"BEST PRACTICES FOR CHIROPRACTIC CARE OF CHILDREN: A CONSENSUS UPDATE"

Sharon A. Vallone, DC, FICCP
who am I

- Mother of 2/Grandmother of 3
- Private Practice of soon to be 30 years
  - 23 years family practice
  - 7 years pediatric only practice
- DICCP (FICCP)
- Kentuckiana Children’s Center
- Teacher
- Served on the advisory board for OUM
- Co-Editor of the JCCP with Cheryl Hawk, DC, PhD

"Best Practices for Chiropractic Care of Children: A Consensus Update"
Hawk/Schneider/Vallone/Hewitt for OUM 3.2016
conflict of interest

To the best of my knowledge, I do not believe I have any

You have a conflict of interest if, in the environment of offering an opinion, reaching a judgment, or making a decision, you have

- (nonmoral) personal interests or
- inappropriate business or professional interests

that conflict with the appropriate interests to be taken into account,

regardless of whether or not the presence of those competing interests affects your judgment.

"Best Practices for Chiropractic Care of Children: A Consensus Update"
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my challenge

■ How do I make this a fun webinar?
■ How would you know this document was published?
■ How many of you would actually ever read this document?

"Best Practices for Chiropractic Care of Children: A Consensus Update"
Hawk/Schneider/Vallone/Hewitt for OUM 3.2016
The original paper....

Best practices recommendations for chiropractic care for infants, children, and adolescents: results of a consensus process.

*J Manipulative Physiol Ther.*


Hawk C, Schneider M, Ferrance RJ, Hewitt E, Van Loon M, Tanis L.
OBJECTIVE:

- There has been much discussion about the role of chiropractic care in the evaluation, management, and treatment of pediatric patients.
  - *To date (2009), no specific guidelines have been adopted that address this issue from an evidence based perspective.*
  - *Previous systematic reviews of the chiropractic literature concluded that there is not yet a substantial body of high quality evidence from which to develop standard clinical guidelines.*
OBJECTIVE:

The purpose of this project was to develop recommendations on "best practices" related primarily to the evaluation and spinal manipulation aspects of pediatric chiropractic care; non-manipulative therapies were not addressed in detail.
The purpose of this document is to protect the health of the public by defining the parameters of an appropriate approach to chiropractic care for children under 18 years of age. The potential benefits of any health care intervention should be weighed against the associated risks and the costs in terms of time and money. There are significant anatomical, physiological, developmental and psychological differences between children and adults that may affect the appropriateness of any given healthcare intervention.

"Best Practices for Chiropractic Care of Children: A Consensus Update"
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CONSENSUS

THIS WOULD WORK A LOT BETTER IF YOU'D JUST AGREE WITH ME.

"Best Practices for Chiropractic Care of Children: A Consensus Update"
Hawk/Schneider/Vallone/Hewitt for OUM 3, 2016

DIY.DESPAIR.COM 9
CONCLUSIONS:

■ 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 clinical evaluation, management, and manual treatment for pediatric patients, based on both scientific evidence and clinical experience.
The updated paper....

- **Best Practices for**
- **Chiropractic Care of Children: a Consensus Update**
  - Updated study – 2009 to 2015
  - Accepted for publication in March 2016 JMPT

- Hawk, C. Schneider M. Vallone, D. Hewitt, E

- *Once published, the paper will be OPEN ACCESS*
Best Practices for Chiropractic Care of Children: a Consensus Update
- Updated study – 2009 to 2015

■ **Objective:** Chiropractic care is the most commonly used complementary and integrative medicine (CIM) practice used by children in the U.S, 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 email, using a multidisciplinary Delphi panel of 29 experts from 5 countries, using the RAND Corporation/University of California, Los Angeles (UCLA) consensus methodology.

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 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.
Human Subjects Considerations

- Prior to 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.

