



PROFESSIONAL NOTES

Disc Protrusion and Acute Pain – A New RCT

A new randomized controlled trial (RCT) from Italy provides further evidence of the safety and effectiveness of chiropractic manipulation for patients with disc protrusion, acute back pain and sciatica.

The RCT involved 102 patients attending two multidisciplinary rehabilitation centres in Rome. It is published in *The Spine Journal*, and in summary:

a) For entry into the trial patients had to have moderate to severe acute low-back pain, moderate to severe radiating pain to one leg, and MRI evidence of disc protrusion in spinal segments involved with the pain. Acute LBP was defined as “pain for less than 10 days in a patient who had been pain-free in the previous three months.”

Patients had a disc protrusion with an intact annulus – those with a ruptured annulus were not admitted to the trial.

b) The 102 patients were randomly assigned to either of:

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CERVICOTHORACIC ANGINA – A NEW DIAGNOSIS, NEW RESULTS

When Cardiologists and Chiropractors Cooperate the Patient Wins

A. INTRODUCTION

PATIENTS WITH CHEST PAIN and discomfort who seek medical care are traditionally referred to a cardiologist because the heart is suspected as the source of pain. However, the pain may be noncardiac in up to 50% of the cases – it may have musculoskeletal, pulmonary, gastrointestinal, or psychosocial origin.^{1,2}

Such patients with noncardiac chest pain face significant, life-changing problems. Some are misdiagnosed as having a cardiac problem. Up to 50% remain or become unemployed and, even when advised that they do not appear to have serious heart disease, do not believe this.² They remain on cardiac medication, report being significantly disabled, and now live in fear of an imminent heart attack.

2. Against this background two recent studies from Denmark^{2,3} reporting a chiropractic diagnostic protocol and good treatment results for a large percentage of patients otherwise thought to have angina pectoris are of great importance because:

a) They represent the first thoroughly-designed, prospective trial in their field. They are from a joint chiropractic and medical research team from the Department of Cardiology and the Nordic Institute of Chiropractic in Clinical Biomechanics at the University of Southern Denmark in Odense.

b) They suggest that about 1 in 5 (18%) of patients thought to have the disabling condition of angina pectoris (AP) in fact have referred pain from the cervicothoracic spine as the primary source of their problem – and that this can be reliably assessed and then treated successfully through chiropractic management.

3. Chiropractors have always provided anecdotal reports of patients who have been given a medical diagnosis of AP

and who have then adopted a greatly reduced lifestyle on account of their heart problems – but then experience a surprising recovery following chiropractic care. This describes the experience of one of the first patients of the founder of the profession, Daniel David Palmer. Forty-two of the patients who presented their stories to a New Zealand Commission of Inquiry into Chiropractic in 1978 testified that they had experienced relief from angina and other heart troubles.⁴

Now there is significant research evidence to support these earlier anecdotal reports and case studies. As the Danish researchers Christensen Vach et al. explain, their results need to be confirmed by full randomized controlled trials. Importantly, such a trial, supervised by Dr. Christensen, has now been planned, funded and has begun at the University of Southern Denmark.

This issue of *The Chiropractic Report* reviews the new studies and their significance.

B. BACKGROUND

4. Angina pectoris (AP) is a clinical syndrome characterized by discomfort in the chest, jaw, shoulder, back, or arm. It is typically aggravated by exertion or emotional stress and relieved by rest or nitroglycerin. The term is generally confined to cases in which the syndrome can be attributed to myocardial ischemia.

However, similar or overlapping symptoms can be caused by disorders of the esophagus, lungs or musculoskeletal system. As Christensen Vach et al. report the evidence suggests:

a) About 50% of patients with chest pain and negative coronary angiography (CAG) have esophageal reflux or motility disorder;

b) 60% of such patients have evidence of breathing disorders and/or psychological abnormalities;

c) Approximately 70% of patients receiving CAG have chest wall tenderness.

Because of overlapping causes and no established examination protocol, accurate diagnosis and therefore treatment of musculoskeletal chest pain in patients being assessed for AP has proved difficult.

5. This was the entry point for Henrik Christensen, DC, MD, PhD, a senior researcher at the Nordic Institute of Chiropractic in Clinical Biomechanics and the University of Southern Denmark in Odense. Dr. Christensen, aware of a large cardiac research project at the university comparing the results of myocardial perfusion imaging (MPI) and coronary angiography (CAG) in assessing patients being referred to a tertiary hospital cardiac department for management of known or suspected stable AP, decided to carve out a sub-study with the following goals:

a) To develop a diagnostic approach for the early identification of cervicothoracic angina (CTA) in patients medically suspected as having stable AP. (CTA is noncardiac musculoskeletal chest pain referred from dysfunction in the cervical and/or thoracic spine.)

b) To test the validity of that approach and the diagnosis of CTA, partly through comparison with objective testing and partly through the treatment results of chiropractic manual therapy directed at the CTA.

