

Dietary fatty acids and arthritis.

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Abstract

Musculoskeletal complaints are the second most frequent reason for medical treatments. Within these diseases rheumatoid arthritis (RA) and, especially, osteoarthritis (OA) are common. Although the causes of arthritis are multifactorial and not fully understood, clinical trials have generally shown benefit from dietary n-3 polyunsaturated fatty acids. This has usually been attributed to their anti-inflammatory properties. Recently we have used in vitro model systems to study the molecular mechanism(s) by which n-3 PUFAs may act to alleviate the symptoms of arthritis. These experiments showed that n-3 PUFAs reduce expression of cartilage-degrading proteinases, cyclooxygenase-2 and inflammatory cytokines. Eicosapentaenoic acid (EPA) was more effective than docosahexaenoic acid (DHA) or alpha-linolenic acid. The data provide a scientific rationale for the consumption of n-3 fatty acids as part of a healthy diet and perhaps in treating arthritis.

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