

Patient Simulators Bring Training to Life

They breathe, bleed, cry, show pain, and they can even talk. Many have died and been brought back to life several times in one day during mass casualty exercises at the Center for Domestic Preparedness in Anniston, Ala. The CDP's Human Patient Simulators (HPS) provide a level of realism and student interaction that's impossible to replicate with cardboard cutouts or lifeless mannequins.

CDP has 20 units and has incorporated patient simulators into its healthcare training at the Noble Training Facility for almost five years. The NTF is the only hospital in the nation dedicated solely to training healthcare and hospital personnel for mass casualty incidents.

These patient simulators bring a unique advantage to training. Responding based on computer generated symptoms the so-called "patients" may survive or die, depending on the treatment they receive. In addition to the variety of lifelike qualities, the simulators also have heart and bowel sounds.

"Using the simulators, we can provide a safe, interactive environment for students to practice life-saving skills," said Robi Mobley, patient simulator specialist. "Many of our scenarios are mass casualty events and using the mannequins forces the students to use their critical thinking skills to save a life. Instead of talking through a scenario it offers hands-on training. The decisions they are making result in life or death."

The simulators are capable of intubation, having a chest tube inserted, and having an IV started.

"The simulators also have a drug recognition system," Mobley added. "The students can administer medication and the simulator will act accordingly—they also have the anesthesia feature."

Each simulator consists of a workstation including a laptop and large flat screen monitor displaying patient vitals. Simulation technicians operate software from inside a control room behind two-way glass. Technicians are able to observe the students and control the simulator's actions based on the care a student provides.

"We have role players who inject themselves into the scenario," said Dawn Munroe, patient simulation technician. "There are times when the students focus more on the role players and do not notice the patient alarms. If this happens, we continue to let the patient deteriorate until someone finally says 'hey, something is going on with the patient.' There have been instances where the patient [simulator] dies."

During most scenarios one technician is able to manage up to two patient simulators. There are times when a mass casualty response requires one-on-one operation by technicians. Up to four patient simulators may be in operation as the hospital emergency department receives an influx of injured people. More patient simulators are in operation in other parts of the hospital as patients with more serious injuries are admitted.

"Watching the students treat the simulators as if they were real people makes it all worth it," said Munroe. "We try to make the scenarios as realistic as possible. If the scenario calls for an impaled object to the chest, we moulage the simulator with just that. The students love it! They have a safe place to practice their skills with a simulator that is moaning, groaning, and acting like a real person."

The CDP incorporates simulators into four healthcare courses: Healthcare Leadership for Mass Casualty Incidents, Hospital Emergency Response Training for Mass Casualty Incidents, Emergency Medical Operations for CBRNE Incidents, and Radiological Emergency Response Operations. The simulators offer a realistic training experience to a mass casualty response. CDP training focuses on incident management, mass casualty response, and emergency response to a catastrophic natural disaster or terrorist act. CDP training for state, local, and tribal responders is fully funded by the Federal Emergency Management Agency (FEMA), a component of the U.S. Department of Homeland Security.

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