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## Glucosamine treatment of osteoarthritis of the knee

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Glucosamine, glucosamine sulfate, osteoarthritis

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## Context

The functions of articular cartilage are dependent upon aggrecan, the predominant proteoglycan, and hyaluronan, which is composed of repeating glycosaminoglycan units of *N*-acetylglucosamine and glucuronic acid. Both hyaluronan and aggrecan are degraded in osteoarthritic cartilage. Use of glucosamine as a treatment of osteoarthritis has become widespread, despite the lack of evidence supporting its efficacy. This study tests the hypothesis that oral administration of glucosamine sulfate relieves symptoms and delays radiographic progression of osteoarthritis of the knee.

## Significant findings

The group treated with glucosamine sulfate, 1500 mg/day, suffered less radiographic narrowing of the knee joint (0.06 mm versus 0.31 mm) than the placebo group. Furthermore, the glucosamine treated group experienced significant reduction of symptoms (WOMAC pain and function subscales). The authors conclude that glucosamine sulfate prevents the progression of osteoarthritis of the knee, in addition to relieving the symptoms.

## Comments

The identification of a medication capable of retarding the progression of osteoarthritis would be a revolutionary development in rheumatic therapeutics. The major limitation of the design of this study is the use of standard weight-bearing views of the knee to measure joint space narrowing. Such views are not ideal for assessing the femoral-tibial joint space, and difficulty in reproducing the precise orientation of the joint space make serial comparisons problematic. This undermines the significance of the apparent differences between the two groups over time, especially in view of differences of tenths of millimeters. Superior positioning techniques, such as the semi-flexed view described by Buckland-

Wright *et al* (see Additional information), should be used in future studies to attempt to confirm this observation. Nonetheless, this paper heightens expectations that treatment to prevent the progression of osteoarthritis may be on the horizon, and provides evidence to legitimize the use of glucosamine sulfate for the treatment of osteoarthritis of the knee.

## Methods

Randomized, double-blind, placebo-controlled prospective clinical trial

## Additional information

Buckland-Wright JC, Wolfe F, Ward RJ, Flowers N, Haybne C: **Substantial superiority of semiflexed (MTP) views in knee osteoarthritis: a comparative radiographic study, without fluoroscopy, of standing extended, semiflexed (MTP), and schuss views.**

*J Rheumatol* 1999, **26**:2664-2674.

## References

1. Reginster JY, Deroisy R, Rovati LC, Lee RL, Lejeune E, Bruyere O, Giacovelli G, Henrotin Y, Dacre JE, Gossett C: Long-term effects of glucosamine sulfate on osteoarthritis progression: a randomized, placebo-controlled clinical trial. *Lancet*. 2001, **357**: 251-256.