"Best Practices for Chiropractic Care of Children: A Consensus Update"
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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.
Best Practices for Chiropractic Care of Children: A Consensus Update
- Updated study – 2009 to 2015

Internationally, chiropractic is frequently used by children. 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.
Best Practices for Chiropractic Care of Children: A Consensus Update
- Updated study – 2009 to 2015

■ In the United States (US), 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 CIM.\(^8,12\)

■ However, the scientific evidence for the effectiveness and efficacy of chiropractic care and spinal manipulation for treatment of children is not plentiful or definitive.\(^13-15\)
Infant presentations and outcomes at a chiropractic clinic in the UK: Parent report of treatment outcomes using the United Kingdom Infant Questionnaire (UKIQ) Miller, J., et al. Accepted for publication JCCP Winter/Spring 2016

- Between 2006 and 2010, 21% of the patients that presented to this same clinic were pediatric patients, classified as being between the age of 2 days and 15 years.\(^1\) In that study 98% of pediatric patients were infants.

- Likewise a Danish study of chiropractic care for pediatric patients showed that infants were the highest users of care.\(^2\)

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Infant presentations and outcomes at a chiropractic clinic in the UK: Parent report of treatment outcomes using the United Kingdom Infant Questionnaire (UKIQ)  

Miller, J., et al. Accepted for publication JCCP Winter/Spring 2016

- The Centre for Disease control in the USA reported that manual therapy was the most common type of practitioner-based Complementary and Alternative Medicine (CAM) therapy chosen for children and musculoskeletal conditions were the most common types of conditions for which treatment was sought.³

- A 2007 Canadian study corroborated these findings, stating that musculoskeletal care was the most common type of CAM treatment chosen by parents for their children.³


"Best Practices for Chiropractic Care of Children: A Consensus Update"  
Hawk/Schneider/Vallone/Hewitt for OUM 3.2016
Personal experiences, lack of appropriate treatments available from conventional medicine or referral from a physician were the key reasons given for parents seeking alternative care for their infant.4


Chiropractic has been criticized for too little research for pediatric care.5

Infant presentations and outcomes at a chiropractic clinic in the UK: Parent report of treatment outcomes using the United Kingdom Infant Questionnaire (UKIQ) Miller, J., et al. Accepted for publication JCCP Winter/Spring 2016

The safety and effectiveness of pediatric chiropractic care was investigated in a survey of chiropractors and parents in a practice-based research network, but no attempt was made to use a reliable or valid measuring instrument.


Further, satisfaction with chiropractic care for children has been rarely studied.


With chiropractic care widely sought by parents for their infants, it is necessary to investigate the parents’ report of the outcomes of that care in an evidence-based approach.
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 prior to 2009, so in keeping with recommendations for guidelines, 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.
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 distinguishes 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 wellbeing of the child.
Training of Doctors of Chiropractic in Pediatrics

- Continuing Education in Pediatric Chiropractic
  - Core Competencies of the Certified Pediatric Doctor of Chiropractic - Results of a Delphi Consensus Process
    - Hewitt, E, Hestbaek, L, Pohlman, KA.

*Journal of Evidence-Based Complementary & Alternative Medicine*
January 5, 2016 2156587215622769

"Best Practices for Chiropractic Care of Children: A Consensus Update"
Hawk/Schneider/Vallone/Hewitt for OUM 3.2016
Abstract

An outline of the minimum core competencies expected from a certified pediatric doctor of chiropractic was developed using a Delphi consensus process.

The initial set of seed statements and sub-statements was modeled on competency documents used by organizations that oversee chiropractic and medical education.

These statements were distributed to the Delphi panel, reaching consensus when 80% of the panelists approved each segment.

- Core Competencies of the Certified Pediatric Doctor of Chiropractic - Results of a Delphi Consensus Process (Hewitt, et al)

"Best Practices for Chiropractic Care of Children: A Consensus Update"
Hawk/Schneider/Vallone/Hewitt for OUM 3.2016
Abstract

The panel consisted of 23 specialists in chiropractic pediatrics (14 females) from across the broad spectrum of the chiropractic profession. Sixty-one percent of panelists had postgraduate pediatric certifications or degrees, 39% had additional graduate degrees, and 74% were faculty at a chiropractic institution and/or in a postgraduate pediatrics program.

