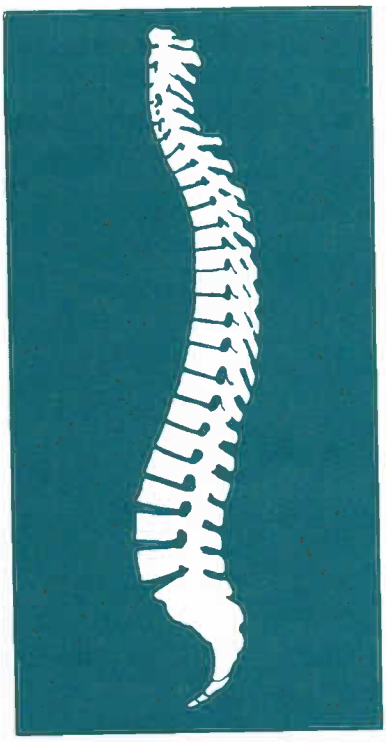
THE CHIROPRACTIC REPORT

Editor: David Chapman-Smith LL.B. (Hons.) January 1999 Vol. 13 No. 1



PROFESSIONAL NOTES

Cost-Effectiveness

On current evidence chiropractic management is far more cost-effective than medical management for comparable groups of patients with back pain. That conclusion by Canadian health economists Manga and Angus from the University of Ottawa (1993, 1998) has recently been reinforced in an impressively designed study by US health economists William Johnson, Professor of Economics, School of Health Administration and Policy, Arizona State University and Marjorie Baldwin, Associate Professor, Department of Economics, East Carolina University for the Zenith National Insurance Company in which:

• Health care and indemnity costs were compared for 850 California workers who completed an episode of back pain in the years 1991 to 1993 and chose either chiropractic or medical care.

• For equivalent populations of patients health care costs were "essentially equal" for chiropractors and physicians ($1,044 vs $1,075), which reflects the trend towards more cost-effective medical care.

continued on page 8

EXERCISE AND HEALTH: NEW GUIDES FOR THE CLINICIAN

A. INTRODUCTION

A year ago this Report reviewed the scientific literature on exercise (November 1997 Vol 11 No. 6) but what is available for use by you and your patients in your clinic? This issue introduces three excellent, inexpensive new guide books on low-tech exercise for chiropractors and their patients. These, all recently published by Canadian chiropractors with expertise in this area of practice are:

• *Stretching for Fitness, Health and Performance: The Complete Handbook for All Ages and Fitness Levels* by Oswald and Bacso - a comprehensive but very user-friendly bible on stretching.

• *The Backtracks Program: Your Complete Guide to Spinal Flexibility, Strength and Stability* by Panetta - a patient manual which focuses on exercises for use with neck and back pain patients as commonly seen in chiropractic practice.

• *The Active Health and Fitness Book* by Jongsma - preventive and rehab exercises, but also containing practical advice on health, fitness, home care, ergonomics and relaxation. It is available as a book and on CD-Rom.

Contact addresses and ordering information are given and this Report, which has no financial relationship with any of these publications, recommends you order one of each. Special sample prices have been arranged. With the sample you will receive information on bulk rates and related products.

2. Firstly, however, a brief review of what the scientific literature does say about exercises:

a) Exercise programs are of proven value in the prevention of back pain and other musculoskeletal pain, both generally[1] and for specific occupational groups at risk such as nurses.[2]

b) Exercise programs are also of value for chronic neck and back pain patients, or acute patients after the first 4-6 weeks. However on current evidence "it is doubtful that specific back exercises produce clinically significant improvement in acute low-back pain (patients)."[3,4]

c) Exercises only have a lasting effect if they are continued - they should be done for a minimum of three months but should really become a lifetime habit.[5]

d) Somewhat surprisingly the exact form of exercise does not seem to be important. In the two major trials showing the benefit of exercise programs for chronic low-back pain patients completely different approaches were used with similar benefits - stretching exercises for flexibility (Deyo et al) [6] and trunk muscle strength exercises (Manniche et al).[5] Good features of this are that you, as a clinician, can recommend with confidence the series of exercises you have found most helpful. These will be as good as any others. And each patient can and should adapt a basic exercise program to his or her needs.

e) Much more important than the exact details of the exercise program is compliance - actually doing the exercises on a continuing basis. Relevant factors here are introducing an exercise program gradually (many people, especially those with recent injuries or pain, are fearful),[7] and monitoring what the patient does[8,9] (ideally at first by having exercises performed in the clinic, but also through the patient recording exercise sessions in a journal which you review from time to time).

f) Theoretically a sound exercise program should include activities and exercises that target the four major dimensions of muscle performance - flexibility, strength, endurance and balance/coordination.

B. STRETCHING FOR EVERYONE - OSWALD AND BACSO.

3. There are many books on stretching.

Main Article: *continued from page 1*

Stretching for Fitness, Health and Performance: The Complete Handbook for All Ages and Fitness Levels (Sterling Publishing, New York, 192 pages, US$14.95 plus taxes, CAN$25.25 including taxes) by Dr. Christopher Oswald and Dr. Stanley Bacso, claims to provide the most complete information yet published on stretching in language and illustrations everyone can understand - and delivers in style. Sandy Goss, two time Olympic freestyle swimming silver medalist finds this "the best and most extensive book on stretching." Dr. Sil Mior, Dean of Research, Canadian Memorial Chiropractic College (CMCC) gives academic approval to the description of anatomy, body mechanics and principles of stretching, and Dr. Douglas Pooley, President, Canadian Chiropractic Association provides a foreword with an enthusiastic endorsement from the perspective of a practising chiropractor.

