

REBOA Cath • Vascular Injuries • Scar Laser

# microscope

May 2017

CHIhealth.com

## The Trauma Issue

## LEVEL I TRAUMA CENTER SAVES LIVES

Region's only  
verified burn center

Birth of 911, EMS and  
AirCare in Kearney

ADVANCES IN CARE

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About CHI Health

CHI Health is the largest not-for-profit, regional health network in Nebraska. It embraces a Mission to nurture the healing ministry of the Catholic Church while creating healthier communities. Based in Omaha, CHI Health has 15 hospitals, two stand-alone behavioral health facilities and more than 150 physician practice groups – in CHI Health Clinic and The Physician Network (TPN) – in Nebraska and southwest Iowa. CHI Health is the primary teaching partner of Creighton University's health sciences schools. CHI Health is part of Catholic Health Initiatives (CHI), a nonprofit, faith-based health system based in Englewood, Colorado, that operates in 19 states. For more information, please visit [CHIhealth.com](http://CHIhealth.com).

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## Under the Microscope



Dear Colleagues,

CHI Health is in the midst of a monumental transformation as we move to a new academic medical center at Creighton University Medical Center - Bergan Mercy. Along with all aspects of patient care, CHI Health's Level I Trauma Center will move 40 blocks west. The new state-of-the-art trauma center and emergency department will be the closest Level I Trauma Center, by drive time, to 60 percent of the households in greater Omaha, bringing trauma care closer to our patients while honoring our commitment to the underserved.

Our commitment to quickly respond to the needs of patients who have suffered critical or life-threatening injuries extends across the state and into Iowa with trauma centers in Kearney, Grand Island and Council Bluffs. The care also includes Nebraska's only verified burn center.

Trauma is the leading cause of death in patients ages 1 to 44 in the United States. We know trauma rarely leaves a patient and family unchanged. How we work with you and how we handle these delicate cases together can put patients on the road to recovery faster. Our goal in trauma care is to get patients back into your care, which is where the real healing happens.

For us, trauma is personal. By rapidly identifying life-threatening injuries, countless lives will be saved, countless families will be healed. As you will see in this edition of *microscope*, saving lives starts with our dedicated trauma teams.

Sincerely,

**Cliff Robertson, MD**  
Chief Executive Officer  
CHI Health

## Letter from Department of Surgery

Dear Colleagues,

We save lives when God wills it. As trauma surgeons, we make life-saving decisions every day with little information and without the luxury of time. Our rewards come from a simple thank you, a smile, a handshake or perhaps a hug. And that's why we get up, go to work and do it all over again the next day.

At CHI Health, we're proud of where we've been and excited about where we're going. We've pioneered significant firsts in the region. The first to offer a new minimally invasive solution for hemorrhage control, the first to perform chest wall reconstruction and the first to bring a network of trauma centers together – providing critical access to Nebraska and southwest Iowa. And it all started in the 1970s with another first – the first to open a trauma center, long before hospitals across the country considered one.

CHI Health's trauma program includes a Level I Trauma Center at Creighton University Medical Center - Bergan Mercy in Omaha, a Level II Trauma Center at Good Samaritan in Kearney and two Level III Trauma Centers – one at St. Francis in Grand Island and the other at Mercy in Council Bluffs. They are staffed by nationally and internationally recognized trauma experts who are only part of the equation. The teamwork begins outside our trauma walls with the first responders – EMS, firefighters and police. We save lives because they are as dedicated as we are. This edition of *microscope* tells our story.

Sincerely,

**Robert Fitzgibbons, Jr., MD, FACS**  
Professor and Chairman of Surgery

**Juan A. Asensio, MD, FACS, FCCM, FRCS (England), KM**  
Chief, Division of Trauma Surgery and Surgical Critical Care

# Hemorrhaging No Longer Means Patients Will Automatically Die

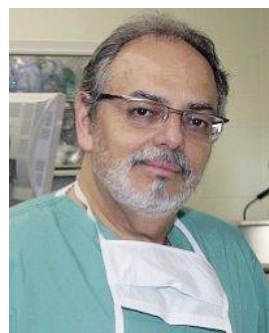
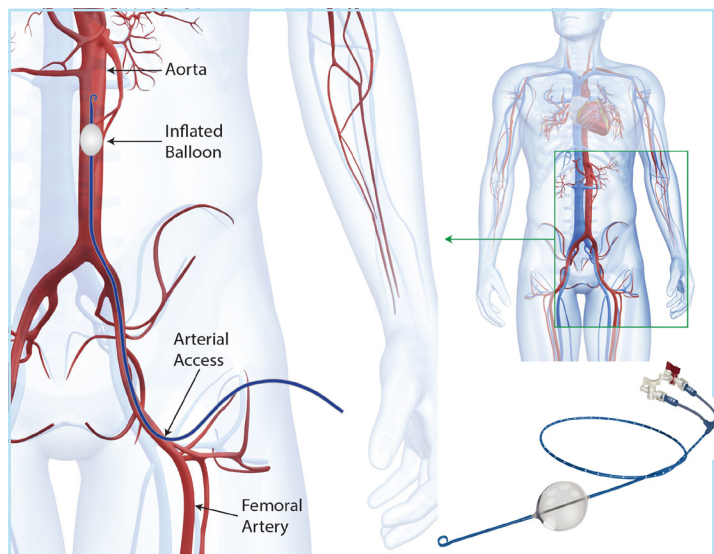
Every four seconds, someone in the U.S. suffers a trauma, and every three minutes one of those trauma patients dies. And 70 percent of those in fatal car wrecks, shootings, or other traumas bleed to death before they ever make it to the hospital.

