UVA Health

UVa Health Simulation News

University of Virginia Life Support Learning Center

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Welcome!

Welcome to our Simulation Newsletter!

We continue to walk through the steps of a simulation again, but with a great focus on what this means for you, the person who is asking for the simulations, instead of us, the simulationists.

This month is Preparation. Once we've written the scenario, what do we need to make it happen? Obviously, some of this is considered during the creation step, but now we're getting into the details. We will spend some time on the general concept, then give you some specific details of what we can simulate.

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

Preparation

There's a lot to do to prepare for a simulation. Luckily for you, a lot of it is for the Life Support Learning Center to do. But we will need your help on some things.

We need to find a date and time for the simulation. What works for your staff, and what works for us? Our simulation staff is limited, so we cannot always accommodate the first choice for date and time.

Who will attend? This is mostly you. Who do you want to have part of the simulations?

What equipment and props do we need? This is almost all on the LSLC. Do we need a high-tech manikin, or will a full-body CPR manikin or Standardized Patient be better? Some of our simulations require very little. Other simulations are very detailed and require boxes of props. Occasionally, we will need you to provide a specific prop for us. Generally, the more in-depth the scenario, the more that is needed.

As always, this goes back to the goals of the simulation. What do you want the participants to see?

Fidelity vs. Realism

Sim centers can spend a lot of money on equipment and props. Some manikins are extremely detailed and allow participants to start IVs, intubate, pace, and so on. Some can accept a ventilator (very difficult for a manikin) or automatically respond to medications given.

However, that kind of realism isn't always needed. Sometimes a CPR manikin with minimal other props is enough, as long as the scenario is relatively simple and the participants are willing to engage in the simulation.

Basically, the simulation doesn't have to be perfect, but it does need to be close enough.

For instance, bringing in a high-tech manikin with props into an area but giving the participants a patient that is never in their area will be a high level of realism but low fidelity. On the other hand, bringing a patient who they do recognize but not giving the participants a manikin and props that are realistic enough ("just pretend that vasopressor drip is on a pump") can block their participation and reduce the value of the simulation to them.

We need to provide enough realism and enough fidelity to engage the participants.

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 PICU simulation with a patient who just came from a Blalock-Taussig shunt placement. Notice the surgical drains, the ET tube, the Foley catheter, and the multitude of other lines as well as drips.

A different trauma patient in the Emergency Department than last month's picture. This patient had a head injury. You can see multiple people working on him, both assessing and performing interventions.

Relatively Simple Simulations

We'll start by discussing relatively simple simulations. The default simulation most people think of is the cardiac arrest, and we can simulate that with a CPR manikin, Zoll, and a BVM, as we do for our First Five Minutes programs and mock codes for various places, most recently including the Kidney Center Clinic.

We've done flash simulations for the PCT training program as well as occasionally on floors. In those, we go through a 12-hour shift in 6 minutes, using just pretend monitors and some paper reference sheets.

Some simulations can cover complicated topics but not require much equipment or props. A lot of UVAHealth's patients are not continuously monitored, don't have central lines, and aren't on multiple drips — but our staff still need to be able to find deterioration early. For any floor NECs reading this — we'd love to do these simulations with your staff! (We apologize for the shameless attempt to get more business.)

Moderately Complicated Simulations

Some of our simulations are more complicated. Anywhere a patient is continuously monitored requires us to bring a simulated monitor of some sort, for instance. These would include the Cardiac Transition Unit, Emergency Medicine conference training, and Endoscopy simulations.

Some simulations are built to be longer so that the participants can see a slower deterioration or so they can go farther into treatment. PICU's simulation program for their new RN Clin 1s and MET simulations are examples.

Other simulations are more complicated because the participants do complicated things. ECCC simulations in the Infusion Center are an example — chemotherapy infusions are inherently complicated.

A lot of our simulations fall in this category: the scenario has several steps and needs a few props (peripheral IV, monitor, and meds) to add enough realism.

Journal Article Spotlight

This month's journal article describes the basic simulation process, including a discussion on preparing for the simulation. The article is willhaus, J. (2016). Simulation basics: How to conduct a high-fidelity simulation. *AACN Advanced Critical Care (27)*1. The following link should work from any UVa computer: https://oce.ovid.com/article/01256961-201601000-00011/HTML.

Very Complicated Simulations

A few of our simulations require a lot of preparation, including building custom props or having a lot of equipment. STICU simulations require a lot of props and also go for a long time. Our OR fire simulations in the Outpatient Surgery Center needed a way to create fake "smoke". PICU Open Chest simulations require a whole batch of props that PICU had to provide — they already had a training Open Chest cart, which we used. In-house Adult Mock Codes are code scenarios, but without notice and involve the entire Adult Code Team — there are lots of things needed for that, including finding a room.

If you are interested in simulating something, even something complicated, we can probably do it! (Another shameless plug.)