chiropractic practices have been established during the past few years in countries such as Iran, Qatar and the United Arab Emirates.

A 2-man chiropractic clinic has now brought chiropractic to Yugoslavia. This follows some years of negotiation between the government and Dr. Ronald Nikolich of Pennsylvania. Dr. Donald Kern, President, Palmer College has travelled to Yugoslavia to assist in those negotiations and Palmer now has 10 scholarships open for Yugoslav students.

### Policy.

4. Policies passed by the Assembly included:

#### a) Diagnostic Xray

A resolution on use of plain film diagnostic xrays in chiropractic practice, presented by the Chiropractors' Association of Australia, received unanimous approval. It is now WFC policy that "chiropractic educational standards, practice standards and regulatory

laws should continue to be based on the premise and understanding that plain film diagnostic xray services constitute an integral part of the diagnostic services offered within and at the site of a chiropractic office."

Reasons for this policy include the importance of having xray diagnosis available without delay for patients where appropriate, and the growing trend in some jurisdictions for most chiropractic patients to be referred to independent facilities. There is also need to support chiropractors in various countries seeking new legislation to regulate the profession - legislation that should include the right to use diagnostic imaging services, and plain film xray within chiropractic offices.

#### b) International Interference

WFC member associations, particularly in the regions of Europe and Latin America, have expressed sharp concern at entrepreneurial activities of North American chiropractors and chiropractic organizations that prejudice the development of chiropractic in their countries.

The profession has evolved to the state where it is vital for chiropractors planning activities in a second country to consult the WFC and the representatives of the chiropractic profession in that second country. Resolutions passed by the WFC Council in 1990, requiring proper notification prior to any clinical, educational or governmental contacts in another country, were ratified by the Assembly.

#### c) Vehicle restraints

On a resolution presented by the Canadian Chiropractic Association, and based on the proven overall effectiveness of body restraint devices in minimizing collision injury and death in motor vehicle accidents, the Assembly passed a policy that the WFC "endorses, supports and encourages the use of body restraint devices for all occupants of motor vehicles and appropriate legislation to support this practice".

#### Special addresses.

5. Special reports to the Assembly included:

a) An address by Dr. Louis Sportelli, Past Chairman of the Board, American Chiropractic Association, and ACA representative on the WFC Council. Dr. Sportelli noted that society had moved from an agricultural to an industrial era, and now to an information era. Those groups with the best information, and the ability to

disseminate it in a timely fashion, will succeed.

Chiropractic has a vital need for better and timely information and must set its research priorities and develop its institutions in accordance with this need. In today's global village there is a vital role for the World Federation of Chiropractic, a strong central organization coordinating information and the development of chiropractic in over 50 countries.

b) Dr. John Miller, President, Council on Chiropractic Education, United States, spoke to delegates of the need to ensure generally uniform and adequate standards of chiropractic education as new colleges are established in a number of countries.

c) Dr. Noel Patterson of Australia, President, Federation Internationale Chiropratique de Sportive, reported on the continuing development of FICS and sports chiropractic. FICS has a target of recognition by the International Olympic Committee (IOC) in time for the Summer Games in Atlanta, Georgia 1996. Nine chiropractors attended the Los Angeles Games in 1984 as official national health team members, there were 18 at Seoul in 1988, and there will be approximately 24 at the Barcelona Games next year.

Patterson emphasized the huge cultural and political importance of sport in Third World countries, and thus the ability to gain wider recognition for chiropractic through primary emphasis on sports chiropractic in these countries.

d) Dr. Glen Hultgren, Executive Secretary, Christian Chiropractors' Association, United States, spoke of the important work of the CCA in many Third World countries and gave names and addresses of CCA members currently active in Africa, Asia, the Middle East and Latin America.

#### President's Banquet

6. In some of the most moving moments of the Congress, special honour awards for outstanding service to the chiropractic profession internationally were presented to:

- Dr. William Kirkaldy-Willis, orthopaedic surgeon, Canada for his contributions to chiropractic research and new understanding of the pathogenesis of low back pain. The award was presented by Dr. David Cassidy.

