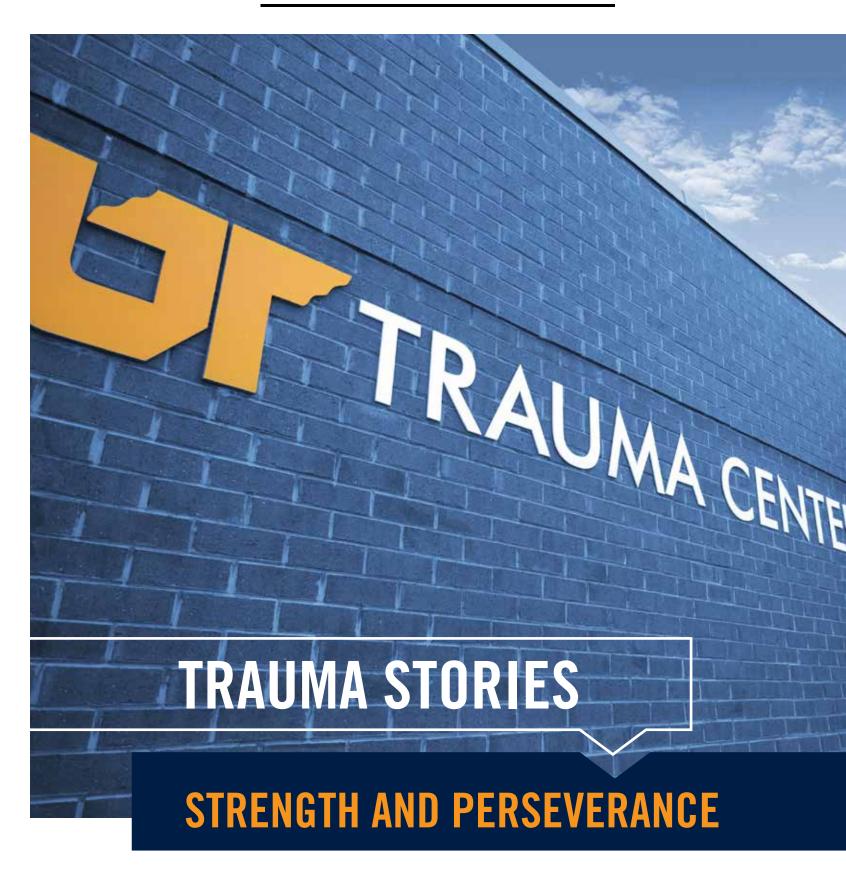
MEDICAL CENTER



The University of Tennessee Medical Center is the home of the Knoxville campus of UT Graduate School of Medicine, UT College of Pharmacy and University Health System, Inc. Together, these entities embody the medical center's philosophy and mission to serve through healing, education and discovery.

UTMedicalCenter.org

We Value Integrity • Excellence • Compassion Innovation • Collaboration • Dedication



2017 TRAUMA REPORT

ACKNOWLEDGMENTS

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The University of Tennessee Medical Center's Level I Trauma Unit works daily to advance trauma care in East Tennessee and beyond. As the only Level I Trauma Center to receive Verification from the American College of Surgeons in our region, we are committed to performing at the highest level of care for our patients and their families. We offer comprehensive care, beginning with the first responders and continuing after discharge with physical therapy, support services such as the Trauma Survivors Network, and other vital services. Our hard-working and humble providers are committed to the best outcomes for our patients, regardless of their ethnic background, gender or social situation. This report acknowledges the Emergency & Trauma staff and their unwavering dedication to their community.



Brian J. Daley, MD, MBA, FACS
Professor, Department of Surgery
Program Director, General Surgery
Chief, Division of Trauma and Critical Care
Department of Surgery

Miki Rasnake

Niki Rasnake BSN, RN, CEN Trauma Program Manager













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2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

CREATING NEW LIFEFROM THE WRECKAGE the scene, waiting transport him to T Center.

By Julie Gray, wife of trauma survivor Daniel Gray

Daniel and I were high school sweethearts. I began calling him "Big Dan" on our very first date, and two decades later, Big Dan and I split our time between farming (him) and nursing (me) and parenting our two, feisty red-headed boys, Tucker and Cooper.

The morning of Friday, July 8, 2016, was the typical chaotic rush of getting everyone dressed, fed and out the door. Dan planned to haul some equipment to Alabama with his dad, Everett. They left around 11 am.

A short while later, his twin brother, Morgan, called and I could hear the panic in his voice. Daniel and Everett had been in an accident on the interstate. Everett had some cuts and bruises but was otherwise okay. Big Dan was trapped in the wreckage and UT LIFESTAR was on



On Friday, July 8, 2016, Daniel Gray and his father, Everett, were taking a business trip to Alabama when a tire blew on the truck Daniel was driving. It took first responders three hours to pull him from the wreckage. Everett received minor injuries.

the scene, waiting for him to be extracted so they could transport him to The University of Tennessee Medical Center.

On the 40-mile drive to the hospital, I was beyond terrified. I was overwhelmed with prayers for Big Dan's safety and protection, for the flight team and for the medical staff who would be treating him. But my greatest desire was for Big Dan and our entire family to be filled with God's peace and strength.

Once I arrived, the details of the accident began to emerge. Dan had been hauling a 12,000-pound tractor on a 31-foot trailer. A front tire blew and he lost control of the vehicle, careening off the interstate and landing against a large tree. Due to the remoteness of the location and the severity of the accident, it took three horribly long hours to free him from the wreckage.

And the news only got worse. Dan had a severed intestine, multiple pelvic fractures, severe blood loss and muscle tissue breakdown. The doctors were considering amputating his left leg. Any one of these conditions could be life-threatening, but all of them combined made for an unimaginable worst-case scenario.

We were on an emotional roller coaster ride that seemed to never end. One minute, we would get positive news about Dan's condition, and the next it was uncertain if he would survive the hour.

I lived at the hospital for 28 days. My mom moved into our house and became Tucker and Cooper's primary caregiver. Some people viewed me as a devoted wife, while others thought I was downright crazy. I didn't care



Daniel Gray, rehabbing at The University of Tennessee Medical Center (left). Julie and Daniel Gray, with their sons Cooper and Tucker (middle). Daniel Gray, two years after his accident (right).

what anyone thought. I had invested 19 years in our family and I was going to fight with everything I had.

After 183 days in the hospital, more than a dozen procedures, and more than 40 units of blood and blood products, Dan is still with us. According to one of his trauma physicians, he was one of the most critically injured patients at the medical center ever to survive. Daniel spends hours each week working to improve his strength and mobility. Learning to walk with a severely damaged leg has proven to be challenging, but he has

grateful to the medical professionals who shared their talents and passion for helping others. The support of our community, family and friends has been utterly amazing. There aren't enough words to describe how blessed and humbled we have been by the outpouring of love and support that we have received.

Big Dan's story is filled with courage, hope, perseverance, faithfulness and love. But above all, it is confirmation of our God's great mercy and His amazing grace.

This isn't the path that we would have chosen, but we are making the best of our circumstances.

made great progress. Daniel has graduated to forearm crutches and hopes to eventually use only a cane for mobility.

Occasionally, Big Dan will apologize to our boys for not being able to do something with them. Without fail, Tucker says, "It's okay Dad. We're just glad you're here."