The panel were initially given 10 statements with related sub-statements formulated by the study’s steering committee. On all 3 rounds of the Delphi process the panelists reached consensus; however, multiple rounds occurred to incorporate the valuable qualitative feedback received.

Core Competencies of the Certified Pediatric Doctor of Chiropractic - Results of a Delphi Consensus Process (Hewitt, et al)

"Best Practices for Chiropractic Care of Children: A Consensus Update"
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Best Practices for Chiropractic Care of Children: a Consensus Update
- Updated study – 2009 to 2015

■ 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.
Best Practices for Chiropractic Care of Children: a Consensus Update  
- Updated study – 2009 to 2015

■ Systematic review

- **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 I. Articles and abstracts were screened independently by 2 reviewers. Data were not further extracted.; summaries were created for the Delphi panelists.
Best Practices for Chiropractic Care of Children: a Consensus Update
- Updated study – 2009 to 2015

■ Systematic review

- **Evaluation of articles.** For articles on effectiveness, we evaluated systematic reviews using the AMSTAR checklist;\(^\text{20,21}\) randomized controlled trials (RCTs) using the Cochrane Collaboration’s tool for assessing risk of bias in RCTs;\(^\text{22}\) and cohort studies using the Newcastle-Ottawa Quality Assessment Scale.\(^\text{23}\) We evaluated the articles based on quality criteria used by Bronfort etc. al\(^\text{24}\) and Clar et al\(^\text{25}\) 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.
Inclusion
Published 01/01/2009 through 03/31/2015
Human subjects
English language
Study population was children (<18 years)
Systematic reviews
Randomized controlled trials
Cohort studies
Evaluated effectiveness of chiropractic care and/or chiropractic manipulation

Exclusion
Commentaries/editorials/letters
Non-peer-reviewed publications
Surveys and other cross-sectional studies
Conference abstracts
Case reports/series
Pilot studies
No treatment outcomes included
Chiropractic care or chiropractic manipulation were not treatments

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- **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 email using a Delphi panel of experts. This process was economical and reduced the possibilities of panelists influencing one another’s ratings. All panelists were anonymous during the process.

- As in our previous project, we used a modified RAND Corporation/University of California, Los Angeles (UCLA) consensus methodology. In this process, we asked panelists to rate the appropriateness of each seed statement.
  - “Appropriateness” is that the expected health benefit is greater to the patient than any expected negative consequences, excluding cost concerns.
  - The panelists rated each statement using an ordinal scale of 1 to 9, ranging from “highly inappropriate” to “highly appropriate”. Scores in the range from 1-3 were anchored by the words highly inappropriate, scores from 4-6 were anchored by the word uncertain, and scores from 7-9 were anchored by the words highly appropriate.
  - We required panelists to provide a specific reason for “inappropriate” ratings including a citation from refereed literature if possible, in order to facilitate revision of the statement.
Delphi Consensus Process

- Responses were analyzed by entering the ratings into an SPSS (v. 20) database, while the verbatim comments were entered anonymously into a Word table.
- Analysis consisted of calculating 80% agreement on each statement.
- Consensus agreement on appropriateness was reached if a minimum of 80% of panelists rated a statement 7, 8, or 9 and the median response score was at least 7.
- Statements on which consensus was not reached were revised as per the comments and recirculated until consensus was reached.
  - *That is, consensus was only considered to have been reached if at least 80% of respondents rated a given statement as 7, 8 or 9.*
  - “Uncertain” ratings of 4, 5 or 6 indicated to us that the statement was unclear and so required revision for clarity.
  - “Disagree” ratings of 1, 2 or 3 clearly indicated disagreement and so the statement was revised by incorporating the panelists’ comments into a revised statement.
Delphi Panel

- Panelists who served on the original project were invited to join the current project, with 12 accepting; 1 person who was previously on the Delphi panel moved to the Steering Committee. Additional panelists were nominated by the Steering Committee members in order to represent chiropractic college faculty and international experts in chiropractic pediatrics (17).

