



Welcome!

Welcome to our Simulation Newsletter!

We're going to discuss some of the secondary gains that simulation can provide.

This month's secondary

gain is in practicing doing skills.

Most of our simulations aim at higher-level thinking: what's happening, why is it happening, and what can I do about it.

Sometimes, though, skills practice is also useful.

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

ED 500s Simulations

We run simulations in the resuscitation rooms of the Emergency Department (in the 500s pod — hence the name of the simulations) once a month. These are interprofessional simulations and usually involve a patient who is quite sick.

This month's patient had an arterial bleed from their femoral artery. This requires immediate interven-

tions, starting with direct pressure followed by tourniquet use, a second tourniquet, QuickClot, and wound packing.

In addition to our manikin, we brought a low-tech leg model from our bleeding control classes. The participants could actually apply the tourniquet and actually pack the wound.

This is not something that happens very often, so in addition to practicing the higher-level thinking of "I need to use a tourniquet!", it was useful for people to practice the hands-on skills of tourniqueting and packing a wound.

ED 500s Simulations, Part 2

About a year ago, we did a simulation in the Emergency Department using the Cut Suit (see our September 2023 issue for more on this). It was a patient in a motorcycle crash with a pneumothorax who coded when a chest tube was inserted. The team decided to do a resuscitative thoracotomy.

Since we were using the Cut Suit, the physicians on the team were able to practice two major interventions: the placement of the

chest tube as well as the thoracotomy. The Cut Suit allows the participants to actually make incisions, to actually place the chest tube, and to actually compress the Suit's heart through the thoracotomy.

Neither of these two interventions are done all that often so few people are comfortable doing them. In the real world with a real patient, a patient who needs a thoracotomy needs it done very quickly.

In our case, since we were in a simulation, the physician performing the procedure could go a little slower to make sure they were doing the right things.

As another secondary gain, it gave the ED nursing staff who were participating a chance to see what the procedure entailed and what they should do during it — there's still a lot of other things that need to happen!

Inside this issue:

| | |
|---------------------------------------|---|
| <i>Welcome!</i> | 1 |
| <i>ED 500s Simulations</i> | 1 |
| <i>ED 500s Simulations, Part 2</i> | 1 |
| <i>PICU RN Clin 1</i> | 2 |
| <i>First Five Minutes Simulations</i> | 2 |
| <i>Journal Article</i> | 2 |
| <i>More on this Secondary Gain</i> | 2 |
| <i>Pictures!</i> | 2 |

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 improve their clinical judgment and teamwork skills during medical emergencies.

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Our newsletter repository:

<https://www.medicalcenter.virginia.edu/medicalcenter/simulation-newsletters>

Pictures!



Baby (manikin) cuddling! This is during an ED RN Clin I simulation. The patient needed to be calmed during a TET spell.



Baby (manikin) cuddling! This is during a PICU RN Clin I simulation. The patient was post-surgery and hungry — he needed to be fed.

PICU RN Clin I

We've discussed the PICU RN Clin I simulation program a lot because they do a lot of simulations and we think it's great. One of their scenarios involved a child with hypoplastic left heart syndrome (HLHS) who just had one of their sequence of three surgeries. As part of the assessment of that patient, the provider should listen for a heart murmur. The lack of a murmur is a very bad sign.

Our baby manikin is able to make such a murmur. So, during the scenario, in addition to the higher-level thinking ("I need to check for a murmur"), the participants actually need to do it. Finding and recognizing a murmur is not always easy. Having the ability to actually listen for it (and, later in the scenario, realize that it's no longer there) is a key part of the scenario.

First Five Minutes Simulations

Our First Five Minutes program is popular and used in various places (especially in the Battle Building and on the General Medicine floors). It allows the participants to practice the start of a code: get in the room and get BLS established.

In addition to practicing the thought process of "What do I need to do?", it allows the participants time to practice compressions and using a BVM. The BVM in particular is a skill that many people need more practice with.

It also allows the participants to practice working together as a team to give feedback on compressions and organize putting a backboard under the patient.

Journal Article

This month, our article discusses a simulation program for emergency sternotomy. The simulations were designed to help all participants feel more comfortable with it. Understanding and improving the process was the primary goal. Practicing it was the secondary though useful goal for them. Note that they used a low-fidelity manikin — not all simulations require fancy equipment. The article is: Tsiouris, A. et al. (2024). Simulation Training for Emergency Sternotomy in the Cardiovascular Intensive Care Unit. *Critical Care Nurse*, 44(3), 12-18.

We have a link for this that should work on any UVa computer:
<https://research-ebSCO-com.proxy1.library.virginia.edu/c/efuwn/viewer/pdf/h5omzcmcdf?route=details>

More on this Secondary Gain

We are not doing an editorial this month.

We've discussed this month that practicing a skill instead of doing the higher-level thinking is a secondary gain. We should also remember that, really, the participants aren't doing just one or the other — they are doing both the higher-level thinking and performing the actual skill. So, they have practice on doing both at the same time.