They don't have to die.

Improving survival odds is a constant quest at CHI Health Creighton University Medical Center - Bergan Mercy. Just arriving at a Level I Trauma Center, such as CUMC's, lowers the risk of death from trauma by 25 percent.

Now CUMC trauma surgeons are further improving the odds with a new minimally invasive solution for hemorrhage control called Resuscitative Endovascular Balloon Occlusion of the Aorta or REBOA. CHI Health's Level I Trauma Center is the first to offer this life-saving tool in the state.

"The more techniques we have in our armamentarium the better the opportunity to save a life," said Trauma Surgeon and Director of the Trauma Program Juan A. Asensio, MD.



**Juan A. Asensio, MD**  
Chief Trauma Surgeon and Director of the Trauma Program  
CHI Health Creighton University Medical Center - Bergan Mercy

REBOA is an innovative technique that allows the trauma surgeon to insert a balloon catheter to temporarily occlude the aorta and control hemorrhaging. Before, hemorrhaging led to cardiopulmonary arrest secondary to exsanguinating hemorrhage and death when blood flow could not be maintained. The only surgical procedure that could be used previously was resuscitative thoracotomy with cross-clamping, an endovascular procedure that not only was invasive but resulted in high mortality.

# Challenges in Abdominal Wall Reconstruction

When a patient has had massive abdominal injuries and is unstable, trauma surgeons use the technique of bailout/damage control. The abdomen is left open after life-threatening injuries are quickly corrected so the patient can be stabilized. This commonly results in a huge abdominal hernia because the muscles of the abdomen are not reapproximated.

"The reconstruction which will be required later to correct the hernia remains among the most challenging cases we see," said Robert Fitzgibbons, Jr., MD, Creighton University School of Medicine chair of surgery. "But there has been much progress in post-traumatic open abdominal management in the last 20 years."

Life-saving interventions have to happen

before reconstruction can begin. These can include abdominal packing, use of synthetic or biologic mesh and vacuum-assisted temporary closures.

Serial operations follow and can take days, weeks, even months, with large risk of complications.

The large defect usually requires component separation, where Dr. Fitzgibbons separates the abdominal muscles laterally to advance the muscles in the midline. "This is essential to creating a functional abdominal wall," he said. "Component separation is a big advancement. Previously we would place mesh over and under the defect. The ability to perform component separation allows for a more secure repair."



**Robert Fitzgibbons, Jr., MD**  
Chair of Surgery  
Creighton University School of Medicine

# TEG Technology

Less blood, better care. That's the win-win of using thromboelastography (TEG) technology at CHI Health Creighton University Medical Center - Bergan Mercy's Level I Trauma Center.

It allows trauma surgeons to conserve the community's blood supply and better treat patients.

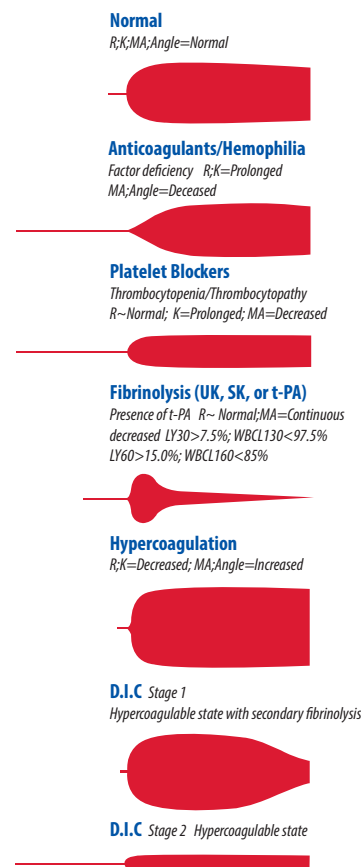
Simply put, TEG tells us how effectively the body is using clotting factors. Results are electronically transmitted to the surgical suite or trauma bay, allowing experts to tailor blood products to what the patient needs.

# Lessons Learned from War



**Bradley Phillips, MD**  
Trauma Surgeon  
CHI Health Creighton University Medical Center - Bergan Mercy

## TEG Analysis



Life-saving measures pioneered on the battlefield are saving lives in the civilian world.