6. There were 972 patients in the main or primary study, 275 in the chiropractic study, chosen as follows:

a) Exclusion criteria for the sub-study were age over 75 years, diabetes mellitus, recent acute myocardial infarction, and ischemic heart disease already known to the cardiology department. On these criteria the number of patients was reduced from 972 to 516.

b) Of the 516 a further 241 were excluded primarily for lack of consent (49), failure to comply with the study protocol (89), previous surgery to the thorax (32), and no self-reported chest, neck or thoracic pain (26). This left 275 in the sub-study relating to CTA.

C. CERVICOTHORACIC ANGINA – DIAGNOSIS

7. Each patient underwent a number of medical evaluations for the main study and chiropractic evaluation for the sub-

study. Medical evaluations included myocardial perfusion imaging (MPI) to assess blood flow and ischemia, but results were not communicated to the patient or the chiropractor providing the chiropractic evaluation.

Evaluation for the chiropractic study included:

a) Two questionnaires given independently by a technician before the chiropractic history and physical examination – an 11-point box scale questionnaire on various measures of pain – including the intensity of chest pain, thoracic spine pain, cervical spine pain, and shoulder/arm pain; and the SF-36 quality-of-life questionnaire.

b) A case history taken by an experienced chiropractor, using a structured questionnaire.

c) A standardized examination, described more fully in earlier papers^{5,6}, but comprising:

i) sitting motion palpation (MP) for end-play restriction at segments C4-T8 of the cervical and thoracic spine;

ii) sitting MP for tenderness of the anterior chest wall;

iii) prone MP for joint-play restriction at segments T1-T8 of the spine;

iv) prone paraspinal palpation for tenderness at segments T1-T8.

The above questionnaires, history and standardized examination were the complete basis for the chiropractic diagnosis of CTA-positive or CTA-negative.

8. Fifty of the 275 patients were diagnosed as CTA-positive. What factors led to this diagnosis?

There were many relevant factors or variables. These ultimately led the researchers to develop the “decision-tree” shown in Figure 1 (see page 6). Full details appear in Christensen Vach et al.’s first paper.² However key points are:

a) The first factor indicating a musculoskeletal cause of pain, and required by all patients for a diagnosis of CTA-positive, was restriction of joint-play on motion palpation. Ninety patients had such restrictions – 50 of whom were ultimately designated as CTA-positive, 40 of whom were not because of other factors or variables mentioned below.

(This step in the diagnosis may be seen at the top of the decision tree in Figure 1 – in Diamond 1 and the box to the right beneath it).

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b) Another 27 factors/variables arising from the history and the examination were associated with and relevant to a CTA-positive diagnosis. However, unsurprisingly, none of these were black and white – they all had some level of association but were not only found in patients ultimately assessed as CTA-positive (i.e. having the spine as a primary source of pain) but also many of those declared CTA-negative (i.e. having cardiac and/or other sources of pain). Those variables found to have highest significance were:

i) the grade of angina on the 4 classes of severity given by the Canadian Cardiovascular Society (CCS) – all CTA-positive patients had Class 1 or 2 pain. CCS classes are:

- Class 1: Angina with strenuous exercise
 - Class 2: Angina with moderate exertion
 - Class 3: Angina with mild exertion
1. Walking 1-2 level blocks at normal pace

2. Climbing 1 flight of stairs at normal pace

• Class 4: Angina at any level of physical exertion.

ii) presence of neck pain

iii) type of angina – typical, atypical or noncardiac. Relatively few CTA-positive patients had typical angina, though 11 (22%) did.

iv) 4 positive palpation findings

v) spinal tenderness

c) A combination of any 3 of the above 5 variables was highly predictive of a significant spinal cause of pain and as a result led to a diagnosis of CTA-positive. Therefore in Figure 1, Score I in Diamond 3 represents the presence of the following 3 above factors – neck pain, 4 positive palpation findings and Class 1 CCS cardiac pain.

(It can be seen that virtually all of the patients with restricted joint motion (90 – near the top of Figure 1) and typical/atypical cardiac pain (72) who had these 3 factors present (19 of 21) were CTA-positive).

d) For those who only had 2 of the above-mentioned factors present a further set of variables, not as important as those above but still having significant association, was assessed, namely:

i) sharp chest pain

ii) chest pain relieved by rest

iii) end-play motion palpation restriction at T4/5

iv) the same at T5/6

v) joint-play motion palpation restriction at T5/6

The presence of 3 or more of these factors led to a diagnosis of CTA-positive, whereas the absence of all 5 led to a diagnosis of CTA-negative. (This is represented by Score II, Diamond 4 in Figure 1). If 1-2 factors were present, the diagnosis was determined by joint-play at T2/T3.