- The Delphi panel consisted of 29 experts from 5 countries (US=18; Canada=5; UK=3; Denmark=2; Netherlands=1) and 10 U.S. states (3 each from IA, MN and OR; 2 each from MO and NY; 1 each from CA, IL, NJ, OH, and VA). The mean years in practice for our panelists was 20 years. Four DCs were cross-trained in another profession and held dual licenses; 2 DCs with RN degrees, 1 DC with a LMT degree, and 1 DC with a PT degree. Ten panel members had additional advanced academic degrees; 6 had a Masters’ degree and 4 had a PhD degree.
Conduct of Consensus Process

- After responses were analyzed as described above, the Steering Committee revised those statements that did not reach 80% consensus.

- If ratings indicated that panelists were uncertain (ratings 4-6), the statement was revised for clarity, based on the panelists’ comments.

- If ratings indicated disagreement (ratings 1-3), the Steering Committee revised the statement to incorporate the panelists’ comments. The revised statements were then recirculated and rated again, until consensus was reached.
Results of the literature review

The final result was that 21 full-text articles on effectiveness were retained, rated for quality, and included in the qualitative synthesis. Table 1 lists the studies related to effectiveness, indicating their author, research design, condition addressed, quality rating, and level of support for effectiveness of chiropractic for the condition addressed. There were only 3 RCTs from the total of 21 studies included, and all were for different conditions.\textsuperscript{27-29} Overall, limited support was found in high-quality studies for asthma,\textsuperscript{14,30-32} infantile colic,\textsuperscript{14,28,33-35} nocturnal enuresis,\textsuperscript{14,36} and respiratory disease.\textsuperscript{32} Nine articles on safety were included and summarized as background literature, but were not formally reviewed for quality.\textsuperscript{47-}
<table>
<thead>
<tr>
<th>First author</th>
<th>Design*</th>
<th>Condition addressed</th>
<th>Quality**</th>
<th>Findings***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karpouzi</td>
<td>SR</td>
<td>ADHD*</td>
<td>high</td>
<td>No support</td>
</tr>
<tr>
<td>Plaszewski</td>
<td>SR</td>
<td>Adolescent scoliosis</td>
<td>high</td>
<td>No support</td>
</tr>
<tr>
<td>George</td>
<td>SR</td>
<td>Asthma</td>
<td>high</td>
<td>Limited support</td>
</tr>
<tr>
<td>Alcantara</td>
<td>SR</td>
<td>Asthma</td>
<td>low</td>
<td>Limited support</td>
</tr>
<tr>
<td>Alcantara</td>
<td>SR</td>
<td>Autism</td>
<td>low</td>
<td>No support</td>
</tr>
<tr>
<td>Poder</td>
<td>SR</td>
<td>Cancer</td>
<td>low</td>
<td>No support</td>
</tr>
<tr>
<td>Wyatt</td>
<td>RCT</td>
<td>Cerebral palsy</td>
<td>low</td>
<td>No support</td>
</tr>
<tr>
<td>Chase</td>
<td>SR</td>
<td>Constipation</td>
<td>high</td>
<td>No support</td>
</tr>
<tr>
<td>Alcantara</td>
<td>SR</td>
<td>Constipation</td>
<td>low</td>
<td>No support</td>
</tr>
<tr>
<td>Schetzek</td>
<td>SR</td>
<td>Headache</td>
<td>low</td>
<td>Effective</td>
</tr>
<tr>
<td>Vaughn</td>
<td>SR</td>
<td>Headaches and spinal pain</td>
<td>high</td>
<td>no support</td>
</tr>
<tr>
<td>Cerritelli</td>
<td>RCT</td>
<td>Hospital stay, preterm infants</td>
<td>high</td>
<td>Limited support; reduced hospital stay</td>
</tr>
<tr>
<td>Miller</td>
<td>RCT</td>
<td>Infantile colic</td>
<td>high</td>
<td>Effective; reduced crying time</td>
</tr>
<tr>
<td>Dobson</td>
<td>SR</td>
<td>Infantile colic</td>
<td>high</td>
<td>Limited support, reduced crying time</td>
</tr>
<tr>
<td>Alcantara</td>
<td>SR</td>
<td>Infantile colic</td>
<td>low</td>
<td>Limited support</td>
</tr>
<tr>
<td>Ernst</td>
<td>SR</td>
<td>Infantile colic</td>
<td>low</td>
<td>No support</td>
</tr>
<tr>
<td>Gleberzon</td>
<td>SR</td>
<td>Multiple conditions</td>
<td>high</td>
<td>Limited support, asthma1</td>
</tr>
<tr>
<td>Posadowski</td>
<td>SR</td>
<td>Multiple conditions</td>
<td>high</td>
<td>Limited support, asthma1</td>
</tr>
<tr>
<td>Huang</td>
<td>SR</td>
<td>Nocturnal enuresis</td>
<td>high</td>
<td>Limited support</td>
</tr>
<tr>
<td>Pohimann</td>
<td>SR</td>
<td>Otitis media</td>
<td>high</td>
<td>No support</td>
</tr>
<tr>
<td>Pepino</td>
<td>SR</td>
<td>Respiratory disease</td>
<td>high</td>
<td>Limited support</td>
</tr>
</tbody>
</table>

