

[Pain.](#) 2007 May;129(1-2):210-23. Epub 2007 Mar 1.

Comment in:

[J Fam Pract.](#) 2007 Aug;56(8):615.

[Pain.](#) 2007 May;129(1-2):5-7.

A meta-analysis of the analgesic effects of omega-3 polyunsaturated fatty acid supplementation for inflammatory joint pain.

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Between 40% and 60% of Americans use complementary and alternative medicine to manage medical conditions, prevent disease, and promote health and well-being. Omega-3 polyunsaturated fatty acids (omega-3 PUFAs) have been used to treat joint pain associated with several inflammatory conditions. We conducted a meta-analysis of 17 randomized, controlled trials assessing the pain relieving effects of omega-3 PUFAs in patients with rheumatoid arthritis or joint pain secondary to inflammatory bowel disease and dysmenorrhea. Meta-analysis was conducted with Cochrane Review Manager 4.2.8. for six separate outcomes using standardized mean differences (SMDs) as a measure of effect size: (1) patient assessed pain, (2) physician assessed pain, (3) duration of morning stiffness, (4) number of painful and/or tender joints, (5) Ritchie articular index, and (6) nonselective nonsteroidal anti-inflammatory drug consumption. Supplementation with omega-3 PUFAs for 3-4 months reduces patient reported joint pain intensity (SMD: -0.26; 95% CI: -0.49 to -0.03, $p=0.03$), minutes of morning stiffness (SMD: -0.43; 95% CI: -0.72 to -0.15, $p=0.003$), number of painful and/or tender joints (SMD: -0.29; 95% CI: -0.48 to -0.10, $p=0.003$), and NSAID consumption (SMD: -0.40; 95% CI: -0.72 to -0.08, $p=0.01$). Significant effects were not detected for physician assessed pain (SMD: -0.14; 95% CI: -0.49 to 0.22, $p=0.45$) or Ritchie articular index (SMD: 0.15; 95% CI: -0.19 to 0.49, $p=0.40$) at 3-4 months. The results suggest that omega-3 PUFAs are an attractive adjunctive treatment for joint pain associated with rheumatoid arthritis, inflammatory bowel disease, and dysmenorrhea.