# Best Practices for Chiropractic Care of Children: A Consensus Update

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## Abstract

**Objective:** Chiropractic care is the most common complementary and integrative medicine practice used by children in the United States, and it is used frequently by children internationally as well. The purpose of this project was to update the 2009 recommendations on best practices for chiropractic care of children.

**Methods:** A formal consensus process was completed based on the existing recommendations and informed by the results of a systematic review of relevant literature from January 2009 through March 2015. The primary search question for the systematic review was, "What is the effectiveness of chiropractic care, including spinal manipulation, for conditions experienced by children (<18 years of age)?" A secondary search question was, "What are the adverse events associated with chiropractic care including spinal manipulation among children (<18 years of age)?" The consensus process was conducted electronically, by e-mail, using a multidisciplinary Delphi panel of 29 experts from 5 countries and using the RAND Corporation/University of California, Los Angeles, consensus methodology.

**Results:** Only 2 statements from the previous set of recommendations did not reach 80% consensus on the first round, and revised versions of both were agreed upon in a second round.

**Conclusions:** All of the seed statements in this best practices document achieved a high level of consensus and thus represent a general framework for what constitutes an evidence-based and reasonable approach to the chiropractic management of infants, children, and adolescents. (J Manipulative Physiol Ther 2016;xx:1-11)


**Key Indexing Terms:** *Chiropractic; Pediatrics; Manipulation; Spinal; Infant; Adolescent*

Chiropractic is a health care profession concerned with the diagnosis, treatment, and prevention of disorders of the neuromusculoskeletal system and the effects of these disorders on general health.[1] Chiropractic care is the most common complementary and integrative medicine practice used by children in the United States.[2] A recent Gallup survey found that approximately 14% of US adults reported that they had used chiropractic care in the prior 12 months, that more than 50% had ever used a doctor of chiropractic (DC) for health care, and that more than 25% would choose chiropractic care as a first treatment for neck or back pain.[3] The findings from this survey also were consistent with a previous study that found that patients use chiropractic services in different ways, sometimes for treatment and sometimes for health promotion.[4]

Internationally, chiropractic is frequently used by children.[5–11] Chiropractic care for children is most often sought for treatment of musculoskeletal conditions, except in the case of infants, where infantile colic is one of the more common presenting complaints.[5,9] In the United States, parents also frequently seek chiropractic care for their children for "wellness care"; and it has been found, that in general, children with a decreased health-related quality of life have a higher utilization of complementary and integrative medicine.[8,12] However, the scientific evidence for the effectiveness and efficacy of chiropractic care and spinal manipulation for treatment of children is not plentiful or definitive.[13–15]

To address the gaps in the literature, in 2009, we performed a consensus process gathering expert opinion on best practices for the chiropractic care of children.[16] The resulting document has been helpful in providing chiropractic practitioners with guidelines for pediatric care. It has also been useful for other types of providers, the public, and third-party payers in demonstrating that the chiropractic profession has standards for pediatric care. However, this document was based on the literature published before 2009, so in keeping with recommendations for

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guidelines,[17,18] we launched the current project. The purpose of this project was to update the existing set of recommendations on best practices for chiropractic care of children by conducting a formal consensus process. The process was based on the existing recommendations and informed by the results of an updated literature review.

## Training of DCs in Pediatrics

The chiropractic profession holds the responsibility of ethical and safe practice and requires the cultivation and mastery of both an academic foundation and clinical expertise that distinguish chiropractic from other disciplines.[1]

Chiropractic undergraduate education includes the study of the unique anatomy and physiology of the pediatric patient as well as the modification of evaluative and therapeutic procedures as it applies to this special population when addressing musculoskeletal problems and their effect on the overall health and well-being of the child. Specialty interest groups were founded in chiropractic colleges (pediatric clubs) as well as on a national and international association level, ultimately leading to the development of postgraduate curricula to provide advanced training for DCs who chose to develop their clinical skills in pediatrics.[19] There now exist several postgraduate titles including a Diplomate (USA/NZ) or a Masters in Science (MSc)/Pediatrics (UK).

## Methods

### Human Subjects Considerations

Before the start of the project, this project was approved by the Institutional Review Boards of Logan University and University of Western States. Participants gave written permission for the use of their names in any publication related to the project.

### Steering Committee (SC)

A steering committee was formed to provide a multidisciplinary perspective, ensuring that key stakeholders were represented, with members representing medicine (2 pediatricians, 1 a DC/MD), chiropractic practitioners and faculty, journal editors, and the public. Representatives of the 3 chiropractic pediatric organizations were invited, with 2 accepting the invitation.

### Systematic Review

We updated the literature considered in the original consensus document by conducting a systematic review of the literature published since publication of the original project. Thus, the updated review, which was conducted April-June 2015, included literature from January 2009 through March 2015. Our primary search question was, "What is the effectiveness of chiropractic care, including spinal manipulation, for conditions experienced by children (<18 years of age)?" A secondary search question was, "What are the adverse events associated with chiropractic care including spinal manipulation among children (<18 years of age)?" These were the same search questions used in our previous project.

The specific inclusion and exclusion criteria for retaining articles are shown in Figure 1. The previous project included a literature review but not a systematic review, so it did not have specifically defined eligibility criteria. The eligibility criteria were applied to articles with an efficacy or effectiveness design only. For articles on adverse events, we included all studies regardless of design.

***Search Strategy.*** The following databases were included in the search: PubMed, Index to Chiropractic Literature, CINAHL, Cochrane Database of Systematic Reviews, and MANTIS. Details of the keyword search strategy for each database are provided in Figure 2. Articles and abstracts were screened independently by 2 reviewers. Data were not further extracted; summaries were created for the Delphi panelists.

***Evaluation of Articles.*** For articles on effectiveness, we evaluated systematic reviews using the AMSTAR checklist,[20,21] randomized controlled trials (RCTs) using the Cochrane Collaboration's tool for assessing risk of bias in RCTs,[22] and cohort studies using the Newcastle-Ottawa Quality Assessment Scale.[23] We evaluated the articles based on quality criteria used by Bronfort et al[24] and Clar et al[25] in their evaluation of the evidence for manual therapies (eg, study quality, consistency among different studies, number of studies, sample size, risk of bias). "No support" indicated insufficient evidence; "limited support" indicated a small number of studies of mixed quality with positive findings; "effective" indicated a number of studies with at least some of high quality with positive findings. For articles on adverse events, we did not evaluate articles for quality but instead summarized their content.

### Seed Documents and Seed Statements

The seed statements were taken from the previous set of recommendations verbatim.[16] This seed document consisted of 49 seed statements relating to all of the important aspects of the clinical encounter. Other seed documents were developed from the results of the literature review: (1) a summary of the effectiveness of chiropractic care for children and (2) a summary of the safety of chiropractic care for children.

### Delphi Consensus Process

The consensus process was conducted by e-mail using a Delphi panel of experts. This process was economical and reduced the possibilities of panelists influencing one

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