

Cartilage Formula

MAINTAINS COMFORTABLE JOINT MOBILITY*



Positioning Statement

Cartilage Formula provides an advanced blend of glucosamine, antioxidant vitamins C and E, trace minerals, and flavonoids for comprehensive nutritional support of the cartilage in our joints.*

Concept

Your body's joints enable you to enjoy movement, with the primary function of holding the skeletal structure of your body together. Simply stated, the joints act as the glue that helps hold the skeletal system together and permits movement. The cartilage found in joints acts as a cushion between the bones. Maintaining normal, healthy joints should be a lifelong goal achieved by adopting a healthy lifestyle. Elements of healthy living that help maintain healthy joints include sustaining a healthy body weight, regular and appropriate exercise, and maintaining a nutritious and healthy diet.

Cartilage Formula is formulated to provide clinically and nutritionally significant amounts of the nutrients essential to normal cartilage maintenance, strength, and function. Unlike most cartilage supplements, Cartilage Formula contains a significant amount of glucosamine (1,500 mg) as dictated by human clinical studies.*

Primary Benefits

- Supplies glucosamine, a building block for the protective cartilage in our joints*
- Contains antioxidant vitamins C and E, and quercetin for added joint and cartilage support*

What Makes This Product Unique?

- Supplies a clinically significant level of glucosamine (1500 mg) based on scientific research*
- Provides nutritionally meaningful levels of vitamins C (200 mg) with 95% curcumin*
- Contains a quality, standardized extract of *Boswellia serrata* with 65% boswellic acids*

- Contains the antioxidant flavonoids quercetin (50 mg) and rutin (50 mg) for additional nutritional support*
- Provides a nutritionally significant amount of the trace mineral zinc (15 mg) and also contains the trace mineral boron (6 mg)*
- Contains only ingredients, like glucosamine, which have been studied extensively*

Who Should Use This Product?

Cartilage Formula is formulated for adults who want additional nutritional support for cartilage to promote normal cartilage health.*

Did You Know?

- Joint discomfort is the leading cause of work absenteeism
- 45 million workdays are lost each year in the U.S. due to joint pain
- More than 50% of people over the age of 60 feel pain in their joints
- Recent meta-analyses on glucosamine have shown significant joint health benefits

Frequently Asked Questions

What are the benefits of bioflavonoids in Cartilage Formula?

The bioflavonoids (quercetin and rutin) are included among several antioxidants in Cartilage Formula. Research clearly demonstrates people with poor joint mobility often have an increased level of free radicals. These bioflavonoids were chosen because they are shown to be involved in connective tissue protection, and have been shown to help regenerate the antioxidant properties of vitamin E and C. *Boswellia serrata*, also known as Indian frankincense, contains the active dietary component, boswellic acid. Research indicates that boswellic acids help maintain comfortable mobility.*

What is the ratio of the glucosamine hydrochloride to sulfate?

The ratio between glucosamine hydrochloride and glucosamine sulfate is actually 1:1. Thus, of the 1500 mg of daily glucosamine, 750 mg would be from the sulfate and 750 from hydrochloride.

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Cartilage Formula

Why do we use glucosamine hydrochloride?

We chose to use a 1:1 ratio of glucosamine hydrochloride and glucosamine sulfate in Cartilage Formula for two reasons. First, the mixture of glucosamine sulfate and hydrochloride may give a better spectrum of absorption. Second, the glucosamine is the active part of the molecule. The sulfate is ionically bound, and released in the GI-tract before absorption and biochemically, it does not matter what acid (H₂SO₄ or HCl) glucosamine is complexed to. Glucosamine hydrochloride has more glucosamine per unit weight (83%) than glucosamine sulfate (65%). Nevertheless, the sulfate form has been used in most clinical studies with generally good clinical success in those experiencing joint discomfort. One study that used the hydrochloride form successfully was by Y. Vajjaradul (1995, Clin. Ther. 3(5):336–343). A recent study by J.B. Houpt et al. found more modest effects (J. Rheumatol. 26(11): 2423–2430, 1999). The glucosamine hydrochloride is currently being studied by the NIH (National Institute of Health)*

What is the source of glucosamine in Cartilage Formula?

The source of glucosamine is chitin, which is obtained from shellfish exoskeletons. The predominant commercial source of glucosamine is from shellfish, but chitin is also naturally found in insect exoskeletons and in some mushrooms. Some vendors sell chemically-produced glucosamine (made synthetically in a laboratory like some vitamins), but it is not as popular as the shellfish source.

Key Scientific Studies

1. Reginster JY, et al. Long-term effects of glucosamine sulphate on osteoarthritis progression: a randomised, placebo-controlled clinical trial. *Lancet*, 2001;357:251–256.
2. McAlindon TE, et al. Glucosamine and chondroitin for treatment of osteoarthritis: a systematic quality assessment and meta-analysis. *JAMA*, 2000;283(11):1469–75.
3. McAlindon TE, et al. Glucosamine and chondroitin for treatment of osteoarthritis. *JAMA*, 2000 Sep 13;284(10):1241.
4. Florent Richy, MSc et al. Structural and symptomatic efficacy of glucosamine and chondroitin in knee osteoarthritis. A comprehensive meta-analysis. *Arch Intern Med*, 2003;163:1514–1522.
5. Glucosamine sulfate compared to ibuprofen in osteoarthritis of the knee. Muller-Fassbender H, Bach GL, Haase W, Rovati LC, Setnikar I. *Osteoarthritis and Cartilage*, 1994; 2:61–69.

Supplement Facts

Serving Size Two Capsules

Amount Per Serving		%Daily Value*
Vitamin C (as Calcium Ascorbate, Ascorbic Acid)	100 mg	167%
Vitamin E (as d-Alpha Tocopheryl Succinate, Beta, Gamma, Delta Tocopherols)	50 IU	167%
Zinc (as Zinc Propionate)	7.5 mg	50%
Glucosamine (as Glucosamine Sulfate, Glucosamine Hydrochloride)	750 mg	*
Boswellia serrata Sap Extract (65% Boswellic Acids)	150 mg	*
Turmeric Root Extract (95% Curcumin)	100 mg	*
Quercetin	25 mg	*
Rutin	25 mg	*
Boron (as Boron Citrate)	3 mg	*

*Daily Value not established.

Other Ingredients: Gelatin, Magnesium Stearate, Silicon Dioxide.

Directions for Use

As a dietary supplement, take two (2) capsules with eight (8) ounces of liquid with your morning and evening meals.

Warnings

Keep out of reach of children. If you are pregnant or lactating, or taking a prescription medication, consult a physician prior to use.

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