

Glucosamine and Chondroitin



Glucosamine and chondroitin are commonly used supplements for managing joint pain. They are both naturally occurring substances that are part of the body's tendons, ligaments, cartilage (the rubbery substance that covers the ends of bones), synovial fluid (a lubricating fluid found in joints), and other tissues. Glucosamine in supplements often comes from shellfish (crab, lobster, and shrimp), while chondroitin is usually from cow (bovine) sources. They can also be produced synthetically.

What are glucosamine and chondroitin used for?

Glucosamine and chondroitin have been shown to be of

moderate benefit in reducing the pain of mild to moderate osteoarthritis of the knee and hip. The use of glucosamine and/or chondroitin for pain in other joints has not been studied. Osteoarthritis, also known as the "wear and tear" arthritis, is the most common arthritis. It is also called degenerative joint disease, meaning it gets worse over time. It may occur at any age, but is especially common for people in their 50s and 60s. Osteoarthritis generally affects the weight-bearing joints, like the knees, hips, and the joints of the spine.

How do glucosamine and chondroitin work?

We are not exactly sure how glucosamine and chondroitin work. It is thought that both glucosamine and chondroitin may increase the production of cells, synovial fluid, and connective tissue, and also slow the breakdown of cartilage. Some manufacturers claim that they can stop or reverse damage from osteoarthritis, however there is not enough scientific evidence to confirm this.

Are glucosamine and chondroitin safe?

Both glucosamine and chondroitin are generally safe to take. However, there are some concerns with each supplement.

Glucosamine:

There is some concern that people with diabetes may have more trouble controlling their blood sugar when taking glucosamine. Additionally, people with shellfish allergies may react to glucosamine when it is made from shellfish products.

Chondroitin:

While there are no known reports of adverse effects, there is some concern that chondroitin can cause blood thinning due to its anticoagulant effect. Additionally, some people worry about products made from cows, but there have been no reports of any problems from cow products used in making chondroitin.

Do glucosamine and chondroitin have any side effects?

Side effects from both glucosamine and chondroitin are rare. The most common complaints are nausea, indigestion, heartburn, diarrhea, and constipation. Some people have reported such side effects as drowsiness, headache, and skin rashes after taking glucosamine.

How much should I take?

Both products are sold without a prescription (over-the-counter). They are sometimes sold in combination in one capsule, but are also available separately. It is not known if they work better when taken separately or combined together.



Glucosamine:

In most scientific studies, people have taken 500mg three times a day. It may take as long as 4 weeks to notice an effect.

Chondroitin:

In most scientific studies, people have taken 400mg three times a day. It may take as long as 4-8 weeks to notice an effect.

Which brand should I buy?

Supplements vary widely in quality and purity. At Kaiser Permanente we are working with selected manufacturers to offer high quality supplements.

Before taking glucosamine or chondroitin, first discuss with your physician, nurse practitioner, or pharmacist . . .

- if you have diabetes
- if you are taking blood thinning medications, including aspirin or aspirin-like medications
- the risks, benefits, and possible side effects
- all other medications that you are taking, including over-the-counter medications, herbs, and supplements.

Your role:

- Clearly understand how to take these supplements. If you have any questions, ask your physician, nurse practitioner, or pharmacist.
- Track how these supplements affect your pain by keeping a pain diary. Share this information with your physician or nurse practitioner.

- Note the side effects that you experience and report them to your physician or nurse practitioner.

How is osteoarthritis treated?

The goals of osteoarthritis treatment are to:

- reduce pain and stiffness
- maintain or increase movement.

This may be accomplished by using medications, supplements, moist heat, cold, physical activity, and joint protection. In addition, you can learn to pace your activities and practice other self-care techniques. You may be able to manage your pain without medications or supplements. Your physician or nurse practitioner can help you learn about other treatments available for managing chronic pain.

Supplements: safety matters.

In recent years, there has been increasing interest in the use of supplements. Many people think that because "it's natural, it must be safe." However, anything that has possible *good effects* also has *side effects*. In fact, some herbs and supplements can cause sickness and even death. For example, ephedra/ma huang, used as a decongestant and appetite suppressant, is known to cause heart and blood pressure problems. Research on herbal and supplement effectiveness, side effects, and supplement-drug interactions is only now beginning. If you have any

questions, talk with your health care professional.

Call Kaiser Permanente if . . .

- you experience side effects that concern you
- your activity level begins to decline
- you have a fever or skin rash along with severe joint pain
- the joint is so painful that you cannot use it
- there is sudden, unexplained swelling, redness, heat, or pain in any joint
- there is severe pain and swelling in multiple joints
- you experience sudden back pain that occurs with weakness in the legs or loss of bowel or bladder control
- joint pain continues over six weeks and home treatment is not helping.

Other resources

- Connect to our Web site at members.kp.org.
- Check your *Kaiser Permanente Healthwise Handbook*.
- Request a *Healthphone Directory* from Health Education and call the Kaiser Permanente Healthphone at 1-800-332-7563; TTY, 1-800-777-9059.
- Contact your Kaiser Permanente Health Education Center or Department for more health information, programs, and other resources.

This information is not intended to diagnose health problems or to take the place of medical advice or care you receive from your physician or other health care professional. If you have persistent health problems, or if you have further questions, please consult your doctor. If you have questions or need more information about your medication, please speak to your pharmacist. Kaiser Permanente does not endorse any brand names; any similar products may be used.

Herbs and supplements are sold over-the-counter. Kaiser Permanente carries only herb categories for which some evidence exists to show that the herbs may be effective to treat certain medical conditions.