



Handbook for Trauma Patients and their Families

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This handbook has been developed for you by The Medical Center, Navicent Health in collaboration with the Trauma Survivor Network (TSN) of the American Trauma Society. We hope this information will help you and your loved ones during the hospital stay.

At the back of this handbook there is room for you to take notes and to write down questions for the hospital staff. You can use this to make sure you get all your questions answered.

We also encourage you to visit the TSN Web site at www.traumasurvivorsnetwork.org to learn about the services this program provides. You can also use this Website to keep your friends and family informed during your loved one's hospital stay.



NavicentHealth
Everything about us is all about you.

trauma survivors
network
provided by **ATS**

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1. INTRODUCTION

WE ARE HERE TO HELP

Trauma is an unexpected occurrence. Hardly anyone thinks, “I’m going to get hurt today.” A sudden injury, being in the hospital and going through recovery can cause anxiety, fear and frustration. You may feel confused and frightened by some things you hear and see. You may not understand some words that people use. This experience of advanced medical care may be a whole new world for you.

We hope that the information in this book will help you better cope during this difficult time. It includes basic facts about the most common types of injuries and their treatments, the patient care process, and hospital services and policies.

Use the space in the back of this book to take notes. You may also want to write down questions that you have for the doctors and staff. Every member of the hospital staff is here to help you.

MEDICAL CENTER, NAVICENT HEALTH

The Medical Center, Navicent Health (MCNH) is a nationally recognized academic medical center, nationally-verified Level 1 Trauma Center, Magnet[®] hospital for nursing, and serves a service area of 30 counties and a population of nearly 750,000 persons. MCNH has over 4,500 employees and a medical staff of approximately 700 physicians. As the second largest hospital in Georgia, it is licensed for 637 beds, including pediatrics, medical surgical, trauma and cardiac surgery. The Emergency Center, with helipad capability and three urgent care centers, treats over 140,000 visitors per year. MCNH provides a broad range of community-based outpatient diagnostic, primary care, wellness and comprehensive rehabilitation services. It is the primary academic hospital for Mercer University School of Medicine, providing residency and fellowship programs for over 100 residents and is affiliated with multiple universities as a clinical education site. MCNH also operates the Doctors Office Building.

The Medical Center, Navicent Health is the primary teaching hospital for Mercer University School of Medicine, providing residency programs for over 100 residents. It provides a broad range of community-based, outpatient diagnostic, primary care, urgent care services, extensive home health and hospice care services, as well as comprehensive rehab services. Rehabilitation Hospital, an entity of Navicent Health, partners with The Medical Center, Navicent Health to provide a 55-bed, medical-rehabilitation hospital for pediatric, adult, and geriatric patients.

The Medical Center, Navicent Health is accredited by the DNV GL Healthcare USA, Inc. (DNV-GL), the only hospital accreditation program approved by the US Centers for Medicare and Medicaid Services (CMS) that integrates the ISO 9001 Quality Management System with the Medicare Conditions of Participation. DNV-GL’s NIAHO[®] accreditation program requires hospitals to evaluate the continuum of patient care throughout its facilities and take measured steps towards sustainable excellence!

The Medical Center, Navicent Health is licensed by the Georgia Department of Human Resources and approved by the Center for Medicare/Medicaid services.

Additional information about Navicent Health can be found on NavicentHealth.org.



*The Medical Center, Navicent Health
Trauma Survivors Network Coordinator*

My Story

I do not remember the day of my injury, but I was told that on December 26, 2017, my husband and I were making our normal Christmas rounds. We stopped by my mom's house to help move a tire. When we saw the massive size of the tractor tire, we immediately said, "No". Mom was adamant, and we reluctantly attempted to move it. My husband said we finally stopped from exhaustion and told my mom that we could not move the tire and she would have to wait until someone else could help. She called my younger brothers (ages 7 and 8), but we knew the tire was too heavy for them. We proceeded to attempt to move the tire again. Shortly thereafter, I lost my footing, and the tire fell on both of us. Luckily, my husband managed to wiggle his way from underneath the tire. However, the tire covered my entire body, and, unfortunately, I was not able to do the same. My husband stayed with me to try to keep me calm while my mom went to get something to help pry me from under the tire. I was told the last thing I said to my husband before passing out was I love you. The ambulance arrived, but the crew were unable to lift the tire off of me. They called the fire department. It took six men to free me from the tire leaving me unconscious for a lengthy amount of time. EMS started CPR with a return of spontaneous circulation after one round of compressions. I was intubated on the scene and transported to The Medical Center, Navicent Health.

