Trauma center’s mortality rate drops dramatically with use of new protocols

Trauma events occur every 5 minutes in the United States, and 30% of trauma patients die within 120 minutes of the event because of major organ injuries that lead to heavy blood loss.

Better outcomes are achieved when care is initiated within 60 minutes, a timeframe commonly referred to as the “golden hour.”

Because of the rapidly evolving healthcare environment, trauma centers are continually challenged to improve the care delivery process for critically injured patients. In 2009, Houston’s Memorial Hermann-Texas Medical Center campus identified an opportunity to improve care and developed a more systematic delivery approach for managing trauma patients.

“The main objective was to create a dedicated trauma OR team and eliminate the need for the circulator to leave the OR,” explains Darlene Murdock, BSN, BA, RN, CNOR, Clinical Nurse IV.

After instituting the dedicated OR and trauma team—among many other protocols led by the affiliated physician team and the dedicated nursing staff—Memorial Hermann-Texas Medical Center, one of the nation’s busiest Level I trauma centers, improved its mortality rate for trauma patients by 62%.

“We feel confident that the dedicated OR and trauma teams played a large role in providing more efficient quality care,” adds Murdock.

Trauma room designated

“Prior to our initiative, we did not have a dedicated trauma OR and staff,” says Murdock.

There are 39 ORs, she notes. Because trauma happens without notice, the circu-
The circulating nurse was at times leaving the room to obtain the necessary equipment for the trauma case. To ensure the highest level of care was provided, the leadership team instituted a change.

In 2009, the OR director and trauma chief designated the largest of the 39 ORs for trauma, and after a thorough overview of the process and best practice, the following changes were made:

• The room was reorganized and stocked with trauma surgery equipment and supplies.
• A check-off sheet and protocols were put in place to ensure all equipment and supplies were present.
• Supply cabinets were labeled for ease of retrieving supplies.
• Computerized rolling trauma supply carts were streamlined to ensure efficiency and complete charge capture.
• Instrument sets were streamlined, and additional instruments were ordered.
• Supplies were added to the trauma pack to eliminate time spent on opening individual packages.

**Check-off sheet implemented**

In 2010 the check-off sheet was updated and made more user-friendly, and a second check-off sheet was created—now there is 1 for the circulator and 1 for the surgical technician, each with different supplies and equipment to check.

“We made check-off sheets for both circulators and surgical technicians to ensure nothing was missed,” explains Murdock. “This redundant system has served as a tremendous help,” she says.

The circulators are accountable for the room setup and must confirm room readiness by turning in completed check-off sheets to the charge nurse at 7 am and 7 pm.

“Because of the check-off sheets, supplies and equipment are always in the same place now, so when a surgeon asks for something, you know right where to get it,” says Naomi Brown, BSN, RN, OR surgical nurse III.

**Trauma team initiated**

Designating a team of RNs and surgical technicians just for the trauma room has been key to increasing patient safety, efficiency, and surgeon satisfaction, says Laura Keller, BSN, RN, OR clinical manager for the night shift.

“If you are always in the same room, you know where things are, you know where things belong, and you know how the room is set up,” notes Keller. Familiarity with the team members also adds to the trauma surgeons’ comfort level. “When
things get tense in the room and the patient is crashing, they don’t have to worry. They know we know what we need to do,” says Keller.

Keller has 4 RNs and 5 surgical technicians who rotate through the 12-hour night shift. There are 10 trauma surgeons. To create the team, Keller says she asked the people she knew could handle the stress of being in the trauma room.

“No one told me no,” says Keller, “but they didn’t want to do it every night. That is why we rotate them.”

**Surveys show satisfaction**

Surveys were developed to see how the circulators and trauma surgeons perceived the efficiency and preparedness of the trauma room and team. The surveys were developed by Murdock in August 2012 to measure the success of the initiative. On a monthly basis Murdock and Brown evaluated the results and shared the results with everyone on the trauma team. This process continues today; the feedback on how the team operates ultimately impacts patient care, which is the department’s highest priority.

After each case the surgeons complete a survey to tell the team how the case went and how well they thought the team worked, says Murdock. “The surgeons want to fill out this survey; they ask for it at the end of each case,” she says.

The circulators also fill out the survey, commenting on the room setup and noting whether they had to leave the room for anything. Survey results indicate a significant decrease in the number of times the circulator has to leave the room for equipment and supplies.

“Our survey has really helped us to determine where we are and where we need to go,” says Murdock.

Judging by a 4-month average of results from 108 completed surveys, a majority of circulators and trauma surgeons are satisfied with the trauma room setup. The average score was 4.6 on a scale of 1 to 5.

To ensure the hospital continues to move toward providing the highest level of quality care, Murdock says the team is in the process of implementing AORN’s recommended practice for the trauma room temperature to remain at 85°F until the patient becomes normothermic, to help improve outcomes.

—Judith M. Mathias, MA, RN