

## Effects of n-3 fatty acids on cartilage metabolism.

[Curtis CL](#), [Rees SG](#), [Cramp J](#), [Flannery CR](#), [Hughes CE](#), [Little CB](#), [Williams R](#), [Wilson C](#), [Dent CM](#), [Harwood JL](#), [Caterson B](#).

Cardiff School of Biosciences, Cardiff University, UK.

### Retraction in

[Curtis CL](#), [Rees SG](#), [Cramp J](#), [Flannery CR](#), [Hughes CE](#), [Little CB](#), [Williams R](#), [Wilson C](#), [Dent CM](#), [Harwood JL](#), [Caterson B](#). [Proc Nutr Soc. 2006 Nov;65\(4\):434.](#)

### Abstract

Although the clinical benefits of dietary supplementation with n-3 polyunsaturated fatty acids (PUFA) has been recognised for a number of years, the molecular mechanisms by which particular PUFA affect metabolism of cells within the synovial joint tissues are not understood. This study set out to investigate how n-3 PUFA and other classes of fatty acids affect both degradative and inflammatory aspects of metabolism of articular cartilage chondrocytes using an in vitro model of cartilage degradation. Using well-established culture models, cartilage explants from normal bovine and human osteoarthritic cartilage were supplemented with either n-3 or n-6 PUFA, and cultures were subsequently treated with interleukin 1 to initiate catabolic processes that mimic cartilage degradation in arthritis. Results show that supplementation specifically with n-3 PUFA, but not n-6 PUFA, causes a decrease in both degradative and inflammatory aspects of chondrocyte metabolism, whilst having no effect on the normal tissue homeostasis. Collectively, our data provide evidence supporting dietary supplementation of n-3 PUFA, which in turn may have a beneficial effect of slowing and reducing inflammation in the pathogenesis of degenerative joint diseases in man.