Table 1. Effectiveness studies retained and evaluated in the literature review, by author, research design, and condition.
* RCT = randomized controlled trial; SR = systematic review; ADHD = Attention-Deficit/Hyperactivity Disorder
** “High quality” for systematic reviews was determined by a score of ≥ 7 on the AMSTAR scale. For RCTS, “high quality” indicated low risk of bias on the Cochrane Collaboration tool for assessing risk of bias.
*** Findings: “no support” indicates no definitive evidence was found for the effectiveness of chiropractic care/manipulation for children with the condition.
1 Conditions addressed: asthma, autism, enuresis, infantile colic, jet lag, nursing dysfunction, otitis media, scoliosis
Safety and adverse events

- The 9 articles on safety included:
  - 1 expert opinion,\textsuperscript{47}
  - 2 case reports,\textsuperscript{48,49}
  - 1 “best evidence topic,”\textsuperscript{50}
  - 3 narrative reviews,\textsuperscript{51-53}
  - 2 systematic reviews.\textsuperscript{54,55}

- The 2014 systematic review summarizes this topic as follows: “Published cases of serious adverse events in infants and children receiving chiropractic, osteopathic, physiotherapy, or manual medical therapy are rare...no deaths associated with chiropractic care were found in the literature to date. Because underlying preexisting pathology was associated in a majority of reported cases, performing a thorough history and examination to exclude anatomical or neurologic anomalies before applying any manual therapy may further reduce adverse events across all manual therapy professions.”\textsuperscript{54}

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Best Practices for Chiropractic Care for children

- General clinical principles in the care of children

- A child’s neuromusculoskeletal structure and function are less rigid and more flexible than those of an adult. Physical, psychological, and emotional responses to intervention vary.

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patient communication

- Extracting relevant clinical information during the case history of a child patient requires special communication skills and experience.

- Age-appropriate communication is necessary to help a child patient actively engage in the clinical encounter.

- Infants and toddlers cannot communicate verbally and therefore the clinical encounter requires communication with a parent or legal guardian.

- *Documentation of patient/parent/doctor interchange should be adequately documented in writing or in electronic medical records*

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informed consent:

- Regarding **Informed consent** signed by the child’s parent or legal guardian is required before initiating a **clinical encounter** with a child, including the initial consultation, performing an examination and diagnostic tests, and initiating a management program.