**Table 1**

#### WFC Assembly – National Associations in Attendance

<b>Australia:</b> Edwin Devereaux, Noel Patterson, Robert Scott, Bernard Setford, John Sweaney
<b>Belgium:</b> Wim Van Horenbeek
<b>Belize:</b> by proxy to Canada
<b>Canada:</b> John Cochrane, Donald Henderson, Glenn Johnston, Roberta Koch, Jean Moss, Donald Sutherland, Robert Tharp
<b>Cyprus:</b> by proxy to Jordan
<b>Denmark:</b> Troels Gaarde
<b>Ecuador:</b> by proxy to Mexico
<b>Egypt:</b> Medhat Alattar
<b>Fiji:</b> by proxy to Australia
<b>Finland:</b> Rauno Kervinen
<b>France:</b> Chantal Jolliot
<b>Greece:</b> Socrates Christodoularis
<b>Hong Kong:</b> Bruce S. Vaughan
<b>Israel:</b> by proxy to U.S.A.
<b>Italy:</b> Sandro Mattioni
<b>Japan:</b> Mitsumasa Endo, Hisashi Hasumi, Tsumeo Itoh, Susumu Kaneko, Niroshi Oba, Yoshihiro Suzuki, Kazuyoshi Takeyachi, Nobuyoshi Takeyachi, Katsuhisa Yoneyama
<b>Jordan:</b> Yousef Meshki
<b>Kuwait:</b> by proxy to Jordan
<b>Mexico:</b> Enrique Benet-Canut, Francisco Diez
<b>Namibia:</b> by proxy to Republic of South Africa
<b>New Zealand:</b> James Stinear
<b>Norway:</b> Kyrre Myhrvold, Trond Soot
<b>Philippines:</b> by proxy to Hong Kong
<b>Singapore:</b> by proxy to U.S.A.
<b>Spain:</b> Antolin Silva
<b>Sweden:</b> Anna-Cari Larsson, Gunnar Runberg
<b>Switzerland:</b> Christoph Diem, John Naef, Jean Robert
<b>Taiwan:</b> by proxy to Hong Kong
<b>The Netherlands:</b> Henk Bakker
<b>United Arab Emirates:</b> John Henderson, Robin Mallory
<b>United Kingdom:</b> Jatinder Benepal, Alan Breen, David Byfield, Graham Heale
<b>United States:</b>
<b>ACA</b> Gary Auerbach, Arlan Fuhr, John Gantner, Marianne Gengenbach, Vince Lucido, Jerome McAndrews, Rick McMichael, Ken Murkowski, Ken Padgett, Kelli Pearson, Louis Sportelli, Gary Tarola
<b>ICA</b> R. Douglas Baker, Ronald Hendrickson, Thomas Klapp, Charles Lantz, Gerald Mattia, Gary Street
<b>Venezuela:</b> by proxy to Mexico
<b>Yugoslavia:</b> Ronald Nikolich
<b>Zimbabwe:</b> Blair Christink

*continued on page 4*

**Editorial Board. United States:** Peter Gale, D.C., Chiropractor, Boston, Massachusetts. Scott Haldeman, D.C., M.D., Ph.D., Neurologist, Santa Ana, California. Reginald Hug, D.C., Chiropractor, Birmingham, Alabama. Dana Lawrence, D.C., Chiropractor, Chicago, Illinois. John M.M. Mennell, M.D., Physical Medicine, Advance, North Carolina. Michael Pedigo, D.C., Chiropractor, San Leandro, California. Louis Sportelli, D.C., Chiropractor, Palmerton, Pennsylvania. Aubrey Swartz, M.D., Orthopaedic Surgeon, Oakland, California. **Canada:** J. David Cassidy, D.C., M.Sc., Chiropractor, Saskatoon, Saskatchewan. Donald J. Henderson, D.C., B.Sc., Chiropractor, Toronto, Ontario. William Kirkaldy-Willis, M.D., F.R.C.S. (C), Orthopaedic Surgeon, Saskatoon, Saskatchewan. **Europe:** Arne Christensen, D.C., F.I.C.C., Chiropractor, Bournemouth, England. **Australia:** Miriam A. Minty, D.C., Chiropractor, Perth, W.A. Lindsay Rowe, B.App.Sc., D.A.C.B.R., Chiropractic Radiologist, Newcastle, New South Wales.

