

## GS and CS May Interfere with OA Progression

*Also, Glucosamine Hydrochloride Doesn't Show Results like GS*

From [Drugs Aging](#). 2007;24(7):573-80. [Links](#)

### Glucosamine and chondroitin sulfate as therapeutic agents for knee and hip osteoarthritis.

[Bruyere O](#), [Reginster JY](#).

WHO Collaborating Center for Public Health Aspect of Osteoarticular Disorders, University of Liège, Liege, Belgium. [olivier.bruyere@ulg.ac.be](mailto:olivier.bruyere@ulg.ac.be)

Osteoarthritis (OA), the most common form of arthritis, is a public health problem throughout the world. Several entities have been carefully investigated for the symptomatic and structural management of OA. This review evaluates published studies of the effect of glucosamine salts and chondroitin sulfate preparations on the progression of knee or hip OA. Despite multiple double-blind, controlled clinical trials of the use of glucosamine and chondroitin sulfate in OA, controversy regarding the efficacy of these agents with respect to symptomatic improvement remains. Several potential confounders, including placebo response, use of prescription medicines versus over-the-counter pills or food supplements, or use of glucosamine sulfate versus glucosamine hydrochloride, may have relevance when attempting to interpret the seemingly contradictory results of different clinical trials. The National Institutes of Health-sponsored GAIT (Glucosamine/chondroitin Arthritis Intervention Trial) compared placebo, glucosamine hydrochloride, chondroitin sulfate, a combination of glucosamine and chondroitin sulfate and celecoxib in a parallel, blinded 6-month multicentre study of patients with knee OA. This trial showed that glucosamine hydrochloride and chondroitin sulfate alone or in combination did not reduce pain effectively in the overall group of patients with OA of the knee. However, exploratory analyses suggest that the combination of glucosamine hydrochloride and chondroitin sulfate may be effective in the subgroup of patients with moderate-to-severe knee pain. For decades, the traditional pharmacological management of OA has been mainly symptomatic. However, in recent years, several randomised controlled studies have assessed the structure-modifying effect of glucosamine sulfate and chondroitin sulfate using plain radiography to measure joint space narrowing over years. There is some evidence to suggest a structure-modifying effect of glucosamine sulfate and chondroitin sulfate. On the basis of the results of recent randomised controlled trials and meta-analyses, we can conclude that glucosamine sulfate (**but not glucosamine hydrochloride**) and chondroitin sulfate have small-to-moderate symptomatic efficacy in OA, although this is still debated. With respect to the structure-modifying effect, there is compelling evidence that **glucosamine sulfate and chondroitin sulfate may interfere with progression of OA**.