Both authors are practising chiropractors from Toronto, Ontario. Dr. Christopher Oswald is a CMCC graduate, a second generation chiropractor, a competition water skier and recreational snowboarder who has studied and used stretching daily for 18 years. Dr. Stanley Bacso is a Parker College graduate, a former professional football player and is an active all-round sportsman with particular interest in track and field and body building and aerobic conditioning

4. Here, as a sample of the text, is the explanation of 'What Happens in a Stretch' from Chapter 1 titled *The Fundamentals of Stretching*:

"All the stretches in this manual are static stretches, which are controlled and slow. In a static stretch, as you stretch a muscle in a slow and gentle fashion, you increase its tension. In a few milliseconds, the spinal cord reflexively tells the muscle to shorten in order to protect the muscle from being overstretched. It takes 6-10 seconds for the brain and spinal cord to perceive that the stretch is safe and, suddenly, the mild pulling sensation you feel of the muscle shortening to resist the stretch is gone. It is in the next 20-24 seconds that the stretch has the beneficial effects. That is why a stretch must be held for at least 30 seconds.

A good rule to follow is that if you feel the uncomfortable stretching sensation for more than 10 seconds, you are stretching *too far* and *too fast*. You should ease off slightly until the sensation is gone and then hold for 30 seconds. (See Chapter 6 for the Six Rules to Stretching)."

"It is important that you do *not* bounce when you stretch. This kind of stretching, known as a ballistic stretch, creates more than double the amount of tension as compared to a static stretch. Even though it is done in many aerobic classes and workout videos, it may actually cause nerve damage and muscle-fiber tearing. It also does not improve flexibility."

As you see, a text that is informed but clear.

The goal of the book, as the title indicates, is to provide practical advice and illustrations on stretching for every need. Chapters are titled *The Fundamentals*, *Stretching for All Ages* (particular advice for children, adolescents and the elderly); *Calcium and Magnesium: Muscle Fibers and Stretching; Understanding Your Body and Its Limit; Six Rules to Stretching; The Basic Stretches and Their Anatomy; The Daily Shower Routine; Dangerous and Harmful Movements; Stretches for Specific Sports; Stretching for Injury Rehabilitation and Pain Syndromes; Stretches for Specific Occupations; Household Activities: Stretches and Postures; Stretching for Pregnancy and Delivery* and *Exercises for the Abdomen and Low-Back.*

Separate pages illustrate exercises for, say, pregnancy, prevention of injury, and specific activities or sports (e.g. soccer - see Figure 1). These give cross references to other pages with detailed advice on each stretch (e.g. 5th soccer stretch is on pg. 38 - front of the shoulder muscles - see Figure 2).

There is easily accessible advice for you and your patients on many technical areas made simple - such as the role of endorphins, the gate theory of pain, and the importance of calcium and magnesium and their nutritional sources.

What are Oswald and Bacso's 'Super Six rules' to stretching successfully?

1. Warm up first

2. Hold each stretch for 30 seconds

3. Do not bounce (hold in comfortable position)

4. Be gentle (no pain)

5. Breath deeply

6. Stretch both sides equally

5. **How to Order:** This book is now available in several major bookstores in the US (Barnes and Noble, Tower Books, Borders) and Canada (Chapters, Indigo) and is also available to chiropractors through direct distribution with volume discounts from Active and Innovative Inc., 200 Glengarry Avenue, Toronto Ontario M5M 1E2, Tel. 416-932-3800, Fax. 416-932-3828, E-mail: actinnov@aol.com. These special rates are available for a sample copy to those identifying themselves as subscribers to *The Chiropractic Report. United States*: US$19.50 (includes taxes and shipping); *Canada:* CAN$20.00 (includes taxes and shipping); *Outside North America:* US$32.00 (includes airmail shipping). *Methods of payment:* In advance by VISA or check in North America, VISA or US dollar bank draft/money order internationally.

The Chiropractic Report is an international review of professional and research issues published six times annually. You are welcome to use extracts from this Report. Kindly acknowledge the source. Subscribers may photocopy the Report or order additional copies (.75 cents each - minimum of 20 copies plus shipping) for personal, non-commercial use in association with their practices. However neither the complete Report nor the majority or whole of the leading article may be reproduced in any form whatsoever without written permission. **Subscription:** for rates and order form see page 6. For information on orders call 1-800-506-2225 or Tel: 416-484-9601, Fax: 416-484-9665.

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**

C. Low-Tech Rehabilitation Exercises - Panetta

6. *The Backtracks Program: Your Complete Guide to Spinal Flexibility, Strength and Stability* is self-published by Dr. Lino Panetta, a New York Chiropractic College graduate in practice in Ottawa, Ontario who works in a government-certified spinal rehabilitation centre and is completing postgraduate fellowships in rehabilitation and sports sciences.

The goal of this manual is to provide a graduated exercise program with clear goals for the type of neck pain and back pain patients typically seen in chiropractic practice, and in a form that meets the needs of:

a) **Patients:** Exercises are divided into a flexibility program, a strengthening program, and a stability program. They are graduated and target not only specific muscles but also specific movements necessary to perform daily activities such as sitting, bending and lifting.

