

Educational improvements would include updated graphics, imaging and up-to-date surgical education to the Geisinger.org website. Distributing interactive, developmentally appropriate pamphlets, handouts, and access to smartphone apps to families prior to scheduled surgery prove to be beneficial.

AN EVIDENCED BASED PRACTICE APPROACH TO MALIGNANT HYPERTHERMIA (MH) EMERGENCY RESPONSE: A MULTIDISCIPLINARY QUALITY IMPROVEMENT INITIATIVE

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Introduction: Malignant Hyperthermia (MH) is a rare medical emergency that may occur after receiving anesthetics. The Malignant Hyperthermia Association of the United States advises all medical facilities to be prepared for prompt diagnosis and immediate treatment response, in order to prevent mortality and reduce morbidity.

Identification of the problem: Rush University Medical Center nursing care teams that work in areas prone to high risk /low volume MH events have not received consistent annual training regarding MH.

Purpose of the Study: Using a phased approach, to implement a sustainable, multidisciplinary, evidence based practice annual training program that increases staff knowledge, in order to appropriately respond to MH event.

Methods: Baseline knowledge of MH was obtained with a pre-survey developed by the investigator. Education in-services (Phase 1: FY 17) and online learning module (Phase 2:FY18) included the same content (MH overview, resources, and policy and procedure review) and were provided to nursing staff. A post-survey was given to staff immediately after all training. Pre and post surveys contained five questions and the same content.

Results: Phase 1 (n=136) prior to the education implementation, 20% of the staff met the survey passing score. Immediately post-education-100% received passing score. Long-term retention of knowledge decreased at 4 months with 48% receiving a passing score.

Phase 2 (n=437) pre-education 34.8% of participants achieved a passing score and 81.4% of participants achieved a passing score post online education.

Discussion/Conclusion: Live in-service (Phase 1) provided immediate, short-term improvement to MH crisis knowledge but long term retention of this knowledge was unsatisfactory. Online education delivery method (Phase2) was less effective at improving MH crisis knowledge. Due to the ineffectiveness of online training, long term follow-up surveys were not performed.

Implications for perianesthesia nurses and future research: Further study is needed to determine the best approach to MH education. Phase 3 of this project will include: mandatory annual, hands-on drill training (utilizing a high fidel-

ity simulator) with pre and post educational assessments. All members of the multidisciplinary team will partake in this training.

AN EXPLORATION OF POSTOPERATIVE DELIRIUM AND UNPLANNED PERIOPERATIVE HYPOTHERMIA IN SURGICAL PATIENTS

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Introduction: Postoperative delirium (POD) may impact 72% of surgical patients and has been associated with increased hospital length of stay, one-month mortality, post-acute discharge to long-term care, and a higher probability of developing dementia. These adverse events contribute to significant increases in healthcare costs.

Identification of the problem: Unplanned perioperative hypothermia (UPH) has been mentioned as a trigger for POD, but the relationship has been inadequately explored.

Purpose of the Study: The purpose of this study was to investigate associations between UPH and the incidence of POD among adults undergoing non-cardiac surgery.

Methodology: A retrospective, exploratory study using practice-based research methodologies was conducted. Data were electronically abstracted from a purposive convenience sample of medical records of all adult patients undergoing non-cardiac surgery from January 2014 to June 2017. Logistic regression predicting probability of POD conditional on UPH and other known and suspected associated variables was conducted. The analyzed dataset included 22,548 surgeries, of which 9% experienced documented POD.

Results: Mean age was 63.23 (\pm 15.37); mean number of hypothermic minutes was 42.41 (\pm 55.19). 44.7% of the sample was male and 91.4% received general anesthesia. Logistic regression indicated that a patient's ASA class was the strongest predictor of POD ($X^2=1207.11$, $df=4$, inclusive of all ASA class terms). Of particular interest, a significant relationship between UPH and POD ($X^2=54.94$, $df=4$, inclusive of all UPH terms) and a complex relationship among UPH, patient age, ASA class, and POD was also found.

Discussion: Surprisingly, UPH was found to be protective to the development of POD in the oldest of old. UPH, however, was a contributing factor to POD in the younger patient, particularly sicker patients, although assessment for and documentation of POD was missing in many younger patients.

Conclusion: There is a relationship between UPH and POD. Notably, there is also a complex relationship in the non-cardiac surgery population among UPH, age, ASA class, and POD.

