

Preoperative Acetaminophen in Surgical Patients: Does the Administration Route (Intravenous versus Oral) Affect Postoperative Outcomes?

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Introduction: The administration of acetaminophen is part of a multimodal approach to surgical pain management in the perianesthesia setting. For a time prior to the fall of 2016, our institution's standard anesthesia orders included a preoperative dose of IV acetaminophen. A system-wide change occurred, and oral (po) acetaminophen became the standard of care.

Identification of the problem: Anecdotally, perianesthesia nurses noticed that the route of medication administration impacted symptoms experienced by patients in the post anesthetic recovery period.

Purpose of the Study: This direct care, nurse-led, interdisciplinary research study compares the following outcomes in surgical patients receiving IV acetaminophen versus oral acetaminophen: Patient reports of pain, postoperative opioid consumption, negative opioid effects, PACU length of stay, and patient satisfaction with pain control.

Methodology: This was a double-blind study. 120 participants were recruited preoperatively from the surgical unit at a hospital in the mid-western US. Eligible, consenting adult patients scheduled for outpatient surgery under general anesthesia were randomly assigned to receive IV or po acetaminophen preoperatively.

Results: Final results are pending. Preliminary data after the first 60 patients revealed mean postoperative "highest pain" scores were significantly lower in the IV group (3.2) compared to the po group (4.83); opioid use was higher in the po group, but not yet significant ($p = 0.06$); PACU length of stay was slightly higher in the po group; neither negative opioid effects nor patient satisfaction were associated with the route of administration.

Discussion: An extensive literature search revealed no studies comparing the IV and po routes of acetaminophen in surgical patients; in fact, experts in the field have called for studies that compare which route is more effective. This study proposes to fill this gap in the literature to determine if there is a significant difference in clinical outcomes related to the administration route of preoperative acetaminophen.

Conclusion: This study was completed on February 14, 2019. At the time of this abstract, final data analysis was pending.

Implications for perianesthesia nurses and future research: When faced with surgery, pain management is one of the primary concerns voiced by patients. Ultimately, results from this study will be used to advocate for patients and best practice in preoperative care.