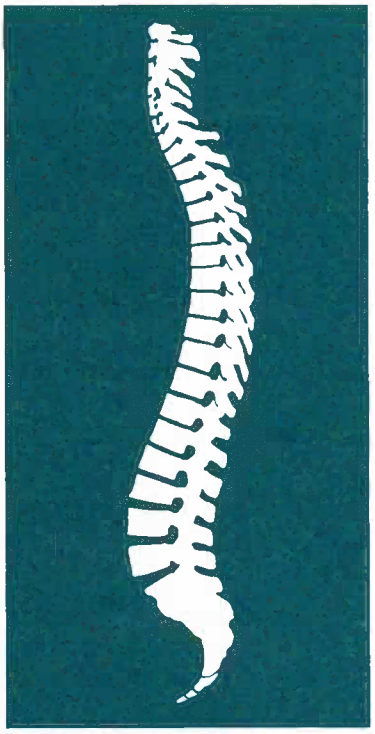
THE CHIROPRACTIC REPORT

www.chiropracticreport.com Editor: David Chapman-Smith LL.B. (Hons.) March 2000 Vol. 14 No. 2



PROFESSIONAL NOTES

Corporate America Embraces *BACKSAFE*™ and *SITTINGSAFE*™ Programs

The world's most sophisticated center for commercial driver training and safety, Carnegie Mellon University's Driver Training and Safety Institute Inc. (DTSI) in Connellsville, Pennsylvania—funded as a model center by the U.S. Federal Highways Administration, is the latest of many influential corporations to endorse the *BACKSAFE*™ and *SITTINGSAFE*™ programs co-developed over the past 12 years by Dr. Scott Donkin, a chiropractor and occupational health specialist from Lincoln, Nebraska.

These are occupational health prevention programs delivered through Future Industrial Technologies Inc. (FIT), a corporation in Santa Barbara, California that now engages approximately 1,000 chiropractors as the central part of its team of injury-prevention specialists. Using ergonomic assessment of work sites, interactive workshops and other teaching aids

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NON-MUSCULOSKELETAL BENEFITS OF CHIROPRACTIC CARE

A New National Survey from Sweden

A. INTRODUCTION

MOST PATIENTS—over 95% according to recent surveys in North America[1,2] and Europe[3]— first consult chiropractors for musculoskeletal pain, the majority for back pain or neck pain/headache.

This is the core of chiropractic practice, which is now well-supported by evidence and well-accepted by the medical profession. Articles in journals such as the *Journal of Family Practice*[4] and the *Annals of Internal Medicine,*[5] the official publication of the American College of Physicians, now encourage physicians to refer patients to chiropractors who treat "mainly musculoskeletal disorders with manual manipulative techniques."

2. However many of these patients experience secondary health benefits in systems apparently remote from the spine and musculoskeletal system—for example improved breathing and digestion, or resolution of pelvic or visual or circulatory problems. This is not so strange to chiropractors, neurologists, osteopaths and others who understand the intimate relationship between the spine and the central nervous system, the segmental arrangement of the autonomic nervous system (ANS), the potential for the viscera and the soma to influence each other through the ANS, and the mechanical and reflex effects of spinal adjustment/manipulation.

However it seems very strange to the average family physician and member of the public. Chiropractors need to be very cautious about advancing any claims in this area even where there is sound scientific evidence supporting chiropractic management, as is now the case for many infants presumed to have colic.[6,7] Scope of practice—and specifically claiming to influence or treat conditions outside the musculoskeletal system—is the main reason family physicians give for not referring patients to some or all chiropractors.[8]

A weakness for the chiropractic profession has been little research documenting the nature and frequency of these non-musculoskeletal benefits following chiropractic treatment. There have been many case reports and case series from chiropractors, medical doctors working with chiropractors or using manipulation, osteopaths and others reporting these 'side effects' of treatment.

The U.S. chiropractor Browning reports on 10 cases of improved gynecological/bowel function from his practice,[9] the Australian ophthalmologist Gorman working with chiropractors reports on 18 cases where visual field loss was restored following spinal manipulation,[10] the Czech neurologist and manual medicine specialist Lewit reports relief from chronic recurring tonsillitis in 37 children given manipulation for upper cervical spine dysfunction,[11] and Fitz-Ritson in Canada and Bracher in Brazil respectively report excellent results from chiropractic management of 112 and 16 patients with vertigo secondary to cervical spine subluxation/dysfunction.[12,13] There is much other research of this nature. However there have been no broader data on chiropractic patients generally.