"The very best lab we ever had was Vietnam," said Trauma Surgeon Juan A. Asensio, MD, who has trained military medical teams and operated on war wounded from Iraq and Afghanistan. "It advanced civilian trauma care like never before."

Even more lessons were learned in Iraq and Afghanistan. Trauma Surgeon Bradley Phillips, MD, was chief surgeon at the Baghdad Embassy Hospital and acting chief medical officer when ISIS invaded Iraq.

"We rarely had the equipment we needed or the medicine, fluids and blood products we would have liked to have," he said. That led to improvising – and learning breakthroughs.

"Many things 'bleed over' to the civilian world," he said. "Tourniquets are the best example of that."

Tourniquets and hemostatic dressings reduced wartime fatalities from extremity injuries by 80 percent. Bailout surgery and massive transfusion protocols also reduced preventable deaths. And a lot was learned about time and how critical rapid transport is within "the Golden Hour."

Dr. Phillips said we haven't stopped learning: "I think expandable fluids and blood product options are going to improve over the next decade, as will our ability to render extreme levels of care in any environment – literally, any environment."

The horrors of war teach life lessons as well, he said: "I believe we are here to care for each other – stop the bleeding, help heal injured bodies and souls, and get those around us to see just how precious life really is."

**Tourniquets and hemostatic dressings reduced wartime fatalities from extremity injuries by 80 percent.**

## Leading the Way: A High-Tech Fix for Painful Rib Fractures

When Tom Deacon fell off his roof and landed 25 feet below he thought he heard the sound of breaking branches. But the noise wasn't a tree or bush absorbing his fall; it was the sound of his bones breaking.

He ended up with 19 broken bones, including his femur, collarbone, tailbone, spinal column, four breaks in his pelvis and nine broken ribs. Both lungs were punctured.

The Level I trauma team at CHI Health Creighton University Medical Center - Bergan Mercy went to work.

"When you see what they had to do and how I am today, you realize how good they are," Deacon said.


He also went under the knife for a new procedure pioneered at CUMC called chest wall reconstruction, or rib plating. The complexity of the fracture, the number of fractures and the level of pain determine who is a good candidate. Trauma surgeons at CUMC were the first in the area to perform this life-changing alternative.

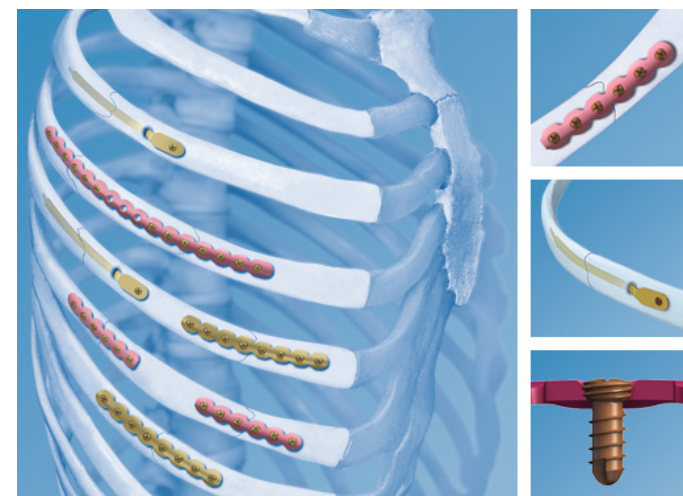
Titanium plates are placed across the breaks and locking screws hold them together. The plates "mimic" the ribs, moving as the patient breathes.

Patients who undergo this procedure have less pain – if any – and a faster return to a normal lifestyle.

"It's a long operation," Trauma Surgeon Michel Wagner, MD, said, "and very demanding. But most patients are very happy."

Deacon is active again and feels great.

"I'm very lucky they were doing that rib plating procedure," he said, and added he has no intention of going back up on a roof. "He's pretty pieced together," his wife, Candy Deacon, said. "There's titanium everywhere." 



## CUMC Developing Multi-Institutional Rib Plating Study

Excellent results like those seen with Tom Deacon prompted CUMC trauma surgeons to begin developing a multi-institutional study to evaluate the surgical techniques used in chest wall reconstruction and long-term results.

Michel Wagner, MD, and the trauma team have a combined experience of more than 80 reconstructions. The results have been very positive: fewer days on ventilation for patients, fewer days in the ICU, fewer cases of death and pneumonia, as well as faster return of function.

## Quicker Than a Blink of an Eye – and Your Life Changes



You have less time than it takes the human eye to blink to catch yourself before a fall – a mere 300 milliseconds.

No wonder we fall on ice, down the steps, off ladders and trip over cords.


At CHI Health Mercy's Level III Trauma Center, staff is committed to outreach efforts to curb the No. 1 reason for trauma admissions: falls.