This isn't the path that we would have chosen, but we are making the best of our circumstances. We are so

Julie is a trained peer visitor who devotes her time helping other walking the path of a trauma survivor.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

LIVING LIFE TO THE FULLEST

Chonci Houston, a tree surgeon, was working in the top of a mature pine tree, cutting limbs over a home. Even though it was a beautiful, sunny day, he was distracted.

"I had argued with a coworker, and I was angry," he said. "My better judgment was blinded by my feelings, and I accidentally cut myself out of the treetop and fell."



Chonci Houston, a tree surgeon, fell more than 80 feet from this treetop and was critically injured.

As he fell, Chonci said he yelled to God for help, then landed face-down in the prayer position. Emergency responders brought him to the medical center's Level I Trauma Center for treatment.

With a fractured nose and jaw, chipped teeth, a broken arm, bruised lungs, a lacerated liver and a host of other injuries, Chonci was listed as high risk and in need of close monitoring.

Through a combination of excellent care, prayer and visualization, Chonci healed quickly.

"I could not have had any better first responders, nurses, staff and doctors than I did," said Chonci. "And because I had the best care, I responded in the same way in my recovery."



Chonci credits excellent care, prayer and visualization for aiding in his quick healing.

He knew that the pain of recovery – both physically and emotionally – would be a battle. But he said he knew he would win.

"I was not going to choose to be a victim of anger or feeling sorry for myself, while staying stagnant on the couch," he said.

Once out of the hospital, he and his wife began a running regimen, working up to three miles, six days a week. "I believe therapy starts in the heart and mind," he said.

Chonci is an active member of the Trauma Survivors Network at the medical center.

"The program helps me remember that life isn't just about my getting better and moving on. It's also about staying better and picking others up with me – and helping us all live life to the fullest."

In other words, he said, "Falls and pain may occur, but they can be overcome."

Chonci Houston, is an active member of the Trauma Survivors Network.



"I believe therapy starts in the heart and mind," said Chonci.

TRAUMA SURVIVORS NETWORK



The Trauma Survivors Network hosts a monthly support group for survivors, where they tell their stories and share their progress.

The Trauma Survivors Network (TSN) is a community of patients and families who are looking to connect with one another and rebuild their lives after a serious injury. The TSN website provides a place for trauma patients and their loved ones to connect with others and get the information they need to help rebuild their lives. You can visit the website at traumasurvivorsnetwork.org.

The University of Tennessee Medical Center started a TSN in 2016, which provides the following programs:

Peer Visitation – Former trauma patients and caregivers are trained to be peer visitors. Peer visitors volunteer their time to visit patients and their families in the hospital and share experiences from the road to recovery after a serious injury. Peer visitors can answer survivors' questions from the perspective of someone who has been there.

Survivors Support Group, Let's CHAT (Come Have A Talk) – This is a general support group for trauma survivors that is held the first Tuesday of the month from 6-7:30 pm.

Snack & Chat – Family and friends of patients currently admitted to our Trauma Center are invited to relax, have a snack and learn more about the emotional impact of



Peer visitor Sgt. Lowell Russell offers support to a fellow trauma survivor at The University of Tennessee Medical Center.

trauma. The group meets once a week.

iPad Lending – TSN has iPads available to inpatient trauma patients. The iPads can be checked out for one day at a time.

For more information about the medical center's Trauma Survivors Network, please contact the TSN Coordinators at 865-305-9970 or TSNCoordinator@utmck.edu.

- In 2017, 43 people participated in one or more sessions of the TSN's outpatient support group, Let's CHAT. The group averaged seven participants in each session.
- TSN Coordinators supported 1,395 patients, and 39
 percent received follow-up visits. During the initial visit,
 patients and their families were given the Trauma Patient
 Handbook and a brochure about the TSN program.
- Peer visitation started in May 2017, and during that time, 107 peer visits occurred. Peer visitors logged more than 105 hours in 2017.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

TRAUMA SURGEONS

TRAUMA SERVICES



Brian J. Daley, MD FACS, MBA, FCCP, CNSP Medical Director

MEDICAL CRITICAL CARE



James E. Shamiyeh, MD MSPH, FCCP Co-Director

NEUROCRITICAL CARE



J. Russell Langdon, MD Medical Director and Vice President Brain & Spine



Blaine L. Enderson, MD MBA, FACS, FCCM Vice President of Emergency, Trauma and Critical Care



Karen Pryor, MSN, RN, CNML Director Critical Care, Emergency & Trauma Services

TRAUMA SURGICAL CRITICAL CARE



Reagan W. Bollig, MD Medical Director

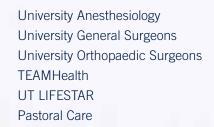
ACKNOWLEDGMENTS

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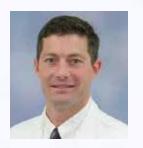
R. Frank Roberts, MD, FACS



Dana A. Taylor, MD, FACS



James W. Goodin, MD, FACS



Todd A. Nickloes, DO, FACOS, FACS



Lou M. Smith, MD, FACS

TRAUMA MULTIDISCIPLINARY LIAISON TEAM

A multidisciplinary trauma peer-review committee was formed to include liaisons from all the subspecialty groups that are involved in trauma care. This committee meets monthly to review all aspects of trauma care, including systematic review of all mortalities, significant complications and process variances associated with unanticipated outcomes. Our goal is to improve patient care, including prehospital care, acute care issues, post-discharge requirements as well as outreach and injury prevention.



J. Doug Keller, DO Trauma Anesthesia Liaison



William E. Snyder, Jr., MD Trauma Neurosurgeon Liaison



J. Michael McCoy, DDS Trauma OMFS* Liaison



Brian M. Tonne, MD Trauma Orthopaedic Surgeon Liaison



Jerry L. Edwards, DO Emergency Department Medical Director and Trauma Liason



Steven P. Knight, MD Trauma Radiology Liaison

*Oral and maxillofacial surgery

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

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HOW A SCOUT GROUP SAVED HER LIFE

This past August, June Veal was going to a church meeting when she saw an acquaintance pulling into the parking lot, so she paused by the door to wait for her. The driver accidentally lost control of the car, and it came to a stop, pinning June to the church wall.

"Through the Lord's leading," she said, "the church scout group, the Pathfinders, had a staff meeting at the church that night." Their kids were playing in the yard near the building, and when they saw the accident, they ran to get the Pathfinders staff. This group had extensive first-aid training and included a travel nurse who came to help June. Their quick action saved her life.

Once the car was removed, June said, "I saw my blood pumping out and felt so disembodied. It was like, oh, there's my blood." She didn't feel any pain or fear, even as the church members put a tourniquet on her and kept her stable. She was taken to Blount Memorial Hospital by ambulance and further stabilized, and then sent to The University of Tennessee Medical Center Level I Trauma Unit, where she was in surgery to repair her leg within 19 minutes of her arrival.

"I didn't realize it could have been fatal until later," she said. The crash severed her popliteal artery, a branch of the femoral, which pumps blood from the heart to the leg. It also damaged her knee and there were additional leg injuries.

