

## "JMPT" Research Abstracts

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Literature Syntheses for the Council on Chiropractic Guidelines and Practice Parameters:  
Methodology  
*John J. Triano, DC, PhD*

**Objective:** The purpose of this project was to initiate an iterative process for systematic review of the literature involving a broad spectrum of individuals with experience across multiple domains (clinicians, educators, clinical scientists, and politically active) within the chiropractic profession.

**Methods:** The Scientific Commission of the Council on Chiropractic Guidelines and Practice Parameters (CCGPP) was charged with developing literature syntheses, organized by anatomical region, to evaluate and report on the evidence-based values for chiropractic care. Content and process-experienced team leaders were selected to manage eight domains based on regional disorders: low back and related lower extremity conditions; neck pain, headache, and related upper extremity conditions; costovertebral and thoracic conditions; upper extremity disorders; lower extremity disorders; nonmusculoskeletal disorders; and subluxation. Team efforts in review, rating, and reporting of literature synthesis were guided, as best possible, by the widely accepted Appraisal of Guidelines for Research and Evaluation process. The main features included (1) review by a panel of experts; (2) detailed topic selection based on literature of most common conditions and procedures; (3) structured instruments for rating the quality of and results from the literature; (4) formal consensus process to adjudicate differences in professional opinion; and (5) wide stakeholder review by patients, professionals, policy-makers, and third-party payers. As part of the CCGPP process, preliminary drafts of these articles were posted on the CCGPP Web site, [www.ccgpp.org](http://www.ccgpp.org) (2006-2008), to allow for an open process and the broadest possible mechanism for stakeholder input.

**Results:** Reports on findings from this process are being published. The reports from each domain summarize methodological challenges and their unique content.

**Conclusion:** Although all literature in health care is challenged by complex methodological issues that limit how the information may be generalized, the preponderance of evidence in any of the domains can be informative to the clinician as well as give guidance to new scientific efforts to improve the quality of care.

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Chiropractic Management of Low Back Disorders: Report From a Consensus Process  
*Gary A. Globe, MBA, DC, PhD, Craig E. Morris, DC, Wayne M. Whalen, DC, Ronald J. Farabaugh, DC, Cheryl Hawk, DC, PhD*

**Objective:** Although a number of guidelines addressing manipulation, an important component of chiropractic professional care, exist, none to date have incorporated a broad-based consensus of chiropractic research and clinical experts representing mainstream chiropractic practice into a practical document designed to provide standardized parameters of care. The purpose of this

project was to develop such a document.

**Methods:** Development of the document began with seed materials, from which seed statements were distilled. These were circulated electronically to the Delphi panel until consensus was reached, which was considered to be present when there was agreement by at least 80% of the panelists.

**Results:** The panel consisted of 40 clinically experienced doctors of chiropractic, representing 15 chiropractic colleges and 16 states, as well as both the American Chiropractic Association and the International Chiropractic Association. The panel reached 80% consensus of the 27 seed statements after two rounds. Specific recommendations regarding treatment frequency and duration, as well as outcome assessment and contraindications for manipulation were agreed upon by the panel.

**Conclusion:** A broad-based panel of experienced chiropractors was able to reach a high level (80%) of consensus regarding specific aspects of the chiropractic approach to care for patients with low back pain, based on both the scientific evidence and their clinical experience.

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Chiropractic Management of Low Back Pain and Low Back-Related Leg Complaints: A Literature Synthesis

*Dana Lawrence, DC, MMedEd, William Meeker, DC, MPH, Richard Branson, DC, Gert Bronfort, DC, PhD, et al.*

**Objective:** The purpose of this project was to review the literature for the use of spinal manipulation for low back pain (LBP).

