



## **Orthopedic Associates** OF PORT HURON

### **The Truth About Glucosamine and Chondroitin Sulfate**

We, at Orthopedic Associates, pride ourselves in providing our patients the best possible care. As a component to this quality medical attention, we would like to provide you with the information that may assist you in managing your health. A common question we are asked is, "Would it help me to take Glucosamine and Chondroitin Sulfate?" Hopefully, after reading this brochure you will increase your understanding of this particular supplement and its relevance to you.

Glucosamine and chondroitin sulfate are nutritional supplements and are not subject to the same rigorous regulations required for prescription and non-prescription drugs. Therefore, if you decide to take any supplements, you do so at your own risk.

The information provided in this brochure does not replace the advice and guidance given by your doctor. If you have any questions about this supplement, please ask your physician.

#### **What is Glucosamine and Chondroitin Sulfate?**

Glucosamine sulfate and chondroitin sulfate are naturally occurring substances found in the connective tissues of the body, including the cartilage that covers the ends of bones in the joints.

Glucosamine sulfate functions are the primary building block for proteoglycans, large molecules in cartilage that give it viscoelastic (buffering) properties. When taken orally, glucosamine sulfate is absorbed readily into the system and can be traced to cartilage as soon as four hours after consumption.

Similar to non-steroidal anti-inflammatory drugs, glucosamine sulfate has been shown to have unique anti-inflammatory effects. Additionally, in some laboratory tests, the glucosamine supplement demonstrated a protective effect on the cartilage as well. These studies suggest that glucosamine sulfate may inhibit the breakdown of cartilage associated with osteoarthritis and may have the potential to help build-up cartilage.

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Glucosamine hydrochloride, another form of glucosamine, is available as a nutritional supplement and is considered to be as effective as the sulfate form although there are fewer completed studies to review. This hydrochloride form of glucosamine is more available for absorption into the body; therefore, a smaller dose delivers an equivalent amount in the system.

Chondroitin sulfate is a larger molecule also found in cartilage. Chondroitin sulfate has been studied much less extensively, but early results show that it also seems to work as an anti-inflammatory and reduces pain. Some laboratory studies suggest that chondroitin sulfate may slow cartilage breakdown associated with osteoarthritis and even stimulate cartilage growth.

### **Who Should Take Glucosamine/Chondroitin Sulfate?**

Many patients who suffer from osteoarthritis may benefit from the positive effects of taking this supplement. The painful symptoms of osteoarthritis may appear when cartilage becomes worn, and exposed bones begin to rub together. Conventional medicine does not yet have a proven treatment to stop or slow the progression of osteoarthritis. Traditional medical treatment includes drug therapy to control the pain associated with osteoarthritis. These treatments are sometimes disappointing for physicians and patients because medications may not provide complete relief and can have unwanted side effects. Some of these patients may be candidates for nutritional supplements like glucosamine and chondroitin sulfate.

### **How Do I Take These Supplements?**

- Typical dosage is 1500mg for glucosamine sulfate and 1200mg for chondroitin sulfate, taken once daily. For body weight less than 100 lbs, the dose is generally reduced to 1000mg for glucosamine sulfate and 800mg for chondroitin sulfate.
- Duration of treatment has not yet been determined.
- Reported improvement (e.g. reduction in painful symptoms) varies from three weeks to as much as eight weeks.
- Some studies have shown continued improvement of symptoms after oral intake was stopped.
- Generally, if there is no pain reduction after two months, there is little chance of improvement.

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- Patients should keep a diary of their symptoms when treatment begins to better judge any changes in pain level or joint movement, and this information should be shared with their physician.

### **What are the side effects of taking Glucosamine and Chondroitin Sulfate?**

Preliminary studies show glucosamine sulfate and chondroitin sulfate to be safe and well tolerated. Common side effects may include:

- Nausea
- Diarrhea
- Gastrointestinal upset

These side effects are reported in a small portion of patients. However, even substances that are found naturally in the body can have unpredictable results when taken in higher than normal quantities and in different formulations. This is particularly true with patients who are taking multiple medications or who have other diagnosed illness. For example:

- Studies suggest that glucosamine sulfate may increase insulin resistance. For this reason, diabetic patients should use glucosamine sulfate with caution and only under medical supervision.
- Patients on blood thinners (anticoagulants) should use chondroitin sulfate only after discussing and receiving approval from their physician.

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