3. However the first such study has now been completed and published in the *Journal of Manipulative and Physiological Therapeutics* (JMPT)—with most interesting results.[14] This is a national survey of 1,504 patients of 87 members of the Swedish Chiropractors' Association, and it reports:

• About 1 in 4 (23%) of adult patients consulting chiropractors for musculoskeletal conditions experienced positive non-musculoskeletal benefits after chiropractic adjustment/manipulation.

• Positive reactions were most commonly grouped under the respiratory system (26%), the digestive system (25%), the circulation/heart (14%) and eyes/vision (14%).

• There was an interesting link or correlation between the number of patients reporting a positive non-musculoskeletal benefit and the number of spinal areas treated—of those patients treated in one spinal area 15% had a non-musculoskeletal benefit, in two spinal areas 22%, in three spinal areas 32% and in four spinal areas 35%.

This Report now reviews the study in detail and makes recommendations concerning its use and further research.

B. The Swedish Study

1. This study was led by the prominent chiropractic epidemiologist Charlotte Leboeuf-Yde, DC PhD from Denmark, involved most of the members of the Swedish Chiropractors' Association (SCA), and was funded by the SCA and the European Chiropractors' Union. The goal was to perform a national survey of chiropractic patients with musculoskeletal problems to find out more about the nature and frequency of non-musculoskeletal health benefits associated with their chiropractic treatment. This is the first study to explore the subject.

2. **Method**. During a designated three week period in May 1998, 87 SCA members each surveyed 20 consecutive patients who met the following criteria:

• Age 18 years and over.

• A musculoskeletal symptom was the reason for consulting a chiropractor.

• The patient had been treated by the chiropractor within the past two weeks—in other words the interview was on a follow-up visit.

• Treatment included spinal adjustment/manipulation.

For full details of the patient's primary symptoms see Figure 1. As is normal in chiropractic practice, wherever it has been studied, low-back pain (lumbalgia) was the most common primary symptom followed by neck pain/headache (cervicalgia/cephalgia). Figure 1 also gives the number of visits per patient during the three months before the survey and the spinal regions treated—the upper cervical spine (C0-C3), lower cervical spine (C4-T1/1st rib), thoracic spine (T2-L1) and lumbar spine (L2-S1. SI-joints).

3. Of the 1,504 patients for whom there was complete data 55% were women and most, again as is typical of chiropractic practice anywhere, were in the young adult (25-44 years—41%) and middle-aged (45-65 years—38%) age groups.

Spinal adjustment/manipulation was the sole treatment on the last visit for about half of these patients (44%), and was combined with soft-tissue and other adjunctive therapies for 46%,

4. Patients were read the following standard statement and question:

"*We are conducting a research project and would like to ask you a question. All information is confidential and you will be anonymous. Almost all patients consult us because they have problems with their spine. Sometimes after treatment our patients report positive changes that do not seem to be directly associated with the spine.*

(A schematic picture of spine-organ connections was shown to the patient at this point).

As you can see from this picture, our body is governed by the nervous system. An explanation of such positive changes could be that the treatment of the spine affects the nervous system.

(Pause)

I would like to ask you: Have you experienced any positive changes that do not seem to have anything to do with your back problem? For example anything positive with your: hearing, sight, ability to smell, breathing, circulation, digestion, lower parts, sexual organ, skin, or other?"

The above standard questionnaire and interview approach, using an illustration of somatovisceral pathways, had to serve two purposes:

• Providing enough information for patients to understand the type of health reaction they were supposed to report on, without additional questions being asked or answered; but

• Not influencing patients to give biassed answers.

Several pilot studies were performed by the researchers to refine the above protocol, which was then used in the main study. Answers from patients who had something to report were entered on a standard questionnaire. Patients identified the organ/function in question by marking the relevant box, and then provided their own description of the non-musculoskeletal benefit. If a patient had nothing unusual to report these sections were left blank, but the other demographic and clinical information shown in Figure 2 was collected.

5. **Results**. The 87 chiropractors collected and returned 1,504 valid questionnaires (i.e. complete and from patients who had clearly met the inclusion criteria). This represented an 86% response rate. Two types of perceived benefit from chiropractic care were excluded:

a) Secondary musculoskeletal improvements—e.g. relief from headache if the patient's primary complaint was back pain or neck pain.

b) Reports of general well-being, relaxation and health—these were excluded as "normal consequences of improved symptoms of musculoskeletal pain."