9. In summary, the above decision-tree and diagnostic process, although somewhat complex – as skilled diagnosis in clinical practice is - provides a structured and consistent basis for identifying suspected AP patients who in fact have the spine as the most significant source of their problems.

Importantly, Christensen Vach et al. note that the distinction between patients with true AP (i.e. angina caused by myocardial ischemia) and CTA could

not be made simply on the basis of pain intensity and other symptoms usually regarded as signs of musculoskeletal chest pain- such as pain on movement, deep breathing or coughing. However, the authors conclude that “joint-play and end-play motion palpation findings together with traditional classification of chest discomfort played a major role in the decision-making process.”

10. All of this raises two obvious and fundamental questions:

a) The first is, how secure is this diagnostic method given that an important element is motion palpation and that the reliability of this is only moderate – both between practitioners and for the same practitioner from one day to the next? In answer Christensen Vach et al. point to the fact that there was blinded and objective support for their diagnoses from the myocardial perfusion imaging (MPI). 80% of CTA-positive patients had normal MPI results, suggesting no ischemia and supporting a musculoskeletal cause of pain. This compared with only 50% in the CTA-negative group.

Were the 20% in the CTA-positive group who had abnormal MPI misclassified? Christensen Vach et al. think not. The likelihood is that many had two diagnoses and sources of pain – myocardial and musculoskeletal.

What about the 50% of CTA-negative patients who had normal MPI results? This suggests two possibilities – first that the chiropractic diagnosis was conservative and that there were more CTA-positive patients in the study group, and second that reasons other than ischemic heart disease and musculoskeletal disorders (e.g. digestive and respiratory disorders) account for a significant amount of chest pain.

b) The second question is – “Is the CTA-positive diagnosis validated by clinical success with chiropractic treatment to remove the spinal dysfunction or subluxation and resultant chest pain? That was the subject of the treatment phase of the study, which has recently been published in the November/ December 2005 issue of the Journal of Manipulative and Physiological Therapeutics (JMPT), the official scientific journal of the American Chiropractic Association. We now move to consider those results.

D. CERVICOTHORACIC ANGINA – TREATMENT

11. The treatment phase of the research was a non-randomized, open, prospective trial performed at the Odense University Hospital, a tertiary care hospital affiliated with the Department of Cardiology at the University of Southern Denmark. The 225 CTA-negative patients served as controls for the 50 CTA-positive patients. The objective was to see if patients with known or suspected AP and a diagnosis of CTA would benefit from chiropractic manual therapy.

12. **Treatment Protocol.** Those in the CTA-positive group received 8 treatment sessions over 4 weeks, each comprising:

a) One or more joint manipulations/adjustments directed at one or more restricted cervical and/or thoracic joints, as described by Petersen in Bergmann’s text.⁷

b) Trigger point therapy, including “manual pressure and deep stroking massage” to trigger points as described by Travell and Simons.⁸

Those patients who were CTA-negative received no chiropractic treatment.

13. **Outcome Measures.** These were changes in motion palpation findings after 4 weeks, and changes measured by the following two forms of questionnaires that were given prior to treatment and at the end of the 4-week treatment period:

a) A pain questionnaire. Patients reported pain intensity during the past two weeks on an 11-point box scale for the following measures – maximal and average chest pain, average thoracic spine pain, average cervical spine pain, and average shoulder/arm pain. The questionnaire also asked about perceived sources of pain, and degree of fear of the pain.

b) The Short Form SF-36 questionnaire. This assesses quality-of-life, and has various ratings for physical and mental health.

At the 4-week follow-up these questionnaires had additional questions on perceived improvement in chest pain and general health.

14. **Results.** CTA-positive patients experienced promising results including:

a) Palpation Findings. There was “a highly significant decrease in abnormal palpation findings” among the CTA-pos-

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Disc Protrusion and Acute Pain – A New RCT

continued from page 1

i) The treatment group who were given chiropractic adjustment by experienced chiropractors up to 5 days per week and up to a maximum of 20 treatment sessions during a 30 day period. The aim of the treatment, described more fully in the paper, was “to restore physiological motor unit movement (a motor unit consists of 2 vertebrae, disc, and surrounding structures)”.

ii) A control group which received simulated manipulations from the same chiropractors – soft muscle pressing with no high-velocity thrusts.

c) The primary outcome was “the number of patients becoming pain-free at the end of treatment” and secondary outcome measures included number of days with pain, number of days with at least moderate pain, number of days on NSAIDs, and number of drug prescriptions. Assessments (e.g. VAS scores, MRI readings) were done at baseline and at 15, 30, 45, 90, and 180 days.

d) At the end of the follow-up (i.e. after 180 days, or 150 days since the end of treatment phase) there was a statistically significant difference between the treatment and control groups in the percentage of cases becoming pain-free – or in other words, the primary outcome measure. 55% of patients in the treatment group were free from radiating pain, versus only 20% in the control group. 28% were free from local back pain, versus 6% in the control group.