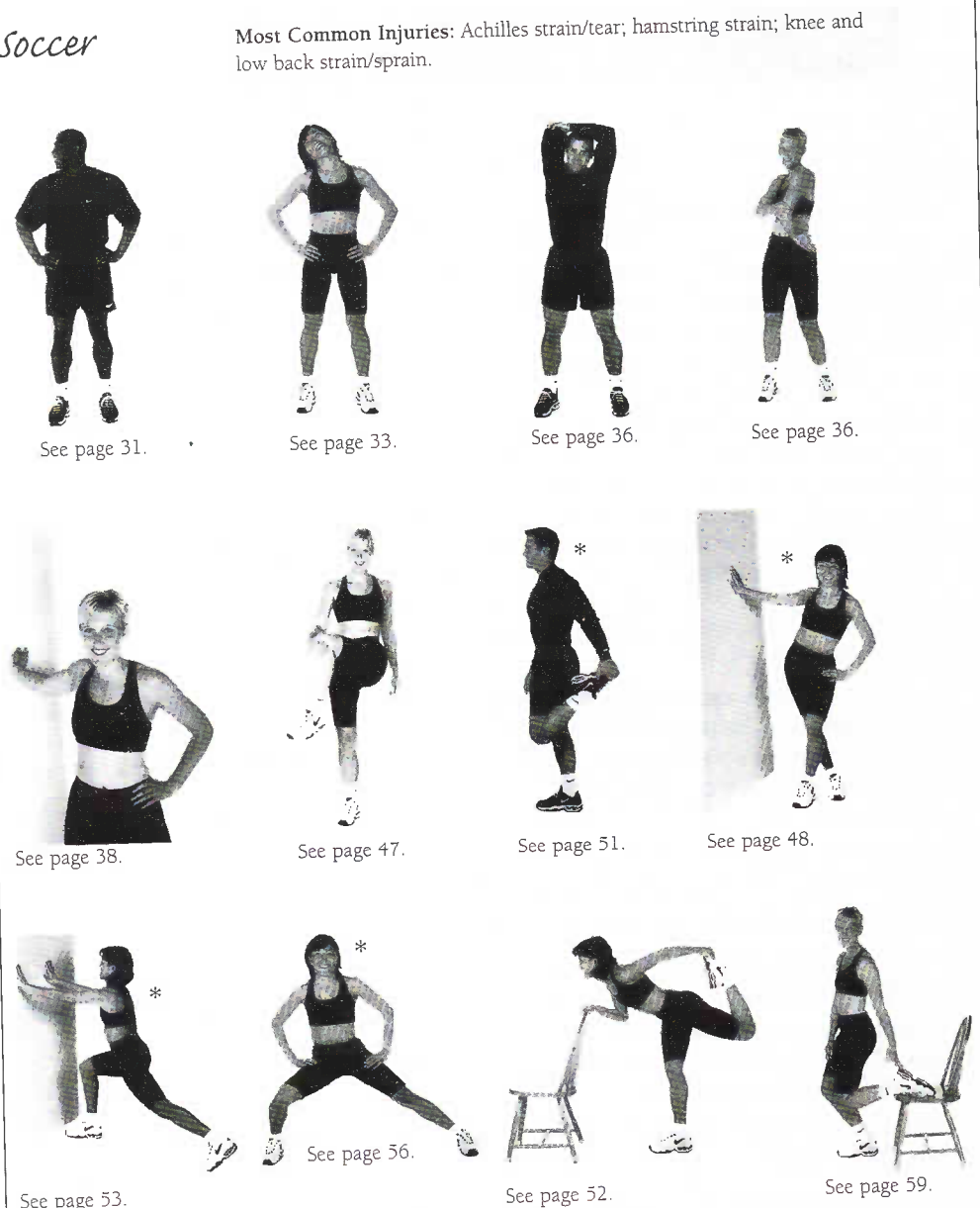
b) **Chiropractors:** The program is indexed and laid out in a clear format with illustrations, patient instructions and answers to common questions. The chiropractor supplies the book to the patient, checking/marking boxes beside recommended exercises. The spiral bound format means the patient has the book open beside him/her during exercise. The patient completes a daily record of exercises.

c) **Insurers**: Third party payers can see, and the patient and chiropractor can demonstrate, exactly what exercises are being done. Dr. Panetta developed the program and manual over three years with this specific need in mind.

The program is low-tech and designed for performance at a standard chiropractic office or at home. Each patient only requires the Backtracks Program Manual, supplied by the chiropractor at a cost of approximately US$15.00 or CAN$20.00, and an exercise ball. In the words of Warren Hammer DC, author of *Functional Soft Tissue Examination and Treatment by Manual Methods*, "here at last is a thorough, easily-explained exercise program .... which includes the necessary flexibility, strengthening and stability concepts for all (clinicians) interested in the care of the back."

7. **How to Order**: Available from EuroCan Rehab Inc., 24 Elterwater Avenue, Nepean, Ontario, K2H 5J2, Canada, Tel. 613-277-2401, Fax. 613-596-5474, E-mail: eurocanrehab@magma.ca. Rates for a sample copy to callers identifying themselves as subscribers to *The Chiropractic Report* are *United States*: US$10.00 (includes shipping); *Canada* CAN$15.00 (includes shipping); *International:* CAN$21.00 (includes airmail shipping). *Method of Payment:* In advance by check in North America; by Canadian dollar, bank draft/money order (International).

Figure 1 Soccer Stretches *From Oswald and Bacso*



D. Health and Fitness Programs

8. The second edition of Dr. David Jongsma's *The Active Health and Fitness Book* (Barrie Press, Canada, 59 pages CAN$49.95 plus taxes) is superb. Dr. Jongsma, who practises chiropractic in Barrie, Ontario, has impressive professional and sports qualifications. He has undergraduate degrees in physical education (McMaster University) and chiropractic (CMCC) and a postgraduate fellowship in chiropractic sports sciences. He has been a two-time member of the Canadian national triathlon team and has also competed internationally in the decathlon.