6. The findings of major interest were:

a) Almost 1 in 4 patients (23%) reported at least one positive non-musculoskeletal benefit.

b) Amongst these patients there were

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Changes of mailing instructions should be sent to The Chiropractic Report, 3080 Yonge Street, Suite 5065, Toronto, Ontario M4N 3N1, telephone 416-484-9601, fax 416-484-9665. Printed by Harmony Printing Limited, 123 Eastside Drive, Toronto, Ontario, Canada M8Z 5S5.
ISBN 0836-144

trends as to the systems/organs where there were most common benefits:

• First in rank were improvements in the respiratory system (26% of the 23%— i.e. 6% of all patients) and the digestive system (25%).

• Second most common were improvements in circulation/the heart (14%—i.e. 3.2% of all patients) and eyes/vision (14%).

For a full breakdown of unexpected benefits of treatment as reported by patients see Figure 3 (on page 6). The most frequent individual areas of improvement were "easier to breathe" (21%), "improved digestive function" (20%), "clearer/better/sharper vision" (11%), "better circulation" (7%), "changes to heart rhythm/blood pressure" (5%) and "less ringing in the ears/improved hearing" (4%).

c) There was a positive association between the number of patients reporting a non-musculoskeletal benefit and the number of spinal areas treated. Specifically, of those patients treated in one spinal area 15% had a non-musculoskeletal benefit, in two spinal areas 22%, in three spinal areas 32% and in four spinal areas 35%.

All of these findings from standard chiropractic practice in Sweden, and particularly the last which supports the traditional chiropractic approach of full spine assessment and treatment, confirm the daily experiences of chiropractors in private practice in other countries. The important difference is that these anecdotal accounts of patient improvement are now supported by credible data.

7. Other specific findings of interest include:

a) For the 8 patients who reported better hearing, all received adjustment of the thoracic spine. However all received treatment to at least one other spinal region—7 were also adjusted in the lower cervical spine, 5 in the lumbar spine and 4 in the upper cervical spine.

b) The patient who reported the most positive reactions—six—noted improvements in vision, heart rhythm, respiratory function, the appearance of his skin, digestive ease and sexual function.

8. **Comment**. What are the limitations of this study? Limitations are carefully discussed by Leboeuf-Yde and her colleagues and include:

a) The reports of the patients may have been inaccurate. However it is unlikely that there was significant inaccuracy—none of these patients had consulted a chiropractor for the non-musculoskeletal problems that improved or been told that such problems might improve (i.e. the patients were 'naive' or unbiased by expectation) and the standard reporting protocol was well tested and thorough.

b) The study tells us nothing about the percentage of patients with breathing difficulties, hypertension or any other problem that may respond to chiropractic management of spinal subluxation/dysfunction and its presumed neurophysiologic effects—we do not know how many patients in this group had each of the various problems reported.

c) Further, in strict terms this study does not prove that any of the reported benefits were actually the result of chiropractic treatment, even though patients thought they were. In the absence of a control group and objective supporting evidence of improvement these non-musculoskeletal reactions could theoretically be, as Leboeuf-Yde et al. say, "normal fluctuations of common symptoms of physiologic function."

However several factors make that unlikely. Firstly there was a positive association between the number of spinal areas treated and the number of reactions/benefits reported—technically known as a positive dose-response gradient. This strongly suggests the benefits were linked to treatment and indicates, say the researchers, "a physiologic rather than a psychologic process".

Secondly there was a discernible pattern to the types of improvement, and one not prompted or biassed by the survey protocol. The statement to patients mentioned what proved to be the two most common benefits—improvements in breathing and digestion—but not in a primary or prominent way. Thirdly—and researchers

Figure 1:

Patients' primary symptoms, number of treatments over last 3 months, and the areas of spinal manipulation therapy (n = 1504)

Descriptor	*Number*	*Percentage*
Patients' primary symptoms		
Cervicalgia	496	33%
Brachialgia	162	11%
Cephalgia	178	12%
Dizziness	7	5%
Dorsalgia	403	27%
Lumbalgia	928	62%
Sciatica	248	16%
Shoulder problem	78	5%
Hip problem	65	4%
Extremity	87	6%
Other	0	0%
Number of visits previous 3 months		
1	372	25%
2-3	693	46%
4-6	328	22%
7+	85	6%
Unknown	26	2%
Area treated at previous visit*		
C0-C3	598	40%
C4-T1/1st rib	619	41%
T2-L1/ribs	772	51%
L2-S1, SI-joints, and/or coccyx	1025	68%
Other	79	5%
Unknown	48	3%

