Preoperative Opioid Use as a Marker for Targeted Pain Preconditioning Before Spine Surgery

Mark Hocevar, MD, MPH, Andrey Rakalin, MD

Department of Anesthesia, Critical Care and Pain Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA

BACKGROUND & OBJECTIVES

- Patients receiving chronic opioid therapy before spine surgery are at increased risk for perioperative pain-management challenges.[1]
- Preoperative pain optimization and behavioral preconditioning, including cognitive behavioral therapy, may improve postoperative recovery but remain underutilized.[2,]
- Objective: Evaluate whether preoperative opioid use is associated with increased postoperative resource utilization and identify patients who may benefit from targeted preoperative pain preconditioning.

METHODS

- Population: Patients undergoing open spine surgery between January–July 2026 who were evaluated by the chronic pain service within 6 months of surgery (N = 35).
- Patients were stratified by preoperative opioid use. Outcomes included hospital length of stay, Acute Pain Service consultation, and documented preoperative pain management discussion.
- Continuous and categorical variables were compared using the Mann–Whitney U test and Fisher's exact test, respectively ($P < 0.05$).

RESULTS

Baseline Patient Characteristics	No Pre-op Opioids (n = 22)	Pre-op Opioids (n = 13)	P value
Age, years, mean ± SD	58.4 ± 14.8	57.7 ± 17.1	0.89
Sex, n (%)			0.03
Female	15 (68.2%)	4 (30.8%)	
Male	7 (31.8%)	9 (69.2%)	
ASA Physical Status, n (%)			0.49
ASA II	12 (54.5%)	9 (69.2%)	
ASA III	10 (45.5%)	4 (30.8%)	
Procedure Type, n (%)			0.71
Lumbar decompression (laminectomy)	7 (31.8%)	5 (38.5%)	
Lumbar discectomy/microdiscectomy	6 (27.3%)	3 (23.1%)	
Fusion (cervical or lumbar)	7 (31.8%)	5 (38.5%)	
Other/revision	2 (9.1%)	0 (0.0%)	

Outcome	No Pre-op Opioids (n=22)	Pre-op Opioids (n=13)	P value
Length of stay, mean ± SD (days)	2.41 ± 1.53	4.08 ± 3.25	0.1
Length of stay, median (days)	2	3	0.041
APS/Medicine consult, n (%)	2 (9.1%)	6 (46.2%)	0.032
Preoperative pain discussion, n (%)	8 (36.4%)	1 (7.7%)	0.109

DISCUSSION

- Chronic preoperative opioid use identifies a high-risk population with greater postoperative resource utilization who may benefit from targeted pain preconditioning.
- Low rates of documented preoperative pain discussions across both opioid users and opioid-naïve patients suggest that perioperative pain preparation remains underutilized.
- Limitations: Despite limitations including small sample size, retrospective design, and potential confounding.

CONCLUSIONS

Preoperative pain preconditioning may represent an opportunity to reduce postoperative resource utilization and improve perioperative pain management, particularly among patients receiving chronic opioid therapy.

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Mhocevar@BIDMC.Harvard.edu

Beth Israel Deaconess Medical Center

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL