

Opioid use prior to spine surgery linked to diminished patient reported outcomes

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A new study appearing in the *Journal of Bone and Joint Surgery (JBJS)* links the use of opioid pain relievers (prescription medications, such as Percocet) to less improvement and higher levels of dissatisfaction following spine surgery.

Between 1999 and 2010, a greater focus on pain management resulted in a four-fold increase in opioids sold to hospitals, pharmacies and doctors' offices, and a related and ongoing increase in opioid-related complications, including [opioid dependence](#), impaired cognition and poor treatment outcomes. Previous studies have found a link between opioid use and diminished spine [surgery](#) outcomes; however, the studies did not account for differences in opioid consumption among patients.

In this study, 326 out of 583 (56 percent) patients reported some degree of opioid use prior to elective lumbar, thoracolumbar or cervical [spine surgery](#) between October 2010 and June 2012. Researchers collected preoperative demographic data on all patients including age, sex, race, diabetes and smoking status, level of surgical invasiveness, relevant comorbidities and socioeconomic information. Daily opioid use, including opioid type, dosage, route and frequency of administration in a 24-hour period, was self-reported and converted into a morphine-equivalent amount in milligrams per day. The median patient preoperative daily morphine equivalent amount was 8.75 milligrams.

Patient-reported health status was measured preoperatively, and at three and 12 months following surgery, using a range of established medical

tests that measure levels of physical and mental function, depression, distress, back and other pain, disability, somatization (chronic, physical symptoms with no known cause) and treatment results. Among the findings:

- Increased preoperative opioid use was a significant predictor of worse health outcomes at 3 and 12 months following surgical treatment, as measured in 12-Item Short-Form Health Survey (SF-12) and EuroQol-5D (EQ-5D) scores.
- Every 10 milligram increase in the daily morphine equivalent amount taken preoperatively was associated with a decrease in mental and physical health and disability scores: a .03 decrease in the SF-12 physical and mental health summary scores, a .01 decrease in the EQ-5D score, and a .5 increase in the Oswestry Disability Index assessment.
- Opioid consumption seems to occur frequently in those with psychiatric comorbidities such as depression and anxiety, which may lead to increased opioid use.

"We have demonstrated that increasing amounts of preoperative [opioid](#) consumption may have a harmful effect on patient reported outcomes in those undergoing spinal surgery," said lead study author Clinton J. Devin, MD, assistant professor of orthopaedic surgery and neurosurgery at the Vanderbilt Spine Center.

"Our work highlights the importance of careful preoperative counseling with patients on high doses of preoperative opioids, pointing out the potential impact on long term outcome and working toward narcotic reduction prior to undergoing surgery," said Dr. Devin.

Provided by American Academy of Orthopaedic Surgeons

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