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## International Free Paper Competition Awards

83 papers were accepted for the research competition. The following four won prizes, and will be published in full in *The Journal of Manipulative and Physiological Therapeutics (JMPT)* in a special issue devoted to the proceedings of the WFC Congress.

### **First Prize (\$5,000)**

'Functional Outcomes of Low Back Pain: Comparison of Four Treatment Groups in a Controlled Randomized Trial', Hsieh J, MS PT DC, Phillips R, PhD DC, Adams A, MS DC and Pope MH, PhD. (Dr. John Hsieh, from Taiwan, is on the faculty of the Los Angeles College of Chiropractic).

- Appropriate ways of measuring treatment effect (outcome measures) have not been agreed upon for low back pain. Patient questionnaires (survey instruments) are growing in acceptance and importance.

- This study compared two forms of questionnaire that have been widely accepted but not previously compared – the revised Oswestry Low Back Pain Questionnaire (ROLBPQ) and the Roland-Morris Activity Scale (RMAS).

- A population of 81 patients, part of the population in an ongoing trial run by the Los Angeles College of Chiropractic and the University of Vermont in comparing chiropractic manipulation, massage, corset and transcutaneous muscular stimulation (TMS), was tested. The questionnaire was completed weekly for four weeks – at entry to trial, and after each of three weeks of treatment.

- Data showed that both questionnaires were internally consistent in assessing the effects of treatment for low back pain, but suggested that the RMAS was more responsive (sensitive) than the ROLBPQ. Further study is recommended.

(Both questionnaires, incidentally, showed that the patients receiving chiropractic manipulation or a corset, did significantly better than those receiving massage or TMS).

### **Second Prize (\$3,000)**

'The Role of the Cervical Sympathetic Trunk-Submandibular Gland Axis in Modulation of Endotoxic Shock in the Rat', Waddell SC, DC, Mathison R, PhD, Davison JS, PhD and Befus D, PhD. (Dr. Stephen Waddell is in private practice in Calgary, Alberta, Canada. This research was performed at the Departments of Microbiology and Infectious Diseases and Medical Physiology, Faculty of Medicine, University of Calgary, Alberta).

- Do altered spinal biomechanics affect the cervical sympathetic nervous system's regulation of immune response?

- Neuroimmunology deals with the interactions between the immune and nervous systems. One aspect is the modification of immune response by the cervical sympathetic nervous system.

- This study investigated the role of the superior cervical ganglia (SCG) in modulating shock in

sensitized rats. A population of rats was given either no operation, a sham operation, an operation to remove the SCG (ganglionectomy) or an operation to remove the submandibular glands.

- Seven days later an endotoxin was administered to the left femoral vein. Blood samples were taken five minutes prior to the injection of the endotoxin, and 15, 30, 45 and 60 minutes after injection.

- Endotoxin induced a drop in blood pressure (40-50 mm Hg) in unoperated and sham operated rats that lasted the duration of the experiment. In contrast operated animals experienced significant protection against endotoxin-induced hypotension. Increase in haematocrit was significantly less. There was substantially less activation of neutrophils.

- It is concluded that the cervical sympathetic nervous system positively controls the release of factors from the submandibular gland that promote the immunophysiological effects of endotoxin in rats. This, together with earlier studies by these authors, suggests that the cervical sympathetic trunk/submandibular gland axis is important in regulating immune response.

- With respect to chiropractic practice, this raises questions concerning the role of altered spinal mechanics in neuroimmunological regulation of health and disease. Studies on the effects of altered spinal biomechanics on immune response are warranted and recommended.

### **Third Prizes (\$1,000 each)**

'A Blinded Randomized Clinical Trial of Manual Therapy and Physiotherapy and for Chronic Back and Neck Complaints', Koes BW, MA, Bouter LM, PhD, van Mameren H, PhD MD, Essers A, Hofhuizen DM, Houben JP, Verstegen GMJR, Knipschild PG, PhD MD.

