UVA Health

UVa Health Simulation News

University of Virginia Life Support Learning Center

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Welcome!

Welcome to our Simulation Newsletter!

This month's topic is extended simulations. Depending on what you want your people to see, simulations can be more than just replicating the first five minutes of a code. Our longest simulations run for an hour or more with debriefing afterwards.

Extended simulations allow the participants to dive deep into the simulation and see how their patient is changing based on what they've done. The time commitment is larger, but the benefits for the participants are also larger.

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

Planning for Extended Simulations

An extended simulation does require more planning. The first five minutes of a code is essentially a two-step scenario: code then recover. An extended simulation needs more structure.

We need to ask: do we want to build a linear multi-step scenario or a Choose Your Own Adventure branching scenario? In other words, how much freedom do the participants have to go on their own course?

Both ways can work, though there are special considerations. A linear scenario will likely need an ally in the simulation to help keep the participants going on the expected path.

A branching scenario will require a lot of prep work for all the different possible pathways the participants may take. What information, such as lab values or vital sign changes, can the participants receive during the simulation to help them decide if they are making good decisions or not?

Extended simulations require a lot more prep work, but the benefits can be significant!

Pause/Play Simulations

One way to do a linear scenario and keep the participants on the expected path would be to do a Pause/Play scenario.

In these scenarios, the simulation stops and starts. The facilitator (or a participant) pauses the simulation, and the group has a chance to do a round of debriefing to evaluate what has happened so far. This helps lock in what has already occurred and allows the participants to restart with a better understanding of what is happening in the scenario.

The planners can even include some teaching in the pauses. For instance, if the patient needs rapid administration of blood, a pause could be called to discuss the rapid infuser and how to use it.

Once the debriefing round is complete, the facilitator takes a moment to reorient the participants on where they are in the simulation and the simulation restarts (we've found it is relatively easy to get back in character at a restart). There may be just one pause or there may be several.

Whether or not to allow the participants to pause the simulation is up to the planners. It allows the participants to have more control, but they may pause to look for help without having thought about the situation enough by themselves.

Inside this issue:

Steps of a Simulation:

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

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

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A STICU simulation picture from 2014 — notice the multiple pumps, ventilator, pressure bags, and ostomy site on the patient.

Deliberate Practice Simulations

Deliberate practice simulations don't have to have long scenarios. They are extended because the participants repeat the scenario they just went through.

Deliberate practice simulations start with a simulation and a debrief, as we usually do. Then, the participants start the second simulation, which is the same scenario as the first. The participants are putting what they learned in the first simulation to use immediately to help lock in the cognitive pathways and the muscle memory.

Doing the same scenario over and over can show rapid improvement in the participants' skills and knowledge!

Multiple Related Simulations

A variation of Deliberate Practice is multiple related simulations. Here, the participants will run a sequence of simulations that are close to each other but not exactly the same. For our Adult Code Team Just-In-Time Training, the participants will see five codes in two hours. All of them start the same (nurse finds a patient in cardiac arrest), but each runs slightly differently. The participants have the benefit of seeing certain aspects over and over again (how do I come into the room as the Team Lead?) but still need to think clinically in each simulation — they won't know what the underlying rhythm is or why the patient coded.

Deliberate Practice is useful when the goal of the simulations is focusing on a single skill or concept, such as how to prone a patient, that ideally has the same endpoint each time. Multiple Related Simulations is useful for practicing one concept that might have slightly different endpoints (for example, how to lead a code).

Journal Article Spotlight

This month's article discusses a ward-sized simulation for final-year nursing students. The article is Davies, H., et al. (2020). 'Ward for the Day': A Case Study of Extended Immersive Ward-Based Simulation. *Nursing Education Today (90)*. The following link should work from any UVa computer: https://www.sciencedirect.com/science/article/pii/S0260691719306707?via%3Dihub. We're using this as an example of how big extended simulations can be.

Case Study: STICU Simulations

While we have had other extended simulations (for instance, the Cut Suit multi-trauma alert exercise in August 2015 involving two patients transported from the field into the Emergency Department), the granddaddy of our extended simulations is the STICU training simulations.

These started in 2014 and have continued intermittently since then. They are designed to give nurses new to STICU an exposure to ICU critical thinking for patients who are critically ill.

Originally, they were four hour-long simulations with debriefings afterwards over the course of a day. Participants saw every major piece of equipment in the STICU as well as deteriorating patients. They had to think on their feet and work within their groups of nurses and with other health providers (played by an ally) in fast-moving environments.

The debriefings also were wide-ranging, discussing clinical aspects of care, interactions with other health care providers, and ethical concerns that occur in these declining patients.

In some ways, this is a version of Multiple Related Simulations, in that the participants know each patient will deteriorate, but not how.

Feedback from the participants has always been positive, especially in allowing them to see tremendously sick patients before needing to care for them in real life.