They're educating the public about risk factors for falls (vision, hearing, balance, environment) and teaching how to mitigate those risks. Information is being distributed through the Mercy Emergency Department and through EMS, who see not only the worst falls but also those not traumatic enough to be admitted.

"We see too many falls every year that could have been prevented," said Emergency Department Medical Director Christopher

Elliott, MD. "We are developing strategies such as Tai Chi and other evidence-based community programs that help to improve balance."

Sharing data with EMS is critical to success, he said. "They interact with the community when they are injured, but also can help identify folks who are more prone to injury. This means they are vital to any prevention efforts we embark on."

Why the big deal over falls? Too often these "simple little falls" result in serious, if not life-altering, injuries or even death. The recovery process from some of these can be very arduous and challenging, especially for older adults. It may be more difficult for them to bounce back and the recovery can be longer. Many never return to their pre-injury independent status and the more serious injuries lead to death. 

## Taking Spills: The Dismal Numbers



According to CHI Health Mercy's Level III Trauma Center registry:

**89%**

of trauma patients have suffered blunt trauma.



**Up to 60%**

of these are from falls.



In Council Bluffs, the fire department reports that **45%** of its transports are for falls. Both Pottawattamie and Mills counties have emergency department visits resulting from falls that are much higher than the state rate.



**David Voigt, MD**  
Co-Medical Director  
CHI Health St. Elizabeth  
Burn and Wound Center

## Toughest Burns Treated at State's Only Verified Center

### Never give up on a burn patient.

The most difficult cases – including 99 percent surface area burns – are treated at CHI Health St. Elizabeth Burn and Wound Center, Nebraska's only verified burn center.

“Our No. 1 goal is to save a life. Our No. 2 goal is to save function. Our No. 3 goal is cosmetics – and although it's No. 3, it's still very important to us,” said Co-Medical Director David Voigt, MD.

Internationally known for its research, the Burn and Wound Center has been verified by the American College of Surgeons (ACS) and the American Burn Association (ABA) since 1996.

“We were the first nonacademic medical center to be verified,” Dr. Voigt said. “We have people come from all over – Australia, Germany, Nigeria, China – to learn how we do burns.”

What they find is an intensive team effort. “There's not a single organ system that's not affected by a large burn,” he said. “The whole

team gets involved from day one.”

Nutrition and rehabilitation experts are as essential as specialists like the only burn dentist in the world, because treating a tooth abscess can reduce complications like bacteremia.

“It's truly a holistic approach,” Dr. Voigt said.

Skin grafting techniques range from 4/1,000-inch-thick autologous grafts to porcine xenografting and use of skin substitutes.

“The nice thing with xenografting is it does provide growth factors and heals burns that wouldn't heal otherwise,” Dr. Voigt said. Support is ongoing at the Burn and Wound Center. The team sees hundreds of patients each month at its outpatient clinic. 🌱

**“We were the first nonacademic medical center to be verified.”**

— David Voigt, MD



## Wound Care, Too

The Burn and Wound Center has a long track record of healing difficult sores and preventing amputations. Most recently, the team has achieved dramatic results using thrombolytic therapy for frostbite.

“If we can get frostbite patients within 24 hours, we're preventing 60 percent of the amputations we used to do,” said Co-Medical Director David Voigt, MD.

## State's Only Advanced Laser Smooths Scars

**A kitchen accident ended badly** for University of Nebraska-Lincoln Assistant Professor Ashraf Aly Hassan.

“I was cooking and the grease caught fire,” said Hassan, who was then living in New Jersey.

Second-degree burns scarred his right hand.

“I could type normally,” he said. “But the burn doctor in New Jersey told me I should see someone for the scarring.”

After Hassan moved to Lincoln, Nebraska, he was referred to the CHI Health St. Elizabeth Burn and Wound Center.

It's home to the state's only SCAAR FX™ advanced laser treatment for scars.

FDA cleared and considered the standard of care for treating soldiers injured in battle, the SCAAR FX laser goes four times deeper than other lasers to break down rigid fibers and trigger

production of collagen and elastic fibers.

The laser's microbeams penetrate the dermis in a grid pattern to leave unaffected areas between microscopic channels. This reduces healing time while dramatically improving a scar's elasticity and appearance.

After one treatment, patients see significant progress in scar texture. Functional and cosmetic improvement occurs after three to five sessions, and continues up to two years later.

Hassan is seeing results after a few laser treatments on his four scars.

“One of them is going to be gone. The second one is half way. It's a big work in progress,” he said.

Hassan is looking forward to being done with the compression glove he now wears daily.

“I can take off the glove and it won't look that odd,” he said. 🌱



Hassan's hand before treatment.



Hassan's hand after a few treatments with the SCAAR FX laser.

## Softball Standout Back on Field After Fiery Car Accident

**In December 2010, Leigh Gramke lost control of her vehicle**, rolled into a ditch and was pulled from the upside-down, burning vehicle by another motorist.