(The principal researchers come from the Departments of Epidemiology and Health Care Research at the University of Limburg, The Netherlands. A second paper entitled 'The Efficacy of Chiropractic for Back Pain' was accepted for poster presentation at the Congress. It concludes that the literature indicates that chiropractic seems to provide an effective treatment for back pain. These researchers, together with The Netherlands Chiropractic Association, are now proceeding to a trial of chiropractic for tension headache).

- In the Netherlands medical patients with back and neck complaints persisting after six weeks are generally referred by GPs for physiotherapy or manual therapy.

- 256 patients with non-specific back and/or neck complaints of at least six weeks were randomly assigned to one of four treatment groups – physiotherapy (exercises, massage and PT modalities), manual therapy (manipulation and mobilization according to the standards of the Dutch Society for Manual Therapy), treatment by GP (medication, advice about posture and home exercises) and placebo therapy (examination, then 10 minutes of detuned shortwave diathermy and detuned ultrasound).

- Physical outcome measures (spinal mobility and physical functioning) were assessed at 3, 6 and 12 weeks follow-up. Manual therapy showed a faster and larger improvement in physical functioning compared to the other three therapies.

'Differences in Treatment History with Manipulation for Acute, Subacute, Chronic and Recurrent Spine Pain', Triano JT, MA DC, Hondras M, DC, McGregor M, MS DC. (Dr. John Triano and his team conducted this research at the National College of Chiropractic, Lombard, Illinois, U.S.A.)

- This was a prospective study of 240 patients with acute, sub-acute, recurrent and chronic back pain, undertaken to gain data on treatment patterns in chiropractic practice.

- Condition severity was quantified by two subjective measures – a questionnaire (Oswestry) and VAS (visual analog scale). Severity was similar for all groups from acute to chronic.

- Resolution of symptoms was defined as complete recovery from signs and symptoms, or reduction of treatment to once weekly for at least two consecutive weeks.

- Clinical resolution was achieved in 90% (89.6) of cases within six weeks. Number of treatments required for acute, sub-acute and recurrent pain patients was approximately the same – a mean of 5.3, range from 1-22.

For chronic cases there was a mean of 6.3 treatments.

- For the 25 patients continuing beyond six weeks there was a mean of 3.8 additional treatments. This group had higher Oswestry and VAS initial scores for entrapment and muscular pain classifications.

*Judging was by a sub-committee of the WFC Research Council, comprising Dr. Scott Haldeman, Dr. Alan Breen, Dr. Lynton Giles, Dr. Steve Wolk, Director of Research, Foundation for Chiropractic Education and Research and Dr. Dana Lawrence, Editor, Journal of Manipulative and Physiological Therapeutics.*

## Written Proceedings of WFC Congress

- A bound volume containing addresses of invited speakers and abstracts of 67 research papers accepted for presentation (251 pages).

- Limited number available. **Price** (including P&P). United States – US\$40.00. Canada – Canadian \$40.00. Elsewhere – US\$45.00. Send details of Visa, Master Card, or cheque drawn to 'World Federation of Chiropractic', to WFC, P.O. Box 244, Station 'S', Toronto, Ontario, M5M 4L7 Canada. Fax: 416-484-9665.

• Mr. Heinrich Buchbinder, attorney, Switzerland, advisor to the Association of Swiss Chiropractors and European Chiropractors Union since the 1930s. In presenting the award Dr. Christoph Diem, President ECU, explained that the advancement of chiropractic in Switzerland and Europe during the past 45 years was largely the result of Mr. Buchbinder's vision, talent and tireless commitment.

• Dr. Donald Sutherland, chiropractor, Canada. Dr. Sutherland, a Past-President of the Canadian Memorial Chiropractic College and Past Executive Director of the Canadian Chiropractic Association was also a leading figure in the attempt to establish a world chiropractic organization 20 years ago. His award was presented by Dr. Herb Lee.

### **C. The Evolution of Spinal Research – Haldeman**

7. The 4-day academic program combined two meetings:

• The Spring Symposium of the American Back Society, a multi-disciplinary program of lectures and workshops. This was the largest ever meeting of the ABS attended by 1150 professionals (approximately 500 chiropractors and 650 family physicians, medical specialists, doctors of osteopathy and physical therapists).

• The WFC Scientific Symposium.

