

The Friday Night **Gun and Knife Club**, the Monday morning **rush hour wreck**, the Tuesday afternoon **construction site fall**: Grady's trauma team sees the **most serious injuries** in north Georgia.

# In the Red Zone

It is late afternoon on a Friday in early fall when the paramedics wheel a young woman into the trauma room at Grady Memorial Hospital. Barely conscious, she has just survived a car crash, her vehicle rolling over before coming to a stop. The paramedics have called ahead, and the trauma team is ready. They don't know much yet, but as the stretcher passes through the double doors, a scene unfolds. The paramedics call out vital signs, and a nurse simultaneously transcribes the information. The woman is rolled to Bay 2, and the trauma group springs into action—surgeons, emergency physicians, nurses,

x-ray technicians, and medical students moving together in a well-rehearsed dance. They assess the patient's level of consciousness, check her airways, look for bleeding. Someone takes x-rays while others pitch in to stabilize the patient. The images are processed, the blood work examined, the tests quickly completed, and a plan takes shape based on the woman's condition.

Such a scene occurs daily inside Grady's Red Zone. This is the threshold to the hospital's trauma bay, where those with the most severe, life-threatening injuries find help. Grady is where patients want to be if they've been shot, stabbed, severely burned, or seriously injured in a car wreck. The Red Zone is where they have the best chance of staying alive.

### Beyond a place

"Critical care is a concept, which takes hold the moment a patient arrives," says Grace Rozycki, Emory's chief of trauma/surgical critical care at Grady. "Critical care is not a place. It is not a unit. It is a concept, and that concept moves with the patient during the entire course of treatment, including rehabilitation."

Most trauma patients are routed from the trauma area to the operating room or directly to intensive care. They even-



intensive care nurses, emergency physicians, pharmacists, the latest diagnostic equipment, and operating rooms. That translates into a better chance of survival for those with the most severe injuries. Without Grady, Atlanta would be the only top 10 metropolitan area in the United States without a level-1 trauma center.

### What's hurting you, sir?

Later that Friday night, a middle-aged man is wheeled into the trauma room, Bay 3. Georgia clay splatters his face, arms, and clothes, the result of a motorcycle accident. The trauma team peppers him with questions: "What's hurting you, sir? Does this hurt? Does that hurt? Are you allergic to anything, sir?" The man's clay-caked helmet and clothes lay in an orange

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tually wind up in rehabilitation. Although there are various stops and stages of their care, the process is a continuum, says Jeffrey Salomone, the Emory cardiothoracic surgeon who is chief of general surgery at Grady. Both doctors and nurses keep a close eye on patients' progress, sometimes following up even after patients have returned home.

Located in downtown Atlanta, Grady has the only level-1 trauma center between Macon and Chattanooga. A level-1 trauma center gives patients immediate access to critical care and vital resources, such as on-site surgeons, trauma and

heap on the floor alongside the gurney.

"When the patient comes to us, he's a blank sheet," says Rozycki. "We don't know what's wrong. Many can't tell us about their symptoms, and even if they can, there's a certain level of mystery because these aren't the best of circumstances."

Point of fact, in Bay 2, doctors are trying to determine if the woman from the car accident has internal bleeding. Her x-rays reveal facial fractures, a broken pelvis and arm, and swelling to her face.

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### The sickest of the sick

Last year, Grady admitted 4,000 trauma patients. Of those, approximately 3,000 stayed more than 24 hours, according to Salomone. That includes 425 patients who were admitted to Grady's burn unit, one of only two regional burn centers in Georgia.

"It's the most badly injured or the most ill who get admitted," Salomone says. "We're here to take care of the sickest of the sick."

The patients who come to Grady for emergency treatment fall into three categories: those who meet trauma criteria and are sent to a trauma bay, those with unusual symptoms who are examined by both emergency and trauma physicians and then admitted to the hospital, and those with relatively minor symptoms such as broken bones and cuts who need emergency care but not that of the trauma team.

"Trauma medicine goes beyond emergency medicine because it involves a broad spectrum of disease," says Rozycki.

While many people think of trauma doctors as handling gunshots and stabbings, those make up only a small percentage of cases at Grady. "Car wrecks, motorcycle crashes, and falls make up at least 70% of trauma care seen in the hospital," says David Feliciano, an Emory surgeon who is Grady's chief surgeon.

What's more, he adds, trauma is an injury that is a surgical disease. It can be blunt—as in car accidents—or it can be penetrating—gunshot wounds, stabbings, and impalements.

### Surge capacity

In July 1999, Grady's trauma team got word of an office shooting in the Buckhead neighborhood of Atlanta. Of 21 people who had been wounded, nine were dead at the scene. Seven of the gunshot victims came to Grady, and six of those needed emergency surgery. Although the tragedy occurred during a shift change at the hospital, the nurses and anesthesiologist on call stayed so that all six patients were able to be taken to the operating room on arrival. "We were running the equivalent of six emergency ORs at 3:00 in the afternoon," Salomone remembers. "There's no other hospital in this town that can do that."

While needing this capacity is not an everyday event, it does occur repeatedly. For example, in March 2007, a chartered bus carrying the Bluffton, Ohio, college baseball team to a tournament in Florida overturned on an exit ramp off I-75 and crashed to the interstate below. The accident claimed the lives of five students, the bus driver, and his wife. Dozens of other players needed immediate treatment. "The day of the Bluffton bus crash, the media kept asking, 'How many people



did you call in to help?” Salomone says. “None. We took care of things with the people who work here. What we have is surge capacity—the ability to accommodate people who show up at your door all at once.”

That ability is enabled by trauma surgeons who staff the hospital 24/7, required for level 1 status and reinforced by Feliciano as chief surgeon. Salomone himself lives less than a mile from Grady, a factor that he considered when purchasing a place to live. That proximity also helps him in his volunteer duties to care for any police officer who becomes seriously injured on the job.

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### Don't move

It's after 10 pm, and the motor vehicle accidents keep rolling in. The latest casualty, a young man with his hair damp with blood from facial lacerations, is told to lie still in Bay 4. “Just answer yes or no,” they tell him. “Don't move.” Then come the questions: “Any pain here? Any allergies? Any drug use? What about anything to drink?”

Now on pain medication, the motorcyclist in Bay 3 is asleep. Soon he will be admitted for observation and further care, but chances are he will not need surgery.

However, the woman in Bay 2 will. Her surgery will take

place in one of Grady's 16 ORs, 14 of which are usually in use during daytime hours. Available just outside the OR are 48 units of O negative blood, more than most hospitals keep in their blood banks. Two surgical nurses are on duty, awaiting a minute's notice to ready the OR when a patient needs emergency surgery.

After surgery, trauma patients are transferred to a 20-bed surgical ICU, where the woman in Bay 2 is eventually bound. “This unit has nurses with the strongest intellect and capability in the city,” says Salomone. “They work 12-hour shifts with some very sick patients, and they are the primary reason many of these patients get better.”

### The job doesn't stop here

“Those of us who go into trauma medicine like to take people who are critically ill and contribute each day to them getting better, going back to work, and returning to their lives,” says Salomone.

The woman in Bay 2 did recover and return home to her everyday life. Likewise, all but five of the Bluffton kids returned to Ohio and the ballpark. Salomone and his colleagues even made a trip recently to see the team play. As

they sat in the stands months after the bus crash, they felt the continuum of care had come full circle from the Red Zone to real life. ●

*Robin Tricoles is a science writer in Emory's office of Health Sciences Communications.*

**WEB CONNECTION** *Grady Hospital is experiencing a serious financial and governance crisis. For the latest update on the status of the hospital, see [www.emory.edu/grady/](http://www.emory.edu/grady/)*