

Metformin use significantly reduces risk of joint replacement in people with type 2 diabetes

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Osteoarthritis is a common chronic condition that usually causes joint pain and can be severe enough to require knee and hip replacements. In the United States, the number of total knee replacement (TKR) and total

hip replacement (THR) surgeries is estimated to reach 572 000 per year by 2030. No medications are currently known to prevent or reverse osteoarthritis.

A team of researchers from China, Taiwan and Australia aimed to determine whether metformin use was associated with a lower risk of TKR or THR as evidence to date has been sparse and inconclusive. They analyzed data from 69 706 participants who received a diagnosis of type 2 diabetes in Taiwan between 2000 and 2012 and compared the risk of TKR and/or THR between people taking metformin and those not taking metformin. The mean age was 63 years and half were women. About 90% of total joint replacements were related to osteoarthritis.

"We found that metformin use in patients with type 2 [diabetes mellitus](#) was associated with a significantly reduced risk of joint replacement, suggesting a potential therapeutic effect of metformin in patients with osteoarthritis," writes Dr. Changhai Ding, Clinical Research Center of Zhujiang Hospital, Southern Medical University, Guangzhou, China, with coauthors.

The authors call for randomized controlled trials to determine if metformin use is effective in patients with [osteoarthritis](#).

More information: Metformin use and associated risk of total joint replacement in patients with type 2 diabetes: a population-based matched cohort study, *Canadian Medical Association Journal* (2022). [DOI: 10.1503/cmaj.220952](#)

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