UVAHealth

UVa Health Simulation News

UVAHealth Life Support Learning Center

Volume 5, Issue 12

December 2024

Welcome!

Welcome to our Simulation Newsletter!

This month, we are going to discuss process and procedure improvements from simulations and also using simulations to check on those improvements. We will use simulations that we've done in the Outpatient Surgery Center as our examples for this topic.

Please send us your feedback! *Our contact information is in the top left corner of the second page.*

Inside this issue:

Welcome!	*1*
OPSC MH Simulations	*1*
Improvements from 2023	*1*
Results from 2024 Simulations	*2*
Journal Article	*2*
Editorial	*2*
Pictures!	*2*

OPSC MH Simulations

We have run malignant hyperthermia (MH, a surgical emergency related to anesthesia) simulations with the Outpatient Surgery Center (OPSC) since 2015. Recently, we've moved to doing them every year.

Malignant hyperthermia education is a required topic for them. Previously, they would do CBLs for the training. However, information from CBLs doesn't stick very well and doesn't help their team practice actually being in the situation.

So, in addition to the CBLs, the OPSC also invites the LSLC come over to do MH simulations each year.

The simulations are run in an actual OPSC OR or PACU spot. OPSC recruits a CRNA to be in the simulation as an ally, so that all the professions involved are represented. The team members need to do all the things they would actually do, including getting medications (now Ryanodex, previously Dantrolene), getting other materials such as ice or ice packs, and calling the national MH hotline (MHAUS). One of our simulationists plays the role of MHAUS on the other end of the phone call.

The team will do or simulate everything done in an actual MH case in the simulation.

Improvements from 2023

The OPSC team came up with several improvements and modifications to their MH process from our simulations in 2023. We'll talk about three of them, of which two were found in the simulations and one was an expected medication change.

One suggested change was to make the phone call to MHAUS from a different location. In 2023, the call was made from a phone far away from the anesthesiologist, so that the team had to relay instructions across a loud, crowded room. After that simulation, the suggestion was to make the call from the phone behind the anesthesiologist.

The second suggested change was to put the call on speakerphone so the anesthesiologist could talk directly to MHAUS while still performing interventions.

The third change was expected and not from our simulations. The previous medication used was Dantrolene, which took forever to prepare and needed multiple vials per dose. UVa is switching to Ryanodex, which is Dantrolene, but much more concentrated and easier to prepare.

Steps of a Simulation:

- Goals
- Creation
- Preparation
- Running the Simulation
    - Briefing
    - Run
    - Debriefing
- Reset
- Assessment

UVAHealth
Life Support Learning Center

1222 Jefferson Park Ave
Fifth Floor, Room 5603
Box 800309
Charlottesville, VA 22903

Phone: (434) 924-1765
Email: jph5z@uvahealth.org

We create simulation-based experiences for current staff and students to improve their clinical judgment and teamwork skills during medical emergencies.

Follow us on:

Facebook:

https://www.facebook.com/UVALSLC

Instagram:

@uva_lslc

YouTube:

https://www.youtube.com/channel/UCx-KtMNJMIYLdWKEoOjrVvA

Our newsletter repository:

https://www.medicalcenter.virginia.edu/mesa/simulation-newsletters

Results from 2024 Simulations

Malignant hyperthermia simulations are always fun to run because so many people are in the room doing things and participants really buy into it. The 2024 OPSC ones, though, made us feel extra happy because of the positive changes we were able to see.

The change in location of the phone call went very well. The person calling (usually the circulating nurse) no longer had to yell across the room to the CRNA. The CRNA could simply talk with the circulating nurse, which helped keep the noise in the room down.

The switch to using the speakerphone feature also went well. Previously, the circulating nurse had to relay information to the CRNA including topics they didn't know very well, such as talking about the charcoal filters in the ventilator circuit. By using the speakerphone, the MHAUS person could talk directly with the CRNA using language they both understood.

A secondary gain from the speakerphone change, which we did not anticipate, was that the rest of the people in the room could also hear MHAUS and could start preparing interventions for the CRNA even before the CRNA asked for them.

Another secondary gain, which we also did not anticipate, was that the rest of the people in the room wanted to hear what MHAUS was saying, so they stayed quiet. The noise level is the room was much less.

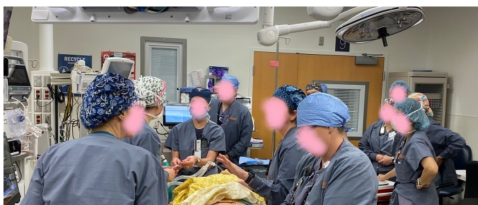
The switch to Ryanodex also went well. MH is rare, so for many people in OPSC this likely was their first time using Ryanodex in a MH situation. It was prepared much faster by a significantly smaller number of people. We had not realized how much simpler the Ryanodex would be.

The first two changes were driven by simulations and confirmed by simulations. The third change was confirmed by simulations. Simulations suggested improvement and then proved that the improvements would help, without any risk to any actual patient.

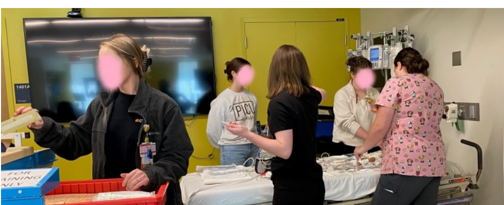
Simulations have helped OPSC turn a loud, chaotic situation into a quieter, calmer, more efficient one.

We are proud that we have helped OPSC improve their care of patients!

Pictures!



Outpatient Surgery Center staff, including a CRNA, nurses, and technicians, respond to a malignant hyperthermia situation.



PICU nurses respond to a coding infant. The person in the grey sweatshirt is a PICU ally, acting as a physician in the simulation.

Journal Article

This month, our article is a review of articles discussing using simulations to find latent safety threats. The article is: INACSL Grace, M.A. et al. (2024). Using In Situ Simulation to Identify Latent Safety Threats in Emergency Medicine. *Simulation in Healthcare, 19*(4), 243-253.

We have a link for this that should work on any UVa computer: https://pubmed-ncbi-nlm-nih-gov.proxy1.library.virginia.edu/37725494/

Editorial

It's the return of the editorial!

We are reinforcing what we said at the end of the first article on this page. Simulations can help you find latent safety threats, problems, and things that need to be changed that you didn't even know needed changing. Simulations can then help you prove that you have removed those safety threats and problems.

We strongly believe UVaHealth should do more simulations that are designed to test and improve systems, not just improve individual clinicians' skills. We can do more to prevent sentinel events, improve critical thinking, and improve our care of patients by using simulations.