**Arthritis Supplements: Some Happy News for Sorry Joints**

Q. Is there convincing evidence that glucosamine and chondroitin supplements can provide arthritis relief?

A. Yes. Along with diet, exercise and treatment of any underlying causes of arthritis, glucosamine and chondroitin hold much promise in halting, perhaps even reversing, osteoarthritis, says Jason Theodosakis, M.D., member of a National Institutes of Health (NIH) steering oversight committee and author of The Arthritis Cure (St. Martin’s Press, revised edition 2004).

Glucosamine and chondroitin are produced naturally in the body and stimulate the formation of cartilage (the material that cushions joints, but wears away in osteoarthritis) and inhibit enzymes that break it down. Chondroitin also promotes elasticity in joints and has a mild anti-inflammatory effect.

**Mounting Evidence.** Studies have shown that glucosamine and chondroitin not only relieve pain and improve function in osteoarthritis, they may also improve cartilage structure.

Laboratory research suggests the two act synergistically. And some studies show they relieve arthritis pain even better than nonsteroidal anti-inflammatory drugs like ibuprofen, but without their serious side effects. Moreover, the benefits may persist even after stopping the supplements. One research review contends, however, that the benefits may be less dramatic than some studies suggest.

Theodosakis advocates glucosamine and chondroitin as a first-line treatment. “Only if they need additional pain relief should people consider anti-inflammatory drugs,” he says.

We’ll know more in 2005, when a large NIH trial wraps up. It will be the first to compare the two against each substance alone, plus against Celebrex, a popular anti-inflammatory drug, and against placebo.

**Quality Varies.** Unfortunately, glucosamine/chondroitin supplements vary tremendously in quality. There are different doses, sources (shellfish or corn for glucosamine; cow, pig, fish or shark cartilage for chondroitin) and forms (glucosamine sulfate or glucosamine hydrochloride) available, making it difficult to know what to buy.

Moreover, many supplements contain too little active ingredient—often just a fraction of what their labels claim.

**EN’s Bottom Line.** Consider glucosamine/chondroitin supplements if you have osteoarthritis. Their use is embraced by many in the medical community, including the Arthritis Foundation. Research suggests they are safer than anti-inflammatory drugs. **EN’s tips:**

- Look for supplements that contain 1,500 milligrams of glucosamine hydrochloride (or 1,800 milligrams of glucosamine sulfate) plus 800 to 1,200 milligrams of chondroitin sulfate.
- Buy products that pass independent testing (see www.consumerlab.com and www.drtheo.com). Some recommended brands include Osteo Bi-Flex (Rexall), Cosamin DS (Nutramax) and TripleFlex (Nature Made).
- Be patient; it takes weeks to feel an effect, during which time you can gradually wean yourself from your regular arthritis meds (don’t stop cold turkey or without a doctor’s supervision).

For more information, **EN** recommends the 2004 revised edition of The Arthritis Cure. To order from EN, call (800) 242-7338.

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**Irradiation Kills Bugs in Beef, But Still Not Mainstream in Markets**

Q. I haven’t heard much about food irradiation lately. Could I be eating irradiated food without knowing it?

A. No, because all foods that are irradiated must be labeled, unless it is a minor ingredient like spices. However, irradiation is only slowly catching on as a way to kill bacteria in meat.

**Types of Irradiation.** Food can be irradiated one of three ways. All three disrupt the DNA of bacteria, preventing them from reproducing. But only one—gamma—involves the use of nuclear radiation, and none makes the food itself radioactive.

- **Gamma ray irradiation** uses radioactive cobalt or cesium, which penetrates food with high-energy photons.
- **Electron beam irradiation** uses high-energy electrons propelled from a gun, after packaging, which prevents contamination during transportation and at the store. No radioactivity is involved.
- **X-ray irradiation** penetrates food more deeply than e-beams. No radioactivity is involved.

**Safety Concerns Somewhat Abated.** Whichever method is used, the all-important issue is safety. Although substances called “radioactive compounds” form during irradiation, they also form during any cooking process and have not been proved to pose great risk

Irradiation does destroy some nutrients, but not to any great extent. Because gamma irradiation does require radioactive compounds, there are valid environmental concerns about potential spills at these plants and during transportation.

**So Where’s the (Irradiated) Beef?** Only a small fraction of the frozen ground beef and frozen beef patties in supermarkets today is irradiated, notably Publix and Huiskan brands. Omaha Steaks, Dairy Queen restaurants and Schwan, a home-delivered frozen food company, also sell it. However, fresh ground beef is not irradiated yet. Nor is poultry commonly irradiated, even though it was approved for irradiation years ago.

**EN’s Bottom Line.** Irradiation is probably here to stay, but so far it hasn’t made much of a dent. Many U.S. government agencies and health organizations support its use, as do 30 other countries. **EN** remains cautious. The e-beam and X-ray methods appear safest for the environment, but gamma is used more.

However, danger from eating irradiated food seems to be minimal. And there’s no doubt that irradiating food kills bacteria, such as *E. coli*, that can cause serious illness. But don’t let your guard down. Once you open a package of irradiated beef, it again becomes susceptible to bacterial contamination if not handled properly.

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