Interestingly, MRI findings were unchanged from baseline. Patients in the treatment group also did better on a number of the secondary outcome measures, and the authors conclude that “patients receiving active manipulations enjoyed significantly greater relief of local and radiating acute LBP, spent fewer days with moderate-to-severe pain, and consumed fewer drugs for the control of pain.”

In summary, a very positive result for chiropractic management based on rotational adjustment and little else in treatment sessions up to 5 days per week. Finally, and importantly, “no adverse events were reported”.

(Santilli V, Beghi E, Finucci SA (2006) *Chiropractic Manipulation in the Treatment of Acute Back Pain and Sciatica with Disc Protrusion: A Randomized Double-blind Clinical Trial of Active and Simulated Spinal Manipulations*, *The Spine Journal*, 6:131-137)

OTHER RESEARCH NOTES

1. US – Authoritative New Survey on the Core Role of Chiropractors – Mainstream Management of Spinal Problems.

The lead off article in the November/December 2005 issue of *JMPT* reports a thorough survey of chiropractic practice in the States of Massachusetts and Arizona by influential researchers and, as its authors say, “is important for leaders of the profession in identifying the roles that chiropractors play and should play within mainstream health care.”

Importantly as to thoroughness, this is the first study of chiro-

practic practice in the US to collect standardized data immediately after patient encounters. It does not rely on clinician recall or opinion or diagnostic records prepared for third party payment purposes – this is hard data.

Lead authors are Robert Mootz, DC and Daniel Cherkin, PhD from Washington State. Other authors include David Eisenberg, MD from Harvard and Richard Deyo, MD from the University of Washington. The study is part of a larger study of complementary and alternative medicine (CAM) professions. It finds that chiropractors almost exclusively use what are now standard spinal musculoskeletal procedures for spinal-related problems rather than for example other CAM methods such as acupuncture, nutritional supplementation and homeopathy. The authors – who include very influential medical authorities – say that priorities for future research should be:

- “Identifying the most appropriate roles for chiropractors within the conventional delivery settings;” and
- “Identifying rational approaches to (financial) coverage for chiropractic services.”

Other details are:

a) Data were obtained for 2,550 chiropractic patient visits – 1,201 in Arizona and 1,349 in Massachusetts – based on 20 consecutive visits to at least 50 randomly selected chiropractors in each state in 1999. To be eligible to participate, chiropractors had to have at least 60 patient visits in a typical week.

b) With respect to demographics, approximately 80% of DCs were male, and they were predominantly white with mean age in the 40s. With respect to practice settings, approximately 10% of DCs in each of Arizona and Massachusetts practised in multidisciplinary groups. Only some of these (8% in Arizona, 2% in Massachusetts) included medical doctors. Overall medical referral accounted for approximately 6% of visits. With respect to source of income, less than 20% of chiropractors in both states attributed most of their income to managed care.

c) With respect to reasons for patient visits, the most common were back symptoms (44% in Massachusetts, 41% in Arizona), neck/face symptoms (23%, 26%), wellness care (10%, 4%) and headache (5%, 6%). This was broadly consistent with previous surveys that are mentioned – though represented a lower proportion of back conditions and a higher proportion of neck and face conditions than in the most thorough previous survey, by the RAND Corporation.

d) Most common diagnostic evaluations used were spinal examination (approximately 80% of visits) and soft-tissue examination (56%). The most common treatment procedure used, in almost 85% of visits, was spinal adjustment. Other common treatments were ischemic compression and active release soft-tissue techniques (10-15%), thermal modalities and electrical stimulation (20-30% of visits), manual traction and ultrasound (10-15%) and specific rehabilitation procedures (20-26%). There were exercise handouts at approximately 10% of visits, but dispensing of nutritional supplements at only 3% of visits.

The researchers conclude that “the data in this report paint a picture of regularly applied conventional patient assessment

procedures with specific attention to spinal and musculoskeletal procedures. Therapeutic interventions most frequently involved standard high-velocity chiropractic spinal adjusting techniques along with a substantial proportion of soft-tissue and/or physiotherapeutic techniques.”

JMPT is now the scientific journal of the American Chiropractic Association. This study, the ACA says in its news release, “offers yet another piece in the chiropractic identity puzzle.” At this point we can probably say there is no longer a puzzle – chiropractors offer quality mainstream care for neuromusculoskeletal disorders, with primary expertise in spinal health care. (Mootz, RD, Cherkin DC et al. (2005) *Characteristics of Chiropractic Practitioners, Patients, and Encounters in Massachusetts and Arizona*, J Manipulative Physiol Ther, 28:645-653.)