*More than one reply possible per patient

Leboeuf-Yde C, Axén I et al., JMPT, 1999.[14]

Figure 2:

Additional questions in questionnaire

Date:

Gender: male, female

Age: 18-24, 25-44, 45-64, 65+

Patient's primary complaint: (several responses possible): cervicalgia, brachialgia, cephalgia, dizziness, dorsalgia, lumbalgia, sciatica, shoulder problem, hip problem, extremity problem, other.

How many treatments* has the patient received in this clinic the last 3 months? 1, 2-3, 4-6, 7+

When did the patient receive the last treatment? Last week, 1-2 weeks ago.

Type of treatment at the last visit? SMT, Soft tissue treatment, other (specify)

Which area was manipulated at the last visit? C0-C3, C4-T1/1st rib, T2-L1/ribs, L2-S1/SI joints, Coccyx, other (specify)

Other comments:

*one treatment = one visit or consultation

Leboeuf-Yde C, Axén I et al., JMPT, 1999.[14]

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NORTH AMERICA

for employees, these consultant specialists are teaching the work forces of major corporations how to prevent injury and remain healthy on the job—by learning the basics of sitting, arranging their work places to fit their bodies and their work, and successfully managing stress and other common problems.

Bottom line savings are what has propelled this program into the mainstream of corporate America, such as:

• United Airlines, after training 20,000 flight attendants in 10 countries with the *BACKSAFE*™ program, saw a 63% decrease in neck and back injuries.

• At Boeing there was a 41% reduction in back injuries.

• City Corp in Beverly Hills experienced a 50% reduction in back injuries after employees receiving *SITTINGSAFE*™ training.

Last year Chevron and Merrill Lynch entered national contracts for employee training with FIT.

Dr. Donkin, a Texas Chiropractic College graduate with post-graduate training at Northwestern in orthopedics, industrial consulting and ergonomics, and a Past-President of the American Chiropractic Association's Council of Occupational Health, self-published *Sitting On The Job* in 1987. It was re-published commercially in the U.S. (Houghton Mifflin) and the U.K. (Kogan Page) and provided the basis for his first programs. As they grew, ownership and administration were transferred to FIT. Donkin, still in private chiropractic practice in Lincoln, remains as a consultant. He also has consultancies with other corporations, such as U.S. Airways on airline seating, and he is now Senior Advisor, Health and Wellness for Carnegie Mellon's DTSI.

The DTSI, funded by the federal government, is integrating advanced technologies from around the world to create a model driver training center for the commercial truck driving industry and drivers of emergency vehicles (ambulances, police cars, fire trucks). It has strategic alliances with overseas training organizations, such as the AFT-IFTIN in France with 70 centers training over 50,000 truck drivers annually, and EuroTra, a federation of 15 European organizations training 175,000 drivers annually. EuroTra's U.S. representative, Gerard Meyer, PhD, formerly worked for various French government ministries, joined Carnegie Mellon University in 1997 in the fields of clinical psychology and physiology, and is now President of the DTSI. He has promoted the use of Dr. Donkin's programs, which are now likely spread to Europe through this connection.

"Over the next few years FIT's injury prevention specialist team will probably need to grow from 1100 to about 4000", says Donkin, "because FIT's program with *BACKSAFE*™ and *SITTINGSAFE*™ is now reaching mainstream corporate America". Another recent development is an alliance between FIT and the COSTS Program (Caregiver Optimal Safety Transfer System) which is used throughout the U.S. healthcare industry, including many hospitals. On this:

• COSTS, developed by Donald P. Maynes & Associates, Inc. in 1994, actually guarantees substantially reduced workers' compensation costs for its clients through staff training and administrative controls. Agreed reductions in injuries and claim costs are underwritten by insurance—if contracted savings are not achieved over the first three years they are reimbursed under the insurance policy.

• Accordingly COSTS needs expertise and effectiveness to survive. It has been a huge success, and under an alliance with FIT announced in January COSTS will now use FIT's *BACKSAFE*™ and *SITTINGSAFE*™ programs and experts at the center of its employee training program.

