

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