2. US – What are MDs/Medical Students Being Taught About Chiropractic Today

By US standards Chicago, home of the American Medical Association, is conservative. It is also home to the private University of Chicago, an Ivy League school that is one of the more prestigious universities in the country. Therefore a recent text from the faculty of the Pritzker School of Medicine at the University of Chicago, titled *A Textbook of Complementary and Alternative Medicine* and commenting on major CAM disciplines including chiropractic, provides a useful litmus test for current medical attitudes toward chiropractic.

This text edited by Yuan and Bieber originated, as the preface explains, as a CAM course given to medical students at the Pritzker School of Medicine and CAM continuing education courses given to MDs by faculty members from the University of Chicago. Yuan and Bieber acknowledge that practicing physicians have been inadequately trained in “CAM options” and thus “tend to minimize or neglect them in patient care.” They say the goal of the book is “not to advocate or minimize” CAM options “but rather to open the dialogue to a more rational discussion” and “summarize in a non-polarizing manner what is and what is not presently known”.

The book does this well – and is a far cry from the former attacks on chiropractic in medical education. Most authors are academics with no background in CAM – simply from medical school faculty and looking at matters objectively.

The lead author for the chapter on chiropractic is Lucy Dey, MD from the Department of Anesthesia and Critical Care, University of Chicago. What does Dr. Dey say in her short chapter on chiropractic – or chiropractic medicine as she calls it? (You may not like this use of medicine, but this is just one further example of how the word chiropractic looks like an adjective rather than a noun to people outside of the profession).

After a good and balanced reference to Daniel David Palmer and the fundamental tenets of chiropractic, it is concluded that “once considered to be unconventional, chiropractic medicine since the 1970s has quickly found itself in the mainstream of modern medicine”. The issues of training, practice, treatment mechanisms, risks and benefits are all then dealt with thor-

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WFC/ACC Education Conference

Call for Abstracts

Gran Caribe Real Hotel, Cancun, Mexico

October 26-28, 2006

Representatives of chiropractic educational institutions, chiropractic associations and others are invited to submit short, summary papers (500-1000 words) for presentation at a conference titled *Professional Identity and Curriculum: To What Extent Do Educational Programs Support a Common International Identity for the Profession*, sponsored by the World Federation of Chiropractic (WFC) and the Association of Chiropractic Colleges (ACC) and to be held at the Gran Caribe Real Hotel in Cancun, Mexico, October 26-28, 2006.

These presentations, which will be given orally and will form the basic subject matter of the meeting and its discussions, are to be submitted in one or more of the following subject categories:

1. Methods of preparing students for collaborative practice with other mainstream health care professionals.
2. Methods of preparing students for ethical and professional practice.
3. Methods of selecting and/or teaching adjustment and other manual techniques in chiropractic education.
4. Methods of selecting and/or teaching the use of rehabilitative and other exercises in chiropractic education
5. Methods of preparing students to understand research and apply evidence in chiropractic practice.
6. Methods of creating a common sense of chiropractic identity in faculty and students.

Deadline for papers: June 30, 2006.

Notification of acceptance. Authors of papers selected for presentation will be advised by July 31, 2006.

Publication: Papers will be published in the written proceedings of the conference, and will be available for all participants at the time of the conference.