For those wanting to learn more, Dr. Donkin will be presenting a lecture and a half day seminar at the World Federation of Chiropractic's 6th Biennial Congress in Paris next year (May 24-26, 2001).

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1. **U.S.—WFC/ACC Conference on Philosophy in Chiropractic Education**. You may be interested in attending this important conference co-sponsored by the World Federation of Chiropractic and the Association of Chiropractic Colleges and to be held in Fort Lauderdale, Florida, November 10-13, 2000. Goals are listed in the meeting notice opposite. Chiropractors from colleges and national associations around the world, representing the full philosophical spectrum in chiropractic, are meeting to analyze the role of philosophy in chiropractic and how this should be taught in colleges today. It is expected that chiropractors from private practice will mostly attend for the weekend only—which contains the lectures and open forums.

• Opening speakers, setting a broader health care context for the meeting, are Kenneth Schaffner, MD PhD, Professor of Medical Humanities, George Washington University (*What is Philosophy and Its Role in Science and the Healing Arts?*); Ian Coulter, PhD, Professor, UCLA and LACC and author of the recent text *Chiropractic: A Philosophy for Alternative Health Care* (*The Roles of Philosophy and Belief Systems in Complementary Health Care*) and David Peters, MB ChB MFHom, University of Westminster, London, U.K. (*Vitalism, Holism and Homeostasis: To What Extent are They Unique to Chiropractic?).*

• Most following speakers are chiropractic experts, speaking on the history of chiropractic philosophy, different current philosophical bases for practice (condition-centered, vertebral subluxation-centered, patient-centered practice) the overall significance of philosophy and/or belief, and the importance of a common conceptual framework in chiropractic education in the U.S. and around the world.

• On the Sunday presidents and other leaders from chiropractic colleges worldwide will describe how they are currently teaching philosophy, and conference Program Directors Dr. David Koch, President, Sherman College and Dr. Reed Phillips, President, LACC, will present the results of a survey of current course content in philosophy in chiropractic colleges.

2. **Research**: *Nurse Practitioners as Good as MDs in Primary Care*. There have been a number of studies during the past 20 years suggesting that the quality of primary care delivered by nurse practitioners is equal to that of medical doctors, but none of these studies featured a straight comparison where nurses and physicians had similar responsibilities and patient populations. In January the mainstream media in North America gave wide public exposure to a new trial published in the *Journal of the American Medical Association* (JAMA) reporting that, in a network of clinics operated by the Columbia Presbyterian Center in New York where nurses and MDs had similar patients and responsibilities (e.g. same scope of primary practice, rights of prescribing medication, rights of referral to specialists, rights of third party reimbursement), patient care was just as effective and less expensive with nurses. Nurses will undoubtedly play a major role in primary health care in the years ahead—chiropractors should be forming strong alliances with them. (Mundinger MO, Kane RL et al. *Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians.* JAMA 2000;283(1):59-68).

Europe

1. **Research:** *The Benefits of Exercise — Physical or Psychological.* There is considerable evidence that exercise is effective in the treatment of patients with chronic low-back pain. But why, what form of exercises, and at what cost? Past studies show different forms of exercises (e.g. for flexibility or strengthening) are of equal value. Are benefits primarily physical, justifying expensive functional restoration programs, or psychological?

These questions are addressed in a new trial by Anne Mannion, PhD et al. from Zurich, which has won the 1999 Volvo Award in Clinical Studies as the most important back pain trial of the past year. The trial compared 3 treatment protocols, given 2 times weekly for 3 months to 148 chronic low-back pain patients:

• *Modern active phsyiotherapy* — as standard in Switzerland, involving 30-minute therapy sessions with isometric, strength-training and Theraband exercises, education and home exercises.

• *Muscle reconditioning on training devices* — controlled progressive exercises for muscle reconditioning/functional restoration (David Back Clinic Program) in 60-minute sessions with trained therapists, with aerobic warm-up and with relaxation and stretching exercises at the beginning and end of each session.

• *Low impact aerobics* — group classes (12 maximum) lasting 60

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A Conference on Philosophy in Chiropractic Education

World Federation of Chiropractic and Association of Chiropractic Colleges

Place
Radisson Bahia Mar Beach Resort
Fort Lauderdale, Florida, USA

Date
Friday, November 10—Monday, November 13, 2000

Program Directors
David Koch, DC
President, Sherman College of Straight Chiropractic
Reed Phillips, DC, PhD
President, Los Angeles College of Chiropractic

Goals
- To review the roles of philosophy and belief systems in the healing arts generally and in chiropractic education and practice specifically.
- To seek a consensus on a common conceptual framework for the chiropractic profession.
- To review current course content on philosophy at chiropractic colleges.
- To produce draft consensus guidelines on the role and methods of teaching of philosophy in chiropractic education.