Implications for perianesthesia nurses and future research: This study builds the science of perianesthesia nursing by identifying the relationship between UPH and POD. Further study is indicated to explore the physiology

associated with the protective impact of UPH on POD while considering the adverse effects associated with UPH.

DEVELOPMENT OF A DISCHARGE SCORING TOOL IN THE POST ANESTHESIA CARE UNIT



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Introduction: Current criteria at MSKCC for discharging a patient from the Post Anesthesia Care Unit (PACU) depends on clinical judgement and several variables. Patients are often kept in the PACU for a specific amount of time without supported evidence.
Identification of the problem: The Post-Anesthetic Care Guidelines of the American Society of Anesthesiologists states that mandatory length of stay (LOS) should not be required and supports the use of an objective criteria. Delay in discharge from the PACU may lead to a delay in meeting their expected milestones after surgery. The lack of specific objective criteria does not permit quantification of discharge readiness.

Purpose of the Study: The goal of this project is to develop a discharge scoring tool that will incorporate the special needs of the surgical oncologic patients and quantify when these patients are clinically ready for discharge from the PACU.

Methodology: We reviewed tools in use at other institutions and conducted an extensive review of literature to develop our specialized discharge tool. To substantiate our tool, the MSKCC Institutional Review Board approved a retrospective study which included 135 consecutive patients who underwent major thoracic, hepatic or pancreatic surgery from January to March 2015.

Results: For each surgical group the difference in mean LOS between current practice and the proposed criteria ranged from 9.15 hours to 11.8 hours, which was statistically significant ($p < 0.0001$). During the extended time in the PACU (after a patient met an acceptable score), there were no clinical events in 68% of thoracic, 64% of hepatic and 54.3% of Whipple patients. Common clinical events that occurred in the remaining percentiles after proposed criteria was met were not emergent and routinely managed on the inpatient units.

Discussion: Utilizing our tool provides a standard approach and patient-centered focused care to our post-anesthetic oncologic patients without compromising patient safety.

Conclusion: By changing current practice, our tool allows our patients to be discharged when clinically ready, eliminating the lack of specific objective criteria and presumptions.

Implications for perianesthesia nurses and future research: We recognize the importance of standardized practice and individualized patient factors when assessing patients for discharge readiness. Future research is needed to measure the effects and outcomes of our discharge scoring tool and discharge criteria.

MULTISESSION EDUCATION IMPROVES NURSES' KNOWLEDGE AND CONFIDENCE FOR MALIGNANT HYPERTHERMIA CRISIS



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Introduction: Malignant hyperthermia (MH) is a rare genetic skeletal muscle disorder that when a patient is exposed to volatile inhalation agents and/or succinylcholine, can cause a potentially lethal condition. It is important to educate PACU nurses to foster confidence and preparedness when working with these patients. Prompt recognition and treatment is paramount for a patient to survive a MH crisis. Previous staff education has proven effective in enhancing nursing knowledge and led to positive patient outcomes.

Identification of the problem: PACU nurses have expressed their concern to learn more about MH and become more familiar with the unit's MH cart contents.

QI Question / Purpose of Study: The purpose of this poster is to report the knowledge and confidence of nurses' preparedness with MH after a series of education sessions.

Methods: Learning opportunities were provided in-person to PACU nurses multiple times from 2016-2018. There were total of four education opportunities that were successfully provided to staff by experts which included lectures, test of knowledge, scavenger hunt of the MH cart and familiarizing with Malignant Hyperthermia Association of the United States (MHAUS) website. A post education survey was sent to staff at the end of all the opportunities to measure its success in increasing their knowledge, preparedness and confidence.

Outcomes/Results: The learning opportunities were overall successful. Most of the PACU nurses attended all of the education sessions. The average posttest grade was 95.4%. One hundred percent of the survey respondents reported better understanding of MH and confidence in recognizing its signs and symptoms if MH crisis occurs.

Discussion: The results of the posttest and post education survey revealed increased in knowledge, confidence and preparedness of PACU nurses. In-person education proved to be an effective intervention.

Conclusion: This provides compelling evidence that multiple learning opportunities improved nursing knowledge and confidence for MH crisis.

Implications for perianesthesia nurses and future research: Malignant hyperthermia staff education offered multiple times in multiple ways is feasible and effective to improve knowledge, confidence, and preparedness of PACU nurses.

INCREASING COMPETENCE OF PACU RNS RESPONDING TO CODE BLUE



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Note: All abstracts are printed as received from the authors.