Then a softball shortstop with a scholarship to Minot State University, Gramke doesn't remember the accident or transport to CHI Health's St. Elizabeth Burn and Wound Center.

Over the next year, she grew close to the team caring for second- and third-degree burns covering 40 percent of her body.

“They do become part of your family,” she said.

Today, Gramke's back at shortstop fulfilling her recovery goal: “To get back to running full speed again.”



# Against the Odds

If you arrive in the trauma bay breathing and with a heartbeat, the odds are in your favor. You likely will walk out of the hospital. In fact, 95.4 percent of the trauma patients who arrived at Creighton University Medical Center - Bergan Mercy between January 2016 and October 2016 survived and went home to their loved ones.

A little luck, a higher power and skilled hands helped them defy the odds. Here are some life-saving stories from CHI Health trauma centers.



## Here Today: She Had a 5 Percent Chance of Surviving

When the would-be carjackers shot her, the bullet traveled through her left arm, left lung, heart and right lung. It now sits in her liver.

Caitlyn Novich calls what happened surreal. Others call it miraculous.

Novich was rushed to CHI Health's Level I Trauma Center at Creighton University Medical Center - Bergan Mercy. A person with her injuries ordinarily has about a 5 percent chance of surviving.

"She had a cardiac injury which involved two of

the four chambers of the right and left ventricles and bilateral pulmonary injuries," said Trauma Surgeon Juan A. Asensio, MD. He pioneered stapled pulmonary tractotomy in 1997. It's a technique to access the vessels deep within the lung for control of bleeding and repair of penetrating pulmonary injuries.

Novich still can't understand why a stranger would shoot her for a car he never took. But she does understand every day now is precious.

And thanks her team at CUMC: "They saved my life."



## Siri – and Our Trauma Team – to the Rescue

Siri got him help. CHI Health's Level I Trauma Center surgeons saved his life.

When Connor Oliver crashed his car in a remote area, he used Siri on his cellphone to call for help. It was 13 degrees outside and he was trapped.

Rescuers found him after a long search. At CHI Health Creighton University Medical Center - Bergan Mercy, the trauma team went to work on his collapsed lungs, ruptured spleen and other injuries. His body temperature was 85 degrees; the operating room was heated to 97 degrees to warm him up.

"He needed surgery right away as a life-saving measure," said Trauma Surgeon Juan A. Asensio, MD. "He had lost about 40 percent of his blood."

The exposure and blood loss eventually would have impaired Oliver's cardiac, respiratory, gastrointestinal and renal functions. "He did not have much longer," Dr. Asensio said.

Today, Oliver still marvels at the unlikely teamwork that saved his life – from the trauma team to the chatty app on his iPhone.



## Flight Nurse Knew His Injuries Could Kill Him

As he lay injured on the ground, Troy Farrens knew he needed an air ambulance.

After all, Farrens is a flight nurse for LifeNet.

He'd been riding his motorcycle on a narrow blacktop road in Missouri when he and a car collided. Because of the remoteness of the location, it took about 30 minutes before medical help arrived.

"I almost bled to death," he said. "I didn't think I was going to survive."

A medical helicopter flew him to CHI Health's Level I Trauma Center at Creighton University Medical Center - Bergan Mercy, where surgeons were forced to amputate his left leg to save his life. "I wasn't surprised when I woke up," he said. "I knew my primary injury in my leg was bad."

Today, Farrens's feeling good and looking ahead to a new prosthetic leg – as well as going back to work and saving lives – just as his trauma team saved his.



## Amputee Grateful to be Alive: 'I Have to Look Forward'

Gayle Peters figures he's fed corn silage into the chopper thousands of times. The last time, it almost killed him.

"The chopper was plugged up," he said. The blade caught his glove and the machine started pulling him in. "The next thing I knew my arm was in the chopper."

Peters' brother, Lowell, threw the chopper into reverse. The machine let go but Peters' arm was mangled to above his elbow.

"Lowell ripped my shirt off and made it into a tourniquet," Peters said. "It saved my life."

At Creighton University Medical Center - Bergan Mercy's Level I Trauma Center, Trauma Surgeon Bradley Phillips, MD, worked to stop the bleeding and pieced together the tissue on Peters' upper arm. Then it was a waiting game – waiting for the wound to heal and waiting for Peters to learn to live and move differently.

Peters is now learning to use a prosthetic arm and is grateful to be alive. He knows everyone doesn't survive chopper accidents. "What happened happened. I have to look forward," he said, tearing up. "After all, I'm still here."



## Freak Accident: Toddler Ends up with Rod in Her Head

Ashley Woodward was working on her family's farm near Ord, Nebraska, when the unthinkable forced fast action. "Our adrenaline kicked in when Natalie (21 months) turned around and we saw our little girl with a 16-inch pivot rod sticking out of her forehead," remembers the mother of three. "Natalie was kicking and screaming and I was trying to hold her and the rod still."