Methods
- An international forum that brings together chiropractic, medical and other experts in philosophy and education, and clinicians from private practice.
- Pre-meeting course materials, including formal papers from invited speakers.
- Lectures, panels and workshops with a strong focus on interaction and practical application.

Who Should Attend
The primary participants will be representatives of chiropractic colleges. The meeting will also be of interest to many field practitioners, students, and others with an interest in the role of philosophy in the chiropractic profession.

Registration options
Chiropractors: Full Registration (four days, Friday to Monday: US$500.00) or Weekend Registration (Friday evening reception, full day Saturday plus Sunday morning, includes all major speakers and open discussions: US$195.00).
Students: Weekend Registration only: US$95.00.

Contact for more information: For program, registration form and other details visit the World Federation of Chiropractic's website, www.wfc.org (click on WFC Congress, Meetings, etc.) or contact the WFC at 3080 Yonge Street, Suite 5065, Toronto, Ontario M4N 3N1 Canada, Tel. 416-484-9978,
Fax. 416-484-9665,
Email: worldfed@sympatico.ca (Satvinder).

Figure 3: Number of unexpected positive reactions per system/organ

Type of reaction	Number
Respiration./lungs (n = 120)	
Easier to breathe	98
Asthma/allergy better	6
Improved ability to smell things	3
Less short of breath	2
Less feeling of pressure over the chest	2
Cough disappeared	1
Pain on respiration disappeared	1
Runny nose improved	1
"Better"	6
Digestive System (n = 118)	
Improved function	92
Less pain	11
Less gastritis	6
Less nausea	4
Easier to swallow	1
"Better"	4
Circulation/heart (n = 67)	
Improved circulation	34
Less tachycardia	13
Less feeling of pressure in chest	5
Less double beats	3
More even pulse	3
Reduced blood pressure	2
Increased heart rate	1
Feeling stronger	1
Less swollen	1
Less tingling	1
"Better"	3
Vision/eyes (n = 64)	
Clearer/better/sharper vision	49
Focus better	2
Less pressure/pain	2
Eyes more open	2
Double vision disappeared	1
Visual disturbance disappeared	1
Tunnel vision disappeared	1
Better eye movements	1
Less itchy	1
Less secretion	1
"Better"	3
Urinary tract/kidneys (n = 26)	
Easier to urinate	11
Less frequent urination	9
More frequent urination	2
Cramp in bladder	1
Less accumulation of fluid	1
Urinary tract inflammation better	1
Incontinence	1
Sexuality/sex organs (n = 21)	
Dysmenorrhoea better	7
Less abdominal pain	2
Less discharge	2
Increased libido	2
Less testicular pain	2
Better prostatic function	1
Menses function again	1
Bleed less at ovulation	1
Less swollen	1
Less pain during sex	1
"Better"	1
Hearing/ears (n = 25)	
Less ringing in ears	10
Better hearing	8
Feeling of fullness gone	3
Less pain	3
"Better"	1
Skin (n = 15)	
Acne/eczema better	8
Not so sensitive to sun	1
Softer face	1
Look younger	1
Skin feels fresher	1
Feeling of hot face gone	1
Back of thigh drier	1
"Better"	1
Other (n = 6)	
Stronger nails	2
Numbness in tongue gone	1
Better ability to taste things	1
Stronger hair	1
Hiccups gone	1

Leboeuf-Yde C, Axén I et al., JMPT, 1999.[14]

and health professionals have traditionally been a little arrogant in dismissing this—the patients themselves felt these were benefits after treatment. That is far from conclusive, but also far from insignificant.

d) Finally, this is a first study. Leboeuf-Yde et al. do not make any claims beyond saying that "the finding of a positive dose response does warrant further investigation" and that there should now be further studies. These should include similar surveys and, ideally, controlled trials measuring objective, physiologic responses in symptomatic and asymptomatic persons.

