



CONCORD ORTHOPAEDICS

GLUCOSAMINE AND CHONDROITIN SULFATE

What are Glucosamine and Chondroitin Sulfate?

Glucosamine and chondroitin sulfate are substances found naturally in the body. Glucosamine is a form of amino sugar that is believed to play a role in cartilage formation and repair. Chondroitin sulfate is part of a large protein molecule (proteoglycan) that gives cartilage elasticity.

Both glucosamine and chondroitin sulfate are sold as dietary or nutritional supplements. They are extracted from animal tissue: glucosamine from crab, lobster or shrimp shells; and chondroitin sulfate from animal cartilage such as cattle or shark cartilage.

What do they do?

Past studies show that some people with mild to moderate osteoarthritis (OA) taking either glucosamine or chondroitin sulfate reported pain relief at a level similar to that of nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen. Some early research indicates that the supplements might also slow cartilage damage in people with OA. Definitive results about the effects of these supplements are expected from an in-depth clinical study currently being conducted by the National Institutes of Health. This rigorous, large-scale study showed that the combination of glucosamine and chondroitin sulfate appeared to help people with moderate-to-severe pain from knee osteoarthritis, but not those with mild pain," said Stephen E. Straus, M.D., NCCAM Director.

Are there side effects?

The most common side effects are increased intestinal gas and softened stools. If you experience these problems, you might want to try another supplement brand before you stop using them altogether. More studies need to be done to confirm the safety and effectiveness of the supplements. Be sure to contact your doctor if you notice any unusual or new symptoms while you are taking them.

Cautions

- Children, women who are pregnant and women who could become pregnant should not take these supplements. They have not been studied long enough to determine their effects on a child or on a developing fetus.
- Because glucosamine is an amino sugar, people with diabetes should check their blood sugar levels more frequently when taking this supplement. Contact your primary care physician before beginning to take this supplement
- If you are taking chondroitin sulfate in addition to a blood-thinning medication or daily aspirin therapy, have your blood clotting time checked more often. This supplement is similar in structure to the blood-thinning drug heparin, and the

- combination may cause bleeding in some people. Contact your primary care physician before beginning to take this supplement
- If you are allergic to shellfish, consult your primary care physician before deciding to take glucosamine. In most cases, however, allergies are caused by proteins in shellfish, not chitin, a carbohydrate from which glucosamine is extracted.

This information was excerpted from the Arthritis Foundation brochure *Glucosamine and Chondroitin Sulfate*.

**SUGGESTED DOSAGE FOR
SUPPLEMENTS FOR OSTEOARTHRITIS**

Glucosamine	500 mg	3 times a day
Chondroitin Sulfate	400 mg	3 times a day

Some physicians also suggest the addition of:

Manganese	10-20 mg	once daily
Vitamin C	1000 mg	once daily
Vitamin E	400 I.U.	once daily

Please talk to your Concord Orthopaedics physician before starting any supplement routine.