

Prolonged opioid use before knee or hip replacement surgery increases risk of poor outcomes

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Patients who take prescription opioids for more than 60 days before total knee or hip replacement surgery are at significantly higher risk of being readmitted to the hospital and of undergoing repeat joint-replacement surgery, compared to patients with no preoperative opioid use, reports a study in the July 18 issue of *The Journal of Bone & Joint Surgery*.

"Opioid use should be considered yet another risk factor for surgeons and patients to consider prior to elective primary joint arthroplasty," write Hue H. Luu, MD, and colleagues of The University of Chicago. They note that more than half of patients in their national database study had at least one opioid prescription filled before undergoing total knee or hip arthroplasty (TKA or THA).

Opioid Use Linked to Increased Rehospitalization and Reoperation Risks after TKA or THA

The study included approximately 324,000 patients who underwent TKA (233,000 patients) or THA (91,000) between 2003 and 2014. All patients had at least one year of follow-up data, while about 160,000 patients had three years of follow-up.

Patients were identified from a national database that included both private insurance and Medicare data. Preoperative opioid use was assessed as a risk factor for two major adverse outcomes: readmission to the hospital within 30 days and repeat joint-replacement surgery (revision arthroplasty) within one to three years.

In the one-year follow-up group, about 51 percent of TKA patients and 56 percent of THA patients had one or more opioid prescriptions filled in the six months before the procedure. Rates of prolonged preoperative opioid use—more than 60

days—were 16 percent for TKA patients and 19 percent for THA patients.

Prolonged opioid use was associated with an increased risk of both adverse outcomes. For TKA patients, the hospital readmission rate was 4.82 percent among those with no preoperative opioid use versus 6.17 percent for those with more than 60 days of opioid use. For THA patients, the rates were 3.71 versus 5.85 percent, respectively.

At one-year follow-up, the rate of revision TKA was 1.07 percent for patients with no preoperative opioids versus 2.14 percent for those with prolonged opioid use. For THA, the revision rates were 0.38 versus 1.10 percent, respectively.

The increased risks associated with prolonged preoperative opioid use were also significant in the three-year follow-up group. In both groups the opioid-related increases in risk remained significant after adjustment for age, sex, and a "comorbidity index" reflecting other medical conditions. The authors note some limitations of their study, including a lack of data on the cause of repeat surgery or the reason for readmission.

Amid the ongoing opioid epidemic, studies have linked preoperative opioid use to worse clinical outcomes after various types of surgery. Total knee and hip arthroplasty are two of the most common surgical procedures in the United States, with more than one million procedures performed each year. These findings add to those from previous studies linking chronic opioid use to worse outcomes after TKA and THA, including higher rates of complications, implant failure, and death.

"Previous studies have highlighted factors associated with poor outcomes in total joint arthroplasty, such as diabetes, chronic kidney

disease, obesity, and smoking," Dr. Luu and coauthors write. "Our data suggest that preoperative opioid use may be another risk factor to take into consideration."

The study also finds that more than half of patients are exposed to opioids before TKA or THA, often for a prolonged period. The researchers write, "Although it may not be possible for certain conditions, diminishing or eliminating opioid use preoperatively would be beneficial when planning a total joint arthroplasty."

"Both readmissions and additional revision surgeries add to the cost of healthcare and are often physically and emotionally challenging for our patients," Dr. Luu comments. "As physicians, we can help our patients and the healthcare system by reducing or eliminating preoperative [opioid](#) use in hip and knee replacement [patients](#)."

More information: "Preoperative Opioid Use Is Associated with Higher Readmission and Revision Rates in Total Knee and Total Hip Arthroplasty" [journals.lww.com/jbjsjournal/F...?PRID=JBJS PR_071818](https://journals.lww.com/jbjsjournal/F...?PRID=JBJS_PR_071818)

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