Conclusion

9. Dr. Leboeuf-Yde, her fellow investigators and the Swedish Chiropractors' Association deserve the congratulations of all in the chiropractic profession for a thorough and most provocative study. It provides:

• General or baseline evidence to support the chiropractic practice of assessment and treatment of the full spine as part of an integrated locomotor system.

• Potentially important findings for patients with a range of conditions that may be mimicked, aggravated or in part caused by spinal disorders. These spinal disorders may themselves be part of a cycle of response to visceral disorders.

By itself, however, this research proves little. And because of medical skepticism and the present lack of a strong body of scientific evidence in this area of the wider potential health benefits for chiropractic care, this important study could yet prove harmful to the profession if used irresponsibly. Recommendations are:

a) This form of research should be repeated in other countries. The design is sound, the cost is not high, the issues are important to the scope and role of chiropractic services, and the first question is whether these results can be replicated elsewhere. If so the profession will be in a stronger position to draw and publish conclusions. If you are a chiropractor and you agree, lead the call to your regional organization or national association for a similar study.

b) The study should be used to generate interdisciplinary clinical research—firstly a less costly prospective case series, later controlled trials in relevant areas. Relief from respiratory and digestive problems was common. Medical specialists in those fields should be encouraged to arrange for a series of suitable patients to be provided with a chiropractic spinal evaluation and, where necessary, trials of separate and concurrent chiropractic management. This is what happened 20 years ago for back pain—this study, when combined with other published work, now provides a credible basis for medical collaboration in other non-musculoskeletal areas. It is now two generations since German cardiologist Kunert called for concurrent spinal examination and treatment for many patients with presumed cardiac pain.[15] More recently Bechgaard in Scandinavia has estimated that 10% of the

patients at his coronary unit have somatic mimicry rather than true angina.[16]

c) For reasons already indicated chiropractors and their organizations should use this study cautiously and selectively with other health professionals and managers. Specifically:

• It should be used simply to illustrate the frequency and nature of 'side effects' of chiropractic care—not to allege proof of any causative link.

• It will be most valuable with other health professionals, such as referring medical doctors and nurses, who themselves raise the issue of wider benefits of chiropractic care. This might be when patients referred for chiropractic treatment of neck or back pain experience other benefits and discuss this with their physicians.

• Anyone wanting a fuller understanding of the possible neurophysiological basis for visceral responses to spinal adjustment/manipulation, and the supporting evidence, should be referred to:

i) Chapters on *Spinal Reflex Physiology* by Akio Sato, MD PhD and *Systemic Effects of Spinal Lesions* by Muhammed Dhami, PhD and Kenneth DeBoer, PhD in Haldeman's text *Principles and Practice of Chiropractic*,[17] or the text *The Impact of Somatosensory Input on Autonomic Functions* by the leading Japanese and German neurophysiologists, Sato, Sato and Schmidt.[18] These show that the experimental work to date is consistent with chiropractic and osteopathic theory that somatovisceral reflexes may influence function and health in viscera. (Sato, Sato and Schmidt's work is reviewed in the May 1997 issue of this Report).

ii) Alternatively, the review by chiropractors Nansel and Szlazak titled *Somatic Dysfunction and the Phenomenon of Visceral Disease Simulation: A Probable Explanation for the Apparent Effectiveness of Somatic Therapy in Patients Presumed to be Suffering from True Visceral Disease,*[19] reviewed in the November 1995 issue of this Report. As the title implies, this detailed evidence review concludes that the convergence of visceral and somatic efferent nerves in common pools of interneurons in the spinal cord and brainstem means that many spinal problems mimic organ disease. Therefore many patients medically diagnosed as having cardiac or digestive or respiratory disorders may in fact be mis-diagnosed because of an unrecognized spinal disorder that is mimicking or aggravating a visceral problem. Nansel and Szlazak's research and conclusions may be more convincing and impressive to practising physicians considering this field for the first time.

d) The Swedish study, particularly if accompanied with an appropriate summary, will also be valuable for use with some patients—especially if you are asking about, or they are reporting, other health benefits after treatment.

e) Some chiropractors may decide to get an original copy of the Swedish study and use its protocol for clinical research in their own individual practices. This study is one further example of why all chiropractors should be subscribing to the profession's flagship journal JMPT. (*Subscription information: Tel: 314-453-4351 or www.mosby.com/jmpt*) TCR

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minutes with stretching and aerobic and muscle-toning exercises carried out to music.

