

# Glucosamine supplements tied to risk of eye condition

May 23 2013, by Denise Mann, Healthday Reporter

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Seniors taking them had side effect that has been linked to glaucoma, small study finds.

(HealthDay)—Glucosamine supplements that millions of Americans take to help treat hip and knee osteoarthritis may have an unexpected side effect: They may increase risk for developing glaucoma, a small new study of older adults suggests.

Glaucoma occurs when there is an increase of [intraocular pressure](#) (IOP) or pressure inside the eye. Left untreated, glaucoma is one of the leading causes of blindness.

In the new study of 17 people, whose average age was 76 years, 11 participants had their eye pressure measured before, during and after taking glucosamine supplements. The other six had their eye pressure

measured while and after they took the supplements.

Overall, pressure inside the eye was higher when participants were taking glucosamine, but did return to normal after they stopped taking these supplements, the study showed.

"This study shows a reversible effect of these changes, which is reassuring," wrote researchers led by Dr. Ryan Murphy at the University of New England College of Osteopathic Medicine in Biddeford, Maine. "However, the possibility that permanent damage can result from prolonged use of glucosamine supplementation is not eliminated. Monitoring IOP in patients choosing to supplement with glucosamine may be indicated."

Exactly how glucosamine supplements could affect pressure inside the eye is not fully understood, but several theories exist. For example, glucosamine is a precursor for molecules called glycosaminoglycans, which may elevate eye pressure.

The findings are published online May 23 as a research letter in *JAMA Ophthalmology*.

The study had some shortcomings. Researchers did not have information on the dose or brand of glucosamine used, and they did not know how long some participants were taking the supplements.

Duffy MacKay, vice president for scientific and regulatory affairs at the Council for Responsible Nutrition, a Washington, D.C.-based trade group representing supplement manufacturers, said the findings don't mean that people should stop taking the supplements.

"This research letter raises questions and introduces a hypothesis that should be explored further, but the small number of cases investigated

and the [fact that] researchers did not count capsules or control for dose or intake or duration of use of glucosamine provide extremely limited evidence of harm," MacKay said.

"This study should not change consumer habits; however, individuals with glaucoma or ocular hypertension who are taking glucosamine should let their doctor know so that the appropriate monitoring of intraocular pressure measurements can be done to identify any changes," he said.

MacKay concluded: "The good news is that increased IOP was reversible. So if you take the product, and your IOP goes up, then you can stop taking the product to see if it returns to normal."

However, previous studies have raised questions about whether glucosamine supplements provide any health benefit to consumers. A large recent study concluded it had no healing effect on arthritic pain.

The potential relationship between glucosamine and glaucoma is new to Dr. Scott Fudenberg, a glaucoma surgeon at Wills Eye Institute, in Philadelphia. "The mechanism about how people can develop glaucoma isn't completely understood, so how the [supplements](#) may play a role isn't completely understood either," he said.

While the study found an association between taking glucosamine and increased eye pressure, it didn't establish a cause-and-effect relationship.

The best thing that anyone can do to preserve their vision is to get regular eye exams, Fudenberg advised. "[Glaucoma](#) can be treated with medications, lasers and/or surgery," he said. "These findings pose a question about whether oral glucosamine can raise intraocular [eye pressure](#), but it doesn't provide an answer. More research is now needed before any conclusions can be drawn."

**More information:** Are you at risk for glaucoma? Find out at the [Glaucoma Research Foundation](#).

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