

# For spinal fusion surgery patients, taking opioids before surgery is major risk factor for long-term opioid use

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Patients taking opioids for at least three months before spinal fusion surgery in the lower spine are much more likely to continue taking opioids one year after surgery , reports a study in *Spine* .

"We found over 40 percent of chronic preoperative users still were filling [opioid](#) prescriptions 12 months after [surgery](#)," write Andrew J. Pugely and colleagues of University of Iowa Hospitals and Clinics, Iowa City. Their study includes an online calculator to help surgeons assess the risk of prolonged postoperative opioid use in [patients](#) undergoing [spinal fusion surgery](#).

## Preoperative Opioids Are Strongest Risk Factor for Prolonged Opioid Use

The study included approximately 26,500 patients undergoing lower [spine fusion](#) surgery (lumbar arthrodesis) between 2007 and 2015. Patients were identified from a nationwide insurance database; more than 90 percent were aged 50 years or older and about 60 percent were women.

Overall, about 58 percent of patients had an active opioid prescription within three months before lumbar arthrodesis. Using one-year follow-up data, the researchers compared opioid prescription filling rates for patients with preoperative opioid use (OU) versus "opioid-naive" (ON)

patients who didn't take opioids in the three months before surgery.

Throughout the year after spinal fusion, patients who had been taking opioids before surgery were more likely to continue to fill opioid prescriptions:

- At one month, about 83 percent of patients with preoperative opioid use had filled an opioid prescription, compared to 60 percent of opioid-naive patients.
- By three months, rates of prescription opioids declined, but remained higher in the OU group: 54 percent, compared to 14 percent in the ON group. After six months, rates of opioid prescriptions leveled off.
- At one year, about 42 percent of the OU group were still filling opioid [prescriptions](#), compared to nine percent of the ON group.

Preoperative opioid use was by far the strongest predictor of continued opioid use at one year. Risk was more than four times higher for patients in the OU group compared to the ON group. The magnitude of the risk increase varied for different types of spinal fusion surgery.

Other risk factors included depression/anxiety, alcohol abuse, and drug dependence (besides opioids). Based on the risk factors identified, the researchers created an [interactive app](#) for surgeons to use in estimating the risk of opioid use one year after spinal fusion surgery.

Studies have shown that opioid use before major orthopedic surgery is associated with worse outcomes as well as an increased risk of prolonged opioid use. Few studies have looked at the outcomes and risk factors for chronic opioid use after spine surgery. Lumbar arthrodesis is widely performed for various types of lower spine disorders.

The new study highlights preoperative opioid consumption as a major

risk factor for continued opioid use up to one year after lower spine fusion surgery. "In our experience, this prolonged opioid use after spine fusion surgery may be largely inappropriate," Dr. Pugley and coauthors write. They emphasize that they do not advocate eliminating the use of opioids for pain treatment after spinal surgery: "Opioid overuse should not be confused with appropriate use."

However, they do recommend appropriate steps to prevent long-term opioid use after spinal fusion surgery. Dr. Pugley and colleagues conclude: "The identified risk factors and the proposed clinical utility app can be used as an adjunct to [risk](#) stratification and patient counseling for encouraging discontinuation of presurgical narcotic use, and opioid weaning strategies."

**More information:** Piyush Kalakoti et al, Opioid Utilization Following Lumbar Arthrodesis, *SPINE* (2018). [DOI: 10.1097/BRS.0000000000002734](#)

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