**Methods:** A search strategy modified from the Cochrane Collaboration review for LBP was conducted through the following databases: PubMed, Mantis, and the Cochrane Database. Invitations to submit relevant articles were extended to the profession via widely distributed professional news and association media. The Scientific Commission of the Council on Chiropractic Guidelines and Practice Parameters (CCGPP) was charged with developing literature syntheses, organized by anatomical region, to evaluate and report on the evidence base for chiropractic care. This article is the outcome of this charge. As part of the CCGPP process, preliminary drafts of these articles were posted on the CCGPP Web site, [www.ccgpp.org](http://www.ccgpp.org) (2006-8), to allow for an open process and the broadest possible mechanism for stakeholder input.

**Results:** A total of 887 source documents were obtained. Search results were sorted into related topic groups as follows: randomized controlled trials (RCTs) of LBP and manipulation; randomized trials of other interventions for LBP; guidelines; systematic reviews and meta-analyses; basic science; diagnostic-related articles, methodology; cognitive therapy and psychosocial issues; cohort and outcome studies; and others. Each group was subdivided by topic so that team members received approximately equal numbers of articles from each group, chosen randomly for distribution. The team elected to limit consideration in this first iteration to guidelines, systematic reviews, meta-analyses, RCTs, and cohort studies. This yielded a total of 12 guidelines, 64 RCTs, 13 systematic reviews/meta-analyses, and 11 cohort studies.

**Conclusion:** As much or more evidence exists for the use of spinal manipulation to reduce symptoms and improve function in patients with chronic LBP as for use in acute and subacute LBP. Use of exercise in conjunction with manipulation is likely to speed and improve outcomes as well as minimize episodic recurrence. There was less evidence for the use of manipulation for patients with LBP and radiating leg pain, sciatica, or radiculopathy.

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Spinal Curves and Health: A Systematic Critical Review of the Epidemiological Literature  
*Sanne Toftgaard Christensen, MD, DC, and Jan Hartvigsen, DC, PhD*

**Objective:** The purposes of this study were to (1) determine whether sagittal spinal curves are associated with health in epidemiological studies, (2) estimate the strength of such associations, and (3) consider whether these relations are likely to be causal.

**Methods:** A systematic critical literature review of epidemiological (cross-sectional, case-control, cohort) studies published before 2008, including studies identified in the CINAHL, EMBASE, Mantis, and Medline databases, was performed using a structured checklist and a quality assessment. Level of evidence analysis was performed as outlined by van Tulder, et al. (*Spine* 2003;28:1290-9), and the strength of associations were determined using the procedure outlined by Hemingway and Marmot (*BMJ* 1999;318:1460-7). Quality of the included articles were assessed by our own scoring system based on the Strengthening the Reporting of Observational Studies in Epidemiology checklist. Studies scoring maximum points (4/4 or 3/3) were considered to be of higher quality.

**Results:** Fifty-four original studies were included. We found no strong evidence for any association between sagittal spinal curves and any health outcomes including spinal pain. The included studies were generally of low methodological quality. There is moderate evidence for association between sagittal spinal curves and 4 health outcomes as follows: temporomandibular disorders (no odds ratios [ORs] provided), pelvic organ prolapse (OR, 3.18; 95% confidence interval [CI], 1.46-96.93), daily function (OR range, 1.8-3.7; 95% CI range, 1.1-6.3), and death (OR, 1.40; 95% CI, 1.08-1.91). These associations are however unlikely to be causal.

**Conclusion:** Evidence from epidemiological studies does not support an association between sagittal spinal curves and health including spinal pain. Further research of better methodological quality may affect this conclusion, and causal effects cannot be determined in a systematic review.

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Immediate Hypoalgesic and Motor Effects After a Single Cervical Spine Manipulation  
*Josué Fernández-Carnero, PT, Cesar Fernández-de-las-Peñas, PT, PhD, Joshua A. Cleland, PT, PhD*

**Objective:** The purpose of this study is to investigate the immediate effects of a single cervical spine manipulation and a manual contact intervention (MCI) on pressure pain thresholds (PPTs) and thermal pain thresholds over the elbow region and pain-free grip (PFG) force in patients with lateral epicondylalgia (LE).

**Methods:** A repeated measures, crossover, single-blinded randomized study was done. Ten patients with LE (5 female) aged from 30 to 49 years (mean, 42; SD, 6 years) participated in this study. Subjects attended 2 experimental sessions on 2 separate days at least 48 hours apart.

At each session, participants received either a manipulative intervention or MCI assigned in a random fashion. Pressure pain threshold and hot and cold pain thresholds (HPT and CPT, respectively) over the lateral epicondyle of both elbows was assessed preintervention and 5 minutes postintervention by an examiner blinded to the treatment allocation of the patients. In addition, PFG on the affected arm and maximum grip force on the unaffected side were also assessed. A 3-way analysis of variance (ANOVA) with time (pre-post) and side (ipsilateral, contralateral to the intervention) as within-subjects variable and intervention (manipulation or MCI) as between-subjects variable was used to evaluate changes in PPT, HPT, CPT, or PFG.

Results: The ANOVA detected a significant effect for time ( $F = 37.2, P < .001$ ) and a significant interaction between intervention and time ( $F = 25.1, P < .001$ ) for PPT levels. Post hoc analysis revealed that the manipulative intervention produced a greater increase of PPT in both sides when compared with MCI ( $P < .001$ ). The ANOVA did not detect significant effects for time ( $F = 2.7, P > .2$ ), intervention ( $F = 2.8, P > .2$ ), or side ( $F = 0.9, P > .4$ ) for HPT. Again, no significant effects for time ( $F = 0.8, P > .4$ ), side ( $F = 0.6, P > .4$ ), or intervention ( $F = 0.8, P > .5$ ) was found for CPT. Finally, a significant interaction between intervention and time ( $F = 9.4, P = .004$ ) and between time \* side \* intervention ( $F = 18.2, P < .001$ ) was found for grip force. Post hoc analysis revealed that the cervical manipulation produced an increase of PFG on the affected side as compared with the MCI ( $P < .001$ ).

Conclusion: The application of a manipulation at the cervical spine produced an immediate bilateral increase in PPT in patients with LE. No significant changes for HPT and CPT were found. Finally, cervical manipulation increased PFG on the affected side, but not the maximum grip force on the unaffected arm. Future studies that involve larger sample sizes are needed to examine the effects of thrust manipulation on PPT, HPT, CPT, or PFG.

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Social Communication Skills of Chiropractors: Implications for Professional Practice  
*Dennis M. Marchiori, DC, PhD, Alan B. Henkin, PhD, Cheryl Hawk, DC, PhD*

Objective: Social communication skills are critical in the health professions. The aim of this study was to measure and identify professional practice predictors of social communication skills of practicing chiropractors.

Methods: The study population was derived from a group of doctors of chiropractic who participated in a practice-based research program. Participating chiropractors agreed to complete a survey detailing the chiropractor's sex, years in practice, practice type, size of the practice community, typical weekly practice volume, and an instrument to measure skills of social communication. Regression analysis was applied to identify associations between independent variables and responses to the social skills instrument.

Results: Results suggested that selected characteristics of clinical practice may be associated with clinician's social skills of communication. The weekly volume of patients to the practice emerged as a salient explanatory factor of overall social communication skills and as a factor individually for dimensions of social expressivity and social control. The practice arrangement (solo vs. group) proved important in terms of respondent emotional control scores. Similarly, the solo vs. group practice variable was associated with higher levels of emotional sensitivity; however, this association was mediated by the sex of the doctor of chiropractic; men reported lower levels of emotional sensitivity than women.

Conclusion: The findings of this study suggest associations between dimensions of social communication skills, practice characteristics, practice arrangements, and sex that may inform the efforts of educators as they endeavor to better prepare health professionals for practice in a wide spectrum of settings.

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