I had a Glasgow Coma Scale score of a 3T and a severe anoxic brain injury due to my "out of hospital" cardiac arrest. Upon arrival to the hospital, there was a collaboration between specialists specifically the trauma team and the medical director for the adult Palliative Care service. The decision was made to start the normothermia protocol also known as therapeutic temperature management. My body temperature was only lowered to 36 degrees Celsius due to my shivering versus having seizures. I was posturing and having sympathetic storming, which are signs of severe brain damage. I was in a coma for eight days. I had an intracranial pressure monitor place in my head to measure the pressure in my head. I seized so hard that I broke my dental alveoli, so all my front teeth had to be replaced. They said the first thing I asked when I woke up was, "What did you guys do to my teeth?"

Doctors were unsure of the extent of brain damage and what my new baseline would be. I was told that I would repeat things constantly because my short-term memory was impaired. I was transferred to the Shepherd Center where I stayed for three weeks. I had extensive occupational therapy, physical therapy, speech therapy and mental health therapy six days of the week. I am currently working at The Medical Center, Navicent Health where I am the Palliative Care, Care Coordinator and the volunteer Trauma Survivors Network Coordinator.

2. IMMEDIATELY AFTER THE INJURY

ARRIVAL AT THE HOSPITAL

Here is what has happened so far...

Most likely your loved one was brought to The Medical Center, Navicent Health by an ambulance or helicopter. The trauma staff can tell you which service brought your loved one to the hospital, if you would like to know.

During the transport, the rescue crew was in radio contact with the hospital to give information about your loved one's injuries and medical condition so that the team at the trauma center would be waiting and ready to provide treatment as quickly as possible.

The trauma team typically includes trauma surgeons, emergency doctors, nurses, a respiratory therapist, X-ray staff and a social worker. The team is ready 24 hours a day, seven days a week. Also, board-certified specialty doctors are on call to help with care.

The trauma team at The Medical Center, Navicent Health is led by trauma surgeons and orthopaedic trauma surgeons. The team includes resident doctors, nurses, case managers, respiratory therapists and other medical professionals. The trauma team works together with: Orthopaedic Surgery, Neurosurgery, Rehabilitation, Emergency Services, Vascular Surgery, Transplant Surgery and Cosmetic & Plastic Surgery.

INITIAL ASSESSMENT

Trauma care at the hospital begins in either the Emergency Department (ED) or the admitting area. It includes:

- An exam to find life-threatening injuries
- X-rays, ultrasound and perhaps a computed tomography (CT) scan so that doctors can better understand the extent of the injuries
- If needed, transfer to the operating room (OR) for surgery. The OR is staffed by an expert team that uses the latest surgical techniques.
- Transfer from the admitting area, ED or OR to a unit in the hospital (see the next page).

HOW THE HOSPITAL CARES FOR THE FAMILY

The Medical Center, Navicent Health staff realizes the circumstances that have brought you to our trauma center may be very difficult and unexpected. The trauma team will be working to evaluate and stabilize your loved one upon arrival. In some cases, this may require diagnostic testing or medical procedures in areas of the hospital. The Customer Service Representative/Patient and Guest Relation in the Emergency Department will give you an update on your loved one as soon as he or she is stabilized. You will be taken to see the patient and discuss the medical situation with a doctor as soon as possible.

The Medical Center, Navicent Health provides on-call chaplains who are available to you for emotional and spiritual support. Chaplains can be contacted 24 hours a day by calling the hospital operator at 478-633-1461. You can also ask your nurse or another staff member to page the on-call chaplain.

It takes time and everyone has their own pace of recovery, but be patient and hang in there. And remember there is support for you.

– Stephanie, trauma survivor

"My peer visitor had suffered similar injuries and knew I would be looking for information and assurance. Seeing him walk around and hear him talk about his work, I could tell his life had returned back to 'normal.' This was incredibly helpful. For a month, the doctors and nurses had been telling me life would go on, but I didn't really believe it until I heard it from my peer visitor. I really started believing that I would be getting back to a productive life."

- Scott, trauma survivor

3. WHERE PATIENTS STAY WHILE IN THE HOSPITAL

After patients are evaluated by the trauma team and undergo initial surgery (if needed), they are moved to another unit in the hospital. Where they are moved depends on the type and severity of their injury.

