

# JMPT Therapeutics Abstracts for June 2005

## Volume 28 - Number 5

Editorial Staff

Self-reported nonmusculoskeletal responses to chiropractic intervention: a multinational survey. *Charlotte Leboeuf-Yde, DC; Eva N. Pedersen, MSc; Peter Bryner, MChiroSc; David Cosman, DC; Ray Hayek, MChiroSc, PhD; William C. Meeker, DC, MPH; Junaid Shaik J, MTechChiro; Octavio Terrazas, DC; John Tucker, MEd, PhD; Max Walsh, MSc, MappSc*

**Objective:** To replicate a previous study of nonmusculoskeletal responses to chiropractic intervention and to establish whether such responses are influenced by the country of study, chiropractors' attitudes, and information to patients, patients' demographic profiles, and treatment regimens.

**Methods:** Information obtained through questionnaires by chiropractors and patients on return visit within 2 weeks of previous treatment from chiropractic practices in Canada, United States, Mexico, Hong-Kong, Japan, Australia, and South Africa. In all, 385 chiropractors collected valid data on 5,607 patients. Spinal manipulation with or without additional therapy was the intervention provided by chiropractors. Outcome measures included self-reported improved nonmusculoskeletal reactions (allergy, asthma, breathing, circulation, digestion, hearing, heart function, ringing in the ears, sinus problems, urination, and others).

**Results:** The results from the previous study were largely reproduced. Positive reactions were reported by 2% to 10% of all patients and by 3% to 27% of those who reported to have such problems. Most common were improved breathing (27%), digestion (26%), and circulation (21%). Some variables were identified that somewhat influenced the outcome: patients informed that such reactions may occur (odds ratio [OR] 1.5), treatment to the upper cervical spine (OR 1.4), treatment to lower thoracic spine (OR 1.3), and female sex (OR 1.3). However, these had a very small "explanatory" value (pseudo R<sup>2</sup> 3%).

**Conclusion:** A minority of patients with self-reported nonmusculoskeletal symptoms report definite improvement after chiropractic care, and very few report definite worsening. Future studies should use stringent criteria to investigate a possible treatment effect and concentrate on specific diagnostic subgroups such as digestive problems and tinnitus.

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Cervicothoracic angina identified by case history and palpation findings in patients with stable angina pectoris.

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**Objective:** To investigate the decision-making process of an experienced chiropractor in diagnosing noncardiac musculoskeletal chest pain of cervicothoracic angina in patients with stable angina pectoris, based on patient history and clinical examination. Secondly, to examine the possibility of obtaining an objective diagnostic rule tool for the identification of cervicothoracic angina and to validate the diagnosis of this disorder.

**Methods:** A nonrandomized prospective trial was performed at a university hospital. A total of 516 of 972 consecutive patients referred for coronary angiography because of known or suspected angina pectoris were asked to participate in the study. Of these, 275 gave informed consent to a standardized manual examination of their spine and thorax by an experienced chiropractor. Myocardial perfusion imaging and coronary angiography were used for validation. A set of candidate variables from patient history and clinical examination were tested for their role in the decision-making process.

**Results:** Eighteen percent of the patients were diagnosed with cervicothoracic angina. Of these, 80% had normal myocardial perfusion compared to 50% of cervicothoracic angina-negative patients. The main determinants of the decision-making process could be identified.

**Conclusion:** An experienced chiropractor could identify a subset of patients with angina pectoris as having cervicothoracic angina. Systematic manual palpation of the spine and thorax could be used as part of the clinical examination, together with basic cardiological variables, to screen patients with chest pain, allowing for improvements in referral patterns for specialist opinion or angiography.

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Does clinician treatment choice improve the outcomes of manual therapy for nonspecific low back pain? A metaanalysis.

*Peter Kent, GradDip(ManipPhysio); Darryn Marks, MManipPhysio; Warrick Pearson, MManipPhysio; Jenny Keating, PhD*

**Objective:** The purpose of this study is to quantitatively compare outcomes for trials when treating clinicians did, or did not, have the discretion to decide on treatment technique.

**Methods:** CINAHL, EMBASE, MEDLINE, the Physiotherapy Evidence Database, the Cochrane Controlled Trials register, reference list searching, and citation tracking were investigated. Ten randomized controlled trials (RCTs) of mobilization and manipulation for nonspecific low back pain (NSLBP) met the inclusion criteria. The effectiveness of manual therapy with and without clinician technique choice was assessed using descriptive statistics and metaanalysis for the outcomes of pain and activity limitation.

**Results:** In approximately two-thirds of the included RCTs, clinicians had choice of treatment technique. There were no systematic differences favoring results for RCTs that did allow clinician choice of treatment technique.

