



Life Through Plastic

The students at the Bruning Center are being taught not only by books and teachers, but with lifelike mannequins

The patient's pulse starts to drop as you witness the signs of cardiac-arrest.

Without hesitation, you push a nearby emergency button while checking the patient's IV and other vital signs. A loud beeping announces the patient's descent into darkness as you, the nurse, continue to work to save the life . . . of a mannequin.

This is just one scenario experienced in the simulation lab of the MHCC nursing program. The Allied Health students involved in the simulation and those who witnessed it will go into a nearby debriefing room to watch the taped exercise and review what went well in the simulation and what didn't. Proudly displayed on the wall is a sign that says "mistakes are puzzles to be figured out, not crimes to be covered up." Chrissy Bloome, nursing instructor and health education counselor/coordinator, wants students to feel comfortable making mistakes in the lab and to ask questions.

It is important to understand that the mannequins you find in the "sim lab" aren't the ones you'd typically find in Macy's displaying this spring's latest fashions. Some have pulses, a few can talk and interact with students and one mannequin can

even give birth.

The dreams of the lab began in 2004 with the construction of the Bruning Center which allowed expansion of the MHCC Allied Health program. Paula Gubrud-Howe, dean of allied health, said the dream actually started with a bond measure to build a new building for allied health students. When the bond was rejected by district voters, Fred Bruning donated money to help the nursing program to move to the facility in Gresham Station that bears his name.

The new building allowed MHCC to expand the program from its enrollment from 40 to 80 students. She said she had observed OHSU and their program involving simulation labs and high-tech mannequins, and soon after the opening of the center, Gubrud-Howe bought several mannequins that ranged from mid-fidelity to high-fidelity in mannerisms.

The two high-fidelity mannequins, known as "sim men," enhance a more realistic nurse-patient relationship with more interaction and vital signs than in a mid-fidelity mannequin. With the "sim men," students can read their blood pressure, their temperature and perform electrocardiograms and receive realistic results.

The four low-fidelity mannequins are modeled after a 9-month-old baby, a 6-year-old child, and an adult female mannequin. These mannequins can produce heart and lung sounds along with talking and interacting with the students. A microphone is attached to the mannequin while a pre-recorded tape or nursing instructor "performs" in another room.

"We use the lower-fidelity mannequins pretty early on to do



(Above) While “Noelle” is being prepared for birth, instructors show what it takes for a mannequin to give birth.

(Opposite page) Jindra Brandejska, a nursing student from Clackamas Community College, performs in a simulation lab while her fellow nursing students watch in another room.

things; we’re moving them into using the higher fidelity simulation as soon as we can,” said Bloome. “They need to get some of the basics before they can use them a lot.”

And then there’s Noelle.

One of the newer low-fidelity mannequins, Noelle can do something not many of the other mannequins currently residing in the Bruning Center can. Noelle is the only mannequin who can simulate a range of deliveries from a four-minute birth to a 25-minute procedure with complications that will throw a variety of curve balls at students.

Noelle’s capabilities include vocal communication, vital signs, giving birth to a mannequin “baby” and more to enhance the student’s environment. She’s controlled from another room where instructors follow a planned scenario and watch the students behind tinted glass.

Students begin their training with these mannequins as early as a few weeks into their first term in the program. Ranging on the complexity of the situation, all students get an opportunity to take part in the simulated lab.

“It’s kind of like watching ‘E.R.’ ” said Gubrud-Howe.

In any scenario with a mannequin, the students get to play several vital parts to contribute to the role play. In some cases, students can play anybody from an anxious family member to a charge nurse to a respiratory therapist.

“We create learning objectives that we know they need to be able to do and work backwards,” said Bloome. “If these are our learning objectives, then the scenario is what we want to happen, and we create a story line and put it in a template.”

During simulation, students can sit in the debriefing room and watch the situation live on a large projector screen. Students can listen in on the interaction between the role-playing nurses and follow along with the scenario. “They’re watching it unfold and over the top of the screen are all the vital signs and other information students discover during the simulation,” said Bloome. “The people in the debriefing room get to put that in context. And then when the simulation is over, everybody goes to the debriefing room.”

After the simulation, students get a chance to sit down together and discuss the good parts of the simulation and the bad parts. They talk about their feelings about the scenario, what was going through their heads and iron out what should be different the next time.

Each lab varies in complexity and the nursing staff likes to give the students variety. They'll sometimes take scenarios created by the company that manufactures the mannequins and other times they are created by the nursing staff. Either way, Gubrud-Howe says they have to be prepared for any way the nursing staff may go.

"If I say I need oxygen and I tell them I need oxygen and I'm not getting the oxygen, eventually they'll have to find, in terms of vital signs, I'm not doing so well. I'm not going to be talking to them so

well," said Bloome. Whether it's gagging or vomiting noises, Bloome says students will "get all the sounds."

Although Noelle and her neighbors in the Bruning Center have been settled for only a few years, Gubrud-Howe said they are already out of date. Gubrud-Howe said the center is looking into purchasing mannequins with pulse sensors in their feet.

The simulation program is all part of the Oregon Simulation Alliance, a program to develop a state-wide simulation network. Their mission is to expand simulation labs for "multi-sector, multi-disciplinary and inter-disciplinary use for healthcare workforce development," according to its website.

They are the ones who help simulation labs like the one at the Bruning Center in figuring out the best way to implement

and use the mannequins in course and lab work. They help with various parts of the program including faculty development, space planning, scenario development and other factors.

"The Alliance participants recognize that simply buying a simulation unit does not necessarily mean all of the components for successful program integration are developed," said the website.

Whether plastic or real, Bloome hopes nursing students will feel better equipped when it comes time to step into a real hospital environment and interact with real patients.

"Anything you do in life, the more repetition you have, the more opportunities you have with it. The more proficient and competent you feel," said Bloome. "The more they do it, the more comfortable they'll get."

