Glucosamine and chondroitin help with joint pain. They are both a natural part of the body’s tendons, ligaments, cartilage, and other tissues. Glucosamine in supplements often comes from shellfish (crab, lobster, and shrimp). Chondroitin is usually from bovine (cow) sources. They can also be man-made.

What are they used for?
Glucosamine and chondroitin help reduce mild to moderate pain in the knees and hips. The use of glucosamine and or chondroitin for pain in other joints has not been studied.

How do glucosamine and chondroitin work?
We think that both glucosamine and chondroitin may increase the production of cells, synovial fluid, and connective tissue, and slow the breakdown of cartilage.

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

Glucosamine
• diabetes: People who have diabetes may have more trouble controlling their blood sugar when taking this supplement.
• allergies: People with allergies to shellfish may have an allergic reaction if they take glucosamine made from shellfish products.

Chondroitin
While there are no reports of adverse effects, some people are concerned about the following:
• Chondroitin may cause blood thinning.
• Chondroitin is made from bovine products. This worries some people, however there are no reports of any problems from cow products used in making chondroitin.

In addition, your doctor may recommend avoiding the use of chondroitin if you have prostate cancer or have an increased risk of prostate cancer. Chondroitin may increase the spread or the return of the disease.

Do I have to worry about side effects?
Side effects from both glucosamine and chondroitin are rare, but could include any of the following:
• nausea
• indigestion
• heartburn
• diarrhea
• constipation
Some people have reported drowsiness, headache, and skin rashes after taking glucosamine.

How much should I take?
Both products are sold over-the-counter. You can buy them together in one capsule, and they are also sold separately. It is not known if they work better when taken separately or combined together.
The following recommendations are based on scientific studies.

**Glucosamine**
- 500mg, three times a day.
- It may take as long as 4 weeks to notice an effect.

**Chondroitin**
- 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. We work with selected manufacturers to offer high quality supplements at our pharmacies.

**Should I discuss supplements with my provider?**
It is important to talk to your provider about all medications that you take including over-the-counter, herbs, supplements and prescriptions. This helps us decide the best treatment plan for you.

If you have diabetes or are taking blood thinning medications, including aspirin or aspirin-like medications, talk to your provider. Make sure that you discuss the risks, benefits, and possible side effects.

**Your role:**
- Clearly understand how to take these supplements. If you have any questions, ask your doctor, nurse practitioner, or pharmacist.
- Track how these supplements affect your pain by keeping a pain diary.
- Share this information with your doctor or health care professional.
- Write down any side effects that you have and tell your doctor or health care professional.

**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 good effects can also have side effects. In fact, some herbs and supplements can cause sickness and even death.

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 have side effects that concern you
- you feel unable to be as active as usual
- 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 have sudden back pain that comes with weakness in the legs or loss of bowel or bladder control
- joint pain continues over six weeks and home treatment is not helping

**Additional resources**
- Connect to our website at [kp.org](http://kp.org) to access health and drug encyclopedias, interactive programs, healthclasses, and more.
- Contact your Kaiser Permanente Health Education Center or Department for health information, programs, and other resources.
- Live your life to the fullest. Take control of your chronic pain with our HealthMedia® Care™. For your health online program, log onto [kp.org/healthylifestyles](http://kp.org/healthylifestyles) and get started today.
- If you are hit, hurt, or threatened by a partner or spouse, this can seriously affect your health. There is help. Call the National Domestic Violence Hotline at 1-800-799-7233 or connect to [ndvh.org](http://ndvh.org).