8. The WFC Scientific Symposium was planned and chaired by Scott Haldeman DC MD PhD, Chairman WFC Research Council, a chiropractor and consulting neurologist from Santa Ana, California. Attended by over 700 chiropractors and 80 medical physicians and physical therapists, it comprised:

• Invited papers from 11 chiropractic, medical and basic science researchers acknowledged as leaders in their fields worldwide. For details – see Table 2.

#### **WFC Scientific Symposium – Invited Speakers (Table 2)**

##### **SATURDAY**

###### **Opening Address:**

William H. Kirkaldy-Willis, MA, MD, FRCS, President, American Back Society.

**The Evolution and Importance of Spinal and Chiropractic Research.** Scott Haldeman, DC, MD, PhD, Assistant Clinical Professor, Department of Neurology, University of California, Irvine, CA.

**Patho-anatomic Studies and Clinical Significance of the Lumbosacral Zygapophyseal (Facet) Joints.** Lynton Giles, DC, PhD, Director, Spinal Research Laboratory, Griffith University, Queensland, Australia.

**Patho-anatomic Studies and Clinical Significance of the Sacroiliac Joints.** J. David Cassidy, DC, FCCS, PhD, Research Associate, Department of Orthopaedic Surgery, University Hospital, University of Saskatchewan, Saskatoon, Canada.

**Factors Important in the Genesis and Prevention of Occupational Back Pain and Disability.** Gunnar Andersson, MD PhD, Professor, Orthopaedic Surgery, Rush Medical College, Chicago, Illinois, U.S.A.

**Recent Research on the Role of Plain Film Radiology in Chiropractic Practice.** Reed Phillips, DC, DACBR, PhD, Acting President, Los Angeles College of Chiropractic, Los Angeles, California, U.S.A.

**The Reliability of Imaging (CT, MRI, Myelography) and Other Diagnostic Methods in Documenting the Cause of Spinal Pain.** Sam W. Wiesel, MD, Professor and Chairman, Department of Orthopedic Surgery, Georgetown University Hospital, Washington DC, U.S.A.

**The Reliability of Palpatory and Other Chiropractic Diagnostic Methods.** Alan Breen, DC, MSc, Director of Research, Anglo-European College of Chiropractic, Bournemouth, England.

##### **SUNDAY**

**The Reflex Effects of Spinal Somatic Nerve Stimulation on Visceral Function.** Akio Sato MD PhD, Director, Department of Physiology, Metropolitan Institute of Gerontology, Tokyo, Japan.

**The Effects of Compression on the Physiology of the Nerve Roots.** Bjorn Rydevik, MD, PhD, Professor, Department of Orthopaedics, Gothenburg University, Gothenburg, Sweden.

**The Anatomical Basis for Cervicogenic Headaches.** Nicholai Bogduk, MB, BS, PhD, Dip Anat, Professor, Faculty of Medicine, University of Newcastle, New South Wales, Australia.

**Studies on the Biomechanical Effects of a Spinal Adjustment.** John J. Triano, MA DC, Director, Spinal Ergonomics & Joint Research Laboratory, National College of Chiropractic, Chicago, Illinois, U.S.A.

• 65 papers comprising the finest current chiropractic and related research worldwide. 31 presented from the platform, 34 by poster exhibit. For more detailed comment on the four award-winning papers see page 3.

The opening paper, and keynote address, was by Haldeman entitled 'The Evolution and Importance of Spinal and Chiropractic Research'. It deserves detailed review.

### **Haldeman**

9. Haldeman indicated that spinal research was still in its infancy, and that medical and chiropractic spine research had gone through a similar evolution – time frames might be different, but the stages were the same and both professions are now arriving at the same point.

10. *Stage 1 – Vitalism.* From Galen, the founder of experimental physiology, to 18th century physicians such as Colugno (1765) vitalistic theory prevailed. It was held that vital spirits or fluids flowed along nerves, spinal injury affected this flow, and traction and manipulation could free the flow of vital spirits.

When D.D. Palmer first began to present theories on how chiropractic might work he relied on current physiology which recognized the nervous system as the foremost controlling organ of the body, but incorporated vitalistic concepts of innate and universal intelligence. These vitalistic theories were advanced and incorporated into the 'philosophy of chiropractic' during the first 40 years of chiropractic education, and served as an explanation of chiropractic theory to students in part-time and unaccredited courses who had little undergraduate scientific education.

