

Arthritis Foundation Statement on the Glucosamine/chondroitin Arthritis Intervention Trial

Summary

The long-awaited results of the Glucosamine/chondroitin Arthritis Intervention Trial (GAIT) have now been published in the *New England Journal of Medicine*. This 24-week study was conducted to assess the safety and efficacy of glucosamine and chondroitin in the management of pain in knee osteoarthritis (OA). While the study overall concluded that glucosamine and chondroitin were not better than placebo in reducing knee pain in the majority of people with OA, it did find that the combination of the two supplements provided significant pain relief for people with moderate-to-severe knee OA. Based on the findings from this study, the Arthritis Foundation recommends that individuals with knee OA speak to their doctors about whether combined glucosamine-chondroitin therapy might be a beneficial addition to their overall treatment plans.

Full Statement

Over the past decade, the dietary supplements glucosamine and chondroitin have been widely promoted as an effective form of treatment to relieve the pain associated with knee OA. Osteoarthritis is one of the most prevalent and disabling forms of arthritis, affecting 21 million people. As the population ages, OA prevalence is predicted to surge over the next two decades. Arthritis is already the leading cause of disability in this country, costing more than \$86 billion in medical care and indirect expenses, including lost wages and production. Effective treatments mean relief from the debilitating pain of OA and the ability to retain quality of life, employment and independence.

The Glucosamine/chondroitin Arthritis Intervention Trial (GAIT) – the most comprehensive clinical trial of these agents to date – is a landmark study conducted to better define the role of glucosamine and chondroitin in the treatment of knee OA. Results from GAIT were published in the *New England Journal of Medicine* February 23, 2006.

Funded by the National Institutes of Health and conducted at 16 U.S. rheumatology centers, GAIT was designed to rigorously evaluate the efficacy and safety of these agents alone and in combination when taken over a 24-week period. The study measured the effects of taking glucosamine alone, chondroitin alone, a glucosamine-chondroitin combination or celecoxib alone against placebo in 1,258 people with mild or moderate-to-severe pain from knee OA.

Key findings of the study:

- **The more severe the pain, the better the response.** People with moderate-to-severe knee OA pain experienced 25 percent greater pain relief than those taking other treatments. Only a small number of people – 22 percent of all study participants - were in the moderate-to-severe subgroup. Further studies to better understand and confirm the benefit in this group of people are needed.
- **The combination is important.** Even among the moderate-to-severe group, the improvement in pain was only observed in people receiving the glucosamine-chondroitin combination therapy; no significant benefit was detected with glucosamine or chondroitin alone.

- **No benefit was observed in people with mild knee OA pain.** The glucosamine-chondroitin combination showed no greater effectiveness than placebo in people with mild knee OA pain. The majority – 78 percent – of study participants had mild pain at baseline. The explanations as to why pain differences were found in the moderate-to-severe OA pain group and not those with mild pain are not clear.
- **Side effects were minimal.** No differences in adverse events were observed between the study groups.

Consumer Recommendations

The Arthritis Foundation recommends that people with knee OA speak with their doctor about whether glucosamine and chondroitin might be an appropriate option for the management of knee pain. Dietary supplements are just one potential component of a comprehensive, individualized knee OA treatment plan, which may include the following:

Exercise and physical therapy. Building up the muscle around the joint helps stabilize the joint and improves pain. Just 30 minutes of physical activity per day, or even 10 minutes three times per day, can lessen pain, increase range of movement and reduce fatigue and limited mobility.

Weight loss. Decreasing body weight can remove some of the stress across your knees. For people above their ideal weight, losing even as little as 5 percent to 10 percent of body weight can decrease knee pain and reduce the force exerted on the knee joint.

Hot and cold therapy. Heat wraps or heating pads can increase blood flow to a joint, helping to relieve stiffness and pain. Cold packs help to reduce swelling and block pain.

Medications. There are both over-the-counter and prescription medication options for the treatment of pain. The analgesic drug acetaminophen is often a first-line therapy. Other options include nonsteroidal anti-inflammatory drugs, such as ibuprofen and naproxen, and selective Cox-2 inhibitors, such as celecoxib.

Injections. Injections of corticosteroids may help relieve swelling and pain for some people. Hyaluronic acid supplement injections may also help relieve knee pain.

Topical ointments and creams. Topical analgesics include creams or rubs that are applied directly over the painful area. These are available over-the-counter and often can be used in combination with oral medications to relieve pain.

Orthotics. Orthotic devices worn in the shoes, such as arch supports or heel lifts, may help take the pressure off your knee and ease pain.

Braces and wraps. A knee brace or wrap may help to stabilize the knee joint during movement and may help to relieve pain.

Surgery. Surgical procedures such as osteotomy, arthroscopy and partial or total knee replacement may be helpful when there is major joint damage, persistent joint pain and/or disabilities.

For more information

For information about arthritis, contact the Arthritis Foundation at 800/568-4045 or at www.arthritis.org.

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