Background

- Malignant Hyperthermia (MH) is a life-threatening genetic disorder that affects the skeletal muscle.
- An MH Crisis in the OR is a high-risk, low-volume event that may be fatal when recognition and/or treatment is delayed.
- Use of simulation for MH with an adult patient is well established at our organization. An increase in pediatric surgical volume prompted our team to use simulation to test the MH process currently in place to validate that it meets the needs of our pediatric population.

Simulation Objectives

- Demonstrate appropriate management of MH Crisis.
- Evaluate the MH response process including supplies, equipment and resources.
- Analyze teamwork and communication in an MH Crisis.

Implementation

- The simulation was unannounced to the team to elicit an authentic response to a Pediatric MH crisis.
- Teammates were provided uninterrupted time to participate and debrief for the process test.
- The team’s response to and management of a MH crisis was observed in their actual work environment (in-situ).

Outcomes

- A simulation debrief provided an opportunity with participating teammates to share what went well and identify opportunities for improvements in and MH Crisis process.
- LSTs were identified during the process test. Some of the LSTs mitigated by the perioperative leadership team:
  - Overhead speaker volumes adjusted so teammates can hear emergency calls.
  - Malignant Hyperthermia Emergency Dantrolene Dosage Chart (cognitive aid) was updated to include Hyperkalemia Associated Medication dosing information for Adult and Pediatric MH Crisis.
  - Role delineation identified for teammates (event recorder, call to MHAUS, runners, medication administration, dantrolene reconstitution, etc.)

Implications for Practice

- The simulation provided the team an opportunity to practice in a safe environment and build their confidence in handling a crisis in the OR.
- Perioperative leadership incorporated annual MH Crisis In Situ simulation annually as well as a simulation in the New RN Orientation program.