His health and fitness book operates at two levels. The first is the inspirational level. In his introduction, with the enthusiasm of an elite athlete and chiropractor dedicated to

continued on page 6

The Chiropractic World

North America

1. **ACA Sues Federal Government.** On November 12, 1998 the American Chiropractic Association filed a major lawsuit against the Federal Government (*ACA* vs *Donna Shalala, Secretary of the Department of Health and Human Service)* in the US District Court for the District of Columbia. The immediate cause of the litigation was a regulation authorizing HMOs providing Medicare chiropractic services to patients to have those services provided by medical doctors, doctors of osteopathy and physical therapists with appropriate qualifications in manipulation. The ACA has had a long battle on this with the DHHS, which has failed to table a report on chiropractic services in HMOs ordered by Congress. The government's regulations concerning HMOs are particularly important because private insurers usually follow benefits as interpreted under Medicare. This litigation may be as important to the profession as the *Wilk v AMA* case, and ACA general counsel Mr. George McAndrews is leading the fight once again.

2. **US - Rise in Use of Alternative Medicine**. Eisenberg et al's national survey of the use of alternative medicine - then called *unconventional medicine* - in the US in 1990, published in the *New England Journal of Medicine* in 1993, was the wake-up call to mainstream medicine that there was much greater use of alternative medicine than realized. That survey of 1,539 adults in 1990 was repeated with 2,055 adults throughout the US in 1997, and is now published and confirms that "alternative medicine use and expenditures have increased dramatically from 1990 to 1997."

Alternative medicine was defined as the following 16 therapies: Relaxation techniques, herbal medicine, massage therapy, chiropractic care, megavitamins, self-help groups, imaging techniques, commercial diet, folk remedies, lifestyle diet, energy healing, homeopathy, hypnosis, biofeedback and acupuncture. Key findings are:

• 4 in 10 Americans used at least one alternative therapy in 1997 and, for adults aged 35-49 years, it was 1 of every 2 persons.

• Overall prevalence of use increased by 25% between 1990 and 1997.

• Total visits increased by an estimated of 47% and, at 629 million, exceeded total visits to all US primary care physicians by 243 million.

• Expenditures rose by an estimated 45% exclusive of inflation. They were $21.2 billion. $12.2 billion of this was paid out-of-pocket, which exceeded out-of-pocket expenditure for all US hospitalizations.

• This use of alternative therapies is distributed widely across all sociodemographic groups.

Therapies with most increased use during the 1990s have been herbal medicine, massage and megavitamins. However chiropractic, use of which increased from 10% to 11% of the adult population, remains the single most used alternative therapy. Highest condition specific rates of use of alternative therapy were for neck problems (57% of those who used alternative care) and back problems (47.6%).

Eisenberg et al quote surveys from Australia, Canada, Finland and United Kingdom showing that alternative medicine is popular throughout the industrialized world and ask for more emphasis on research, education, credentialling and referral guidelines.

(Eisenberg DM, David RB et al (1998) *Trends in Alternative Medicine Use in the United States, 1990-1997*, NEJM, 280(18):1569-1575.)

In a November 11 editorial in the *Journal of the American Medical Association* Wayne B. Jonas MD, Director of the Office of Alternative Medicine of the U.S. National Institutes of Health, advises MDs that "alternative medicine is here to stay" because its use "reflects changing needs and values in modern society". He summarizes these changes as "..... a rise in prevalence of chronic disease, an increase in public access to worldwide health information, reduced tolerance for paternalism, an increased sense of entitlement to a quality life, declining faith that scientific breakthroughs will have relevance for the personal treatment of disease, an increased interest in spiritualism. In addition, concern about the adverse effects and escalating costs of conventional health care are fuelling the search for alternative approaches to the prevention and management of illness."

(Jonas WB (1998) *Alternative Medicine - Learning from the Past, Examining the President, Advancing to the Future*, Editorial in JAMA 280(18):1616-1617).

Kim Jobst, Editor-in-Chief, *Journal of Alternative and Complementary Medicine* agrees in another good recent overview. For her the two main factors behind the rise of alternative medicine are "the ineffectiveness of western biomedicine (for) a significant proportion of the common chronic diseases" and the fact that mainstream medicine "is too expensive to be universally affordable." She explain that health care money should be spent on life not death - "in the US 70% of an individual's healthcare budget is spent in the last 10 days of life". She gives this staggering statistic about the US pharmaceutical industry - "10 years ago (it) spent about $12 million on advertising. In 1998 the figure is already over $13 billion."

(Jobst KA (1998) *Complementary and Alternative Medicine: Essential for the Future of Effective, Affordable Health care?* J Alternative and Complementary Medicine 4(3):261-265).

Europe

1. **Research:** *Disc Herniation - H-Reflex Changes After Manipulation.* A study from chiropractic and medical researchers at the Spine Surgery Unit, Hadassah University Hospital, Jerusalem, published in the *European Spine Journal* has demonstrated objective effects of chiropractic manipulation in patients with unilateral disc herniation at the L5-S1 level causing sacroiliac nerve root compression.

Electrophysiological testing showed that 13 of 24 of these patients had abnormal spinal H-reflex responses, an accurate predictor of spinal nerve root compression. Immediately following side posture chiropractic manipulation there was significant improvement in these abnormal reflexes. There was no change to normal H-reflexes on the healthy side, or in the other patients who had normal H-reflexes on both sides at the outset. (Some of the patients also had immediate pain relief but the authors offer no conclusions on clinical effectiveness because of the small size of the study - its purpose was to demonstrate objective reflex responses to chiropractic manipulation).

(Floman Y, Liram N, Gilai AN (1997) *Spinal Manipulation Results in Immediate H-reflex Changes in Patients with Unilateral Disc Herniation*, Eur Spine J 429/1-4.)

Cost Savings - A UK Workplace Study: The Journal of Occupational Medicine has just published a pilot study in which two Somerset companies with 750 employees referred employees complaining of neck/arm or back/leg pain for chiropractic treatment over a period of two years (1994 and 1995). The companies subsidized the cost of care and were investigating effectiveness, patient satisfaction and cost.

The results are impressive - extremely high self-rated improvement and patient satisfaction at one month and six months follow-up, even

though a high proportion (57%) of the 37 patients had chronic problems (3 months or more). And the bottom line was an 18% net saving in the first year (30% saving in disability/sickness payments, less 12% for the treatment costs subsidized) and approximately 40% net saving in the second year. This is only a small pilot study - but the results should be impressive enough to encourage other employers - a 40% saving on back pain and other musculoskeletal injury costs is phenomenal. (Jay TC, Jones SL et al (1998) *A Chiropractic Service Arrangement for Musculoskeletal Complaints in Industry: A Pilot Study*, Occup Med 48(6):389-395).

2. **Complementary Therapy**. A new UK survey, not of the general public but of patients (100 from diabetes, rheumatology and chest outpatient clinics at Central Middlesex Hospital) and general practitioners (all 275 local GPs in Brent and Harrow) in Northwest London finds that 68% of patients had used complementary therapies during the past year - "much higher than previously reported" in the UK. 89% of patients thought their complementary therapies were equally or more important than their conventional medical treatment. Over half (56%) had used them first and did not tell their GPs .

The GPs surveyed had acupuncture and relaxation techniques available on referral at 25% of their practices. There was lesser availability of osteopathy (13%) and chiropractic (7%). The services to which these British GPs would commonly refer if available were acupuncture (58%), osteopathy (58%), homeopathy (36%) and chiropractic (32%).

(Grenfel A, Patel N et al (1998) *Complementary Therapy: General Practitioners' referral and Patients' Use in an Urban Multi-Ethnic Area*, Complementary Therapies in Medicine 6:127-132.)

Asia/Pacific

1. **Australia - Government Challenges AMA Restraints on Chiropractic.** In June 1997 the Trade Practices Act (TPA) was extended to cover anti-competitive practices by health professions. It is administered by the Australian Commission on Competition and Consumer Affairs (ACCC). On a complaint from the Chiropractors Association of Australia (CAA) the ACCC has accepted that the Australian Medical Association (AMA) is in breach of the TPA because, although it has removed written policies against chiropractic from its books, it is still limiting its members from co-operating with chiropractors by acting as if ethical restraints exist. As a result the ACCC has had two recent meetings with the AMA and is now requiring the AMA to take several steps to publicly remove its opposition to chiropractic within six months, failing which the ACCC will take legal action. $2 million has been put aside for this purpose and the ACC has the capacity to impose a penalty of up to $10 million. All of this is similar to the *Wilk Case* in the US - except that it is a government agency that is promoting and funding the litigation.

2. **Taiwan.** In November informally trained 'chiropractors' from Taiwan approached Los Angeles College of Chiropractic (LACC) and Western States College of Chiropractic requesting short-term continuing education courses. LACC (Dr. Gary Schultz) and Western States (Dr. William Dallas) checked credentials, consulted with the World Federation of Chiropractic (WFC), and then refused to provide educational services in the interests of the Taiwan Chiropractic Association (TCA) and the profession. The positive results were immediate. Dr. Tsai, a Los Angeles based physician representing the 'chiropractors', contacted the WFC, agreed to abide its policies, and then contacted the TCA, which represents formally trained doctors of chiropractic in Taiwan, asking for leadership and direction from the TCA.

The TCA's next steps are being governed by the reality that, as in many other countries and most recently the UK, the government will recognise informally trained chiropractors in established practice when licensing legislation is passed. The TCA is therefore working with Fu Jen Catholic University, a local university, and representatives of two accredited chiropractic colleges overseas, RMIT University in Australia and LACC in the US, to provide education to informally trained chiropractors in the context of a comprehensive university conversion degree program. The ultimate goal of the TCA and Fu Jen University is to establish a full undergraduate chiropractic program. Current leadership of the TCA is Dr. Gerald Liu, President (a graduate of Cleveland College at LA), Dr. Mark Griffin, Vice-President (LACC) and Dr. Jeremy Chen, Secretary (LACC).

NEJM Study - Cherkin, Deyo et al

In the last issue of this Report there was a review of the Cherkin, Deyo et al back pain trial from a Washington HMO. Important points are:

• In a media package sent by the Foundation for Chiropractic Education and Research (FCER) to over 2,500 media sources in the US in November there is description of this interesting political and legal background to the trial. Approximately two years ago Washington State passed laws requiring HMOs to include various "alternative medical treatments" in their plans, specifically including chiropractic services and acupuncture, massage and naturopathy. Significantly, there was also law prohibiting spinal manipulation by medical doctors and physical therapists.

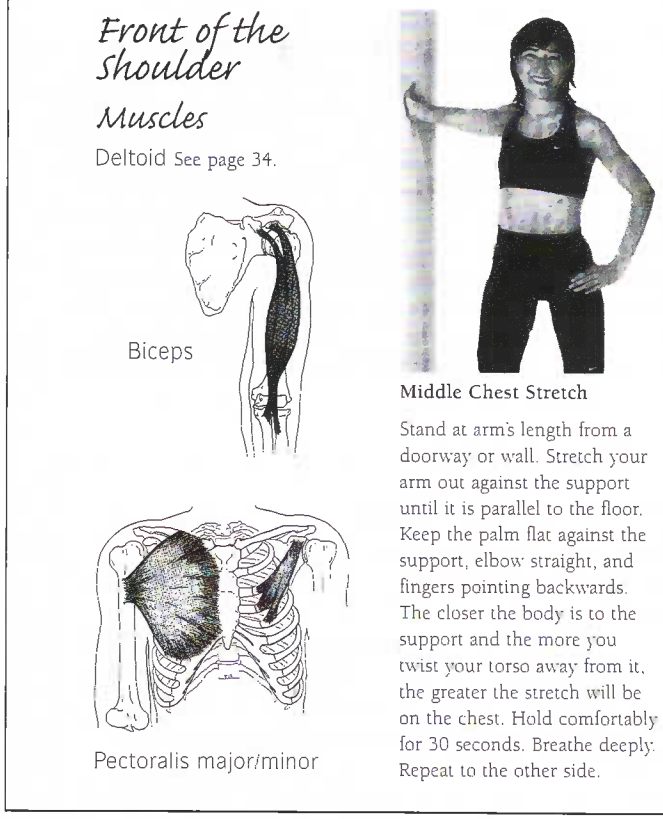
A large coalition of medical interests, health plans and insurers - including HMOs - lobbied against the passing of these laws. When they were unsuccessful they then sued in Federal Court to have the laws declared invalid. They won in the lower court but lost on appeal in the 9th Circuit US Court of Appeals on August 24, 1998.

The first and best way to discredit the Cherkin, Deyo et al trial is on scientific grounds - but with these political and legal issues the plot thickens, and the independence and objectivity of the trial as reported and published can be very seriously questioned.

• In an interview just published in *Dynamic Chiropractic* (December 14, 1998), in which he is asked to respond to criticisms of his study, Dr. Daniel Cherkin acknowledges "we agree that it would be inappropriate to draw sweeping conclusions about chiropractic care based on the results of this one study."

• Finally, there was a significant error in the November 1998 issue of this Report, for which we apologize. It was said that the Eisenberg et al study published in 1993 reported that "about 1 in 3" of chronic back pain patients under medical care also uses alternative care, and that 72% of these do not tell their medical doctor. (Pg. 3 para 6(c)(i)). The correct statistic is not "about 1 in 3" but "83%". This means that 60% (i.e. 83% of 72%) of such patients do not tell their doctors about their use of chiropractic and other alternative care. This, in turn, provides the basis for the argument that the control group was suspect, and that it was "quite likely that more than 50% of (them) were receiving outside care."

Figure 2 Stretch for Front of Shoulder Muscles
From Oswald and Bacso



active living, Dr. Jongsma lists the positive benefits of such a lifestyle and challenges readers with "it's time to make positive change." Throughout the book practical advice is accompanied by motivational messages. For example on the same page as the *Benefits of Resistance Exercises,* which as we know involve work and commitment, is this quote from Jack Dickson:

If you focus on results you will never change; if you focus on change you will get results.

The second level is the practical one. Here:

a) There are clear instructions and illustrations for the "four parts to a proper exercise program" - aerobic exercise (endurance), flexibility (stretching), resistance exercises (strength), and balance and coordination.

b) Everything described is low-tech, either without equipment or simple resistance tubing and an exercise ball. (The one exception is the optional section on weight training which requires normal gym equipment). There are additional excellent chapters on home care, ergonomics, and relaxation (abdominal breathing, progressive relaxation, and visualization).

c) Each chapter commences with a point form description of the benefits of the activity being described. Illustrations are clean and helpful - see, as an example, the page on *Stretching Exercises for Flexibility in the Upper Extremity* - Figure 3).

d) This book is a little more expensive, but you only need one copy. Chiropractors and other health professionals purchasing the book are encouraged to "photocopy the pages to create or prescribe health and fitness programs" suitable for each patient. Practical pages include an exercise prescription chart, a daily journal for patients to complete, and a goals of exercise chart.

9. **How to order**: More information on the *Active and Health and Fitness Book*, which is also available with superb 4 colour illustrations on CD-Rom, can be found at the website: *www.justmoveit.net.* Both products are available from Active Health and Fitness, 151 Essa Road, Suite 102, Barrie, Ontario, Canada L4M 3L2. Tel. 1-800-880-9130 (toll free - Canada and USA) or 1-705-466-5588. Fax. 1-705-466-5586, E-mail: bservice@simcoe.igs.net. Rates for those identifying themselves as subscribers to *The Chiropractic Report* are *United States:* Book US$35.00, CD-Rom US$60.00, Book plus CD-Rom US$80.00 (prices include shipping); *Canada*: Book CAN$45.00, CD-Rom CAN$85.00, Book plus CD-Rom CAN$110.00 (prices include shipping); *International:* Same prices as in the United States plus US$15.00 for shipping. *Method of Payment:* In advance by VISA or check (US and Canada) or VISA or money order/bank draft in US dollars (International).

E. Conclusion

10. As Dr. Craig Liebenson says in his text *Rehabilitation of the Spine: A Practitioner's Manual*[10] "manipulation and exercise are the two methods that have become the standard of care ..... in the delivery of high-quality neuromusculoskeletal health care." Those who will dominate management of neuromusculoskeletal disorders in the next decade will be "practitioners in small private practices who assess and treat functional pathologic problems while training and educating the patient in how to prevent recurrences." They represent "the cost-effective frontline against today's soaring costs for caring for individuals with low-back pain."

