PREOPERATIVE ACETAMINOPHEN IN SURGICAL PATIENTS: DOES THE ADMINISTRATION ROUTE (INTRAVENOUS VERSUS ORAL) AFFECT POSTOPERATIVE OUTCOMES?

Primary Investigator: Diana Pelzer, MSN RN CAPA
TriHealth Bethesda Butler, Hamilton, Ohio
Co-Investigators: Jennifer Cox, BSN RN, Elizabeth Burgess, MD, Rachel Baker, PhD RN

Introduction: The administration of acetaminophen is part of a multimodal approach to surgical pain management in the peri-anesthesia 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, peri-anesthesia 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 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: The implementation of RVM will allow nurses to objectively identify patients at risk for respiratory compromise. Proper protocols should be further developed and clinically tested.

IMPLEMENTING ENHANCED SURGICAL RECOVERY ACROSS SERVICE LINES: THE FUTURE IS YESTERDAY

Primary Investigator: Vicki Morton, DNP, AGNP-BC
Providence Anesthesiology Associates, Charlotte, North Carolina
Co-Investigator: Desiree Chappell, MSN, CRNA

Introduction: Variability in care leads to decreased quality and poor surgical outcomes. As the landscape of healthcare shifts from fee-for-service to value-based care, patient outcomes have come under the microscope in effort to provide better quality of care for the patients we serve. Enhanced Recovery After Surgery (ERAS) pathways are shown to decrease variability and improve outcomes by delivering quality care.

Identification of the problem: A lack of standardization was noted amongst surgical and anesthesia providers. This was not only confusing to perioperative staff, it also lent to delayed case starts and negative impacts on surgical outcomes and length of stay.

QI Question: Can the implementation of an evidence-based, quality improvement program across specific surgical lines decrease variations in care, length of stay (LOS), and cost in a community hospital?

Methods: Through retrospective chart review of colorectal and bariatric surgical Cases, significant variations in care were noted amongst providers within the same groups and also individual providers performing like procedures. In effort to improve care and outcomes, an ERAS pathway was implemented in colorectal and bariatric surgery. May 2016 through October 2018, 1,674 total patients were included in the ERAS group with matched retrospective controls.

Results: Reductions in LOS: colorectal 4.5 to 2.05 days and bariatric 2.15 to .95 days, cost per case: decreased by 20% and 10% in colorectal and bariatric respectively. In addition, both groups showed significant reductions in postoperative opioid.
**Discussion:** The collaboration between providers, nursing, hospital administration, and ancillary staff to plan and implement an Enhanced Recovery program proved to reduce variability in care, thereby improving outcomes. Due to the success of the colorectal and bariatric ERAS programs, it was decided to replicate the programs in 5 other system hospitals and expand service lines.

**Conclusion:** The ERAS program provides the "quadruple aim": improved patient experience, better outcomes, lower cost, and improved clinician experience.

**Implications for perianesthesia nurses and future research:** Collaboration between perianesthesia nursing and providers is essential to the success of any ERAS program. As the program continues to grow, not only across service lines, but across hospitals within the system, the program leaders will continue to work with perianesthesia nursing for process and protocol development to ensure success of the program.

**PEDIATRIC EARLY WARNING SCORE (PEWS) IMPLEMENTATION IN THE PACU**

**Team Leader:** Lauren Boston, MSN RN PNP-PC. Monroe Carell Jr. Children’s Hospital at Vanderbilt, Nashville, Tennessee

**Team Members:** Leigh Ann Chadwell, MSN RN NE-BC, Kate Copeland, MSN RN NEA-BC, Carrie Menser, MD, Barbara Shultz, RN MSN BSN NEA-BC

**Introduction:** The Pediatric Early Warning Score (PEWS) is an established pediatric tool used to identify and trend pediatric patients at risk for clinical deterioration prior to adverse events occurring. This tool provides an objective score and corresponding action plan based on a patient’s vital signs and current assessment.

**Identification of problem:** A need was identified to recognize perioperative patients at risk for clinical deterioration prior to transfer to acute care units.

**EBP Question/Purpose:** The purpose of this initiative was to validate the PEWS tool and action plan in the perioperative setting.

**Methods/Evidence:** Validation consisted of scoring 26 patients from 6 main services (Orthopedics, ENT, General Surgery, GI, Pulmonology, Hematology/Oncology) and all shifts (days, nights, and weekends). Eight bedside nurses completed the validation scoring over the course of 1 week. The bedside nurses were asked to score the patient in PACU, prior to Acute Care transfer and follow the corresponding action plan. Usefulness of the tool and correlation of patient acuity to scoring number were assessed by asking if the patient’s PEWS score actively reflected the patient’s current acuity/condition and if the scoring prompted unnecessary additional assessment and intervention.

**Significance of Findings/Outcomes:** During the validation, 2 patients had a score that increased awareness of the patients’ current conditions in the PACU: one had delayed acute care transfer until more stable, the other transferred to the PICU instead of Acute Care. All nurses reported similarities in the patient’s actual acuity and the PEWS score; none reported unnecessary additional assessments or intervention.

**Implications for perianesthesia nurses and future research:** Use of this tool in pediatric perioperative patients assists the PACU bedside nurse in providing objectivity to the subjectivity of patient acuity and encourages multidisciplinary collaboration to provide appropriate resources to the higher acuity patient.

**FAST TRACK PROGRAM FOR PATIENTS WITH AUTISM SPECTRUM DISORDER IN THE PERIOPERATIVE SETTING**

**Primary Investigators:** Sheila Birlin, BSN RN CPN, Melissa Swanson, BSN RN CPN

**Phoenix Children’s Hospital, Phoenix, Arizona**

**Introduction:** Patients with sensory disorders, specifically Autism Spectrum Disorder (ASD), may feel anxious, unsettled, or confused when taken out of their home routine when visiting the hospital for a surgical procedure.

**Identification of the problem:** Pre-Op/PACU noticed an absence of specialized programs for our sensory disorder patients in the perioperative department.

**QI question/Purpose of the study:** How can we create a program to streamline ASD patients through the perioperative department to reduce their stress and anxiety and have better patient outcomes?

**Methods:** A Fast Track Program was formed where patients with ASD could have a more streamlined process prior to surgical procedures. Utilizing IT, a report was built to identify pre-surgical patients with an ASD diagnosis. A pre-op phone call gathers patient history and identifies triggers for the patient prior to the procedural appointment. This enables shorter pre-op wait times and creates an individualized admission process.

**Outcomes/Results:** Data was collected from 20 families during a 7 month period; of those, 55% reported increased satisfaction with the reduction in check-in time. One-hundred percent of families reported their child felt calm after using the sensory room and that their needs had been met throughout the perioperative stay.

**Discussion:** We have encountered some limitations throughout the process. Only the ASD diagnosis is used at this time versus all sensory disorder patients. If the ASD diagnosis is not documented in the electronic medical record (EMR), it is difficult to identify if the patient has autism. Other challenges for this program are parents being available for a pre-call prior to surgery, and quiet rooms being available in recovery.

**Conclusion:** The Fast Track Program has been an amazing quality improvement initiative to our department. Once our Fast Track Program gains more traction, we would like to share our strategies with care areas throughout Phoenix Children’s Hospital.

**Implications for perianesthesia nurses and future research:** It is our mission to pass on the successes of our program to nurses around the country who are interested in tailoring a program such as this to ease the perioperative process for this unique population.