The doctors at a local hospital took one look and called for CHI Health Good Samaritan AirCare.

AirCare nurses stabilized the rod, buried from

forehead to the back of the brain. It could prove fatal if it moved during the 20-minute flight to CHI Health Good Samaritan's Level II Trauma Center.

"She was taken from the helipad straight to surgery. An entire team had been prepared, including a pediatrician, anesthesiologist, general surgeon and neurosurgeon," said Natalie's father.

Because of quick action, Natalie has made a full recovery. She's a spunky 3-year-old with no memory of the accident.



## Car Accident Turns Serious, Requires Quick Action

When the driver of a pick-up smashed nearly three feet into her driver's side door, Kristi Epley's first thought was that her injuries were relatively minor.

At CHI Health St. Francis, it was determined that Epley had suffered a Grade 4 splenic laceration and more than 25 percent of her spleen was damaged. The 59-year-old Wood River resident's vital signs began deteriorating due to internal bleeding and her condition became unstable.

Interventional Radiologist Cody Evans, MD, rushed

to the hospital on a scheduled day off and was able to stop the bleeding from Epley's splenic artery using angiography and embolization.

With two units of packed red blood cells and two units of fresh frozen plasma, the St. Francis' Level III trauma team was able to save her spleen. Epley was discharged from St. Francis one week later.

"I felt like I was in good hands from the time the ambulance delivered me until the time that I was released," Epley said.

## Late Kearney Doctor's Legacy Saves Millions and Counting



Emergency medical services are quick, efficient, trusted. They're so ingrained in society, a toddler can push three telephone buttons to set life-saving procedures in motion.

But that wasn't always the case. Not until a Kearney physician on the Good Samaritan medical staff helped pioneer our nation's first emergency medical technician (EMT) program.

Before the late Kenneth Kimball, MD, the philosophy was "load and go."

"It was common for funeral directors using hearses to get people to the hospital, so treatment could start," said Kevin Badgley, 29-year veteran paramedic with CHI Health Good Samaritan.

But what if the closest hospital was 75 miles away?

Dr. Kimball knew providing care in the field and during transport would improve patient outcomes.

"Stabilization at the scene of a car crash or resuscitation at the home of a heart attack sufferer is standard care now," said Dale Gibbs, a former paramedic and director of Rural Health for CHI Health. "But what they proposed in the late '60s encompassed telecommunications, signage, ambulance design and first responder training. It was

revolutionary. And due in part to Dr. Kimball's unique rural Nebraska perspective, the nation listened."

In 1969, 20 men from all walks of life gathered in Kearney for a first responder class. This pilot course, taught by Drs. Kimball and Joel T. Johnson, a fellow Kearney physician, was the model for our nation's modern-day EMT certification program.

"At the time, I doubt they realized history was being made. These men were ushering in our modern-day emergency medical services system with Good Samaritan's ER as the classroom," Gibbs said.

Our nation's newly certified EMTs were the final piece in Dr. Kimball's early legacy, as described in "Good Samaritan: Honoring the Past," a book written by Dr. Kimball's wife, Bev.

"While presenting at the 1967 World Congress of Motoring Medicine in Vienna, Austria, the Department of Transportation asked Ken to evaluate the emergency systems in 10 European countries. His report included Europe's use of pictorial road signs and three-digit emergency number. Both were soon adopted in the U.S."

The three numbers chosen: 9-1-1. 🚑



**Kenneth Kimball, MD**  
Physician

Good Samaritan  
Hospital, Kearney

### ECMO on the Fly, First in Nebraska

CHI Health Good Samaritan AirCare, the longest operating original air ambulance service in Nebraska, recently added another first to its 35-year history – the first and only flight program in Nebraska to transport adult and pediatric patients while on ECMO.

ECMO, extracorporeal membrane oxygenation, is technology developed to bypass the heart and lungs. A patient's blood is routed into the machine, carbon dioxide is removed, oxygen is added and the blood is pumped back into the body. Portable technology is bringing this life-saving machine out of the operating room and into the air.

"We can start the patient on portable ECMO at Good Samaritan and safely fly them anywhere," said Fernando Yepes, MD, an anesthesiologist and critical care specialist at CHI Health Good Samaritan, a Level II Trauma Center.

Good Samaritan's specialized ECMO transport team includes a pilot, two certified flight nurses and a perfusionist.

## St. Francis a Key Player in Central Nebraska Trauma Care



**Just 10 out of 300, or 3.3 percent.** That's how many trauma cases seen at CHI Health St. Francis in Grand Island required transfer to another facility during a six-month period ending in February 2017.

"As a trauma program, we feel very confident in our ability to handle a wide variety of cases," said Kristianna Farley, trauma supervisor at St. Francis, a Level III Trauma Center since 2003.

