

## Glucosamine Sulfate

*"It's probably safe, but there is no definitive evidence that it works."*

To date, we have no treatment that will halt the progression of osteoarthritis. Our current treatments to alleviate the symptoms associated with OA include anti-inflammatories (NSAIDS- ibuprofen, Advil, Aleve, Celebrex, Vioxx), steroid injections and surgery. Recently there has been reports that consuming cartilage or it's component molecules (glucosamine and chondroitin) can alleviate the symptoms and even halt the progression of arthritis. The companies that produce these materials make claims that glucosamine and chondroitin will "grow new cartilage" and "replace worn out joints". But is there proof to support these claims?

Studies in test tubes have shown that these substances can alter cartilage cell metabolism, and this is the rationale usually given to justify its use in osteoarthritis. But there is no evidence that oral glucosamine can actually reach the cartilage cells in the human body.

There have been many studies that have shown that glucosamine sulfate is as good as anti-inflammatory medication in alleviating pain. One must remember that most of this research is funded by the companies that make glucosamine. There are two studies that have shown that company sponsorship affects the likelihood of positive results in trials of non-steroidal anti-inflammatory drugs. Of the 12 studies performed with company sponsorship of glucosamine trials, all cited positive results. Of the three trials that reported a negative effect, only one had company sponsorship.

Although most studies have merely looked at symptom improvement, there is one study that glucosamine sulfate may decrease the progression on osteoarthritis (Lancet. Jan 2001). This prospective randomized trial showed that people with OA that were given 1500 mg of glucosamine a day had no significant joint space loss, compared to patients that were given a placebo had 0.31 mm on joint space loss after 3 years of treatment. This is the first agent that has been shown to have a disease modifying effect in osteoarthritis.

So what does all this mean? While the pharmaceutical companies lead us to believe that consuming these substances will help us grow new joints, more likely is that these substances have only mild effects. But even if the effect is small, these compounds are safe and relatively cost effective. Therefore, until the large clinical trials are completed, it is justifiable to try glucosamine to determine for yourself. The current recommendation is 1500 mg of glucosamine sulfate per day (Tablets come in 500 mg and 750 mg). Glucosamine sulfate is recommended and not glucosamine hydrochloride (Hcl). This form has a poorer absorption and therefore the effects are less predictable. Chondroitin is also often included in the tablets. Although this addition is not harmful, there is little evidence that it is beneficial. Often the manufacturer will combine the lower quality glucosamine is this mixture. When this occurs, it is better to avoid these brands. At this point, we feel it is warranted to try glucosamine for at least a month and decide for yourself if this substance can alleviate your symptoms. If it doesn't help after a month of taking it, you may decide it isn't worth the cost.

**Glucosamine Sulfate 1500 mg by mouth each day.**