## Glucosamine, Chondroitin Didn't Ease Joint Pain

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either glucosamine nor chondroitin, alone or combined, reduced joint pain or preserved joint space, according to Swiss researchers, who conclude that these supplements should not be prescribed, and if they are, health insurance should not cover them.

Meanwhile, despite a growing body of recent evidence showing the popular supplements to be ineffective, global sales of glucosamine and chondroitin have more than doubled since 2003. As of 2008, the sales of these supplements approached \$2 billion and are projected

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to reach \$2.3 billion in 2013, according to the same research team, which published its findings from a meta-analysis of data from 10 randomized, controlled

The paradox of a market for a medication growing as its evidence base shrinks is probably merely the result of a predictable delay between evidence and adoption, said Dr. Peter Jüni, an epidemiologist at the University of Bern (Switzerland), lead author of the

High-quality evidence from large randomized controlled trials is relatively recent in the field of osteoarthritis, Dr. Jüni said in an interview, Sept. 17. "Only in the last 5-10 years has it become established in this field to do large-scale clinical trials," he said. Of the 10 published randomized placebo-controlled trials Dr. Jüni and colleagues identified for their analysis, one was published in 1994 and the rest in the past decade, with the most recent in 2008.

"At the end of the 1990s and beginning of the 2000s, there were moderately small studies that actually made it into meta-analysis and into treatment guidelines" showing favorable results from glucosamine and chondroitin," Dr. Jüni said. "Physicians were very reluctant to

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accept these then." Eventually, of course, they did, and now "it will take time for the bad news to sink in, just as it took time for the good news in the 1990s." Currently, Dr. Jüni noted, two more large nonindustry trials of glucosamine and chondroitin are underway. These "could put the nail in the coffin – or, you never know, could reopen the book.

For their research, Dr. Jüni and colleagues analyzed results from randomized, placebo-controlled trials - seven of

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The 10 trials differed significantly in design. The majority enrolled patients with osteoarthritis of the knee only, though one enrolled patients with osteoarthritis of the hip or knee, and another included just patients with osteoarthritis of the hip. Supplements used included glucosamine sulfate, glucosamine hydrochloride, chondroitin sulfate, and combinations of these. All the

them industry-sponsored – enrolling 200 or more patients with knee or hip osteoarthritis (3,803 patients total). Using complex statistical modeling that allowed for comparisons at varied time points, the team assessed changes in levels of perceived pain after patients took glucosamine, chondroitin, or placebo daily for between 1 and 36 months. Six of the trials also measured joint narrowing (BMJ



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