- The DC should explain all procedures clearly and simply, and answer both the parent’s and child’s questions, to ensure that they can make an informed decision about their health care choices.
informed consent:

■ Verbal consent should be obtained from the child whenever developmentally appropriate.

■ The diagnosis should be explained to the parent/guardian (and the older child) in an age-appropriate, understandable manner.

■ The proposed treatment plan and any possible risks of care should be explained along with all other reasonable treatment options.
https://www.oumchiropractor.com/site/risk-management/sample-forms/

- **INFORMED CONSENT**
- **REFUSAL OF CARE**
- **AUTHORIZATION TO TREAT A MINOR**
- **AUTHORIZATION TO TREAT A MINOR IN THE ABSENCE OF A PARENT**
chiropractic management of pediatric patients

■ Chiropractic management of the child should follow the three basic principles of evidence-based practice, which are to make clinical judgments based on the use of:
  - (1) the best available evidence combined with
  - (2) the clinician’s experience and
  - (3) the patient’s preferences.

■ The research community has just begun to investigate the effectiveness of chiropractic care for many pediatric conditions; however, lack of research evidence does not imply ineffectiveness. Evidence-based practice is the integration of clinical expertise and patient values with the best available research evidence.56
chiropractic management of pediatric patients

- A therapeutic trial of chiropractic care can be a reasonable approach to management of the pediatric patient in the absence of conclusive research evidence, when clinical experience and patient/parent preferences are aligned.

- There are three basic chiropractic management approaches to the care of the child patient:
  - (1) Sole management by a chiropractic physician;
  - (2) Co-management with other appropriate health care providers; and
  - (3) Referral to another licensed or certified health care provider/specialist.

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co-management

- Co-management with other appropriate health care providers is appropriate under many conditions including the following circumstances noted below. *Document appropriately in patient record.*
  - *The child patient is not showing clinically significant improvement after an initial trial of chiropractic care.*
  - *The parents of the child patient request such a co-management approach.*
  - *There are significant co-morbidities that are outside the scope of chiropractic practice or require medication, advanced diagnostic imaging, or laboratory studies.*
co-management

- When the DC orders diagnostic imaging or laboratory studies, copies of these results should be forwarded to the child’s primary care physician for coordination of care.
- Management of many non-musculoskeletal conditions may benefit from co-management with the child’s primary care physician and/or other providers, depending on the condition.

■ Immediate referral to a medical specialist should occur when the case history and examination reveal any “red flags” suggestive of serious pathology.

■ ALWAYS document referrals appropriately in patient record.
Clinical history

- A focused case history should conducted at the initial visit.

- The comprehensive case history at the initial visit should include a review of systems, developmental milestones, family history, healthcare history, concurrent healthcare, and medication use. Information on health habits, including breastfeeding, diet, sleep, physical activity, and injuries should be included.
Clinical history

- For very young children, a review of relevant pre-natal events, including the health of the mother, as well as a review of the birth history (eg, gestational age, birth weight, perinatal complications) is appropriate.

- Obtaining case history information from the child can be helpful in determining the appropriate case management.

- **ALWAYS document appropriately in patient record.**

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red flags in pediatric patients

If the history and/or examination reveal “red flags” indicating serious conditions, the child should be referred to an appropriate provider for further diagnosis and/or care. Always document appropriately in patient record.

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signs/symptoms suggestive of emergent condition for which immediate medical referral is indicated:

- *Infants and very young children only:*
  - Inability to rouse the child
  - Bulging or sunken fontanelle
  - Fever > 38°C (100.4°F) rectally in a child < 90 days of age
  - Signs of dehydration and/or decreased fluid intake of 50% or greater over a period of 24 hours
  - Acute weight loss exceeding 5% of body weight
  - Persistent inconsolable high pitched crying or a weak cry with drowsiness

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children of any age:

- Petechial or purpuric rash
- Dyspnea, which may be accompanied by nasal flaring or significant increase in respiratory rate
- Sudden onset or persisting acute abdominal symptoms
- Persistent vomiting
- Bile stained vomiting
- Convulsions, particularly if no prior history or associated with head trauma
- Cold, pale white distal lower extremities and or oral cyanosis
- Fever, chest pain, altered mental status or other neurological findings in a child with Sickle Cell Disease

- Altered mental status, signs of dehydration, abdominal pain, or “fruity breath” in a child with diabetes
- Fever of 40 degrees centigrade (104° F) or higher, particularly if spiking
- Hot, swollen, tender joints, especially if the child refuses to bear weight
- Pallor
- Bone fracture or dislocation
- Other orthopedic emergencies such as slipped femoral epiphysis or Perthes’ Disease
- Fecal blood
signs/symptoms suggestive of potentially serious illness for which appropriate referral and/or co-management are indicated:

- Suicidal ideation
- Slurred speech
- New onset strabismus
- Persistent vomiting
- Persistent diarrhea
- Recurrent fevers
- Unexplained bruising without trauma or suspicion of child abuse
- Positive neurological signs such as Babinski, Hoffman’s, absent reflexes, motor weakness
- Personality change
- Unexplained weight loss
- Parent suspects chemical substance abuse
- Scoliosis greater than 20 degrees
- Loss of developmental milestones
- Gait disturbance

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examination

■ Clinically relevant and valid examination procedures should be used to enable the practitioner to move from a working diagnosis, which is based on the history, to a short list of differential diagnoses. Document!

■ Necessary diagnostic or examination procedures outside the practitioner’s scope of practice or range of experience should be referred to an appropriately qualified and experienced health professional. Document!

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examination

■ Vital signs should be assessed in an age appropriate manner as part of the initial examination and for purposes of reassessment at intervals determined by the patient’s clinical presentation.

■ An age appropriate neurodevelopmental examination should be conducted. Neurological tests include balance and gait, neurodevelopmental age-appropriate milestones, cranial nerve examination, and pathological reflexes. Primitive reflexes in the infant should be assessed.

■ Document!
Clinical indications for radiographic examination of the pediatric patient are history of trauma, suspicion of serious pathology, and/or assessment of scoliosis.

The routine or repeated use of radiographs of the child patient is not recommended without clear clinical justification.

Plain film radiographs may be indicated in cases of clinically suspected trauma-induced injury, such as fracture or dislocation.

Radiographs may also be indicated in cases of clinically suspected orthopedic conditions such as hip disorders or pathology, such as bone malignancy.
Plain film radiographs may be necessary for determination of contraindications to manipulation; for example: Congenital or genetic conditions that may cause compromise of the spine, spinal cord or extremities.

There are limitations to the diagnostic utility of plain film radiograph and/or diagnostic ultrasound for the diagnosis of certain pediatric or adolescent conditions, which may require the use of more advanced diagnostic imaging such as magnetic resonance imaging, computed tomography, or bone scan.

*Document!*

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considerations for treating children with manual procedures:

- Patient size: Biomechanical force should be modified in proportion to the size of the child.
- Structural development: Manual procedures should be modified to accommodate the developing skeleton.
considerations for treating children with manual procedures:

■ Flexibility of joints: Manual procedures should take into account the greater flexibility and lesser muscle mass of children, using gentler and lighter forces.

■ Patient preferences: The clinician should adapt manipulation and soft tissue techniques and procedures that support the needs and comfort of the child.

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considerations for treating children with manual procedures:

- Document patient preference
- Document any contraindications
- Document your patients response to the previous treatment (if there was one) including adverse reaction
- Document your listings
- Document your techniques
- Document modifications to your chiropractic technique (or other techniques or ancillary therapies) for age, size, contraindications
- Document any adverse reaction immediately post treatment

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pediatric care planning

■ *Well child visits* are an established aspect of pediatric health care, and may be indicated for the purpose of health promotion counseling and clinical assessment of asymptomatic pediatric patients.