Patients may first go to the intensive care unit. After they are stabilized, they may then move to an intermediate care or step-down unit or another medical or surgical unit in the hospital. Patients are only moved from one unit to another if the trauma team believes they are medically ready.

The hospital staff does its best to let family and friends know when a patient is moved from one unit to another, but sometimes this can be overlooked. If your loved one has been moved and you do not know where he or she has gone, please call the MCNH operator at 478-633-1000.

These are the hospital units that care for trauma patients:

» Surgical Trauma Intensive Care Unit

(ICU) Patients in the ICU receive care from a team of doctors, nurses and other caregivers who are specially trained to take care of seriously injured patients. The team's first step is to make sure your loved one is as medically stable as possible. Medically stable means that all body systems are working. As the patient is being treated, the team begins planning with the patient and family how to help the patient return to as normal a life as possible, as quickly and as safely as possible.

» Intermediate Care or Step-Down Unit

As patients in the ICU improve, they are often moved to an intermediate care or step down unit. Patients may also go straight from the admitting area or ED to this type of unit if they do not need the intensive monitoring and treatment provided in the ICU.

» Medical and Surgical Care Units

Patients with less critical injuries and those who no longer require the monitoring levels found in ICU and intermediate care unit may be admitted to another medical or surgical unit in the hospital.

A TYPICAL DAY IN THE ICU

Most patients are attached to equipment that gives doctors and nurses up-to-the-minute information so they can make the best decisions. The equipment monitors patients, delivers medicine and helps patients breathe. Do not worry if you hear alarms. Some alarms do not need immediate attention, and the staff knows which ones to respond to immediately.

In the morning, the trauma team "rounds" to each patient's bed to do exams, check progress and plan the patient's care. It is important for a family member to be in the room during rounds to listen, ask questions, and take updates to the rest of the family. This time is valuable for everyone involved in the care of your loved one.

After rounds, doctors begin treatments. These might include making an opening through the throat into the windpipe (a tracheostomy), doing an exam of the breathing passages (bronchoscopy), or placing a feeding tube, chest tube or central line.

Physical and occupational therapists and nursing staff work together to help patients begin to move normally and regain strength. For instance, they may raise the head of the bed, turn a patient every two hours, or help a patient sit on the bed or in a chair.

CARING FOR CHILDREN

The Beverly Knight Olson Children's Hospital is the only dedicated pediatric hospital in Central and South Georgia. At the Beverly Knight Olson Children's Hospital Navicent Health, infants, children and teens have access to the clinical expertise and compassionate personalized attention they need. The children's hospital houses:

- 21 pediatric critical care beds;
- four pediatric operating rooms;
- 23 general pediatric beds;
- new technologies, including a fleet of pediatric remote control transport cars to allow children to "drive" themselves to procedures;
- the region's only dedicated pediatric emergency center;
- the only pediatric imaging center in Central and South Georgia; and,
- outpatient services including infusions for patients with cancer and sickle cell anemia.

The Medical Center, Navicent Health trauma team coordinates trauma services for children. In some cases, it is necessary to transfer some severely injured children to a Pediatric Level One Trauma Unit.

*Just the act of connecting with a fellow survivor
helps people realize that they are not alone.
— Peer support group member*

4. WHO TAKES CARE OF THE PATIENT

Many types of caregivers may take care of your loved one while he or she is in the hospital. Different patients will need different types of care. Here is a list of the kinds of doctors, nurses and other caregivers you may meet or hear about.

» Anesthesia and Pain Management Specialists

These specialists include specially trained physicians and nurses who work with patients who have acute or chronic pain. They create a treatment plan focused on easing pain and improving quality of life. Treatments may include medications, injecting certain nerves, implanting pumps or nerve simulators, and physical therapy or behavioral programs.

» Case Manager

Some patients have a case manager. Most case managers are registered nurses or social workers who have extra education and experience to help you throughout your stay in the hospital.

Your case manager can:

- Work with your insurance company to ensure appropriate management of your benefits
- Get supplies you will need at home
- Help you learn how to care of yourself
- Refer you to a home health agency if you need it
- Help you get continued care with a specialist
- Coordinate your transfer to a rehabilitation facility

» Chaplain

Chaplains are ministers who have special skills in helping people during times of illness. They are on call 24 hours a day, seven days a week to offer spiritual support and comfort to you and your family during your hospital stay. The hospital's Chaplaincy Department can meet the spiritual needs of patients and families from many religious backgrounds. Chaplains visit all who desire spiritual support.

