

After hip-replacement surgery, medication use decreases

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A new study, published November 15, in the journal *Pain* provides information on the trajectories of prescription drug use before and after hip-replacement surgery—total hip arthroplasty (THA), one of the most common types of joint replacement surgery. Hip-replacement surgery is commonly followed by long-term reductions in the use of prescription drugs for pain and insomnia. But use of these medications increases during the year before hip replacement—and jumps even higher in the period immediately after surgery, according to Dr. Tone Blågestad of the University of Bergen, Norway, and colleagues.

The researchers merged Norwegian national [joint replacement](#) and prescription databases to analyze medication use by nearly 40,000 patients undergoing THA from 2005 to 2011. The patients' average age was 68.5 years; about three-fourths underwent THA because of primary osteoarthritis.

The scientists analyzed trends in prescription [drug](#) use over two years: four quarters before and four quarters after hip-replacement [surgery](#). The study focused on various classes of drugs used to treat pain (analgesics) and insomnia (hypnotics), as well as drugs to treat anxiety and depression.

Overall, about half of patients filled a prescription for some type of analgesic in the year before surgery. Analgesic use included [nonsteroidal anti-inflammatory drugs](#) (NSAIDs, such as naproxen) in 38 percent of patients, opioids (morphine and related drugs) in 16 percent, and other

non-opioid analgesics in 12 percent.

Use of pain medications continued to increase during the last quarter before THA—and then increased dramatically in the first quarter after surgery. The sharpest increases were for opioids, which increased to 28 percent in the last quarter before THA, then to 65 percent in the first quarter afterward; non-opioid analgesics increased to 21 percent and then to 60.5 percent.

The percentage of patients who filled prescriptions for [hypnotic drugs](#) also increased from the quarter before to the quarter after surgery—from 14 percent to 25 percent. Analysis of the drug volume (dosage) showed a similar pattern.

With continued follow-up after THA, medication use decreased. By one year after THA, opioid use had decreased to 14 percent, NSAID use to 18 percent, and non-opioid analgesic use to 13 percent. Use of hypnotic drugs also decreased, along with medications to treat anxiety. There was little or no change in the use of antidepressants, however.

"Patients with chronic pain are frequent users of analgesic and psychotropic drugs and thereby risk adverse drug events," Dr. Blågestad and coauthors write. There is special concern about the potential for serious adverse effects of opioids, including drug overdose.

The results suggest that use of [pain medications](#) increases in the year before hip-replacement surgery, with a further increase immediately afterward, followed by a long-term decrease. That pattern is consistent with previous studies on pain scores in the period before and after THA.

Hypnotic drug use shows a similar trend, suggesting that sleep problems get worse, then improve with long-term pain relief after THA. The lack of change in antidepressant use suggests that depression in patients

undergoing hip replacement isn't necessarily related to hip pain.

"Overall, the present results extend the positive effects of THA to include reduced reliance on medication to alleviate symptoms," Dr. Blågestad and colleagues report. The finding that hypnotics follow the same prescription trajectory as analgesics highlights the link between [pain](#) and sleep. The researchers add, "Our results warrant attention to the increased risk of adverse medication effects occurring with the increased use of both opioids and hypnotics in the recovery phase."

More information: Tone Blågestad et al. Prescription trajectories and effect of total hip arthroplasty on the use of analgesics, hypnotics, antidepressants and anxiolytics, *PAIN* (2015). [DOI: 10.1097/j.pain.0000000000000414](#)

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