

REVIEW ARTICLE (META-ANALYSIS)

Ottawa Panel Evidence-Based Clinical Practice Guidelines for Foot Care in the Management of Juvenile Idiopathic Arthritis



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The Ottawa Panel comprises 2 specific groups of coauthors. The following coauthors (L.B., K.T.A., G.W., C.A.S., A.G.P., J.N.S., C.M.D., W.G., D.M., C.S., S.C., G.D.A., L.L., P.R., R.M., J.T., J.B., and J.K.) were the methodologists who developed the draft Ottawa Panel recommendations: The Ottawa Methods Group. The other coauthors (A.C., G.J.H., J.G., M.H., K.H., B.F., G.P.K., J.X.L., A.M.B., R.M., D.E.F., D.B.M., S.T., S.B., and M.B.) were the Panel Experts who adopted the draft Ottawa Panel recommendations developed by the Ottawa Methods Group.

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Abstract

Objective: To create evidence-based guidelines evaluating foot care interventions for the management of juvenile idiopathic arthritis (JIA).

Data Sources: An electronic literature search of the following databases from database inception to May 2015 was conducted: MEDLINE (Ovid), EMBASE (Ovid), Cochrane CENTRAL, and clinicaltrials.gov.

Study Selection: The Ottawa Panel selection criteria targeted studies that assessed foot care or foot orthotic interventions for the management of JIA in those aged 0 to ≤ 18 years. The Physiotherapy Evidence Database scale was used to evaluate study quality, of which only high-quality studies were included (score, ≥ 5). A total of 362 records were screened, resulting in 3 full-text articles and 1 additional citation containing supplementary information included for the analysis.

Data Extraction: Two reviewers independently extracted study data (intervention, comparator, outcome, time period, study design) from the included studies by using standardized data extraction forms. Directed by Cochrane Collaboration methodology, the statistical analysis produced figures and graphs representing the strength of intervention outcomes and their corresponding grades (A, B, C+, C, C-, D+, D, D-). Clinical significance was achieved when an improvement of $\geq 30\%$ between the intervention and control groups was present, whereas $P > .05$ indicated statistical significance. An expert panel Delphi consensus ($\geq 80\%$) was required for the endorsement of recommendations.

Data Synthesis: All included studies were of high quality and analyzed the effects of multidisciplinary foot care, customized foot orthotics, and shoe inserts for the management of JIA. Custom-made foot orthotics and prefabricated shoe inserts displayed the greatest improvement in pain intensity, activity limitation, foot pain, and disability reduction (grades A, C+).

Conclusions: The use of customized foot orthotics and prefabricated shoe inserts seems to be a good choice for managing foot pain and function in JIA. Archives of Physical Medicine and Rehabilitation 2016;97:1163-81

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Patients with juvenile idiopathic arthritis (JIA) accompanied by family members (eg, parents/guardians) as well as different types of health professionals, such as registered nurses, podiatrists, pediatricians, rheumatologists, and exercise physiologists, can refer to this evidence-based clinical practice guideline (EBCPG). Arthritis-based institutions and charity groups (eg, The Arthritis Society) may also find this EBCPG to be of interest. This guideline primarily targets those aged between 3 and 19 years with varying disease durations (1 mo to 18 y).

JIA is a prevalent chronic childhood autoimmune disease¹ that can cause disability in areas of the body with higher weight-bearing demands, such as the foot. Foot problems (eg, inflammation and limitation of motion) often arise in patients with JIA because of affected joints, which consequently affect the feet and lead to pain, deformities,² and malalignment.³ Foot care and foot orthotics are often used by patients with rheumatoid arthritis⁴⁻⁸ and have been shown to relieve pain by adjusting biomechanical deformities and lower limb misalignments.⁹ Although deformities and foot pain are common to arthritis, foot care is infrequently considered as part of an overall management approach for JIA and represents a neglected area of study.¹⁰

The management of JIA is frequently viewed through a multidisciplinary lens, incorporating pharmacological and

psychological interventions along with physical and occupational therapy.¹¹ Unfortunately, published EBCPGs and systematic reviews¹²⁻¹⁵ investigating the use of nonpharmacological interventions, such as foot care, for managing JIA lack substantial evidence and are outdated. There is a strong need to update EBCPGs using a quantitative and systematic methodology so as to develop rigorous recommendations on effective foot care management solutions for JIA. The proposed Ottawa Panel EBCPG is based on a systematic review and has consolidated all non-pharmacological foot care management options for JIA. The primary objective of this Ottawa Panel EBCPG was to develop evidence-based recommendations on foot care interventions for JIA on the basis of a critical appraisal of comparative controlled studies. The secondary objective was to determine the strength of existing evidence-based research on foot care interventions for JIA. The third and final objective was to identify the most effective foot care interventions for JIA. To promote foot care for the management of JIA, stakeholders will require access to recent high-quality recommendations presented in this EBCPG.

Methods

Development process of the Ottawa Panel EBCPG

The development of this Ottawa Panel EBCPG was informed by previous Ottawa Panel EBCPGs,¹⁶⁻¹⁹ and its methodology follows the Preferred Reporting Items for Systematic and Meta-Analyses checklist.²⁰ The major components of the Ottawa Panel EBCPG include (1) a systematic search of the literature as per Cochrane Collaboration methodology²¹; (2) inclusion of articles according to selection criteria, (3) study quality assessment, (4) data extraction and synthesis, (5) quantitative grading system²²; (6) health expert review and endorsement of recommendations, and (7) planned dissemination of results.

List of abbreviations:

CHAQ	Childhood Health and Assessment Questionnaire
EBCPG	evidence-based clinical practice guideline
FFI	Foot Function Index
JIA	juvenile idiopathic arthritis
MCID	minimal clinically important difference
PEDro	Physiotherapy Evidence Database
PedsQL	Pediatric Quality of Life Inventory
RCT	randomized control trial
VAS	visual analog scale

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