That's due, in part, to a trauma team including four general/trauma surgeons, one neurosurgeon, six orthopedic surgeons, six emergency department physicians and several advanced-practice clinicians.

"We are fortunate at St. Francis to have an interventional radiologist, Dr. Cody Evans, who is trained to complete angiography and embolization of intra-abdominal organs," Farley said. "This is a specialty that many Level III trauma centers are not equipped with or privileged to have."

Neurosurgeon Josh Anderson, MD, said the team is fully equipped for neurological

traumas: "We have all the computerized components we need to take care of most trauma cases right here in Grand Island."

**Only 3.3%**  
of trauma cases seen in the past six months at St. Francis required transfer to another facility.

St. Francis is also part of a Nebraska-wide trauma system that aims to standardize care for all traumatic injuries regardless of where they occur, and offers Trauma Nurse Core Curriculum and Advanced Trauma Life Support.

"These classes help keep everyone involved in trauma care on the same page," Farley said. "So whether you're in a car accident in Scottsbluff or Polk, Nebraska, you're going to get good care." 🚑



### Tourniquets Save Lives on the Battlefield and on Main Street

A tourniquet can be a lifesaver when it stops traumatic bleeding. In a rural setting it may be the only way a patient survives while waiting for emergency help.

Tourniquets are commonly used by the military to stop "catastrophic hemorrhaging," serious wounds where the patient is bleeding to death. But they serve a purpose in the civilian world as well: one recent CHI Health trauma case involved a woman whose leg was amputated when she was struck by a car. A bystander grabbed a belt and, according to the trauma surgeon who took care of her, the stranger saved her life with the makeshift tourniquet.

## Top Trauma Care Requires Team Approach, Multiple Specialties

**“I think of trauma as a stool with three legs,”** said Karl Bergmann, MD, orthopedic trauma surgeon and physician chair at CHI Health Creighton University Medical Center - Bergan Mercy.

Trauma surgeons care for critical chest and abdominal injuries.

Neurosurgeons take on critical head injuries.

Orthopedic trauma specialists handle extremity injuries.

“Realistically, trauma surgeons overlap ortho and neuro as they are the primary team and must know what we need to do to get the trauma patient ready for any intervention that may be necessary,” Dr. Bergmann said. “In addition, we have support from vascular surgeons.”

Pelvic fractures, for example, occur from

direct or blunt trauma. “Initially, you have to look for chest and abdomen injuries,” Dr. Bergmann said.

Ongoing blood loss can be a common and serious complication because it causes death from exsanguination.

“Trauma has a massive transfusion protocol in place to decrease the risk of death from ongoing bleeding,” Dr. Bergmann said.

Coordination among the different specialists is essential.

“Some care needs to be done quickly and some needs to be held off depending upon the condition of the trauma patient,” Dr. Bergmann said. “So we need a strong trauma team to optimize the patient and to let us know when we can intervene for definitive care.”



## Split-Second Slip Results In Traumatic Pelvic Injury

**Things were about to go very wrong for Aholelei Toki.**

In January, he slipped off a pallet jack while working at Smithfield Foods in Orange City, Iowa.

“I tried to catch myself,” Toki said. “The machine kept coming and it pushed my femoral bone through my pelvis.”

He was stabilized at a local hospital before being transferred to CHI Health Creighton University Medical Center - Bergan Mercy, one of just four hospitals in the U.S. that’s certified for Orthopedic Trauma Disease Specific Care.

“Aholelei had an acetabulum fracture with a dislocated femoral head fracture,” said CHI Health Orthopedic Trauma Surgeon Karl Bergmann, MD.

“Acetabulum fractures need to be reduced as soon as possible to help restore blood supply to the femoral head.”

Initial treatment for Toki was hip reduction



and placement of traction.

“Once a CT scan of the hip was obtained, we were able to perform an open reduction internal fixation of the femoral head and to repair the posterior wall of the acetabulum,” Dr. Bergmann said. “The procedure included a surgical hip dislocation with a trochanteric flip.”

Toki is now walking and moving well.

“Most importantly, the femoral head is healed,” Dr. Bergmann said. “I think he had a great outcome.”

## The Best in Orthopedic Trauma – Again!

Just four hospitals in the U.S. are certified for Orthopedic Trauma Disease Specific Care, and CHI Health Creighton University Medical Center - Bergan Mercy (CUMC) is one.

CUMC was the second hospital in the country

to be recognized by the Joint Commission.

The certification shows the commitment to provide top level care to orthopedic trauma patients and the dedication to continued growth and improvement.



## From Daring Rescues to Public Health Debates

### Keynote Speaker - 17<sup>th</sup> Surgeon General’s Compelling Career



**Richard Carmona, MD, MPH, FACS**  
Keynote speaker

17<sup>th</sup> Surgeon General of the United States

Some stories follow you everywhere – even to the White House.

That was the case when former President George W. Bush introduced Richard Carmona, MD, as his nominee for Surgeon General in 2002.