June and the driver were both friends from church and have continued to support each other. Two and a half months after hospital and rehabilitation confinement, she went home to recuperate. June has now had two additional surgeries for her orthopaedic injuries, and



June Veal (pictured with husband Ken) suffered a near-fatal leg injury while at church. Members of the church's scout group, Pathfinders, stopped the bleeding and stabilized her until she could be transported to a local hospital.

with regular therapy has progressed from wheelchair to walker to cane to walking on her own.

She's working on increasing mobility in her knee, and doing daily physical therapy exercises. Her goal is for her left leg to be just as strong as her right.

"There's a Bible verse that says, 'Come boldly to the throne,'" she said. "So I keep telling God what I want, and I know He'll do it. June is deeply grateful for all the excellent care she received from all who attended her.



STOP THE BLEED

By Gigi Taylor, Trauma Outreach Coordinator and Debi Tuggle, Injury Prevention/Pediatric Trauma Coordinator

The Stop the Bleed campaign was officially launched by the White House in October 2015. This campaign is part of the Presidential Policy for National Preparedness. The policy addresses building national resilience through public awareness, education and training.

In aid of this policy, and supported by the American College of Surgeons, the medical center began offering The Bleeding Control Basic course in April 2017.

This course recognizes that citizens may be faced with a life-threatening bleeding situation at any time. Massive bleeding from any cause — but particularly from an active shooter, explosive event or natural disaster where a response is delayed — can result in death.

Victims can die from uncontrolled bleeding within five minutes. According to the National Trauma Institute, 35 percent of prehospital deaths are caused by traumatic injury, hemorrhage or major loss of blood. In the same way the general public has learned CPR, medical organizations must also teach people to recognize lifethreatening bleeding and apply proper bleeding control techniques.

In the Bleeding Control Basics course, attendees learn to apply direct pressure, pack wounds and apply tourniquets.

The course is taught to all age groups with no pre-existing medical knowledge required. Designed as a one-time certification, this course provides the knowledge and skills to help save a life. Through these courses, the trauma staff has found attendees also gain confidence and lose their fear of doing something wrong.



A student in a Bleeding Control Basics course learns to apply a tourniquet.

As a Level I Trauma Center, our injury prevention and outreach initiatives encompass the East Tennessee region. Since the launch of our Stop the Bleed initiative, we have held 32 courses and trained over 700 individuals. We have also recruited 19 additional instructors from health care, EMT units and law enforcement. Partnering and collaborating with agencies throughout our region has brought unity to the program offerings.

One main goal of the Stop the Bleed campaign is to place bleeding control kits in public locations, such as schools, churches and businesses. Through efforts like these, we are striving to bring this life-saving training to everyone in our region.

For more information: UTMedicalCenter.org/stopthebleed

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

PASTORAL CARE

By Brad Hood, Chaplain

Chaplains are an integral part of the care team at The University of Tennessee Medical Center. Our spiritual care delivery process is one of the first in the nation to be recognized with the HealthCare Chaplaincy Network's Excellence in Spiritual Care Award. Chaplains respond to the needs of our medical center 24/7.

We are dedicated to providing spiritual counseling to the medical center's trauma patients. We demonstrate this by meeting every trauma patient, and their family and guests, and caring for their spiritual needs. We are with them from the Trauma Bay until they leave the hospital.

Our medical center has the region's only accredited training center for Clinical Pastoral Education (CPE). Our trauma center offers the student and resident chaplains real-life experience to integrate their theological education in a clinical setting.

As a training program, our CPE supervisors and staff chaplains are constantly working towards the best holistic care for our customers. And our program allows students and residents to grow these skills in an educational environment.

In 2016, we announced an initiative called, "15 on the 15th," aimed at supporting our Emergency Room and Trauma staff. On the fifteenth of every month we offer a 15-minute coffee break with the chaplain.

While we are always available for their team, we have found this intentional, standing break has become a celebrated time to get to know each other better. Many of those conversations have led to supportive relationships that enhance the value of the medical center culture.

The Level I Trauma Center and Pastoral Care
Department work together to find sacred moments in
the chaotic experience of injury, treatment and recovery.



The Pastoral Care staff, left to right: Coy Callicot, Brad Hood, Randy Shoun, Steve Sexton, Benjamin Lewis, George Doebler, Heather Shirey, Lisa Casey and Anne Sprouse

We are not always aware of the impact we have, but sometimes we are reminded in the most moving of ways. Last spring a hand-written note showed up in the chapel. The writer told a personal story of hope and survival. It was written on the anniversary of an overwhelming and frightening night. Half of his family had nearly died in a car accident and he had found comfort in our chapel. But, "Most of the time," he wrote, "I couldn't even form the words — I just cried big, ugly, scared tears." In that moment, a stranger came in and offered to pray with him. "When I opened my eyes," he said, "she was gone."

The note went on to say many times he has prayed for our medical center and the people who find themselves in similar situations. And folded in the note was a five dollar bill. The money was meant to buy a cup of coffee for another person who might find their way to the chapel afraid and overwhelmed.

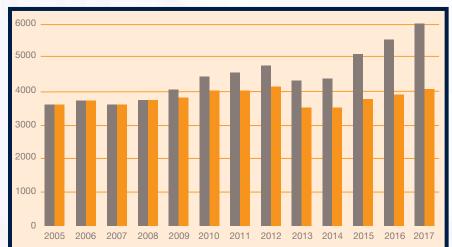
When I tell people that I am a chaplain at The University of Tennessee Medical Center, their response is often, "That place is like a whole city. I sometimes get lost over there." Notes such as this one remind me of how lost some of our guests feel. And, notes such as this one, remind me of the hope we inspire by caring for our patients.

I gave the money to another father who needed a cup of coffee that very day. He had been up all night with his family. I've kept the note and I often end chapel services with the author's hopeful words, "God's peace be with you."

ADMISSIONS AND VISITS

TRAUMA VOLUME AND ADMISSIONS PER YEAR

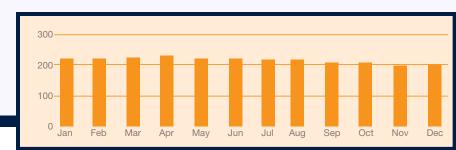




EMERGENCY DEPARTMENT PATIENT VOLUMES BY MONTH

8000 7000 6000 5000 4000 2000 1000 0 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

EMERGENCY DEPARTMENT PATIENT DAILY VOLUMES BY MONTH



INJURY SEVERITY SCORE

| Trauma Patient Distribution by Injury Severity Score | | | |
|--|--------------------|--|--|
| ISS | Number of Patients | | |
| <8 | 1275 | | |
| 8-15 | 1811 | | |
| 16-24 | 672 | | |
| 25-40 | 235 | | |
| 41-75 | 23 | | |

All Level I Trauma Centers are required to admit at least 1,200 trauma patients yearly or have 240 admissions with an Injury Severity Score (ISS) of more than 15.

The ISS is a scoring system that applies a numerical value to a patient's injuries. In 2017, the Trauma Center at The University of Tennessee Medical Center admitted 930 patients with an ISS greater than 15. This is more than four times the national requirement for a Level I Trauma Center.

