

## Improved Mobility

Are you one of the 38 million American adults that suffer from some form of joint discomfort? Has your joint mobility declined due to an overly active lifestyle, exercise, or normal aging?

The US Center for Disease Control predicts that the number of adults suffering from joint discomforts will increase from one in six today to one in five by the year 2020. Many people experience occasional stiffness or cracking of the joints. But prolonged discomfort can occur when cartilage in the joints begins to deteriorate. This can be caused by recurring joint stress, physical injuries, or heredity. This is usually accompanied by agonizing pain and limited mobility.



The current methods for treating joint discomfort are operations, such as knee or hip replacements, aspirin/ibuprofen, prescription drugs, and nutritional supplements. Three supplements that seem to provide effective joint pain relief are Chondroitin Sulfate, Glucosamine Sulfate, and Creatine Monohydrate.

Chondroitin is a complex carbohydrate found in the connective tissue of all mammals. In the cartilage that cushions the joints, chondroitin will draw fluid into the tissues; an important property, as there is no blood supplied to cartilage. This fluid draws important nutrients to the area, making the cartilage spongier and more capable of absorbing shocks. Chondroitin also shields healthy cartilage from early deterioration by preventing the production of certain enzymes that weaken connective tissue and overpowering other enzymes that stop nutrients from reaching the cartilage.

Many researchers are convinced that chondroitin can strengthen the protein strands that make up connective tissue. Some evidence has shown that, because it contains complex sugar molecules called glycosaminoglycans, it can reduce inflammation and repair cartilage, especially if the tissue has not been totally damaged. Chondroitin seems to play an active role in reducing the pain that often accompanies joint problems. Chondroitin has also been used to treat torn ligaments and tendons because of its positive effect on connective tissues.

Glucosamine is a natural substance created by the body and found in certain foods. It plays an important

role in the production and health of cartilage, the soft rubber-like padding that cushions the ends of bones and prevents them from grinding painfully against each other as the joint moves. It also helps develop ligaments, tendons, and nails.

Glucosamine stimulates the creation of glycosaminoglycans and proteoglycans, two vital building blocks of cartilage. Usually the joints make sufficient glucosamine to keep the cartilage in good shape, but as we age, we lose some of the glucosamine and other substances. The cartilage can dry out, deteriorate, crack, or become thin from wear. Left exposed, the joints may become inflamed, stiff, swollen, tender and painful – a condition known as osteoarthritis or degenerative joint disease. (This condition is caused by the breakdown of cartilage. It is characterized by pain, joint damage, and limited motion.)

Creatine Monohydrate is an amino acid compound that is stored in muscle tissue where it is used to create the energy required by muscles. It is essential to muscle contraction and helps in the muscle-building process.

### Health Benefits

Chondroitin Sulfate is a powerful anti-inflammatory that seems to promote flexibility in tendons, ligaments, and cartilage. Glucosamine Sulfate appears to support the regeneration of cartilage and helps lubricate joint surfaces for easier movement. Creatine Monohydrate appears helpful for improving muscle strength and boosting energy.

### Advanced Joint Formula

There is a natural way to improve joint mobility and relieve the pain.

*Advanced Joint Formula* is a breakthrough, all-natural product designed to increase flexibility, strengthen joints, and decrease inflammation. It contains: 1) a synergistic blend of two powerful “pain buster” ingredients – Chondroitin Sulfate and Glucosamine Sulfate, 2) Creatine Monohydrate, 3) Calcium Citrate and Magnesium for bone development, and 4) Lipase and Amylase to enhance the delivery of the other ingredients and to help in inflammatory conditions.



Supplement Facts		
Serving size 4 capsules		
Amount per Serving	% Daily	Value
Chondroitin Sulfate	700 mg	*
Glucosamine Sulfate	600 mg	*
Creatin Monohydrate	100.0 mg	*
Calcium (from Calcium Citrate)	86.0 mg	8.6 %
Magnesium (from Magnesium Citrate)	18.0 mg	4.5 %
Lipase 8000	3200.0 lu	*
Amylase FAA5	208.0 skbu	*
Other ingredients: Cellulose		
Capsule size #0		

**Suggested dosage:** For usual adult dosage: take two capsules twice daily with meals, or as needed.

### Scientific Studies

An article in a 2003 issue of *Drugs and Aging* documents the results of seven studies designed to evaluate the efficacy of using glucosamine in osteoarthritis cases. In two such placebo-controlled studies, 414 patients with osteoarthritis were monitored during a three-year period. The patients taking glucosamine in this long-term study experienced greater improvements in joint structure changes and a decrease in symptom severity compared to the placebo group. In other double-blind studies where glucosamine was evaluated against ibuprofen and/or an arthritis drug (piroxicam), patients taking glucosamine experienced relief of symptoms that were equal to or better than the patients in the non-glucosamine group. Further, patients in the glucosamine group had much lower incidents of gastrointestinal disturbances, fatigue, and skin problems than those taking ibuprofen or arthritis drugs. The overall conclusion of the authors of the article was that in the short-term clinical studies they reviewed that glucosamine provided effective relief of symptoms associated with osteoarthritis of the knee. And, that glucosamine showed potential for modifying the progression of joint-related conditions.

In a study involving 1258 patients with knee joint conditions conducted by the University of Utah in Salt Lake City, researchers evaluated the results of five different treatments – glucosamine, chondroitin, a mixture of glucosamine and chondroitin, an arthritis drug (Celebrex), and a placebo. At the end of six months, researchers noted that patients taking the mixture of glucosamine and chondroitin saw the most improvement. Further, 79.2% of the patients with severe pain experienced a minimum 20% reduction in

pain by taking the combination. In contrast, only 54.3% of the patients in the placebo group experienced any improvement in their pain.

In a double blind, four-week study conducted in China, 178 Chinese patients with knee osteoarthritis were divided into two groups. One group took a daily dose of 1500 mg of Glucosamine Sulfate and the other took 1200 mg of ibuprofen daily. The researchers monitored the level of pain for knees when they were at rest, during movement, and under pressure. The amount of swelling and mobility were also measured. Both groups experienced a significant reduction in pain symptoms. Researchers observed from the results that the glucosamine group tended to: 1) have greater symptom reduction, 2) experienced the positive benefits of the treatment for a longer period after it was stopped, and 3) have significantly less adverse side effects during treatment.

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The FDA has not evaluated these statements. This product is not intended to diagnose, treat, cure or prevent any disease.