“When I first learned that Dr. Richard Carmona once dangled out of a moving helicopter, I worried that maybe he wasn’t the best guy to educate our Americans about reducing health risks,” the former president joked.

The 1992 incident had Dr. Carmona rappelling from a copter to rescue a civilian stranded on a cliff in Arizona. It was just one episode of a dynamic

### “As 17<sup>th</sup> U.S. Surgeon General, I was privileged to serve as the nation’s doctor.”

— Richard Carmona, MD

career, which includes 30-plus years as a Pima County deputy sheriff and department surgeon.

Long before being unanimously confirmed as the country’s 17<sup>th</sup> Surgeon General, Dr. Carmona experienced hunger and homelessness. He was a high school dropout and a combat-decorated Special Forces Vietnam Veteran.

After earning his GED, Dr. Carmona distinguished himself as the top graduate at the University of California San Francisco Medical School and recipient of its prestigious gold-headed cane.

Professionally, he’s been a nurse, a trauma surgeon, detective, SWAT team leader, professor, medical director for police and fire departments and peace officer with expertise in special operations and emergency preparedness. Awards include Top Cop, SWAT Officer of the Year and National Tactical EMS honors, among others.

A realization that most illnesses are preventable led Dr. Carmona into yet another career interest – the public health sector.

“As 17<sup>th</sup> U.S. Surgeon General, I was privileged to serve as the nation’s doctor,” he said. “I focused much of my time on promoting proven programs and individual steps that lead to good health.”

During his four-year tenure, Dr. Carmona’s landmark communications included the definitive Surgeon General’s Report on the dangers of secondhand smoke. He also focused on preparedness, health disparities, health literacy, global health and health diplomacy.

## 2017 Trauma Symposium:

An Interprofessional Focus on Trauma Care  
Friday, June 16, 2017

### Session I

» Keynote address: 17<sup>th</sup> U.S. Surgeon General Richard Carmona, MD, MPH, FACS

### Session II

- » History of military medicine and surgery, plus emerging technology and medical treatments
- » Hemostatic resuscitation for managing bleeding trauma patients
- » Complex surgery for correcting abdominal weaknesses caused by open wounds

### Session III

- » Diagnostic challenges of rare vascular injuries
- » Multidisciplinary approaches to treating pelvic fractures
- » Evolving epidemiology of Multiple Organ Failure (MOF) and Persistent Inflammation, Immunosuppression, Catabolism Syndrome (PICS)

### Session IV

- » Challenges of critical care patients in rural hospitals
- » Anticoagulation reversal agents for major bleeding
- » Evaluation/management of burn patients

### Session V

- » Interprofessional approach to caring for trauma patients - injury through rehabilitation
- » Tourniquet use in field for hemorrhage control
- » Psychological effects of major trauma on patient/family

Register for the 2017 Trauma Symposium at <https://2017trauma.eventbrite.com>

For more information on the symposium call: Creighton University Health Sciences Continuing Education

800.548.2633 or 402.280.5659



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NONPROFIT ORG  
US POSTAGE  
**PAID**  
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**IF WE CAN GET TO  
FROSTBITE  
PATIENTS WITHIN 24**

**hours, we're preventing 60% of  
the amputations we used to do.**

**IF YOU ARRIVE IN THE  
TRAUMA BAY BREATHING AND WITH A  
HEARTBEAT THE ODDS ARE IN YOUR FAVOR.**

# microscope

**He's pretty pieced together. There's titanium everywhere. THESE MEN WERE USHERING IN OUR MODERN-DAY EMERGENCY MEDICAL SERVICES SYSTEM**

**There's not a single organ system that's not affected by a large burn.**

**MY FEMORAL BONE KEPT COMING AND IT PUSHED THE MACHINE THROUGH MY PELVIS.**

**I BELIEVE WE ARE HERE TO CARE FOR EACH OTHER STOP THE BLEEDING, HELP HEAL INJURED BODIES AND SOULS, AND GET THOSE AROUND US TO SEE JUST HOW PRECIOUS LIFE REALLY IS.**

## CHI Health Trauma Center Locations

**CHI Health Creighton University  
Medical Center - Bergan Mercy  
(Level I)**  
7500 Mercy Rd.  
Omaha, NE 68124

**CHI Health Mercy (Level III)**  
800 Mercy Dr.  
Council Bluffs, IA 51503

**CHI Health St. Francis (Level III)**  
2620 W. Faidley Ave.  
Grand Island, NE 68803

**CHI Health Good Samaritan (Level II)**  
10 E. 31<sup>ST</sup> St.  
Kearney, NE 68847

**CHI Health Burn and Wound Center  
CHI Health St. Elizabeth**  
555 S. 70<sup>th</sup> St.  
Lincoln, NE 68510

**One Call Patient Transfer Center**  
1-844-577-0577  
Please specify that you are calling about a trauma.