

# Injection of methotrexate not superior to oral therapy in juvenile arthritis treatment

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A retrospective analysis of methotrexate (MTX) safety data found that injection of this disease-modifying anti-rheumatic drug (DMARD) was not superior to oral therapy in long-term treatment of patients with juvenile idiopathic arthritis (JIA). Findings published in *Arthritis Care & Research*, a peer-reviewed journal of the American College of Rheumatology (ACR), suggest that with similar efficacy and tolerability the more comfortable oral approach may be more suitable to treat pediatric arthritis patients.

There are a number of chronic arthritis conditions, collectively referred to as JIA, that affect children and teens. Medical evidence reports JIA incidence ranges from 10 to 100 per 100,000 children under 16 years of age, making it the most common chronic pediatric inflammatory disease. In the U.S. the ACR estimates that 294,000 children are diagnosed with JIA, which can lead to severe disability.

Previous studies have confirmed the safety and efficacy of MTX, which is one of most common first line DMARD treatments for arthritis. While side effects such as nausea and vomiting may limit MTX use in children, the type of delivery method may also pose a significant burden to the patients," explains Dr. Ariane Klein from Asklepios Klinik in Sankt Augustin, Germany. "Our study compares the efficacy of oral MTX to injection of the drug and to assess side effects in children with JIA."

Using data collected by the German [Methotrexate](#) Registry since 2005,

researchers identified JIA patients who were treated with MTX for at least 6 months and who did not receive additional biologic therapies. Participants who changed their MTX approach during the observation period were excluded. The study groups consisted of 259 (63%) patients who received oral MTX and 152 (32%) patients receiving MTX injections. In both groups, patients had a median age of ten years, two-thirds were female, and all received a comparable dose of MTX.

A clinical response (efficacy) based on the PedACR 30 score after six months of MTX therapy was found in 72% receiving oral therapy and 73% of patients using injections. At least one adverse event was reported in 22% of patients in the oral cohort compared to 27% in the injection therapy group. Researchers found that significantly more patients receiving MTX injections discontinued treatment due to adverse events compared to those on oral treatment at 11% versus 5%, respectively.

Dr. Klein concludes, "Our analysis found that efficacy and tolerability of MTX was similar in both delivery methods. The often unpopular MTX injection did not appear to be superior to oral administration and may likely be spared without clinical consequences." The authors advised further controlled studies to determine the best application route of MTX treatment in patients with juvenile [arthritis](#)."

**More information:** "Efficacy and Safety of Oral and Parenteral Methotrexate Therapy in Children with Juvenile Idiopathic Arthritis." Ariane Klein, Ingrid Kaul, Ivan Foeldvari, Gerd Ganser, Urban Andreas and Gerd Horneff. *Arthritis Care and Research*; Published Online: May 30, 2012 ([DOI: 10.1002/acr.21697](https://doi.org/10.1002/acr.21697)).

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