ON-CALL SPECIALISTS

| Top 3 Groups Receiving the Most Consults | | | | | |
|---|------|------|--|--|--|
| Specialty Consultations Operations | | | | | |
| OMFS* | 971 | 723 | | | |
| Neurosurgery | 1530 | 231 | | | |
| Orthopaedics | 2410 | 1831 | | | |

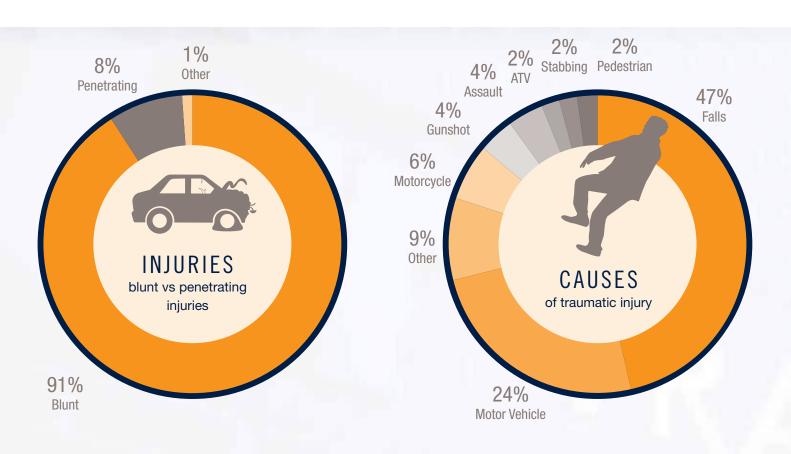
*Oral and maxillofacial surgery

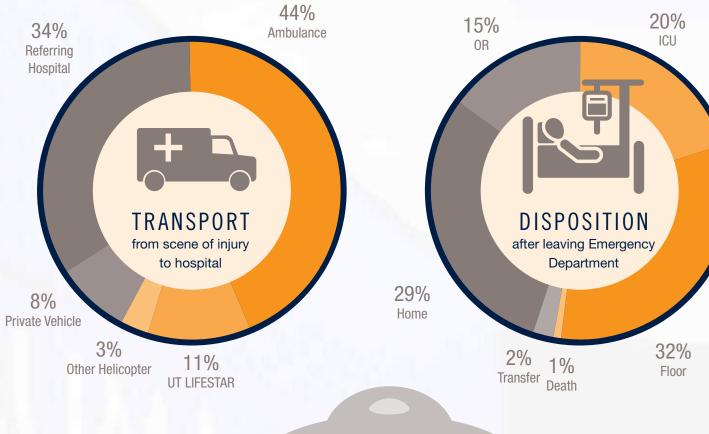
As a Level I Trauma Center, The University of Tennessee Medical Center is required to have general surgeons, emergency medicine physicians, intensive care physicians and anesthesiologists in-house at all times. Other specialists and a full range of equipment must also be available 24/7/365.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

CAUSES OF TRAUMATIC INJURY

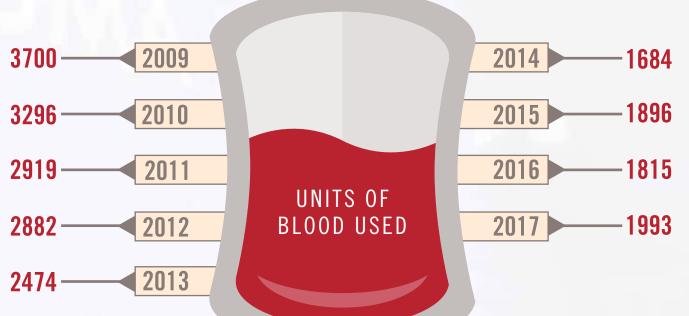
ARRIVALS AND HOSPITALIZATION





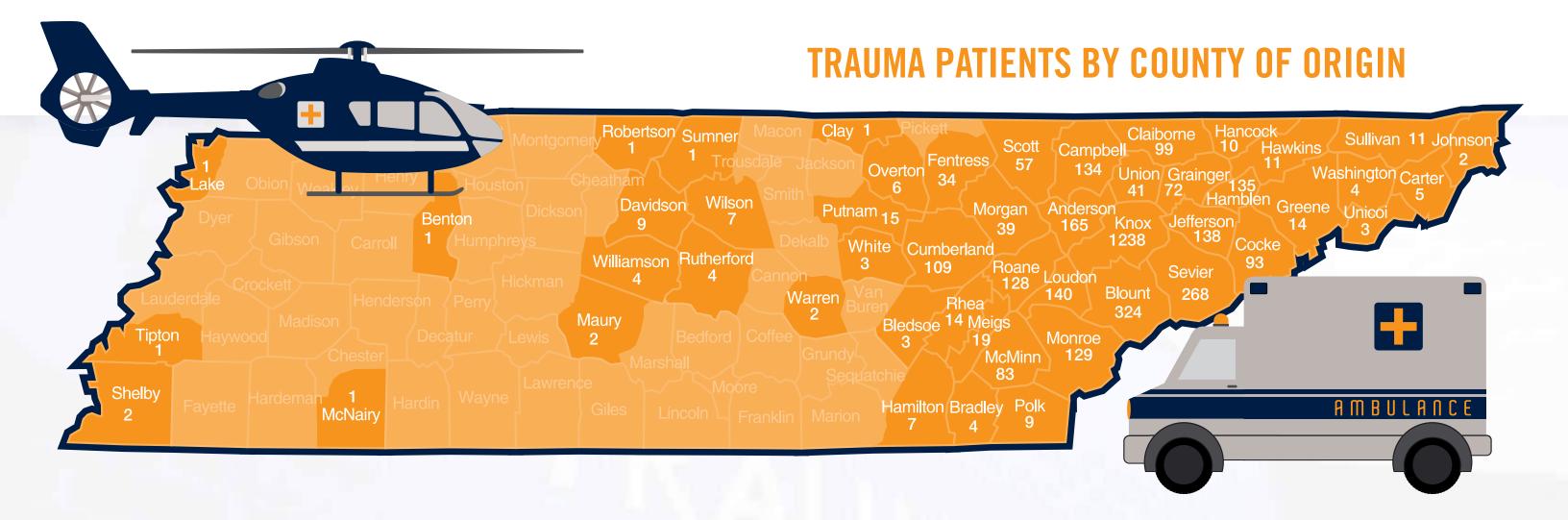
TOP 3 MECHANISMS OF INJURY BY AGE GROUP

| Age Range | 0-13 | 14-17 | 18-25 | 26-45 | 46-65 | >65 |
|--------------|--------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|
| #1 | Falls | Motor Vehicle Crash | Motor Vehicle Crash | Motor Vehicle Crash | Falls | Falls |
| #2 | Other Blunt Mechanism | Falls | Falls | Falls | Motor Vehicle Crash | Motor Vehicle Crash |
| #3 | All-Terrain Vehicle | All-Terrain Vehicle | Motorcycle Crash | Motorcycle Crash | Motorcycle Crash | Other Blunt Mechanism |



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2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE



REFERRING HOSPITALS

| Blount Memorial | 201 | Johnson City Medical Center |
|----------------------------|-----|--------------------------------|
| Claiborne Medical Center | 75 | LaFollette Medical Center |
| Cumberland Medical Center | 159 | Lakeway Regional |
| East Tennessee Children's | 1 | Laughlin Memorial |
| Fort Loudon Medical Center | 66 | LeConte Medical Center |
| Fort Sanders Regional | 91 | Methodist Medical Center |
| Medical Center | | Morristown-Hamblen |
| Hancock County | 1 | Healthcare System |
| Hawkins County Memorial | 1 | Newport Medical Center |
| Jamestown Regional | 47 | North Knoxville Medical Center |
| Medical Center | | Parkwest Medical Center |
| Jefferson Memorial | 50 | Physician's Regional |
| Jellico Community | 52 | Medical Center |
| | | |

| 1 | Big South Fork Medical Center | 27 | |
|-----|---------------------------------|-----|--|
| 66 | Rhea Medical Center | 1 | |
| 23 | Roane Medical Center | 68 | |
| 6 | Starr Regional Medical (Athens) | 63 | |
| 172 | Starr Regional Medical (Etowah) | 22 | |
| 103 | Sweetwater | 110 | |
| 105 | Tacoma Adventist Hospital | 2 | |
| | Turkey Creek Medical Center | 28 | |
| 90 | Wellmont Bristol Regional | 4 | |
| 77 | Wellmont Holston Valley | 3 | |

Kentucky hospitals

126

TRAUMA PATIENTS' HOME STATES

| Alabama | 18 | Massachusetts | 2 | Okianoma | 3 |
|-------------|-----|----------------|----|----------------|-------|
| Arkansas | 3 | Maryland | 2 | Pennsylvania | 13 |
| Arizona | 2 | Maine | 3 | Rhode Island | 1 |
| California | 3 | Michigan | 16 | South Carolina | 14 |
| Connecticut | 1 | Minnesota | 2 | Tennessee | 5,353 |
| Florida | 36 | Mississippi | 6 | Vermont | 1 |
| Georgia | 45 | Missouri | 2 | Virginia | 36 |
| Hawaii | 1 | North Carolina | 42 | Washington | 2 |
| Illinois | 10 | North Dakota | 1 | Wisconsin | 3 |
| Indiana | 17 | New Jersey | 3 | West Virginia | 3 |
| Kansas | 2 | New Mexico | 2 | Wyoming | 1 |
| Kentucky | 254 | New York | 9 | | |
| Louisiana | 6 | Ohio | 32 | | |
| | | | | | |

17

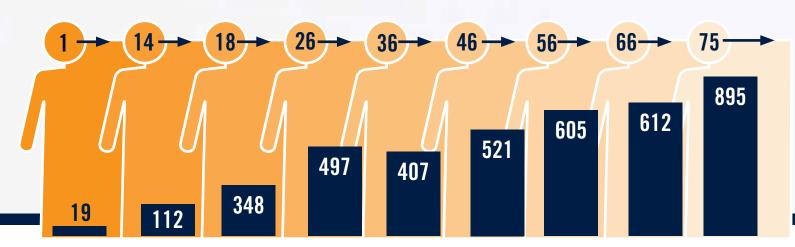
2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

TRAUMA CENTER STATISTICS

PATIENT STATUS AND DISCHARGES 15% 58% Medicaid/ Home TN Care 40% Medicare 11% BlueCross BlueShield 5% FINANCIAL DISCHARGE HMO/PPO distribution destination 5% Death Home 1% Health 4% Other Long Term 6% 3% Commercial **Acute Care** 5% Self Pay Rehab 22% Other Workers Comp Nursing Military Home

The Trauma service at The University of Tennessee Medical Center provided uncompensated care to over 370 severely injured patients in 2017. The average gross charge for each of these cases was \$54,617.

TRAUMA PATIENTS DISTRIBUTION BY AGE



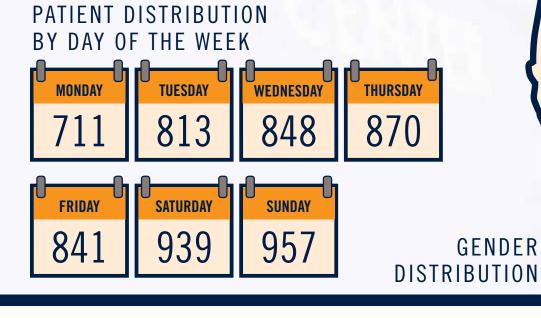
PATIENT DISTRIBUTION



PATIENT DISTRIBUTION BY MONTH



PATIENT DISTRIBUTION BY HOUR OF THE DAY



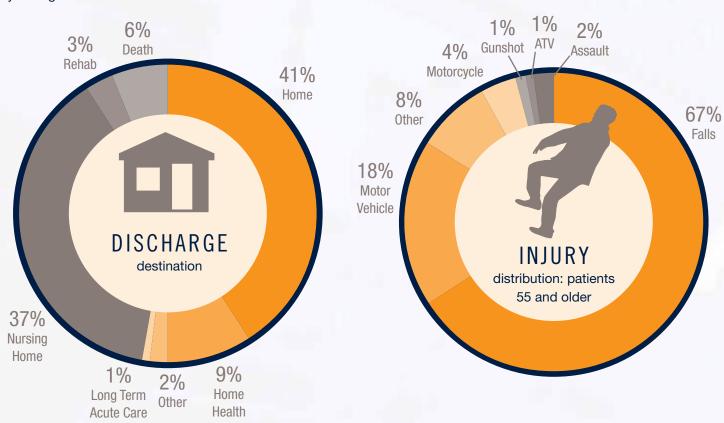
59% 41%
ER
ON

STRENGTH AND PERSEVERANCE

PATIENTS 55 AND OLDER

As the Baby Boomers enter their golden years, people aged 55 and older are the fastest-growing segment of the population. This has resulted in a steady increase in trauma-related admissions in this population. Consistent with patterns across the nation, at The University of Tennessee Medical Center falls are now the leading cause of unintentional injury in older adults, accounting for approximately 50 percent of the admissions. Numerous studies show increased death and disability in older adult trauma patients, when compared to a younger population. Therefore, it is imperative for older adults to be rapidly transported to a trauma center — ideally during the first hour.

| | Injury Severity Score Age 55 and Older | | |
|---|---|--------------------|--|
| ١ | ISS | Number of Patients | |
| | <8 | 600 | |
| | 8-15 | 1092 | |
| | 16-24 | 347 | |
| | 25-40 | 111 | |
| | 41-75 | 8 | |



PERCENTAGE OF ADMISSIONS 55 OR OLDER



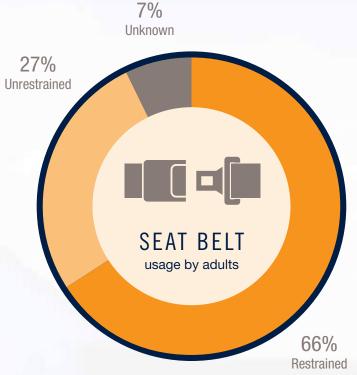
INJURY PREVENTION

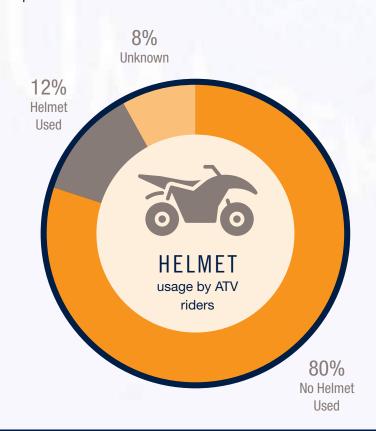
INJURY DOES NOT OCCUR BY ACCIDENT

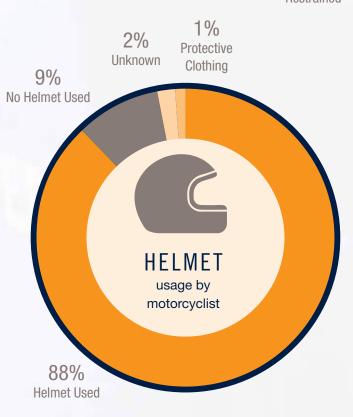
Though it may be unintentional, injury does not occur by accident. Trauma Centers play an important role in identifying injury patterns and risk factors in patients, families and communities. For many injuries, prevention is the best means of dealing with a public health problem.