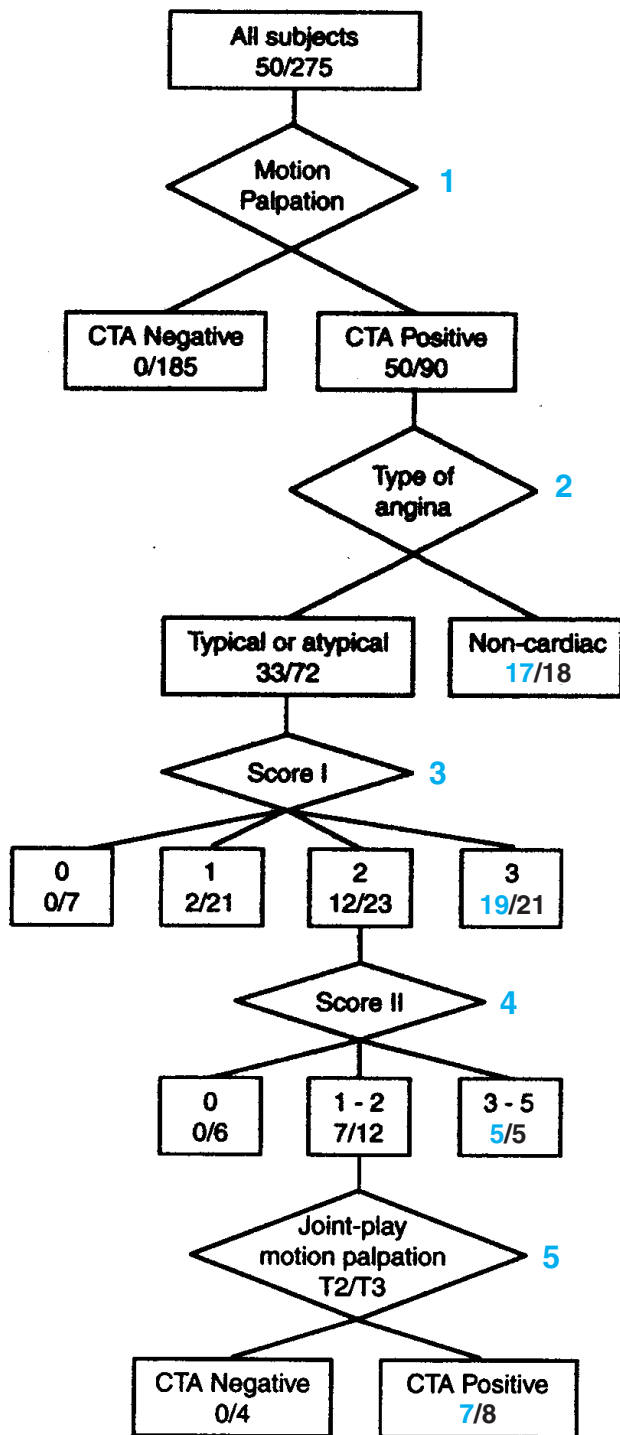
Paper length and submission instructions: Papers should be between 500 and 1000 words in length.

For full details concerning the meeting, submission of abstracts, and general attendance, see the Notice, Program and complete Call for Abstracts at www.wfc.org.

Figure 1

Diagnostic Decision Tree

Adapted from Christensen, Vach et al. JMPT (June 2005)



Score I = Cervical spine pain (Y/N) + four palpation findings (Y/N) + CCS grade 1 (Y/N)

Score II = End-play motion palpation restriction T4/T5 (Y/N) + T5/T6 (Y/N) + joint-play motion palpation restriction T5/T6(Y/N) + sharp pain (Y/N) + pain relieved by rest (Y/N)

The diamonds show variables defining subgroups. The rectangles show the numbers of the CTA-positive patients (left number) and total number of patients (right number) in the subgroup.

itive patients for chest wall tenderness, paraspinal tenderness, end-play restrictions and joint-play restrictions. Importantly, this compared with no decrease at all among CTA-negative patients.

b) Pain and General Health. On each of the 6 box scales there was reduction of pain intensity among the CTA-positive group – to a degree of statistical significance with regards to maximum and average chest pain intensity over the past 2 weeks. Other results with respect to pain and general health appear in Figure 2. See this, and note:

i) About 3 in 4 (73.9%) of CTA-positive patients reported improvement in chest pain and general health, and none were worse. In comparison, among CTA-negative patients about 13-15% reported worse chest pain and general health, and only about 1 in 5 reported improvement in chest pain (21.6%) and general health (20.2%). These were statistically significant differences. Asked directly, 96% of CTA-positive patients replied that the chiropractic treatment had been beneficial.

ii) On SF-36 scores the CTA-positive patients did better on all 8 scores relative to general health – significantly so on 5.

iii) Among CTA-positive patients there was a decrease in the number who believed that they had chest pain of cardiac origin (from 56% to 39%) and a corresponding decline in fear of the chest pain (74% to 48%). This means, however, that many patients remained fearful and confused about the true source of their pain.

15. Christensen Vach et al. conclude that their study indicates “that patients with suspected AP may benefit from a chiropractic-based diagnosis of CTA and subsequent manual therapy.” On one hand they review several limitations to their study, indicate that it is merely a first formal attempt at answering their research questions, and emphasize the need now for randomized controlled trials. On the other hand they note that their promising results were with a population of patients that had been told beforehand that their symptoms were most likely caused by coronary artery disease, producing “an obvious source of bias opposing a positive result of manual therapy.” This bias is seen in the final figures in paragraph 14 above. Even after promising results almost half of the CTA-positive patients thought they had a heart problem (39%) or feared their chest pain (48%). The bias was further reflected by the fact that many eligible patients refused to consent to participation in the study.

A further issue is optimal dosage or number of treatments. Relatively little is known about this. Were 8 treatment sessions, as in the study, sufficient? Christensen Vach et al. point to a recent systematic review of trials of manual therapy for mechanical neck disorders and neck pain (though not chest pain) by Gross et al. which suggests that 20 treatment sessions over 11 weeks are more effective than 8 treatment sessions over a shorter period.

