

Opioid Use following Spine Surgery in Ambulatory Surgical Centers vs Hospital Outpatient Departments

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INTRODUCTION:

Outpatient orthopedic spine surgeries are becoming more common due to their cost-effectiveness. However, the reduced time spent in the ambulatory surgical center [ASC] versus hospital outpatient department [HOPD] poses a new challenge in effectively managing pain to minimize unplanned postoperative health care utilization, such as emergency department visits. This study examines the association between the outpatient surgery setting (ASC versus HOPD) and perioperative opioid prescription patterns and prolonged opioid use for lumbar decompression and anterior cervical discectomy and fusion (ACDF).

METHODS:

A retrospective study was conducted using the Merative MarketScan Commercial Claims and Encounters Database, including patients aged 18-64 who underwent lumbar decompression (n=32,420) or ACDF (n=16,428) from 2017-2021. Propensity score matching (1 ASC:3 HOPD) was used based on patient demographic factors and comorbidities to increase similarity between patients in the two surgery settings. Multivariable regression models assessed perioperative (30 days before to 14 days after surgery) outcomes: filling an opioid prescription, filling multiple opioid prescriptions, initial prescription for a potent opioid, and total oral morphine equivalents (OMEs). Prolonged opioid use (91-180 days post-surgery) was also examined in opioid-naïve patients who filled a perioperative opioid prescription. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) are reported.

RESULTS:

ASC utilization for lumbar decompression was associated with lower odds of multiple perioperative opioid prescriptions (OR=0.89, 95% CI 0.84-0.94, p<0.001) but higher odds of an initial potent opioid (OR=1.23, 95% CI 1.16-1.30, p<0.001). For ACDF, ASC utilization was linked to higher odds of an initial potent opioid (OR=1.18, 95% CI 1.08-1.30, p<0.001) and higher perioperative OMEs (+21.55, 95% CI 3.38-39.72, p=0.02). Surgery setting was not associated with prolonged opioid use for either procedure, with or without adjusting for perioperative opioids.

DISCUSSION AND CONCLUSION:

This study highlights significant differences in opioid prescribing patterns between spine surgeries performed in ASCs and HOPDs. ASCs were associated with the prescription of more potent initial opioids for both surgeries, which may relate to the actual or perceived need for different pain management strategies, given differences in care pathways. This higher potency led to lower odds of multiple opioid prescriptions in lumbar decompression, indicating effective pain management. While higher perioperative OMEs were used in ASCs for ACDF, there was no significant variation in prolonged opioid use between the two settings. These findings suggest that ASCs can manage postoperative pain effectively without increasing the risk of long-term opioid dependency. Further research should focus on understanding the variation in prescribing practices and pain management needs to improve the standardization of care across different surgical settings.