11. *Stage 2 – Theory and Speculation.* During the 19th and early 20th centuries both medical and chiropractic theory was extremely weak and based on isolated and untested observations in clinical and laboratory settings. Basic research on the spine was thin, and there was a search for any structural abnormality or physiological process that could explain symptoms. (Haldeman reviewed the many theories put forward).

12. *Stage 3 – Single Theory Preoccupation.* The middle of this century was characterized by preoccupation with a single cause of spinal disorders.

In medicine it was the disc. Discovery of the disc herniation (Mixer and Barr 1934) and the ability to relieve symptoms by surgery caused heavy emphasis in research on all aspects of the disc – causes and effects of herniation, biochemistry and biomechanical properties.

McNab has called this era the 'Disc Dynasty'. Even when no herniation was found the disc was identified as the cause of pain through concepts such as internal disruption. Medical manipulators such as Cyriax and Maigne similarly adhered to the disc theory.

Chiropractors entered the era of the 'subluxation'. This entailed the concepts of spinal misalignment and nerve compression. Having no access to invasive experimental techniques and funded institutions, chiropractic research was clinical and concentrated on better measurement and treatment of misalignment, nerve interference and subluxation.

This era of preoccupation with divergent theories led to much animosity between medical physicians and chiropractors. This was exacerbated by lack of formal research in chiropractic and lack of tolerance of new ideas in medicine.

13. *Stage 4 – Scientific Exploration.* Individuals within medicine and chiropractic were exploring other explanations for back pain. A new degree of sophistication and research arose, and it became clear that all back pain could not be explained by disc disease and/or subluxation.

## Figure 2

### Congress Notes

- Several new controlled trials of manipulation from Europe and North America were presented. Most interesting was the first comparative trial of chiropractic manipulation and medical mobilization (muscle energy techniques as described by Bourdillon and Day) for neck pain.

100 consecutive patients with acute (16%) sub-acute (34%) and chronic (50%) unilateral neck pain were randomly allocated to groups given manipulation (cavitation of facet joints at level and side of pain) or mobilization. Pain (101 point rating scale) and range of motion in three planes (goniometer) was measured before treatment and by a blind examiner five minutes after treatment. Purpose was to assess and compare the immediate effect of a single manipulation or mobilization. Pain improvement was significantly greater in the manipulated group. Range of motion was improved by both treatments – greatest gains were made in the manipulated patients but the results did not reach a level of statistical significance. 10% of the manipulated group (n 5) and 25% of the mobilized group (n 12) were unchanged by treatment. Greatest gains in range of motion were in rotation toward the side of pain, followed by forward flexion and lateral flexion away from the painful side. (*The Immediate Effect of Manipulation vs Mobilization on Pain and Range of Motion in the Cervical Spine: A Randomized Controlled Trial*, Lopes AA, Cassidy JD, Yong Hing K, Royal University Hospital, Saskatoon, Canada).

- Dr. Wang Yici travelled from Beijing, China to present his 'Clinical Evaluation of Chinese Manipulation (Tuina) in the Treatment of Cervical Spondylosis with Electrophysiological Examinations'. Dr. Wang, a professor of neurology at the China Academy of Traditional Medicine, reported 12 years of clinical research showing successful results of manipulation for patients experiencing a wide range of symptoms including dizziness, vertigo, tinnitus, sudden loss of hearing, headache, chest pain (pseudoangina) and dysrhythmia.

- A number of medical and osteopathic researchers from Europe and North America submitted research in the international free paper competition, an encouraging new development at chiropractic meetings.

- Jean Robert DC, Chairman, Professional Council, European Chiropractors' Union presented a paper on comparative attitudes of rheumatologists and chiropractors in the management of low back pain in Switzerland. (The paper was based on survey information obtained in connection with a large ongoing inter-disciplinary epidemiological study). A review of survey answers showed:

- \* Rheumatologists place higher importance on obtaining a clear pathological diagnosis, and are more frustrated than chiropractors in providing treatment when such a diagnosis is absent.