The challenge is how to provide exercises in a form that will be easily understood, performed and documented by patients. Here are three new books to meet that challenge and to improve your prescription of preventive and rehabilitative exercises in chiropractic practice. TCR

References:

1. Ljunggren AE, Weber H et al (1997) *Effect of Exercise on Sick Leave Due to Low-Back Pain*, Spine 22(14):1610-1617.

2. Gundewall B, Liljeqvist M et al (1993) *Primary Prevention of Back Symptoms and Absence from Work: A Prospective Randomized Study Among Hospital Employees*, Spine 18(5):587-594.

3. Waddell G, Feder G et al (1996) *Low-Back Pain Evidence Review*, London: Royal College of General Practitioners.

4. Koes BW, Bouter LM et al (1991) *Physiotherapy, Exercises and Back Pain: A Blinded Review*, Br Med J 302:1572-1576.

5. Manniche C, Lundberg E et al (1991) *Intensive Dynamic Back Exercises for Chronic Low- Back Pain: A Clinical Trial*, Pain 47:53-63.

6. Deyo RA, Walsh NE et al (1990) *A Controlled Trial of Transcutaneous Electrical Nerve Stimulation (TENS) and Exercise for Chronic Low-Back Pain*, Lancet 322(23):1627-1634.

7. Dolce JJ, Crocker MF et al (1986) *Exercise Quotas, Anticipatory Concern and Self-Efficacy Expectancies in Chronic Pain: A Preliminary Report*, Pain 24:365-372.

8. Fordyce W, McHahon R et al ((1981) *Pain Complaints - Exercise Performance Relationship in Chronic Pain*, Pain 25:53-68.

9. Reilly K, Lovejoy B et al (1989) *Differences Between a Supervised and Independent Strength and Conditioning Program with Chronic Low Back Syndromes*, J Occupational Med 31(6):547-550.

10. Liebenson C (1996) *Rehabilitation of the Spine: A Practitioner's Manual*, Williams and Wilkins, Baltimore, MD.

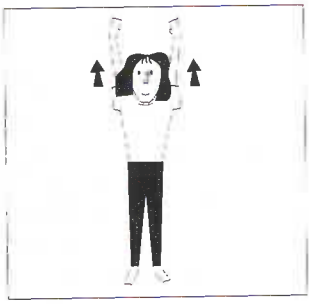
Figure 3 Upper Extremity Exercises *From Jongsma*

Upper Extremity:

_____ Repetitions
_____ Sets
_____ Times per day
Hold_____seconds

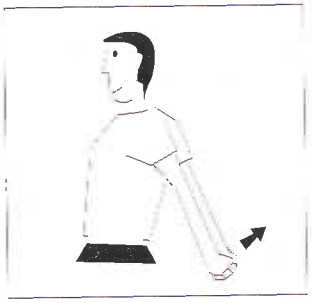
☐ *Latissimus Dorsi, Pectoralis*

OVER HEAD



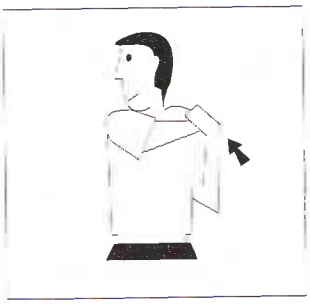
☐ *Pectoralis*

ARMS EXTENSION



☐ *Latissimus Dorsi, Deltoids, Supraspinatus*

ACROSS BODY

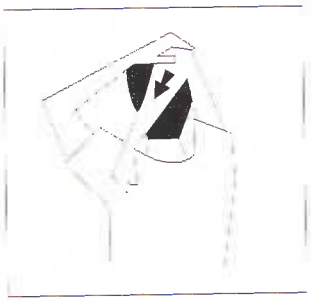


☐ *Lateral Trunk Muscles*

LATERAL

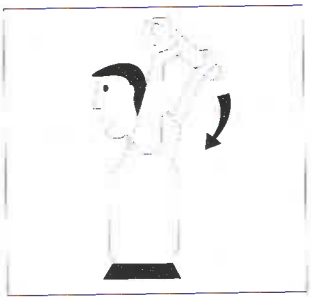
☐ *Triceps*

TRICEPS



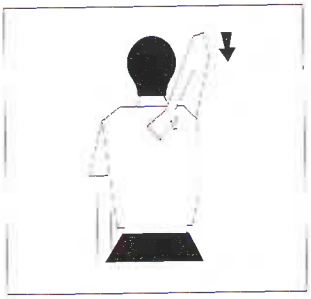
☐ *Pectoralis*

FLEXION



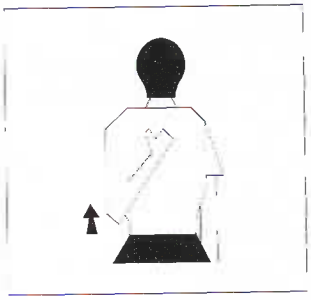
☐ *Subscapularis, Teres Major*

SHOULDER SCRATCH



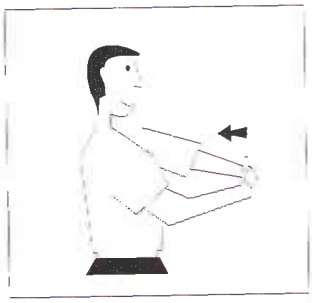
☐ *Infraspinatus, Teres Minor*

BACK SCRATCH



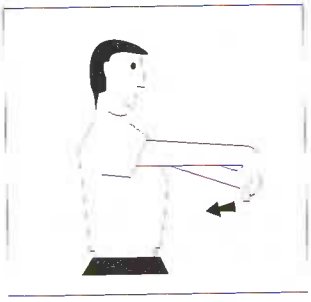
☐ *Extensor Carpi*

WRIST FLEXION



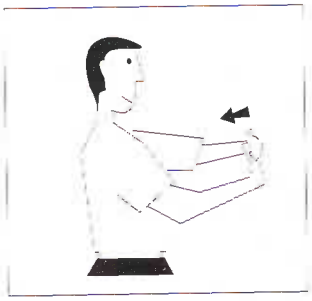
☐ *Flexor Carpi*

WRIST EXTENSION



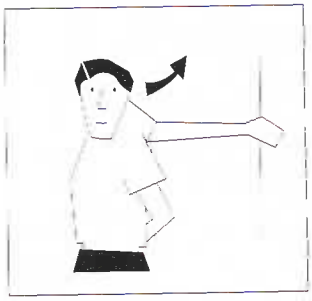
☐ *Finger Flexor*

FINGER EXTENSION



☐ *Pectoralis*

ONE ARM EXTENSION



continued from page 1

• Indemnity costs, however, were still significantly lower for chiropractic patients - meaning that overall they returned to work more quickly - and average total claim costs (health care plus indemnity) were $1,526 for chiropractic patients and $1,875 for medical patients. Johnson and Baldwin conclude that "substantial savings" may be possible from shifting the care of workers' compensation back patients to chiropractors.

But the chiropractic profession cannot rest on its laurels and must watch these issues:

1. Managed care (removing unnecessary specialist costs, surgeries and hospitalizations) and better medical guidelines and clinical practice (avoiding bed rest, surgery, ineffective therapies, and promoting early activity) continue to improve medical treatment costs and disability rates.

2. Two recent studies with data from the early 1990s demonstrate that chiropractic management continues to show wide variation not justified by patient needs - and thus inefficiencies. Firstly a study by Hurwitz, Coulter et al published in the March 1998 issue of *The American Journal of Public Health* showed that the average number of visits and duration of care for back pain patients varied by more than 100% in different areas of the US. Further, there was a significant difference between the *median* number of treatments (7 - i.e. 50% of patients received 7 or fewer visits) and the *mean* or *average* number of treatments (12.4). This suggests that a small proportion of patients get much more frequent care.

Secondly, in another study for Zenith, Johnson and Baldwin show that there is variation depending upon who makes payment - workers' compensation insurers are charged substantially more than health insurers for the treatment of similar back injuries, both by chiropractors and medical doctors (*Why is the Treatment of Work Related Injuries So Costly? New Evidence from California,* Inquiry, Spring 1996 33:56-65. *Inquiry* is a Blue Cross/Blue Shield publication).

As medical care reduces its cost and variation so must chiropractic care.

3. Most data showing chiropractic cost-effectiveness are subject to the weakness that it is unclear whether the patient populations were exactly matched for severity of injury and disability. Various methods of matching have been used (e.g. ICD 9 codes, exclusion of fractures and surgical cases, placing statistical weighting on patients with objective signs of injury etc). However most cost-effectiveness studies have been retrospective and definitive file data on severity has been missing.

On this point note that the most thorough prospective study yet to compare the costs of chiropractic and medical management of back pain patients commences this month in the US. Principal investigators are Johnson and Baldwin, and John Frank MD and Pierre Coté DC from the Institute for Work and Health, Toronto. Three US employers representing a work force of 65,000 employees have agreed to a two year study in which workers with a back injury, for the first time, will complete pain and disability surveys that allow precise matching of chiropractic and medical patients. The initiative and major funding for this important study come from a chiropractic source, NCMIC. This means that the results or outcomes measured will include items always seen as important by chiropractors - and missing from many earlier studies - such as the frequency and cost of future recurrences of pain and disability after the initial episode has ended.

The bottom line is that third party payors are finally getting serious about the cost of back pain, real experts are designing more definitive studies, the last word has not yet been spoken on cost-effectiveness, and the chiropractic profession must not rest on past successes but must continue to better define treatment protocols. Continuing evidence that the chiropractic management of patients with musculoskeletal pain, including back pain, is cost-effective is of fundamental importance to the future of the profession - see the next item for the simple and compelling reason.

Musculoskeletal Pain - Its Importance to Chiropractic

Chiropractic is far more than the management of patients with back pain and other musculoskeletal pain - but two recent studies confirm past evidence that in practical terms the profession will live or die on its ability to succeed with these patients. An American Chiropractic Association survey of 1,340 chiropractors (members and non-members, a 33% response rate from 4,000) reports that patients with low-back pain (38%) and neck pain (28%) total 66% of patients seen in 1997. Headache (14%) and extremity problems (8%) were next. Under 4% had non-neuromusculoskeletal problems.

The ACA survey was a questionnaire completed by chiropractors. The response rate was relatively low. Hurwitz, Coulter et al, from the UCLA School of Public Health, RAND Corporation and LACC, report a more tightly designed and authoritative study. This is based on independent inspection of 1,916 patient records in 131 chiropractic offices in six regions of the US and Canada. Chiropractors and individual patients were selected randomly. The study reports that 2 out of 3 chiropractic patients (68%) present with a primary complaint of low-back pain. 32% have other neuromusculoskeletal pain. Under 1% had non-neuromusculoskeletal conditions.

A limitation on the data is that approximately 10% of the records examined had no data on symptoms or diagnosis and some of these patients will have received preventive or wellness care. However, whatever the nature of your practice, the best recent data seem to demonstrate that most patients of most chiropractors have low-back pain. An overwhelming majority has musculoskeletal pain. (Hurwitz EL, Coulter ID et al (1998) *Use of Chiropractic Services from 1985 through 1991 in the United States and Canada*, Am J Public Health 88(5):771-776.)