Using protective equipment has been proven to increase survivability if you are involved in a crash. At the medical center, we treat many patients who do not use protective equipment when driving or participating in recreational activities.

More than 66 percent of our patients who were involved in motor vehicle crashes were wearing seat belts at the time of their accident. An alarming number of ATV enthusiasts do not wear a helmet while riding; only about 12 percent of the riders admitted to the Trauma Center are wearing a helmet when their accident occurred. More motorcyclists wear a helmet when they are involved in a collision; after all it is the law. However, only 88 percent of the motorcyclists were helmeted, leaving room for improvement.







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2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

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OTAL ADMITS 55 OR OLDER

TOTAL TRAUMA ADMITS

TRAUMA SERVICES PROGRAM STAFF



TRAUMA PROGRAM MANAGER Niki Rasnake, BSN, RN, CEN

The trauma program manager is fundamental to the development, implementation and evaluation of

the trauma program. In addition to administrative responsibilities, the trauma program manager must show evidence of educational preparation, certification and clinical experience in the field of trauma care. Key responsibilities include: organization of performance improvement activities; management of the trauma registry; and coordination of outreach education and injury prevention activities at the community, state and national levels. The trauma program manager is also involved with research, analysis and facilitating protocol development within the trauma program. The trauma program manager represents the trauma program on hospital and state committees to enhance trauma care delivery and management for our patients.



INJURY PREVENTION/PEDIATRIC TRAUMA COORDINATOR

Debi Tuggle, RN, CEN

The injury prevention/pediatric trauma coordinator is instrumental in the development, implementation and evaluation of the pediatric trauma

service and injury prevention in our community. Key responsibilities include: coordinating pediatric trauma performance improvement programs and participating in education and outreach programs, including injury prevention programs. The injury prevention/pediatric trauma coordinator represents the pediatric trauma service on hospital committees and represents the medical center on community and state committees.

TRAUMA REGISTRARS

The trauma registrar is an integral member of the trauma team. Trauma registry data is abstracted and entered by the trauma registrar. Trauma registry data is used internally in the continuous performance improvement process at the medical center. Data is reported to the National Trauma Data Bank and the Tennessee State Trauma Registry. High-quality data begins with high-quality data abstraction and entry — it is the trauma registrar who performs this task and then analyzes the data and prepares it for distribution in its most useful format.



Becky A. Kali. RHIT, CPC **CSTR** Lead Registrar

Mandi Finchum. RHIT



Linda Bushong, RHIT





No

Photo

Jennifer King

Karen

Jenkins



Vicki **Harness**



Traonna Smith, RHIT



TRAUMA PERFORMANCE IMPROVEMENT COORDINATOR Kelly McNutt, BS, RN, CEN, TCRN

The trauma performance improvement coordinator's primary

responsibility is to monitor and continually improve structures, processes and outcomes within the institution in collaboration with the trauma medical director and trauma program manager. Other duties include trauma registry data validation and generation of performance reports. The reports generated support a number of functions, including performance improvement activities; development of research projects for publication and presentations at national meetings; and providing information to support legislative and educational initiatives, which impact the safety of our community. The trauma performance improvement coordinator collaborates with the multidisciplinary team in the daily care of trauma patients to enhance continuous quality improvement for the trauma program.



TRAUMA OUTREACH COORDINATOR Gigi Taylor, MSN, RN, TCRN, CEN

The trauma outreach coordinator plays a significant role in assuring that the Trauma Center serves as a

community and regional resource. Outreach programs are an integral part of Trauma Center services. These programs are designed to help improve outcomes from trauma and prevent injury through public and professional dissemination of information, and the facilitation of access to the clinical and educational resources of the Trauma Center. The components of an outreach program may include public awareness, injury prevention education or professional education. The scope of education and outreach programs depends on a variety of factors for the region including the needs of the region as well as available resources.

TRAUMA SURVIVORS NETWORK

The Trauma Survivors Network (TSN) is a national program developed by the American Trauma Society. It helps trauma patients and their families connect with one another and rebuild their lives after a serious injury. The TSN coordinators at the medical center act as a liaison for patients and their families, introducing them to the program and giving them access to resources aimed at helping them rebuild their lives. The TSN is a free service to trauma survivors and their families.

TSN CLINICAL COORDINATOR



Therese Zaltash, MS

The TSN clinical coordinator serves as a point of contact for program participants, office and clinical support personnel. Key responsibilities include: facilitating educational and support groups, coordinating outreach

and educational efforts, and educating the hospital staff about the program. The clinical coordinator trains and manages TSN volunteers as peer visitors and community educators. The clinical coordinator recruits trauma survivors for support group and the peer visitation program.

