A safe place to practice

A six-month-old boy, otherwise healthy, is brought to the Medical-Surgical ICU with respiratory distress and rapid heartbeats. He's tested positive for respiratory syncytial virus, and a chest x-ray is available from the ER that referred him to Children's Hospital Boston. An ICU team begins to organize.

Everything stands ready. A cart is stocked with medications, the ventilator is up and running, the defibrillator is charged. The vital signs monitor flashes a warning: the baby's blood oxygen is dipping to dangerously low levels. The tension in the room is palpable.

In a nearby control room, Liana Kappus, MEd, programs a computer, making the baby respond to the team's interventions, and altering his condition to further challenge the team. Three video cameras record the resuscitation's progress. For this is just a test: the "patient," better known as SimBaby, is a pint-sized, gender-neutral mannequin, and the latest addition to Children's Simulator Program. SimBaby breathes and has heartbeats, pulses, a lifelike floppy head and soft spots on the skull.

Each team member assumes a task—securing the boy's airway, giving medications, calling for labs, charging the defibrillator pads, watching his vitals. Resident Doug Krakower, MD, takes the lead, providing periodic recaps of the boy's condition and what has been done so far. The team defibrillates the baby, and after some initial difficulty, stabilizes his breathing and blood oxygenation.

Facilitator Peter Weinstock, MD, PhD, wraps the session. Below, the team watches the video and discusses the experience.

Lessons that last

Prior to Children's establishing its own Simulator Program inside the Medical-Surgical ICU on 7 South, the only other option for high-fidelity simulation training was to bring clinicians off site, limiting participation to just a few clinicians per year. Today, the program extends simulation-based training to clinicians in the Medical-Surgical and Cardiac ICUs, Emergency Medicine, Anesthesia, Respiratory Care, and Medicine Patient Services, as well as to members of the Transport and ECMO teams.

When real crises or near-misses occur at Children's, they're often modeled in the Simulator so that others can learn from them. And the lessons are not soon forgotten. "Clinicians don't see critical illness in children frequently enough to get good at managing it," says Jeffrey Burns, MD, MPH, co-director of the Simulator Program. "The Simulator Suite is a gift—a risk-free environment to do the best you can. There's no question our emergency preparedness is better."

"There were a lot of emotions in the room. How do you think that went?"

"It feels real—alarms are going off, the patient's desaturating, and you have to do something."

"Better to iron out the kinks here."