Patients and families can speak with a member of Pastoral Care for prayer, help with spiritual and emotional concerns, or simply to listen. Chaplains can be contacted 24 hours a day by calling the hospital operator at 478-633-1000. You can also ask your nurse or another medical staff member to page the on-call chaplain.

» Clinical Nurse Specialist

Clinical nurse specialists are registered nurses who have a master's degree and extensive expertise in trauma care. They monitor the patient's plan of care and act as a liaison between the patient, the patient's family and the patient's various caregivers.

» Clinical Technician

Clinical technicians help nurses with a patient's care. They have advanced technical skills and may start an IV, draw blood, or insert or remove catheters. They also may help get the patient out of bed or help with feeding. Clinical technicians work under the direction of a nurse or a doctor.

» **Dietitian**

Dietitians, also called registered dietitians or RDs, are the food and nutrition experts. They work closely with the nurses and doctors in caring for patients. For example, if a patient has diabetes or requires tube feeding at home, the dietitian explains the proper diet and provides information to the patient and family.

» **Geriatrician**

Geriatricians are doctors who are board-certified in either family practice or internal medicine and have specialized training in treating older adults.

» **Neurosurgeon**

Neurosurgeons are doctors who have seven or more years of specialized training in surgery for the brain or spinal cord.

» **Nurse**

Nurses manage the day-by-day treatment and recovery of patients and communicate with physicians and other caregivers about their patients' care. Nurses may be registered nurses (RNs) or licensed practical nurses (LPN). RNs have anywhere from two to four years of educational experience and are state licensed. LPNs are also state licensed.

» **Nurse Practitioner**

Nurse practitioners are nurses who have advanced training at the master's degree level and who manage patients along with a physician. Trauma nurse practitioners do physical exams, order and interpret tests, prescribe medications and other treatments, and refer patients to other specialists, all in collaboration with a doctor.

» **Occupational Therapist**

Occupational therapists help the patients regain their ability to perform activities of daily living, such as getting out of bed, eating, dressing, using the toilet and bathing. They help patients get stronger, have better coordination and think more clearly about their movements. They also recommend equipment that can help patients.

» **Orthopedic Surgeon**

Orthopedic surgeons are physicians who have five or more years of specialized training in repairing broken bones.

» **Orthopedic Technician**

Orthopedic technicians cast broken bones and help with other procedures, change wound dressings, and set up and maintain treatment equipment such as traction.

» **Pharmacist**

Pharmacists are medicine experts. They work closely with nurses and doctors, provide information and help with choosing medicines and their doses.

» **Physiatrist or Rehabilitation Medicine Physician**

Physiatrists are doctors who use a number of tests and exams to plan a patient's rehabilitation and prescribe such devices wheelchairs, braces and artificial limbs. Their goal is to restore normal movement and improve a patient's level of function and ability to live independently.

» **Physical Therapist**

Physical therapists help patients regain their strength and movement, often under the direction of a physiatrist. They also help with stiff joints and other problems with moving and wound healing.

» **Procedure Nurse**

Procedure nurses have special training to help surgeons perform such procedures as opening patients' airways, examining their lungs and changing surgical dressings.

» **Resident**

Residents are licensed physicians who are training in a chosen specialty. They provide routine patient care and keep the attending doctor informed of each patient's progress.

» **Respiratory Therapist**

Respiratory therapists provide breathing support and treatments. They have a two-year associate's degree and are state licensed.

» **Social Worker**

Social workers provide emotional support, guidance and education about how your loved one's injury may impact you and your family. They help patients and family members adjust to the injury. Hospital social workers specialize in medical and crisis counseling, communications between patients and the medical team, and helping patients and families find and connect with services both within the hospital and in the community. The social worker also may help ease the change from hospital to home.

» **Speech and Language Therapist**

Speech therapists work with patient on language, memory and swallowing problems, often under the direction of a physiatrist. They may also evaluate hearing.

» **Student Nurses**

As an affiliated academic institution, Student Nurses are present on the medical floors during the patient's care. They assist with direct patient care under the direction supervision of the Registered Nurse.

» **Trauma Surgeon**

Trauma surgeons are physicians who have five years of specialized training in general surgery and usually additional training in trauma and/or critical care. A trauma surgeon is in the hospital 24 hours a day to deal with abdominal and chest injuries that cause damage to internal organs and to treat internal injuries not involving the brain, spinal cord or broken bones. A trauma attending surgeon will oversee the total care of you or your family member in the hospital. He or she regularly visits patients to check on their progress and coordinate with other members of the trauma team.

