Dynamic Chiropractic

NUTRITION / DETOXIFICATION

Chondroitin, Glucosamine and Prevention of Joint-Space Loss

MIXED RESULTS FROM NEW RESEARCH

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In the fall of 2008, a paper was published reporting on an extension of the Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT), a study I summarized several years ago in *Dynamic Chiropractic*.[1,2] In the extension portion of the trial, approximately one-third (572) of the original 1,583 subjects continued to take one of five treatments for an additional two years: glucosamine, 1,500 mg/day; chondroitin, 1,200 mg/day; glucosamine (1,500 mg) and chondroitin (1,200 mg); Celebrex, 200 mg/day; or placebo. Knee joint space was measured radiographically at baseline, 12 and 24 months. The mean two-year loss in joint space, with adjustment for diseases and other risk factors, for each of the five study groups was as follows (listed in order of increasing joint-space loss):

Follow-Up Results From the Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT)

Group	Joint-Space Loss
Glucosamine	0.013 mm
Chondroitin	0.107 mm
Celebrex	0.111 mm
Placebo	0.166 mm
Glucosamine and chondroitin	0.194 mm

A few months later, results of another two-year study was published.[3] In that study, 622 patients with knee arthritis had randomly received either 800 mg of chondroitin sulfate or a placebo for two years. Radiographic analysis at baseline, 12 and 24 months was performed. After two years, the mean joint-space losses were as follows:

Results From the Study on Osteoarthritis Progression Prevention

Group	Joint-Space Loss
Chondroitin sulfate	0.070 mm
Placebo	0.310 mm

The authors concluded that the radiographic progression of joint-space loss was reduced in patients who took chondroitin sulfate compared to those who took placebo. The authors also noted that pain was noticeably reduced in the chondroitin group. This conflicted with the conclusions of the GAIT extension, which, according to the authors, were statistically insignificant.

For some people, glucosamine and chondroitin will have varying degrees of benefit. Research has yet to determine who will be a responder, nor can we say if chondroitin, glucosamine or the combination of the two delivers the best results. Until that happens, the best advice we can give to our patients is

to take a trial-and-error approach and stick to what works best.

References

1. Sawitzke AD, Shi H, Finco MF, et al. The effect of glucosamine and/or chondroitin sulfate on the progression of knee osteoarthritis: a report from the Glucosamine/Chondroitin Arthritis Intervention Trial. *Arthritis Rheumatol*, 2008;58(10):3183-91.
2. Andersen GD. "The Glucosamine/Chondroitin Arthritis Intervention Trial." *Dynamic Chiropractic*, May 8, 2006;24(13):18
3. Kahan A, Uebelhart D, DeVathaire F, et al. Long-term effects of chondroitin (4 and 6 sulfate) on knee osteoarthritis: The Study on Osteoarthritis Progression Prevention, a two-year, randomized, double-blind, placebo-controlled trial. *Arthritis Rheumatol*, 2009;60(2):524-33.

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