What Pain Intervention Methods Help Reduce Opioid Use and Increase Patient Satisfaction?

Alexandra Herr and Kip Borkholder MSN, PMHNP-BC
School of Nursing
Indiana University South Bend

Introduction

Effective pain management is crucial for improving patient outcomes after surgery. Pain can hinder the healing process, negatively impact mental health, and contribute to the stress response, leading to other physical symptoms. Nurses play a key role in administering pain management orders from physicians while also providing comfort care to patients. As such, it is essential for nurses to be informed about alternative pain interventions that can reduce opioid use. This consideration prompted an examination of various pain management strategies for shoulder surgery and their potential to minimize opioid consumption. Is it possible to spare opioids for most patients? While this paper specifically focuses on shoulder surgery, the insights it provides are valuable to all nurses, as pain management remains a challenge for many patients across a wide range of conditions.

Methods

This literature review utilized scholarly articles and compiled the evidence for pain intervention strategies in post-operative shoulder surgery patients. PubMed, Google Scholar, ProQuest Nursing, and Allied Health databases were searched for peer-reviewed, randomized controlled trials, published from 2018 to 2024. The search terms used were Post-op ("post surgical" or "post surgery" or "post operative") and "nerve block" and other pain relief (“opioid” or “oral analgesic” or “pain relief”) and shoulder ("rotator cuff" or “arthroscopy”). Continuous dwellings or patient-controlled analgesics were excluded. The articles chosen included other pain-relieving interventions including heat application, cryotherapy, TENS machine, and both over the counter and prescription pain medications. Studies on nerve blocks compared to other pain-relieving interventions and opioid use were included. In total, 109 articles were reviewed for quality and relevance, ten were originally selected for further review. These ten studies were then evaluated using the CRAAP method for currency, relevance, accuracy, authority, and purpose (Nosworthy, 2018). Five articles were chosen for inclusion, and a synthesis of evidence was performed.

Predictions

In post-operative shoulder surgery patients, what effect does the use of nerve block agents and alternative pain management strategies have on patient satisfaction, pain levels & post operative opioid usage?
Patient satisfaction was predicted to increase and the need for postoperative opioid use was expected to decrease with the use of alternative pain management interventions and nerve blocks.

Materials

Peer reviewed articles were retrieved using PubMed, Google Scholar, ProQuest Nursing, and Allied Health databases.
All included articles measured pain using a Visual Analogue Scale (VAS). Patient satisfaction was commonly measured using a basic Likert scale for satisfaction. All systematic reviews and meta-analysis were evaluated following the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines (PRISMA). Study quality was assessed using the Cochrane Collaboration’s Risk of Bias Tool. One article included for analysis accessed the Florida Prescription Drug Monitoring Program (E-FORCES) database to track opioid prescription data.

Results

The analysis of pain management strategies revealed that nerve blocks alone were insufficient in improving patient outcomes. Patients who received preoperative education that set realistic expectations and highlighted the risks of opioid dependence demonstrated significantly improved satisfaction and reduced opioid consumption postoperatively. Additionally, a multimodal approach, incorporating standard analgesic interventions alongside complementary strategies such as cryotherapy, guided imagery, deep breathing, and TENS (transcutaneous electrical nerve stimulation), was shown to enhance patient satisfaction. This approach not only reduced the need for opioid use but also actively engaged patients in their recovery, leading to lower perceived pain levels. Patients who utilized these comprehensive pain management techniques reported a greater sense of control over their recovery and a more positive overall experience. These findings suggest that combining conventional pain relief methods with patient-centered interventions can effectively optimize post-operative recovery, enhancing satisfaction while minimizing opioid dependency.

Discussion

Nurses play a critical role in pain management and patient education. By providing comprehensive preoperative education, nurses can set realistic expectations for post-operative pain levels and clearly communicate the risks of opioid dependence. This proactive approach helps patients prepare mentally for their recovery, potentially reducing anxiety and promoting better outcomes. Additionally, nurses should develop expertise in complementary pain management techniques such as cryotherapy, guided imagery, deep breathing, and the use of TENS machines. By encouraging patients to actively engage in these strategies, nurses empower them to take control of their recovery, leading to improved satisfaction and reduced reliance on opioids. The proper application of these strategies not only enhances patient experiences but also contributes to shorter hospital stays and a reduction in postoperative opioid use. Ultimately, nurses’ involvement in both education and multimodal pain management is essential in improving patient outcomes and minimizing the risks associated with opioid use.

References

Caldwell, G. L., & Selepec, M. A. (2020). Surgeon-administered nerve block during rotator cuff repair can promote recovery with little or no post-operative opioid use. HSS Journal ®, 16(S2), 349–357. https://doi.org/10.1007/s11420-019-09745-4

Gabriel, R. A., Swisher, M. W., Sztain, J. F., Furnish, T. J., Ilfeld, B. M., & Said, E. T. (2019). State of the art opioid-sparing strategies for post-operative pain in adult surgical patients. Expert Opinion on Pharmacotherapy, 20(8), 949–961. https://doi.org/10.1080/14656566.2019.1583743

Hurley, E. T., Maye, A. B., Thompson, K., Anil, U., Resad, S., Virk, M., Strauss, E. J., Alaia, M. J., & Campbell, K. A. (2020). Pain control after shoulder arthroscopy: A systematic review of randomized controlled trials with a network meta-analysis. The American Journal of Sports Medicine, 49(8), 2262–2271. https://doi.org/10.1177/0363546520971757

Su, P., Liu, Y., Zhang, L., & Bai, L. (2023). Comparison of analgesia treatment methods after arthroscopic rotator cuff repair: A network meta-analysis of 42 randomized controlled trials. Orthopaedic Journal of Sports Medicine, 11(5), 1–13. https://doi.org/10.1177/23259671231167128