» **Patient/Guest Relations Specialist**

Serves as a member of the healthcare team acting as a liaison between the patient, family, visitor, hospital and medical staff and has direct non-clinical patient and guest contact on a daily basis providing welcoming and

genuine hospitality while exceeding our guest's expectations; listens to our guests needs; identifies problems and concerns thus promoting and improving patient care and customer satisfaction by utilizing the principles of Service Excellence and Service Recovery.

» Counselor

The Medical Center, Navicent Health Department of Pastoral Care and several graduate counseling programs have partnered together to offer counseling to trauma patients and their families. Counselors can provide psychologically sound therapy that addresses the emotional turmoil patients and families often experience when faced with trauma. These Counselors are a member of the treatment team and will participate in initial assessments. They are also available upon the patient's or family's request to make an appointment for more extensive counseling. There is no charge for these counseling services. To request a counselor, please let your nurse know.

» Trauma Survivors Network Peer Visitors

All Peer Visitors have received hospital training as volunteers, and specialized training as peer visitors. Although Peer Visitors are not trained counselors and will not offer medical, legal, or personal advice, they understand the concerns of a new trauma patient and provide a "been there, done that" perspective.

*I will never forget that one afternoon that I spent
time with a peer visitor. He ended up telling me the
same things the doctors and nurses had been telling
me for a month... but hearing it from him made
all the difference in the world!
— Scott, trauma survivor*

5. VISITORS ARE IMPORTANT

Visiting is a time to be with your loved one and also to ask questions and meet with staff. Research shows that comforting visits from friends and family help most patients to heal. Also, family and close friends know the patient better than anyone else and sometimes have information that can make a difference in treatment. Visiting is often a good time to begin learning how to take care of your loved one at home.

You may sometimes have to wait before you can visit if your loved one or a nearby patient requires special care.

WE ARE HERE TO HELP

Feel free to ask any hospital employee or volunteer for help finding a patient room, hospital department or service. All our employees, physicians and volunteers wear photo identification badges.

Family Waiting Rooms

There are two family waiting rooms on the 2nd floor beside the STICU area. Please remember that you share waiting rooms with other patients' family members and friends. People can feel on edge, so extra courtesy is always welcome.

Daytime Amenities/Overnight Lodging

Please refer to your welcome letter, as the ICUs have various visitation rules.

Vending Machines and Dining

Vending machines are conveniently located in waiting areas around the hospital. If there is not a waiting area near you, please check with the hospital staff.

Family members who stay with a patient may purchase a guest tray. Please contact your catering associate or nurse to order a guest tray. Prices for guest meals are \$2.50 for breakfast and \$4 for lunch and/or dinner. There are a variety of dining options. The main cafeteria is located on the ground floor of the East Tower. It is open daily with the following hours:

Breakfast: 6:15am – 10am

Lunch-Dinner: 11am – 7pm

Grab-N-Go: 7pm – 10pm

Late Night: 10pm – 2am

Please look at page 6 of your patient journal for additional dining options.

Preferred Visiting Hours

Guest Information for Surgical-Trauma Intensive Care Units:

- **Medical Surgical, Pediatric Critical Care:** 9am – 9pm
Parents may visit at any time, and one parent may stay overnight.
- **CCU, CVICU, MICU, NICU, STICU:** 9am – 9pm
One family member may stay at bedside 24/7.
- **Neonatal Intensive Care:** 9am – 9pm
Parents may visit any time.
- **General:** 9am -9pm

Some additional restrictions for visitors under the age of 12 may apply during the flu season.

6. THE HEALTH CARE TEAM NEEDS A FAMILIES HELP

The primary job of the trauma unit team is to treat patients. We need your help in taking care of your loved one and making sure he or she gets the best care possible. Here are things you can do to help us and your loved one.

» Take Care of Yourself

Worry and stress are hard on you, and you need strength to offer support to your loved one. The trauma unit team understands that this time can be just as stressful for family and friends as it is for patients.

Be sure to continue taking any medicines that your doctor has prescribed for you. Take breaks. Go for a walk around the hospital campus. Getting plenty of sleep and eating regular meals helps you think better, keep up your strength and prevent illness so you can be there for your loved one when you are needed.

» Ask for Help from Your Family and Friends

Do not hesitate to ask for help. Make a list in the back of this book so you will be prepared to accept help when friends offer. Friends often appreciate being able to help and be involved in the patient's care.

