

CHIROPRACTIC MANAGEMENT OF LOW BACK PAIN AND LOW BACK-RELATED LEG COMPLAINTS: A LITERATURE SYNTHESIS

Dana J. Lawrence, DC, MMedEd,^a William Meeker, DC, MPH,^b Richard Branson, DC,^c Gert Bronfort, DC, PhD,^d Jeff R. Cates, DC, MS,^e Mitch Haas, DC, MA,^f Michael Haneline, DC, MPH,^g Marc Micozzi, MD, PhD,^h William Updyke, DC,ⁱ Robert Mootz, DC,^j John J. Triano, DC, PhD,^k and Cheryl Hawk, DC, PhD^{l,m}

ABSTRACT

Objectives: 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 (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.

Conclusions: 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. (*J Manipulative Physiol Ther* 2008;31:659-674)

Key Indexing Terms: *Low Back Pain; Manipulation; Chiropractic; Spine; Sciatica; Radiculopathy; Review, Systematic*

The Council on Chiropractic Guidelines and Practice Parameters (CCGPP) was formed in 1995 by the Congress of Chiropractic State Associations with

assistance from the American Chiropractic Association, Association of Chiropractic Colleges, Council on Chiropractic Education, Federation of Chiropractic Licensing

^a Senior Director, Center for Teaching and Learning, Palmer College of Chiropractic, Davenport, Iowa.

^b President, Palmer College of Chiropractic-West, San Jose, Calif.

^c Private Practice, Minneapolis, Minn.

^d Vice President for Research, Northwestern Health Sciences University, Bloomington, Minn.

^e Private Practice, Oregon, Ill.

^f Dean of Research, Western States Chiropractic College, Portland, Ore.

^g Professor, Palmer College of Chiropractic-West, San Jose, Calif.

^h Adjunct Professor, Georgetown University School of Medicine, Washington, DC.

ⁱ Clinical Professor, Palmer College of Chiropractic-West, San Jose, Calif.

^j Associate Medical Director for Chiropractic, Department of Labor and Industry, Olympia, Wash.

^k Professor, Canadian Memorial Chiropractic College, Toronto, Ontario, Canada.

^l Vice President of Research and Scholarship, Cleveland Chiropractic Research Center, Kansas City, Mo.

^m Vice President of Research and Scholarship, Cleveland Chiropractic Research Center, Los Angeles, Calif.

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Submit requests for reprints to: Dana J. Lawrence, DC, MMedEd, Senior Director, Center for Teaching and Learning, Palmer College of Chiropractic, Davenport, IA (e-mail: dana.lawrence@palmer.edu).

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Boards, Foundation for the Advancement of Chiropractic Sciences, Foundation for Chiropractic Education and Research, International Chiropractors Association, National Association of Chiropractic Attorneys, and the National Institute for Chiropractic Research. The charge to the CCGPP was to create a chiropractic “best practices” document. The Council on Chiropractic Guidelines and Practice Parameters was delegated to examine all existing guidelines, parameters, protocols, and best practices in the United States and other nations in the construction of this document.

Toward that end, the Scientific Commission of CCGPP was charged with developing literature syntheses, organized by region (neck, low back, thoracic, upper and lower extremity, soft tissue) and the nonregional categories of nonmusculoskeletal, prevention/health promotion, special populations, subluxation, and diagnostic imaging.

The purpose of this work is to provide a balanced interpretation of the literature to identify safe and effective treatment options in the care of patients with low back pain (LBP) and related disorders. This evidence summary is intended to serve as a resource for practitioners to assist them in consideration of various care options for such patients. It is neither a replacement for clinical judgment nor a prescriptive standard of care for individual patients.

METHODS

Process development was guided by experience of commission members with the RAND consensus process,¹ Cochrane collaboration, Agency for Health Care and Policy Research,² and published recommendations³ modified to the needs of the council.

Identification and Retrieval

The domain for this report is that of LBP and low back-related leg symptoms. Using surveys of the profession⁴⁻⁶ and publications on practice audits,⁷⁻⁹ the team selected the topics for review by this iteration.

Topics were selected based on the most common disorders seen and most common classifications of treatments used by chiropractors based on the literature. Material for review was obtained through formal hand searches of published literature and of electronic databases, with assistance from a professional chiropractic college librarian. A search strategy was developed, based upon the Cochrane Working Group for Low Back Pain.¹⁰ Randomized controlled trials (RCTs), systematic reviews/meta-analyses, and guidelines published through 2006 were included; all other types of studies were included through 2004. Invitations to submit relevant articles were extended to the profession via widely distributed professional news and association media. Searches focused on guidelines, meta-analyses, systematic reviews, randomized clinical trials, cohort studies, and case series.

Fig 1. Summary of grading of strength of evidence.

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- Grade A. Good evidence from relevant studies
- Studies with appropriate designs and sufficient strength to answer the questions
 - Results are both clinically important and consistent with minor exceptions at most
 - Results are free of significant doubts about generalizability, bias, and design flaws
 - Negative studies have sufficiently large sample sizes to have adequate statistical power
- Grade B. Fair evidence from relevant studies
- Studies of appropriate designs of sufficient strength, but inconsistencies or minor doubts about generalizability, bias, and design flaws, or adequacy of sample size
 - Evidence solely from weaker designs but confirmed in separate studies
- Grade C. Limited evidence from studies/reviews
- Studies with substantial uncertainty due to design flaws or adequacy of sample size
 - Limited number of studies weak design for answering the question addressed
- Grade I. No recommendation can be made because of insufficient or nonrelevant evidence
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Evaluation

Standardized and validated instruments used by the Scottish Intercollegiate Guidelines Network were used to evaluate RCTs and systematic reviews. For guidelines, the Appraisal of Guidelines for Research and Evaluation instrument was used.¹¹⁻¹⁶ A standardized method for grading the strength of the evidence was used, as summarized in Figure 1. Each team’s multidisciplinary panel conducted the review and evaluation of the evidence.

Search results were sorted into related topic groups as follows: 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. On the basis of the CCGPP formation of an iterative process and the volume of work available, the team elected to limit consideration in this first iteration to guidelines, systematic reviews, meta-analyses, RCTs, and cohort studies.

RESULTS AND DISCUSSION

A total of 887 source documents were initially obtained. This included a total of 12 guidelines, 64 RCTs, 20 systematic reviews/meta-analyses, and 12 cohort studies. Table 1 provides an overall summary of the number of studies evaluated.

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