



FOOD SUPPLEMENTS AND ARTHRITIS

A report by the Arthritis and Research Campaign (ARC) has evaluated a number of complementary medicines, including food supplements, for the treatment of osteoarthritis, rheumatoid arthritis and fibromyalgia. Evidence from randomised controlled trials (RCTs) was used to score complementary medicines on a scale of 1 to 5, with 5 indicating that there is consistent evidence that the substance is effective and 1 suggesting that available evidence is inconclusive, not necessarily that the product is ineffective.

One of the problems with this report approach is that in some cases the number of studies used in the ARC analysis was very small. This resulted in some substances, being given a low score. However, it is important to bear in mind that a lack of studies means just that – few studies have been undertaken. A lack of studies should never be translated into suggesting that a substance is ineffective.

Some of the food supplements considered in the ARC report were chondroitin, fish oil, glucosamine and vitamins. Its conclusions were as follows:

- **Chondroitin:** According to the ARC analysis, there is promising evidence of efficacy available for chondroitin. The ARC report considered a meta-analysis of 19 RCTs,¹ the majority of which have demonstrated significant clinical benefit of chondroitin in reducing pain and dependence on painkillers. Any reduction in the use of pain killers, is to be welcomed, as these medications are associated with significant adverse effects, particularly gastrointestinal. More recently, a randomised, double-blind, placebo controlled study in 622 people with osteoarthritis found that long term administration of chondroitin sulphate over 2 years can prevent joint structure degradation in patients with knee osteoarthritis.²
- **Fish body oil** was given a score of 5 for rheumatoid arthritis, indicating quite correctly that there is consistent evidence that the substance is effective. The report also appropriately classified fish oil as safe. Fish oil contains omega-3 fatty acids which lead to the production of anti-inflammatory prostaglandins. Adequate intake of omega-3 fatty acids is essential for many physiological processes and helps to maintain the balance of anti-inflammatory compounds in the body. This helps to maintain the health of joints, which can be affected by inflammatory conditions such as arthritis. Overall recommendations for omega 3 fatty acid intakes in the UK are not achieved, suggesting that fish oil is a useful supplement, not only for helping to maintain joint health, but for making good the UK dietary gap.

¹ Reichenbach S, Sterchi R, Scherer M, Trelle S, Burgi E, Burgi U, et al. Meta-analysis: chondroitin for osteoarthritis of the knee or hip. *Ann Intern Med* 2007;146(8):580-90.

² Kahan A, Uebelhart D, De Valthaire F, DElmas PD, Reginster J-Y. "Long-term effects of chondroitins 4 and 6 sulfate on knee osteoarthritis: The study on osteoarthritis progression prevention, a two-year, randomized, double-blind, placebo-controlled trial" *Arthritis & Rheumatism*, 2009; 60(2) 524-533.

- **Fish liver oil**, also a good source of omega 3 fatty acids has traditionally been taken for generations to maintain joint health. This was rated with a low score in osteoarthritis, by the ARC report, based on only one study. There is also strong evidence of efficacy for rheumatoid arthritis. It is important to be aware of a 2008 double-blind, placebo-controlled trial in 97 patients with RA which found that with cod liver oil supplements, 39% of the patients were able to reduce their use of non-steroidal anti-inflammatory medication by more than 30%, showing that cod liver oil supplementation can be used as an NSAID sparing supplement in patients with RA.³
- **Glucosamine sulphate:** According to the ARC analysis, the majority of trials have demonstrated a significant clinical benefit when compared to NSAIDs. Among recent high profile trials involving glucosamine (and chondroitin, which is sometimes combined with glucosamine in supplements), the GAIT trial is worthy of particular mention. This extremely rigorous trial involving 800 participants found that in patients suffering most (i.e., moderate to severe) from osteoarthritis, a combination of glucosamine and chondroitin were more effective than celecoxib (a Cox-2 non steroidal anti-inflammatory drug). Analysis of the follow up trial (GAIT II) found that chondroitin was able to reduce joint swelling in patients with mild osteoarthritis.
- **Vitamins including selenium** were considered to be safe. **It is vital to note that vitamins and minerals (of which selenium is one) are essential nutrients, which are not intended to be used in the management of disease, so it would be extremely optimistic to expect them to be effective in the treatment of arthritis. However, they are essential for health maintenance and UK national dietary surveys show that significant proportions of the British population have intakes of vitamins and minerals below recommended levels. Multivitamin supplements can help to bridge this dietary gap. The conclusion that vitamins may not reduce symptoms of arthritis should not be used to suggest that these nutrients are useless when they are in fact essential.**

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For further information please contact:

- Nicky Smith on 0207 052 8850 or 07867 513 361 [/nicky.smith@nexuspr.com](mailto:nicky.smith@nexuspr.com)
- Louise Nathanson on 0207 052 8856/ louise.nathanson@gmail.com
- Stephanie Lee on 0207 808 9764

³ Galarraga B, Ho M, Youssef HM, Hill A, McMahon H, Hall C, Ogston S, Nuki G, Belch JJ. Cod liver oil (n-3 fatty acids) as a non-steroidal anti-inflammatory drug sparing agent in rheumatoid arthritis. *Rheumatology (Oxford)*. 2008 May; 47(5):665-9. Epub 2008 Mar 24