Results were that there was similar benefit from all three programs, with the aerobics and the devices groups maintaining better results than the physiotherapy group at a 6 month follow-up. The researchers conclude that the main effect of all treatments was psychological rather than physical and that, as the cost of aerobics was four times less than devices and three times less than physiotherapy, greater use of aerobics has the potential of substantial savings in health care costs. (Mannion AF, Müntener M, et al. *A Randomized Clinical Trial of Three Active Therapies for Chronic Low Back Pain* Spine;23:2435-2448.)

Evidence-Based Healthcare (EBH). A recent editorial in the U.K. *Journal of Rheumatology* by rheumatologists from the U.K. and Hungary and titled *Evidence-Based Rheumatology* is of interest in saying that evidence-based medicine (*definition:* "clinical expertise, informed by the best available evidence obtained from systematic research) should really be named evidence-based *healthcare* "to incorporate the important contributions from many professions." Chiropractors should all support that move. The article discusses what is good and bad about EBH, including the positive bias in favor of drug studies. It is much more likely, the authors say, that drugs will be studied rather than physical or psychosocial interventions in the management of arthritis and in rheumatology generally, because of "the availability of funding and vested interests within the pharmaceutical companies." (Dieppe P, Szebenyl B. *Evidence-Based Rheumatology*. Editorial in J Rheumatology, 2000;27(1):4-7).

Complication Rates from Dental Anesthesia. Reporting on the safety of dental anesthesia for children, a recent article in *The Lancet* notes that 1 in 250,000 (i.e. 4 per million) of persons undergoing dental anesthesia in the U.K. die in the dentist's chair and "most of those who die are young adults or children." Most deaths are attributed to "respiratory difficulties or sudden cardiovascular collapse." In the U.S. the incidence of death is 1 to 2 per million. These rates are far higher than for cervical manipulation—current evidence is that the risk of *stroke* from chiropractic adjustment is less than the risk of *death* from forms of anesthesia routinely used in dental offices for extractions, cosmetic procedures and minor surgeries. (Brandon BW, Herlick A. *Safety of Outpatient Dental Anaesthesia for Children.* Lancet 554:1836-1837).

Is Chiropractic Alternative—Not in Denmark. In recent years the chiropractic profession has been labelled complementary or alternative by others in the health care system. This yoke chafes—most chiropractors now see themselves and their profession as mainstream. So, apparently, do other stakeholders in the health care system in Denmark. A recent paper from Associate Professor Laila Launso, Department of Social Pharmacy, Royal Danish School of Pharmacy, Copenhagen reviews all the studies of alternative medicine in Denmark since 1970 and concludes from these that "Denmark is one of the few countries in which chiropractic is *not* considered alternative." (Launso L. *Use of Alternative Treatments in Denmark: Patterns of Use and Patients' Experience with Treatment Effects*, Alt Therapies, 2000; 6(1):102-107).

Other World Regions

1. **Australia—Are PTs and MDs Qualified to Practise Spinal Manipulation?** In Australia there are formal full-time postgraduate programs leading to a master's degree in orthopedic manipulative therapy for physiotherapists wanting to practise spinal manipulation. Janet Morton, a graduate of such a master's program., has recently published a trial of orthopedic manipulation for patients with acute mechanical low-back pain that has two points of interest. Firstly it reports that high-velocity manipulation with an exercise program is significantly more effective and cost-effective than an exercise program alone. Secondly, with respect to PTs generally, she observes that "it should be acknowledged that orthopedic manipulative physiotherapy training is a prerequisite to administering manipulation." On that standard most PTs and virtually all MDs are unqualified to practise spinal manipulation. (Morton JE. *Manipulation in the Treatment of Acute Low Back Pain*, J Manual & Manip Ther, 1999;7(4):182-189).

2. **Lebanon—Chiropractic Legislation**. On January 20 the Ministerial Parliament of Lebanon passed legislation to recognize chiropractic as a primary care profession. This followed lengthy negotiations by the Lebanese Chiropractors' Association, representing Lebanon's 12 chiropractors and led by Dr. Khodr Hijazi, the LCA President who practises in Beirut. Ultimately patient pressure and the support of senior ministers, including the Prime Minister and the Minister of Health, triumphed over firm medical opposition. Dr Hijazi, a 1974 National College graduate practised in Canada for four years then Saudi Arabia for six years before establishing his practice in Beirut in 1986. *Contact: Khodr Hijazi,* PO Box 135638, Chouran, Beirut, Tel. 961-1-303-886.