E. COMMENT AND CONCLUSIONS

16. This exciting new research from Denmark has several important messages for chiropractors, all health care professionals and patients. The first is that everybody wins, and particularly the patient, when health care professionals with different expertise – and limitations – cooperate. Some patients with chest pain and apparent AP have a heart problem. Some have a spinal problem, and some have both – and there will be

Figure 2

Patient-Subjective Assessment of Chest Pain and General Health as Follow-up

Christensen, Vach et al., *JMPT* (November/December 2005)

		CTA-positive	CTA-negative	P
How is your chest pain now compared with 4 weeks ago?	Worse	0	3 (1.5%)	<0001
	A little worse	0	23 (12.0%)	
	No change	12 (26.1%)	135 (64.9%)	
	A little better	15 (32.6%)	25 (12.0%)	
	Better	19 (41.3%)	20 (9.6%)	
How is your general health now compared with 4 weeks ago?	Worse	0	4 (1.9%)	<0001
	A little worse	0	28 (13.5%)	
	No change	12 (26.1%)	134 (64.4%)	
	A little better	21 (45.6%)	32 (15.4%)	
	Better	13 (28.3%)	10 (4.8%)	

better care if many are screened by both a cardiologist and a chiropractor.

The second message is the fundamental importance of good research in advancing knowledge, skills, the development of interdisciplinary cooperation and therefore improvement in patient care. For many decades there have been anecdotal reports suggesting much chest pain diagnosed as angina may have a spinal cause amenable to chiropractic care but it is only documentation through careful research that will translate that suggestion into more widespread acceptance and changed clinical practice.

The new trial illustrates this well. Dr. Christensen explains that the study led to an influential article titled *Chest Pain Comes from Behind* in the University of Southern Denmark newsletter. Because of the high credibility of the newsletter, this resulted in significant general media coverage locally and nationally. This in turn led to a significant increase in referral of patients with chest pain for a second opinion and/or treatment – not only to him but to his chiropractic colleagues in Denmark.

A further message is that continued and accelerated building of research infrastructure is of paramount importance to the chiropractic profession. It is no accident that this study comes from Denmark which has the highest percentage of chiropractors with PhDs of any country and publicly supported chiropractic education and research in a major university with a medical school. Dr. Christensen holds chiropractic and medical degrees and a doctorate. It is all of this that has produced a climate

where there are the human and financial resources and the attitudes that have given birth to the study.

Yet another message, emphasized by Christensen, Vach et al., is that theirs is only a first study, the results should not be overstated, and confirmation should be sought in full randomized controlled trials. The RCT now commencing at the university will be led by doctoral student Mette Stockendahl Jensen, DC MSc. In many respects it will fol-



Dr. Henrik Wulff Christensen, principal investigator in the Danish trial.

low the protocols of the published study. Treatment will be increased from 8 to 10 sessions during a 4 week period, and follow-up of patients will be extended to the much longer term of 12 months.

Meanwhile chiropractors everywhere have a better clinical protocol and evidence base for the diagnosis and treatment or referral of patients with chest pain and suspected angina – and for persuading cardiologists in their communities to join them in similar prospective clinical research for the benefit it will likely bring many patients. TCR

REFERENCES

- 1 Hoilund-Carlsen PF, Johansen A, Christensen HW et al. (2004) *Potential Impact of Myocardial Perfusion Imaging as Gatekeeper in Patients with Stable Angina Pectoris*. *QJ Nucl Med Mol Imaging* 48(Supple 1-4):71 [abstract]
- 2 Christensen HW, Vach W, Gichangi A et al. (2005) *Cervicogenic Angina Identified by Case History and Palpation Findings in Patients with Stable Angina Pectoris*, *J Manipulative Physiol Ther* 28:303-311.
- 3 Christensen HW, Vach W, Gichangi A et al. (2005) *Manual Therapy for Patients with Stable Angina Pectoris: A Nonrandomized Open Prospective Trial*, *J Manipulative Physiol Ther* 28:654-661.
- 4 Hasselberg PD (1979). *Chiropractic in New Zealand: Report of the Commission of Inquiry*. Wellington, New Zealand: Government Printer: 132
- 5 Christensen HW, Vach W, Manniche C et al. (2002) *Palpation of the Upper Thoracic Spine: An Observer Reliability Study*, *J Manipulative Physiol Ther* 25:285-292.
- 6 Christensen HW, Vach W, Manniche C et al. (2003) *Palpation of the Anterior Chest Wall – An Observer Reliability Study*, *J Manipulative Physiol Ther* 26:48-52.
- 7 Peterson DH (1993), *Principles of Adjustive Technique*. In: *Chiropractic Technique*, eds. Bergmann TF, Peterson DH, Lawrence DJ, 1st edition Churchill Livingstone, New York. 123-196.
- 8 Travell JG, Simons DS (1999) *Myofascial Pain and Dysfunction: The Trigger Point Manual*, Williams & Wilkins, Baltimore p.1-1029.

oughly. This leads to the conclusion that chiropractic “appears to be effective in treating many health problems” and that “it is evident that knowledge of chiropractic therapies will help physicians provide better care as this field continues to define itself and move from being considered an alternative approach to being a part of standard medical practice.”