■ Doctors of chiropractic should emphasize disease prevention and health promotion through counseling on physical activity, nutrition, injury prevention, and a generally healthy lifestyle.
Although immunization is a well-established medical approach to disease prevention, DCs may be asked for information about immunizations by a child’s parents. Doctors of chiropractic should provide balanced, evidence-based information from credible resources and/or refer the parents to such resources.

*Document their question and your response*
Doctors of chiropractic should counsel children and their parents in healthy behavior and lifestyle, including but not limited to the following topics: adequate age-appropriate physical activity and decreased screen time, such as TV, electronic games and computer use; healthy diet; adequate sleep; injury prevention; and substance use (e.g., caffeinated beverages, alcohol, tobacco, steroids, and other drugs).

*Document!*

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public screening of children for health problems

- Any tests or procedures used for public screenings should be based on recognized evidence of their benefit for disease prevention and health promotion.

- **Consider an informed consent/release form to evaluate retaining documentation for your own records.**

discussion

These best practices guidelines represent an important synthesis of the best currently available evidence from the literature, combined with the collective opinion of a panel of content experts. This information contained in this publication may impact several levels of stakeholders, including:

- practicing DCs who treat children,
- their patients and parents, other health care providers,
- third party payers, and the general public.
Other health care providers such as nurses, physician assistants, and pediatricians are often co-managing children who are under chiropractic care.

These health care professionals often are in the dark regarding what constitutes “reasonable chiropractic management” of the child patient. This document can help enlighten them by providing a better understanding of the nature, scope and expectations of the pediatric DC encounter, and thereby provide a foundation of understanding for mutual referral and collaboration.
discussion

- Health insurers and third party payers are increasingly looking for evidence to inform decisions about their medical policy and benefit limits. Often lacking in this process are the resources and skills need to synthesize the scientific literature and to gather input from the providers most affected by their policy decisions.
This document will assist policy makers by providing an evidence synthesis (from the systematic review) and consensus opinion about important aspects of chiropractic management/treatment of the child patient.

Many of the clinically appropriate responsibilities for chiropractic management of the child patient are outlined in this document, which should assist policy makers in formulating more reasonable parameters about medical necessity and appropriateness of chiropractic care for children.
discussion

- Lastly, the general public and media have often viewed chiropractic treatment of children as somewhat outside of the norms of general health care practice.

- This document provides publically available information about a rational, reasonable, and best practices approach to pediatric chiropractic care.

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discussion

- Parents are often accessing healthcare databases and using the internet to find information to help them make decisions about what type of treatment and provider to access for their children.

- This consensus document will provide them with a source of credible, scientific and evidence-based information upon which to make more informed decisions about the choice of chiropractic care as a reasonable health care option for children.
Most scientists regarded the new streamlined peer-review process as ‘quite an improvement.’
limitations

Because of the substantial gaps in the evidence for the effectiveness of chiropractic care for conditions experienced by children, it was important to develop a set of recommendations that were evidence-informed, yet the result of expert opinion achieved through a rigorous consensus process. However, the gaps in the evidence base still represent a limitation to these recommendations, since expert consensus is a lower form of evidence to be relied on principally when higher levels of evidence are lacking. Additionally, our recommendations primarily deal with examination and manual care and do not cover other services DCs may provide to children.
Another limitation of a study based on consensus is that it is possible that the panelists do not represent the general population of subject experts. In addition, we did not have laypeople/parents represented on the panel, although we did have such representation on the Steering Committee, so we feel that compensated for this limitation to some degree. Lastly, we did not seek any formal input from organizational stakeholders that represent third party payers, legislative bodies or non-chiropractic pediatric organizations. We did not provide any specific recommendations about age-appropriate treatment dosage, frequency and duration, which was beyond the scope of this project.
All of the seed statements in this document were approved through consensus, at a level of 80% agreement or higher. This best practices document represents a general framework for what constitutes an evidence-based and reasonable approach to the chiropractic management of infants, children, and adolescents.
references


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THANK YOU

For your kind attention and for caring for the children!

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