**Conclusions:** Few quality studies are available, and conclusions on the basis of these data need to be interpreted with caution. However, allowing clinicians to choose from a number of treatment techniques does not appear to have improved the outcomes of these RCTs that have investigated the effect of manual therapy for NSLBP. If tailoring manual therapy treatment to NSLBP patients does positively impact on patient outcomes, this is not yet systematically apparent.

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Posterior ponticles and rotational stenosis of vertebral arteries. Pilot study using Doppler ultrasound velocimetry and magnetic resonance angiography.

*Michael J. Haynes, BAppSc(Chiro), PhD; Lesley A. Cala, MB, MD; Alison Melsom; Nicholas Milne, PhD; John K. McGeachie, DSc*

**Objective:** To determine whether the presence of posterior ponticles markedly increases (by 30% or more) the incidence of major rotational stenosis of vertebral arteries.

Methods: Doppler ultrasound studies were performed in 3 private chiropractic clinics and in the radiology department of a public hospital, and magnetic resonance angiography (MRA) studies were made in the latter location. Thirty-two chiropractic patients had Doppler velocimetry, and 16 of these patients had MRA scanning. The outcome measures included changes in Doppler velocimetry signals and MRA images indicative of marked rotational stenosis of vertebral arteries.

Results: All vertebral arteries from the 32 patients displayed no signs indicative of marked rotational stenosis.

Conclusion: The findings of this study show that the incidence of major rotational stenosis of vertebral arteries is not markedly increased by the presence of posterior ponticles.

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An analysis of pubis symphysis misalignment using plain film radiography.

*William J. Ruch, DC; Brandy Mychals Ruch, DC*

Objective: To show, using a laboratory model, the inherent problems and test the validity of viewing actual pubis symphysis misalignment via plain film radiography in humans.

Study Design: In vitro experiment of pubic bone and pubis symphysis model alignment as determined through projected imaging with collimated light.

Results: The shadows cast by plastic models did not accurately reflect the physical reality. The image representations of the pubic bones with significant misalignment appeared as "normal." Some of the misalignments were viewed in the exact opposite alignment on the projected image as compared with the physical reality.

Conclusions: This study provides evidence that misalignment of the pubic bones cannot be reliably viewed on a standard anteroposterior lumbopelvic radiograph. The results show the potential for missed diagnoses of clinical significance. Additional research on pelvic joint dysfunction and imaging problems is needed.

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Assessment of knowledge of primary care activities in a sample of medical and chiropractic students.

*Ruth Sandefur, DC, PhD; Theresa A. Febbo, DC; Ronald L. Rupert, MS, DC*

Objective: To examine the influence of chiropractic education on knowledge of primary care tasks. Scores received on a test of knowledge of primary care tasks were compared between 3 samples of chiropractic students and 1 small sample of medical students.

Data Sources: The taxonomy of primary care tasks that was previously published provided the basis for test items used in this study. A team of test writers prepared an evaluation instrument that was administered to final-term chiropractic students at 3 colleges and to a small sample of medical students as they were entering their residency programs.

Results: The chiropractic students scored below the medical students on the primary care examination in every area except musculoskeletal conditions. Chiropractic students scored higher than medical students on the musculoskeletal portion of the examination.

Conclusions: In this sample, chiropractic students performed almost as well as medical students on a test that was designed to measure knowledge of primary care tasks. If the premise is accepted that medical school is the gold standard of primary care instruction, that chiropractic students

fared almost as well as medical students is noteworthy.

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Congestive heart failure: a review and case report from a chiropractic teaching clinic.  
*Melanie D. Osterhouse, DC; Norman W. Kettner, DC; Ron Boesch, DC*

**Objective:** To discuss the case of a 62-year-old woman with congestive heart failure (CHF), precipitated by a previous arteriovenous malformation, and to review the clinical presentation, pathophysiology, and treatment options for patients with CHF.

**Clinical Features:** The patient complained of pain, rapid weight gain, and shortness of breath. The index event for this patient was known to be an arteriovenous malformation. Biventricular cardiomegaly with pulmonary venous hypertension was evident on chest radiographs.

**Intervention and Outcome:** The patient received both medical care (drug therapy) and chiropractic care (manipulation and soft-tissue techniques to alleviate symptoms and discomfort).

**Conclusion:** Patients with known and undiagnosed CHF may visit the chiropractic physician; thus, knowledge of comprehensive care, differential diagnosis, and continuity of care are important. Chiropractic management may be helpful in alleviating patient discomfort. Further clinical investigations may help to clarify the role of complementary and alternative care in the diagnosis and treatment of CHF.

*Editor's note:* Due to space constraints, not all abstracts from the June 2005 issue of *JMPT* are featured in this article. To review the entire table of contents for the June issue, visit [www.mosby.com](http://www.mosby.com).

SEPTEMBER 2005