- \* In the absence of a clear pathological diagnosis chiropractors are more focused on patient needs, and more ready to tailor their treatment, education and advice to the individual patient's situation.

- A recent Canadian study from the University of Toronto showed that 63% of family physicians in Ontario currently refer patients to chiropractors, but did not report the percentage of chiropractic patients that this represented.

Glynn Till DC, reporting a new study from Saskatoon, Canada, explained that 22% of all chiropractic patients in that city were referred by MDs – 18% by family physicians and 4% by medical specialists. (*A Study of the Chiropractic Patient: Population of Saskatoon, Canada*, Glynn Till DC, Silvano Mior DC et al).

- Dr. William Kirkaldy-Willis, in his address opening the WFC Symposium, described science and faith as the "two wings with which health care can rise and soar to its full potential". Both are required, each has its limitations. "What I think we all need is a firm 'chiro-neuro-ortho foundation' in our approach to spinal problems."

- Scott Haldeman, generally articulate in the extreme, was suddenly lost for words when introducing the leading lady at the special reception following *Phantom of the Opera*. Much to his credit, and the applause of all, he took the advice of another cast member, held her in his arms, and sang.

- The first four sessions of the WFC Symposium were moderated by representatives of the world's four major regional research foundations – Dr. Charles Naccarato, Chairman, Chiropractic Foundation for Spinal Research (Canada), Dr. Steve Wolk, Director of Research, Foundation for Chiropractic Education and Research (USA), Dr. Jean Robert, Chairman, Professional Council, European Chiropractors' Union (Europe) and Dr. Rod Bonello, Secretary, Australian Foundation for Spinal Research. Are you supporting one of these organizations, or another institution providing chiropractic research?

### Main Article: continued from page 4

In medicine biomechanical researchers (e.g. Farfan) and clinicians (e.g. Kirkaldy-Willis and Mooney) began looking at the posterior facets as a cause of back pain. There was discovery of the importance of spinal stenosis, the impact of spine pathology on the nerve root and dorsal root ganglion, and the production of myofascial pain from muscles and ligaments.

In chiropractic the first generation of fully trained chiropractic researchers put aside pre-conceptions and performed sophisticated research on the posterior facets (e.g. Giles), sacroiliac joint (e.g. Cassidy), disc (e.g. Bishop and Cox), spinal biomechanics and mobility (e.g. Triano, Faye, Grice) and pain modulation (Terrett, Vernon and Dhami).

Finally, in the last five years, the research of basic, chiropractic and medical scientists has begun to dovetail. This is influencing chiropractic and medical theory and practice, and providing the basis for present cooperation.

14. *Stage 5 – Social Research*. Spinal research, however, is only scratching the surface. While quality and volume have expanded greatly in the past 10 years, there is not yet:

- A reasonable understanding of the role of each of the spinal structures.
- Sound evidence of the effects of many current approaches to treatment.

Back disability continues to increase at a far greater rate than the population, and this has resulted in a marked shift of emphasis to social research. In both medicine and chiropractic researchers are now assessing psychosocial causes and costs of back pain, and looking at:

- Work satisfaction
- Work habits
- Psychological status
- Family and social stressors

Some of these appear to be more important than physical stressors and pathology in predicting disability. There is new research on the effects of compensation and litigation, and general health factors such as age, smoking and fitness (deconditioning).

Researchers are not only looking at the characteristics (demographics) of patients, but also of chiropractors and medical physicians. Patient satisfaction – how a patient is managed rather than just what treatment was given – is assuming new importance and can now be measured as accurately as physical findings.

15. *Conclusion*. There is much basic and clinical research to be done. The public is increasingly taking control of health issues and resources, and in the next decade there will be greater examination of the effectiveness and cost-effectiveness of treatment approaches by all professionals. Much current treatment – such as the use of medication and injection techniques, and rehabilitation – is currently untested and delivered in a haphazard way. Limited financial resources will promote professional competition. However chiropractic science – as evidenced by the wealth of research presented at this Congress – has evolved to a point where the chiropractic profession will not only survive but continue to advance.