TSN DEVELOPMENT COORDINATOR

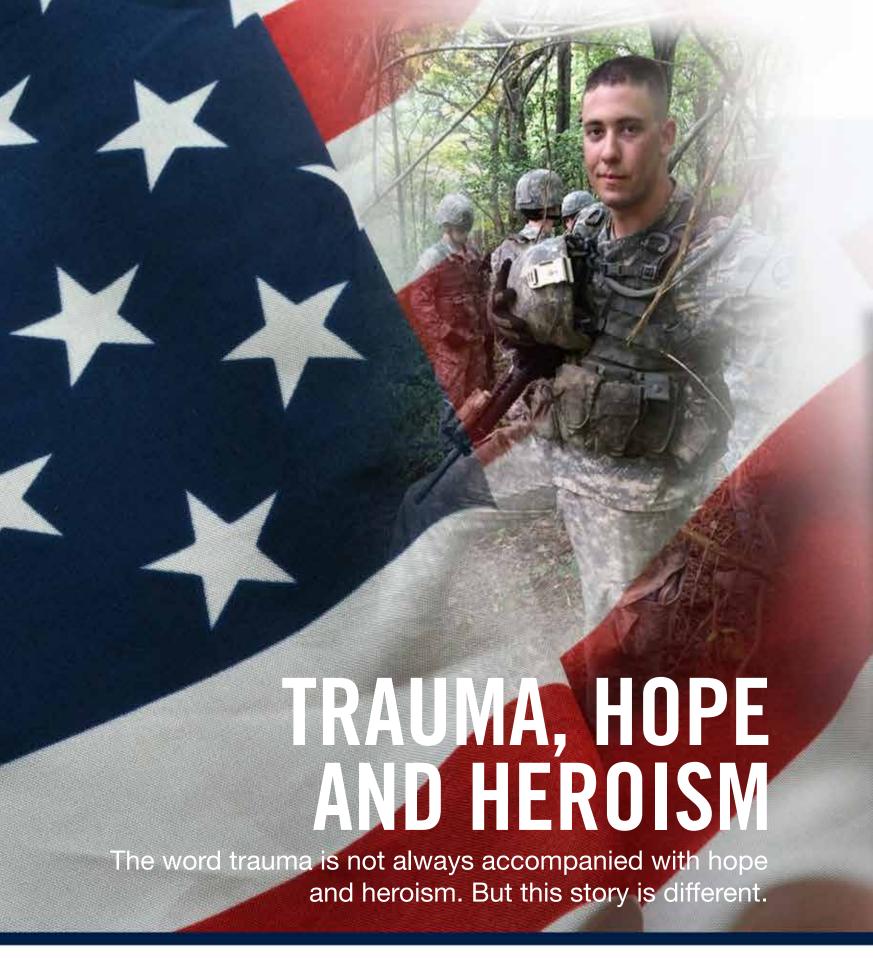


Elizabeth Waters, LAPSW

The TSN development coordinator is responsible for submitting and managing grant proposals for foundation and corporate sources. Key responsibilities include: coordinating day-to-day operations of the

TSN program with the clinical coordinator; creating and maintaining database information for program evaluation and reporting; and co-facilitating the Survivor Support Group with the clinical coordinator. The TSN development coordinator also serves as a field instructor for social work students who provide support to the TSN and other Trauma Center initiatives.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE



What if you could give someone a second chance at life?

Sergeant Matthan Fish, a member of the Tennessee Army National Guard, did just that after suffering what would be a fatal motorcycle crash in February 2018. Fish, as his military buddies called him, served in Iraq and trained countless soldiers. After the crash, Fish and a passenger were transported to the medical center's Level I Trauma Center.

When his unit heard of Fish's crash, 100 fellow soldiers held vigil in the Trauma Center. From his arrival at the

hospital until his death several days later, his brothers in uniform did not leave his side.

Fish had signed up to be an organ and tissue donor, and although it is popular to sign up, only about one percent of deaths allow organ donation to occur. Fish was part of the one percent, allowing him to do in death what he did in life — save others.

One of the lives he saved was that of 1st Sgt. Pat Kain (Ret.), who served in Fish's Army National Guard unit. Fish's family donated a kidney to Kain, giving him a second chance at life.

A Letter From Sergeant Major James Saunders, Chaplain for The National Guard

As chaplains, we are guided by an ethos that upholds the sanctity of life in all circumstances. We are called to nurture the living, to care for the wounded and to honor the fallen.

Along with my faith, these principles kept me grounded while I ministered to these two families (the Fishes and the Kains), and to my extended military family. Throughout the process, I witnessed (and felt) the full spectrum of human emotions, and I experienced the handiwork of God Almighty.

I saw the bitterness and sorrow of death as a father bid farewell to his son and my brothers in arms watched their comrade advance to higher ground; I witnessed bittersweet tears cascading down the faces of family, friends, doctors and nurses as they were overwhelmed by the strength and love of our military family; and I joined with others in sheer jubilation as it was discovered after only one phone call that one of our own – 1st Sgt. Pat Kain (Ret.) – was a match for one of Sgt. Matthan Fish's donated kidneys.

I will never forget how surreal it was to find myself sitting in the Vanderbilt waiting room with the Kain family less than 12 hours after Sgt. Fish's passing; to know that at that very moment he was in surgery receiving Sgt. Fish's donor kidney.

I was humbled to share words of encouragement and to pray with the family at 1st Sgt. Kain's bedside, post-op. I can assure you that the soberness of Sgt. Fish's sacrifice was not lost on the family. In the midst of their joy, relief and thanksgiving, I saw humility mixed with grief.

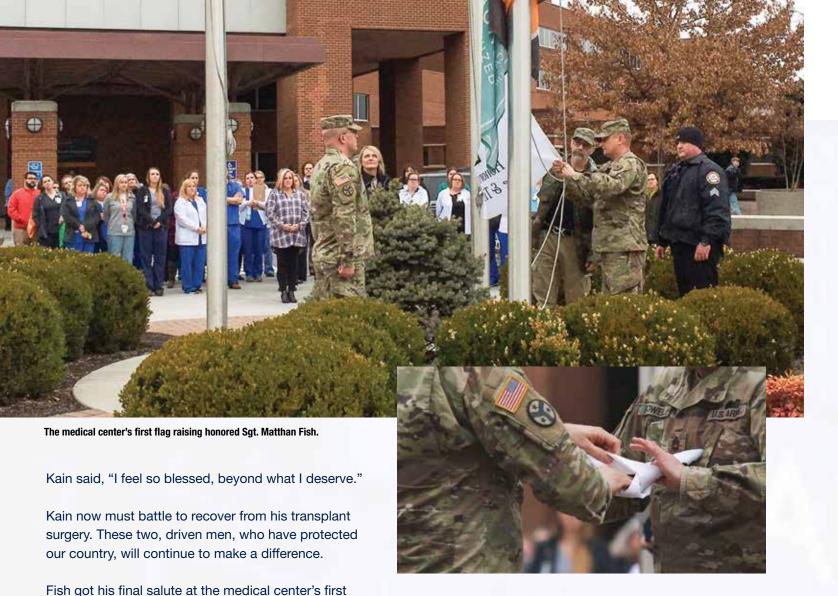


Major James Saunders, Chaplain

In retrospect, it was stupefying and awesome to see the Holiness of God working before my eyes as the hope of new life and a fresh start brought forth purpose and meaning from a gut-wrenching, tragic loss. I was reminded that God's grace is sufficient and His power is manifest through our weakness.

I believe that it is also fitting for us to celebrate Sgt. Fish's service to God and Country, and to cherish the legacy he leaves behind as an organ donor. Jesus reminds us that greater love has no man than this, to lay down his life for his friends. Through his death, tragic and sudden as it was, Sgt. Fish embodied this truth; he gave of himself so that others might live. His final act—his selfless service—is worth celebrating!

2017 TRAUMA REPORT



DONATING THE GIFT OF LIFE

donatelifetn.org

An Extraordinary Commitment to Science, Health and Hope

Tennessee Donor Services (TDS) serves nearly 5.5 million people in Tennessee and Southwest Virginia. We are a team of professionals dedicated to saving and improving lives by connecting organ and tissue donations to the patients who need them. We strive to extend the reach of each generous donor's gift to those who are profoundly grateful for them.

Core Values

Our performance is measured by the impact we have on the lives of families who make transplantation possible, and the patients whose lives are saved and improved by their gifts. Each TDS employee commits every day to be:

- Selfless
- Hardworking
- Passionate
- Dependable

Our Work

We are proud of our partnership with The University of Tennessee Medical Center. In 2017, our work together resulted in 32 organ donors with 120 life-saving organ transplants. The medical center also had 43 tissue donors in 2017.





