

# Chondroitin sulfate provides joint space width stabilization

by Beat A. Michel, MD

Mean and minimum joint space narrowed with placebo but remained stable with chondroitin sulfate, researchers say.

Chondroitin sulfate is effective for joint space width stabilization when analyzing the radiological progression of knee osteoarthritis. The drug therefore qualifies as a Disease Modifying Osteoarthritis Drug (DMOAD) and has produced interesting results in groups of special interest.

## Model for DMOAD efficacy evaluation

I recently led a study to assess the effect of chondroitin sulfate on radiological progression of knee osteoarthritis.<sup>1</sup> We used a randomized,

double-blind, two-year prospective trial of chondroitin sulfate vs. placebo.

Inclusion criteria were clinical. Patients had radiographic osteoarthritis of the knee, as diagnosed according to American College of Rheumatology criteria.

Excluded patients were younger than 40 years or older than 85 years. Other exclusion criteria included Kellgren and Lawrence grade-4, secondary osteoarthritis, severe comorbidities, chondroitin sulfate hypersensitivity, joint surgery in the six months preceding the start of the study or major surgery foreseen in the two years following the study.

We studied patients at 0, 12 and 24 months. Patients received follow-up questionnaires every three months and underwent X-rays at month 0 and month 24.

Primary efficacy outcome criteria included analysis of the quantitative change in radiology, especially the femorotibial joint space of the target knee defined as the most symptomatic upon entry.

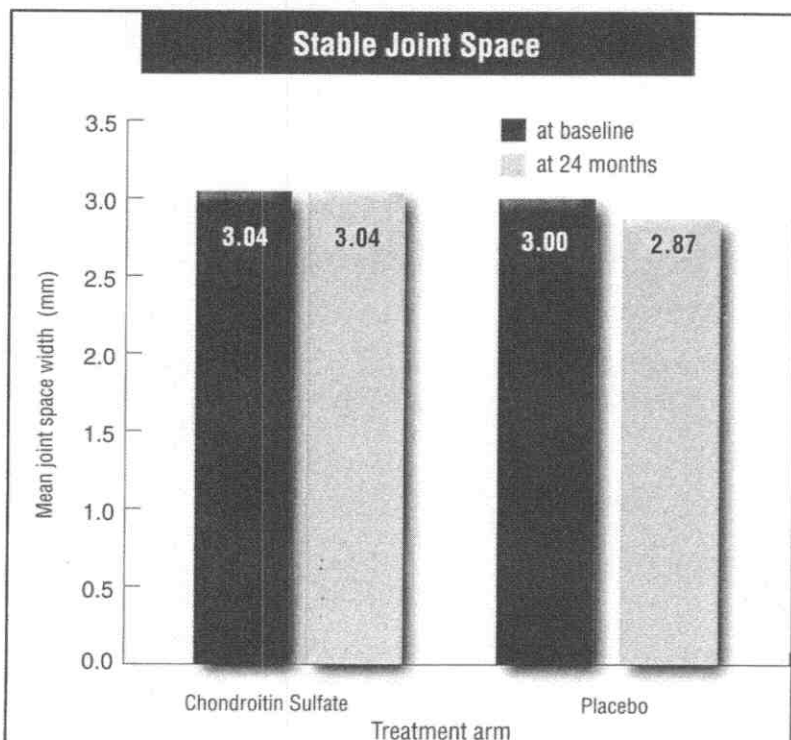
Our study included 300 patients; half received a placebo and half received chondroitin sulfate. The dropout rate was 27% in both groups.

## Radiology is key

We performed an extended view of the standing patient's knee as a means of determining suitability for the study. Patients presenting with calcium pyrophosphate dihydrate deposition were excluded.

For the analysis segment of the study, we employed a partial flexion view of the standing patient's knee.

The flexion view is obtained by bending the patient's knee 20°, aligning the patient's toes with the cassette, ensuring the knee rests against the cassette, with the X-ray taken at a



**Figure 1.** The mean joint space width decreased significantly ( $P = .0001$ ) among patients who received placebo, while it did not decrease among those who received chondroitin sulfate. The difference between treatment arms was significant ( $P = .04$ ).<sup>1</sup>