

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Intra-articular Corticosteroid Injections for Juvenile Idiopathic Arthritis: Clinical Effectiveness and Guidelines

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Research Questions

1. What is the clinical effectiveness of repeated intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis?
2. What is the clinical effectiveness of intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis who require injections in multiple joints in one session?
3. What are the evidence-based guidelines regarding intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis?

Key Findings

Two evidence-based guidelines were identified regarding intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis. No literature was identified regarding the clinical effectiveness of repeated intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis. Additionally, no literature was identified regarding the clinical effectiveness of intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis who require injections in multiple joints in one session.

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were intra-articular corticosteroid injections and juvenile idiopathic arthritis. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2010 and October 29, 2020. Internet links were provided, where available.

Selection Criteria and Summary Methods

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed. The Overall Summary of Findings was based on information available in the abstracts of selected publications. Open access full-text versions of evidence-based guidelines were reviewed when abstracts were not available, and relevant recommendations were summarized.

Table 1: Selection Criteria

Population	Patients with juvenile idiopathic arthritis
Intervention	Q1: Repeated intra-articular corticosteroid injections in the same joint (more than 2x in a year) Q2: Intra-articular corticosteroid injections in more than one joint in a single session Q3: Intra-articular corticosteroid injections in any joint
Comparator	Q1: Single intra-articular corticosteroid injections, or repeated injections 2x per year or less Q2: Systemic corticosteroid or disease-modifying antirheumatic drug (DMARD) therapy Q3: Not applicable

Outcomes	Q1-2: Clinical effectiveness Q3: Recommendations regarding the appropriate number of intra-articular corticosteroid injections in one joint; recommendations regarding the appropriate number of joints to inject in one session
Study Designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, evidence-based guidelines

Results

Two evidence-based guidelines^{1,2} were identified regarding intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis. No literature was identified regarding the clinical effectiveness of repeated intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis. Furthermore, no literature was identified regarding the clinical effectiveness of intra-articular corticosteroid injections for patients with juvenile idiopathic arthritis who require injections in multiple joints in one session.

Additional references of potential interest that did not meet the inclusion criteria are provided in the appendix.

Overall Summary of Findings

The first evidence-based guideline¹ recommends the use of intra-articular glucocorticoids as adjunct therapy in children with oligoarthritis. Furthermore, the authors state that intra-articular glucocorticoids may not be appropriate for large numbers of joints or multiple injections in the same joint.¹ The second evidence-based guideline² recommends the administration of intra-articular glucocorticoids as first line therapy for juvenile idiopathic arthritis, adding that simultaneous injections were preferable to consecutive injections at different time points.

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Guidelines and Recommendations

1. Ringold S, Angeles-Han ST, Beukelman T, et al. 2019 American College of Rheumatology/Arthritis Foundation guideline for the treatment of juvenile idiopathic arthritis: therapeutic approaches for non-systemic polyarthritis, sacroiliitis, and

enthesitis. *Arthritis Care Res (Hoboken)*. 2019 Jun;71(6):717-734.

[PubMed: PM31021516](#)

2. Dueckers G, Guellac N, Arbogast M, et al. Evidence and consensus based GKJR guidelines for the treatment of juvenile idiopathic arthritis. *Clin Immunol*. 2012 Feb;142(2):176-193.

[PubMed: PM22154868](#)

Appendix — Further Information

Systematic Reviews & Meta-Analyses – Unclear Injection Practice

3. Antonarakis GS, Blanc A, Courvoisier DS, Scolozzi P. Effect of intra-articular corticosteroid injections on pain and mouth opening in juvenile idiopathic arthritis with temporomandibular involvement: A systematic review and meta-analysis. *J Craniomaxillofac Surg*. 2020 Aug;48(8):772-778.
[PubMed: PM32680671](#)
4. Jennings H, Hennessy K, Hendry GJ. The clinical effectiveness of intra-articular corticosteroids for arthritis of the lower limb in juvenile idiopathic arthritis: a systematic review. *Pediatr Rheumatol Online J*. 2014;12:23.
[PubMed: PM24959104](#)

Randomized Controlled Trial – Alternative Comparator

5. Ravelli A, Davi S, Bracciolini G, et al. Intra-articular corticosteroids versus intra-articular corticosteroids plus methotrexate in oligoarticular juvenile idiopathic arthritis: a multicentre, prospective, randomised, open-label trial. *Lancet*. 2017 Mar;389(10072):909-916.
[PubMed: PM28162781](#)

Non-Randomized Studies

Unclear Injection Practice

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10. Lochbuhler N, Saurenmann RK, Muller L, Kellenberger CJ. Magnetic resonance imaging assessment of temporomandibular joint involvement and mandibular growth following corticosteroid injection in juvenile idiopathic arthritis. *J Rheumatol*. 2015 Aug;42(8):1514-1522.
[PubMed: PM26034145](#)

11. de Oliveira Sato J, Albuquerque Pedrosa Fernandes T, Bicalho do Nascimento C, Corrente JE, Saad-Magalhaes C. Probability of remission of juvenile idiopathic arthritis following treatment with steroid joint injection. *Clin Exp Rheumatol*. 2014 Mar-Apr;32(2):291-296.
[PubMed: PM24238066](#)
12. Leow OM, Lim LK, Ooi PL, Shek LP, Ang EY, Son MB. Intra-articular glucocorticoid injections in patients with juvenile idiopathic arthritis in a Singapore hospital. *Singapore Med J*. 2014 May;55(5):248-252.
[PubMed: PM24862747](#)
13. Stoll ML, Good J, Sharpe T, et al. Intra-articular corticosteroid injections to the temporomandibular joints are safe and appear to be effective therapy in children with juvenile idiopathic arthritis. *J Oral Maxillofac Surg*. 2012 Aug;70(8):1802-1807.
[PubMed: PM22265164](#)
14. Bloom BJ, Alario AJ, Miller LC. Intra-articular corticosteroid therapy for juvenile idiopathic arthritis: report of an experiential cohort and literature review. *Rheumatol Int*. 2011 Jun;31(6):749-756.
[PubMed: PM20155422](#)

Alternative Comparator

15. Esbjornsson AC, Iversen MD, Andre M, Hagelberg S, Schwartz MH, Brostrom EW. Effect of intraarticular corticosteroid foot injections on walking function in children with juvenile idiopathic arthritis. *Arthritis Care Res (Hoboken)*. 2015 Dec;67(12):1693-1701.
[PubMed: PM26017638](#)
16. Lanni S, Bertamino M, Consolaro A, et al. Outcome and predicting factors of single and multiple intra-articular corticosteroid injections in children with juvenile idiopathic arthritis. *Rheumatology (Oxford)*. 2011 Sep;50(9):1627-1634.
[PubMed: PM21561981](#)

No Comparator

17. Papadopoulou C, Kostik M, Gonzalez-Fernandez MI, et al. Delineating the role of multiple intraarticular corticosteroid injections in the management of juvenile idiopathic arthritis in the biologic era. *Arthritis Care Res (Hoboken)*. 2013 Jul;65(7):1112-1120.
[PubMed: PM23335483](#)

Guidelines and Recommendations – Unclear Methodology

18. Time to move: juvenile idiopathic arthritis. A national strategy to reduce a costly burden. Sydney (AU): Arthritis Australia; 2014:
[https://arthritisaustralia.com.au/wordpress/wp-content/uploads/2017/09/Final Time to Move_JIA.pdf](https://arthritisaustralia.com.au/wordpress/wp-content/uploads/2017/09/Final_Time_to_Move_JIA.pdf). Accessed 2020 Nov 4.
See 3.4.3

Review Articles

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