### D. WFC Symposium – Other Invited Speakers

16. Other invited speakers, listed in Table 2, came from Australia, Canada, England, Japan, Sweden and the United States. Highlights included:

#### Effects of Joint Stimulation – Sato

17. Akio Sato PhD is widely published in the field of effects of mechanical irritation of spinal nerves on various body

functions. He reviewed animal experiments at his institute in Tokyo in which:

- Rats were anaesthetized to eliminate emotional variables.
- There was normal and noxious mechanical stimulation of populations with normal and inflamed joints – both peripheral (knee) and spinal.
- Noxious stimulation of normal and inflamed joints produced significant reflex responses in heart rate and blood pressure. Two reflex pathways to the cardiac sympathetic nerve were isolated – one each from myelinated and unmyelinated nerve fibers.

Sato and colleagues have now demonstrated somatically induced autonomic reflex responses in the cardiovascular system, the gastrointestinal tract, the urinary bladder and the adrenal medulla. Response alters according to spinal segment stimulated.

### Compression of nerve roots – Rydevik

18. Bjorn Rydevik MD PhD from Gothenburg, Sweden received sustained applause for an elegant review of the effects of static and dynamic compression on the physiology of nerve roots. He noted:

- Spinal root nerve cell bodies are found in the dorsal horn (motor cells) and nerve root ganglion (sensory) and the rest of these nerve cells – the axons – are merely transmission cables. It is thus to be expected that problems of compression at source in the spine will appear distally and in target organs.
- Quoting Weinstein he described the ganglion as “the brain of the spinal motion segment”.
- Nerve roots, which have relatively few blood vessels, derive much of their nutrition from the cerebrospinal fluid (CSF). Nerve root compression (as illustrated by Rydevik in a series of superb slides) may deprive the root of both sources of nutrition and waste removal – blood vessels and CSF – causing ischaemia, fibrotic change, and pain.

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### Biomechanics – Triano

19. John Triano MA DC from the National College of Chiropractic, Chicago, the most prominent chiropractic researcher in the field of biomechanics, reported:

- In a lateral adjustment it is now established that the traction force is almost as strong as the lateral force – this means that the actual line of force is diagonal at about 45°.
- The peak force rise time when an adjustment or specific high velocity manipulation is delivered is very short – .135 to .247 seconds which is the equivalent of normal reaction time.

### Cervicogenic Headache – Bogduk

20. Nikolai Bogduk MB BS PhD Dip Anat from Australia reviewed the new medical understanding of cervicogenic headache and explained:

- Headache arising from the structures of the cervical spine, and its diagnosis by physical measures such as palpation and other tests for range of motion, are now expressly recognized in the International Headache Society Classification of Headache (1988).
- Currently we all know a lot about the sources of pain (the various cervical spine structures it comes from) but little about causes (exactly how the pain arises). The basis for cervicogenic headache is convergence in the trigeminocervical nucleus of the fields of the trigeminal nerve and the first three cervical nerves.
- Type of pain and tenderness are not specific and diagnostic. A consideration of aggravating factors and history are more helpful. Those with appropriate training can do manual examination – “orthodox MDs can do nothing except keep an open mind.”
- No treatment has been proven effective – there has been a lack of investigation and treatment approaches are “riddled with presumption.” Bogduk is currently doing double-blind trials on use of steroids and radio frequency denervation. Chiropractic should do better trials of manual therapy, which seems to be of benefit for neck pain and headache in general but has not been tested specifically for cervical headache. “I know of no drugs that have a specific benefit for this condition.”

### E. Conclusion

21. In terms of quality, submissions of original research, international participation and overall attendance, this was the chiropractic profession's most ambitious and successful meeting. Generous thanks are due to Dr. Scott Haldeman, Course Chairman, who planned the meeting and, in his keynote address, summarized where chiropractic has been and where it must now go.

Next WFC Congresses are:

- In London, England in May 1993
- In Davenport, Iowa in June 1995, the centenary of the profession.

You may have missed Toronto – pencil in London, just two short years away, and be there at the cutting edge of the chiropractic profession.

*The proceedings of the Congress, comprising summaries of invited speakers' addresses, abstracts of the 67 research papers accepted for presentation, and the full text of the four prize winning free papers, are to be published in a special issue of the Journal of Manipulative and Physiological Therapeutics (Williams & Wilkins) during the next 12 months.*