

Omega-3 fatty acids have small analgesic effect on inflammatory joint pain

Clinical question Can long-term dosing of omega-3 fatty acids decrease inflammatory joint pain?

Bottom line In patients with joint pain caused by rheumatoid arthritis, inflammatory bowel disease or dysmenorrhoea, continuous therapy with fish oil or other sources of omega-3 fatty acids produced statistically significant decreases in pain. The onset of action is approximately three months. Even though the benefit may be small, the lack of significant side effects and the beneficial effect on cardiovascular disease (*Circulation* 2002;106:2747–57) make fish oil and other sources a useful option in patients with pain due to inflammation.

Synopsis Omega-3 fatty acids may decrease inflammation by competing with arachidonic acid, the precursor to the inflammatory prostaglandins. To identify research for inclusion, the researchers searched several databases for English-language randomised controlled trials, also searching references of retrieved articles for additional relevant studies. The data were abstracted by one person but two researchers independently assessed study quality. The resulting meta-analysis included 17 studies enrolling a total of 823 patients, although not all

studies evaluated all outcomes. The studies used fish, seal or flaxseed oil to provide various amounts of omega-3 fatty acid. High dose was defined as greater than 2.7g daily. All comparisons were against inactive placebo or olive oil, which might have its own anti-inflammatory effect. Daily supplementation for three to four months reduced patient-reported joint pain intensity, minutes of morning stiffness, number of painful joints and analgesic consumption. The benefit was not striking and was not found in physician-reported scores or the Ritchie articular index. The quality of included studies was satisfactory.

Level of evidence 1a (systematic review of randomised controlled trials with homogeneity).

Reference Goldberg RJ, Katz J. A meta-analysis of the analgesic effects of omega-3 polyunsaturated fatty acid supplementation for inflammatory joint pain. *Pain* 2007;129:210–23.

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