

Robotic patients give practical experience

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A few moments after the syringe is administered, the patient's eyelids flutter, his heart rate slows and he drops off to sleep. But the anesthesia isn't real. Nor is the patient.

The Carolinas College of Health Sciences recently acquired two "high-end, high-fidelity mannequins," as college president Ellen Sheppard describes them, to aid registered nurses in their quest to become nurse anesthetists. The students run a syringe under a barcode reader that registers the drug type and amount, and the robotic mannequin responds as if the syringe's contents had been administered.

The mannequins, one an adult and the

other a pediatric "patient," can be programmed to respond in various ways. For example, technicians can instruct the adult mannequin to respond as a frail 90-year-old woman or a strapping 26-year-old football player would. "The resulting vitals and degree of neurological activity of that programmed entity would be replicated," Sheppard said.

Also programmable are anatomical difficulties (a narrow airway for intubation) and events (clots, aneurysms) to which students must respond. All scenarios serve to improve patient safety and student success. "Students will have demonstrated their competence in the various skills needed before they go into a live patient-care scenario," Sheppard said.

The robots are part of a three-week-old simulation facility, which contains three labs, a control room and a classroom into which simulations can be simulcast for group instruction. Within six months, Sheppard expects the lab's use to include shared simulations with Carolinās Health-Care System's medical residents.

Primary funding provided through a Duke endowment of \$320,000 did not cover the cost of the most expensive mannequin — approximately \$250,000. Additional costs were offset by CHS and the college. □



Carolinās College of Health Sciences students Sun-i Jones and Julie Becker practice anesthesia techniques in a simulated operating room.

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