Chapter 31 deals with CAM for specific disorders including headache. Dr. Dey is again the lead author. It is reported that 32% of Americans with headache have used CAM in the previous 12 months, that relaxation and chiropractic are the most frequently used CAM therapies, and that “a systematic review suggested that spinal manipulation has a useful effect on tension, cervicogenic and post-traumatic headaches”.

The systematic review referenced for this statement is by the Canadian chiropractic researchers Vernon, McDermaid and Hagino – and the trials they rely upon were performed by chiropractic researchers. All of this provides a compelling example of the practical importance of good research.

(*A Textbook of Complementary and Alternative Medicine*, eds. Yuan CS and Bieber EJ, The Parthenon Publishing Group, New York and London, 2003).

3. US – NSAIDs and Ulcer

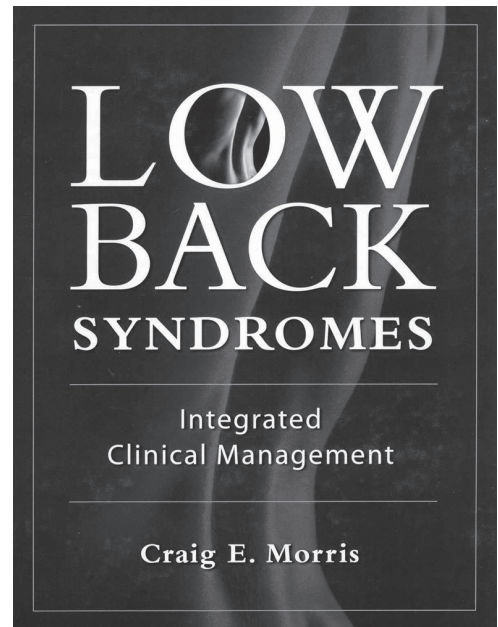
The medical profession and the world are now waking up to the true risks of non-steroidal anti-inflammatory drugs (NSAIDs). If you visit www.acg.gr.org, which is the website of the American College of Gastroenterology, you will see the “two major causes of ulcers” listed as “presence of the bacterium *H.Pylori*” and “irritation of the stomach arising from regular use of pain medications called non-steroidal anti-inflammatory drugs, or NSAIDs”. You will also see support for these US statistics given by Dr. William Morgan in the February 2006 issue of the

ACA News – the monthly newspaper of the American Chiropractic Association:

- NSAIDs kill more people every year than AIDS.
- 103,000 people are hospitalized yearly for GI bleeding caused by NSAIDs.
- In 1997 alone, 16,500 people died from GI bleeding associated with NSAIDs.
- Most NSAIDs inhibit the replication of chondrocytes and the production of GAG (glycosaminoglycan) – potentially worsening degenerative changes of joints.
- NSAIDs do not promote soft-tissue healing, and may even inhibit bone healing.

Low Back Syndromes: Integrated Clinical Management

(McGraw-Hill, New York, 2006, hardback, 967 pages, US\$90.00, ISBN 0-07-137472-8, available at www.optp.com) is a major new text which answers this question for clinicians and students – where can I find one source with the best current information



from all relevant professions, written by the leading clinicians/scientists worldwide, on the understanding and management of low back problems?

The editor/magician who has pulled this off is Craig Morris, DC, DACRB of Los Angeles, a Cleveland College graduate whose many current positions include being the Chiropractic and Rehabilitation Consultant to the National Hockey League Players’ Association and Chairman of the Manipulation and Manual Medicine Committee of the American Back Society.

Glowing forewords come from Reed Phillips, DC, PhD, William Kirkaldy-Willis, MA, MD, LLD (Hons), FRCS and Diane Lee, PT, PhD. Many leading chiropractic specialists from Europe and North America are joined by best known MDs (e.g. Janda, Czech Republic; Bogduk, Australia; Donelson and Shekelle, US) DOs (Greenman, US and Chaitow, UK) and PTs (McKenzie, New Zealand; Hodges, Australia; and DeLitto, US).

As Morris notes in his preface “The day of isolated approaches for low back syndromes is past – multidisciplinary approaches have arrived and this now requires an updated broad clinical perspective.” Morris was frustrated by the fact that the current rationales and assessment and treatment methods for low-back conditions were scattered throughout the literature of various professions and hard to find. “I ultimately decided to invite leading authorities of these approaches to explain their methods as contributors of chapters.” Therefore this exciting and comprehensive new text.

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