

"Ditch The Signature Drink": Alternative Interventions to Periarticular Cocktails and Post-Operative Pain Outcomes in Total Joint Patients

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Introduction: Traditionally, periarticular infiltration, or “joint cocktails,” has been a common adjunct to pre-operative multi-modal medications for total knee and hip arthroplasty. These compounded “cocktails” can include Dexmedetomidine, Liposomal Bupivacaine, Ropivacaine, Epinephrine, Ketorolac, Morphine, Ketamine, Clonidine and Methylprednisolone. Unfortunately, there is no consensus on which medications to use.

Identification of the Problem: Currently, there is no data validating the stability of some 'joint cocktail' combinations prepared by pharmacy. Due to pharmacy directives and potential risks associated with Morphine and NSAIDs, our hospital switched from a compound of Ropivacaine, Ketorolac, and Morphine to exclusively Ropivacaine.

QI Question/Purpose of the Study: Does exclusively using only ropivacaine for infiltration lead to increased postoperative pain for patients? Can tracking variables reveal trends that identify barriers to effective post-operative pain control in specific populations, thereby enabling the discovery of alternative solutions for optimal pain management?

Methods: Project strategies involved literature reviews, chart audits before and after the medication change, stakeholder meetings, pain documentation education and re-education for staff, daily huddle reminders, and staff meeting presentations outlining the project and progress. Toradol was implemented to be given in PACU.

Outcomes/Results: Ropivacaine exclusively resulted in higher pain scores: 42% of patients reported PACU pain scores of 7-8 (7.85), whereas 39% of those who received the joint cocktail reported pain scores of 5-6 (5.73). Predictably, those undergoing total knee replacements reported the highest pain scores. IV Ketorolac did not show improved pain control. Also noted was a 6% increase of administration of muscle relaxants and opioids. No glaring trends in patient variables emerged in this study.

Discussion: Pain is inherently subjective. Literature indicates that patients with OSA and those taking SSRI's will report higher pain scores despite comprehensive interventions from the entire medical team; this study did not find those variables significant.

Conclusion: The study observed higher postoperative pain scores, leading to increased use of alternative medications in the PACU, surgical floor, and at home; noted 15% increase in refill requests. Ketorolac did not seem to be a factor in reducing reported pain scores.

Implications for perianesthesia nurses and future research: This study was conducted in a small, low-volume orthopedic facility. Although other drug combinations with valid stability data exist, research is needed to identify the optimal combination.