FACTS & FIGURES*

people are currently waiting for a life-saving organ

2,991

patients are currently waiting in Tennessee

300

patients are currently waiting for a kidney transplant at The University of Tennessee Medical Center

34,500

organ transplants occurred in the United States last year

64

patients received kidney transplants at The University of Tennessee Medical Center in 2017

95

transplants take place each day in the United States

20

patients die every day waiting for a life-saving transplant

10

People are added to the waiting list every 10 minutes

Lives t

Lives that can be saved through 1 person's organ donation

*According to February 23, 2018, UNOS statistics

Will you take the challenge and become an organ donor, too?

flag-raising ceremony. His legacy lives on in the

The National Guard requires its members to be

physically and mentally tough, driven, committed to

making a difference and a keeper of the American dream. Sqt. Fish embodied those values both in life

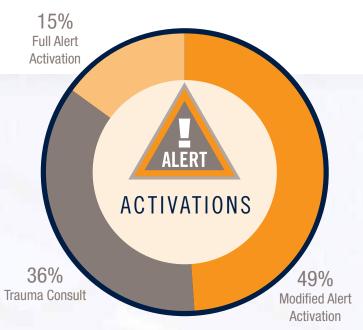
people he saved.

and death.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE

TRAUMA ALERT ACTIVATION

Trauma alert activation is assessed as Emergency Medical Service crews transport patients to the Trauma Center and they communicate patient information to the Emergency Department. This vital on-scene information allows the activation of one of our three-tiered trauma team responses. Levels of activation are determined by the local, state or the American College of Surgeons field triage criteria, and applied based on the medical condition of the patient. Once the trauma team is activated, a multidisciplinary team unites and awaits the injured patient's arrival to ensure rapid evaluation and treatment.



TRAUMA ACTIVATION CHART Call per EMS radio or **UT LIFESTAR of incoming trauma TRAUMA ALERT?** NO YES **Full Alert/Modified Alert/Trauma Consult EDE – Emergency Department Evaluation** activation per trauma pagers Emergency physician evaluates and determines need for trauma consult or appropriate service consult. May discharge patient after evaluation if TRAUMA CONSULT **FULL ALERT MODIFIED ALERT** minor or no injuries sustained. Trauma Team Activation Resident Paged Trauma Team Activation Attending surgeon Resident on call paged Attending surgeon Trauma residents to evaluate natient Trauma residents Trauma response RNs Trauma response RNs transferred from outside facility with single-system Patient representative Patient representative Pastoral Care Pastoral Care **Trauma Consult** Pharmacy Pharmacy CT scan/X-ray ready **DISCHARGE** CT scan/X-ray ready Resident on call paged to Respiratory therapy 4 units emergency- release evaluate patient in ED blood at bedside **Decision made: Decision made:** admit/operating room/discharge admit/operating room/discharge

AUTO ACCEPTANCE GUIDELINES

This summary is intended to help emergency doctors and staff in understanding which patients can be automatically accepted, and when an attending physician must be involved in making the decision to accept or deny a transfer.

ADULT TRAUMA

(age 14 and older)

Auto-accepted through UT LIFESTAR

FULL ALERT

- Confirmed BP <90 at any time
- Significant deterioration of previously stable patient
- UT LIFESTAR patients requiring blood products to maintain vital signs
- Respiratory rate <10 or >29, or intubated due to respiratory distress
- Penetrating wounds in head, neck, chest or abdomen
- Glasgow Coma Scale ≤8, due to trauma

MODIFIED ALERT

- Obvious long bone fractures, proximal to the wrist/ankle
- Flail chest
- Pelvic fractures
- Paralysis
- Spinal fractures with signs and symptoms of neurologic deficits or paralysis
- Burns >15 percent total body surface area
- Vascular injury
- Traumatic pneumothorax
- Traumatic amputation proximal to wrist/ankle
- Glasgow Coma Scale >8 but <13
- >20 weeks gestation involved in a traumatic incident
- Fall >10 feet
- Auto-pedestrian crash >5 mph
- High-speed motorcycle crash estimated >40 mph
- High-risk auto crash: MVC with co-occupant death or ejection, high rate of speed (≥ 40mph), ejection from automobile/motorcycle/ATV without selfextrication, long extrication ≥20 minutes

TRAUMA CONSULT

Single-system injuries including but not limited to:

- Fractures from a ground-level fall
- Rib fractures
- Closed head injury with Glasgow Coma Scale 14 or greater
- Spinal fractures without signs and symptoms of paralysis, radiographic evidence of retropulsion or cord involvement
- Distal long-bone fractures, appropriately splinted and no neurovascular compromise
- Facial fractures (patient can protect airway and there is no active bleeding)
- Snakebite with envenomation

NOT auto-accepted: Single-system injury distal to ankle or wrist

NOTE:

- All acceptance criteria are affected by and may differ when medical center in-patient beds are at capacity.
- Trauma patients can be auto-accepted with partial workups when a major life-threatening injury is identified (e.g., head bleed)
 and/or with obvious injury (e.g., obvious fractures, paralysis on clinical exam) and/or with hemodynamic instability identified
 early in the initial resuscitation at the outside facility. Patient should be stabilized according to transfer requirements as
 capable at outside facility.
- Call UT LIFESTAR for connection to appropriate admitting service or referral to Patient Placement Center.

2017 TRAUMA REPORT STRENGTH AND PERSEVERANCE



2018 TEE Up for Trauma Golf Tournament

Benefiting the Trauma Survivors Network at The University of Tennessee Medical Center

Thank you to the event chair, David Sumilas, our corporate sponsors and more than 115 golfers in the community for supporting the region's only Level I Trauma Center.

For more information regarding sponsorship opportunities, how you can get involved, or if you would like to donate in support of our Emergency and Trauma Center, please contact the Development Office at 865-305-6611 or by email at development@utmck.edu.

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- Pinnacle
- University Orthopedic Surgeons
- Regions Bank
- Messer Construction
- First Tennessee

THE UNIVERSITY OF TENNESSEE MEDICAL CENTER

Who's Touched Your Life Today?

Make a gift in honor of a physician, faculty member, nurse, housekeeper or another caregiver who made a difference in your stay.

WHO made a difference?

"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel."

Maya Angelou

Our team members are dedicated to serving our patients and their families with care and compassion. If a doctor, faculty member, volunteer or other caregiver has made a difference in the care you or a loved one received, we encourage you to recognize and honor that compassion through our Guardian Angel program.

HOW to say thank you?

Our patients often express their gratitude for the excellent care they received in a variety of ways—through kind words, smiles, letters of thanks and financial contributions.

By donating a minimum of \$10, the team member that you choose to acknowledge will receive a notification of your honor and a custom-crafted guardian angel lapel pin to wear proudly throughout the medical center.

WHY is your support important?

Acknowledging an individual for a job well done is one of the most meaningful forms of support you can offer. Your donation demonstrates an understanding of the important role our team members play in enabling us to continue fulfilling our mission of excellence in patient care, education and research.

Make A **Donation**

Visit UTMedicalCenter.org to learn more ways to donate, or contact the Development Office at 865-305-6611 or development@utmck.edu.

UTMedicalCenter.org/makeagift

The University of Tennessee Medical Center is the home of the Knoxville campus of UT Graduate School of Medicine, UT College of Pharmacy and University Health System, Inc. Together, these entities embody the medical center's philosophy and mission to serve through healing, education and discovery.

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UTMedicalCenter.org

ED0117001 EEO/Title VI/Title X/Sec.504/ADA

2017 TRAUMA REPORT

THANK YOU!