

Worse pain outcomes after knee replacement for patients who took opioids before surgery

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Six months after knee replacement surgery, pain outcomes were not as good for patients who previously took prescription opioids, according to a study in the May 17 issue of *The Journal of Bone & Joint Surgery*.

"Our results should be viewed as a warning that using opioids during the preoperative period may be problematic due to their negative effects on subsequent TKA outcomes," comments senior author Elena Losina, PhD, of the Department of Orthopaedic Surgery at Brigham and Women's Hospital, Boston.

Previous Opioid Users Get Less Pain Relief from TKA

The researchers analyzed data on 156 patients who underwent total knee arthroplasty (TKA) at their hospital between 2011 and 2013. The average age was about 66 years and 62 percent of patients were women. Average [pain](#) score before surgery was about 44 on a 100-point scale, with 100 being the worst score.

During the two years before TKA, 23 percent of patients had received at least one prescription for opioid pain relievers. Nine percent had multiple opioid [prescriptions](#). (Nearly all patients received opioids for [pain relief](#) after surgery.)

Six months after TKA, pain scores and other outcomes were compared

for patients with and without previous opioid prescriptions. The analysis included a "propensity score" to account for other factors associated with an increased likelihood of using opioids.

After surgery, the previous opioid users had a higher average pain score: about 17, compared to 10.5 for those who did not receive opioids. The difference in postoperative pain-score reduction between the two groups was significant after adjusting for preoperative pain score and other health conditions.

The factor most strongly related to preoperative opioid use was an elevated [score](#) for "pain catastrophizing"—the degree to which a person has exaggerated negative responses to and worries about pain. Dr. Losina and coauthors write, "Pain catastrophizing may play an important role in decisions by physicians and patients to use opioids, which then places [patients] at risk for poorer outcomes."

The use of opioids for chronic non-cancer-related pain has increased dramatically in recent years. In the United States, more than \$1.5 billion per year is spent on [prescription opioids](#) for people with [knee osteoarthritis](#). A 2009 study suggested that nearly half of Medicare beneficiaries with knee osteoarthritis took prescription opioids.

Patients with painful knee osteoarthritis spend an average of 13 years on medications and other treatments before undergoing TKA. This new study suggests that nearly one-fourth of such patients take opioid pain relievers before TKA.

The findings "support and expand on" previous evidence that preoperative [opioid](#) use leads to worse clinical outcomes after total joint replacement and other major orthopedic [surgery](#) procedures. Considering the long duration of knee pain most [patients](#) experience before they finally undergo TKA, the study may have important

implications for creating appropriate treatment guidelines. Dr. Losina and colleagues conclude, "Clinicians and policy makers may consider limiting the use of opioids prior to TKA to optimize post-TKA pain relief."

More information: Savannah R. Smith et al. Impact of Preoperative Opioid Use on Total Knee Arthroplasty Outcomes, *The Journal of Bone and Joint Surgery* (2017). [DOI: 10.2106/JBJS.16.01200](https://doi.org/10.2106/JBJS.16.01200)

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