Visit the Trauma Survivor Network Web site at <https://www.traumasurvivorsnetwork.org/pages/where-we-are> to find out additional help information. You can also visit our home page to find out more information on local support https://www.traumasurvivorsnetwork.org/trauma_centers/109-the-medical-center-navicent-health.

» Ask Questions and Stay Informed

Members of the trauma team know that family and friends are more comfortable when they know as much as possible about a loved one's condition. And, the family is an important part of the health care team because you may have information that may make a difference in treatment and recovery.

It helps if you choose one person from your group (and another as backup) to collect everyone's questions for the doctor or nurse and to deliver the answers back to the group. Having one spokesperson allows staff to concentrate on caring for your loved one instead of repeating the same information over and over again to several different people.

When you think of questions during the day, write them down so that you can be sure to ask your doctor or medical team when you see them. As you listen carefully to the medical team, you will want to ask questions until you understand the diagnoses and options for treatment. It's all right to ask the same question twice. Stress makes it hard to understand and remember unfamiliar information. Ask until you understand. And write down what you are told so you can accurately report the information to other family members. We have provided space at the end of this handbook to write down your questions and record the answers.

» Help Maintain a Restful and Healing Place

When you are in the hospital, please talk in a quiet voice and try not to make a lot of noise, especially around patients. They need quiet, and other families deserve your courtesy. To help maintain a healthy environment for patients and their families, the hospital counts on your help. Please:

- Observe the visiting hours for the area you are visiting.
- Do not sleep in patient rooms or waiting rooms unless you have permission.
- Respect other patients' right to privacy and leave the patient room or care area when asked by hospital staff.
- Knock or call the patient's name softly before entering if a door or curtain is closed.
- Remember that the medical record is a private document, ask a member of the trauma care team before reading it, and read it only when one of them can be with you to explain.
- Wash your hands before you go into a patient's room and when you come out.
- Do not visit if you are not feeling well or have an illness that could be transferred to our patients; if you are not sure, please check with your health care provider.
- Consult with the patient's nurse before bringing any children under the age of 12 into a patient's room, and for the safety of young children, provide adult supervision in all areas of the hospital.
- Respect the property of other people and of the hospital.
- Do not ask other patients and families about private details of their care.
- Be considerate of the rights of all patients and hospital staff by treating them with courtesy and respect, and help with the control of noise and the number of visitors.

7. YOUR RESPONSE TO YOUR LOVED ONE'S INJURY: GRIEF AND LOSS

Just as our bodies can be traumatized, so can our minds. Trauma can affect your emotions, spirit, will to live, dignity, sense of security, and beliefs about yourself and the world. The effect may be so great that your usual ways of thinking and feeling may change. The ways you used to handle stress may no longer work.

Patients may have a delayed reaction to their trauma. In the hospital, they may focus on their physical recovery rather than on their emotions. As the reality of what has happened becomes clearer, they may have a range of feelings, from relief to intense anxiety to feelings of loss.

Family members also may go through a range of emotions between first hearing the news of the injury and on through the patient's recovery.

Trauma patients and their families often feel loss on some level. The loss may relate to changes in health, income, family routine or dreams for the future. Each person responds to these changes in their own way and in their own time. Grief is a common response. When it does not resolve, though, it can hinder recovery and add to family problems.

COPING WITH LOSS

The stress that goes with trauma and grief can affect your health as well as your decision making during the first several months after the trauma. It is important for you to try to eat well, sleep and exercise. If you have any long-term health problems, such as heart disease, be sure to stay in contact with your doctor to ensure proper monitoring of your own health.

Part of the work of recovery for you and your family is using the help others can give and finding a support system. This can be a friend or other family member, a member of the clergy, a support group, or another person who has experienced similar loss. Not everyone knows what to say or how to be helpful. Some people avoid those who have experienced a trauma in their family because it makes them uncomfortable. It may take some time to find friends or family who can be good listeners.

WHEN A PATIENT DIES

Few things in life are as painful as the death of a loved one. We all feel grief when we lose a loved one, but grief is also a very personal response. It can dominate one's emotions for many months and, often, many years. For most people, the intensity of initial grief gradually changes over time. It may take both time and help to move from suffering and loss to a way of remembering and honoring the loved one that is less painful and disruptive.

WHEN IS IT A GOOD IDEA TO SEEK PROFESSIONAL HELP?

Sometimes grief overwhelms our ability to cope. This is when professional help is useful. You may need help if the intensity of grief is constant after about six months or more, if there are symptoms of post-traumatic stress disorder or major depression, or if your reaction interferes with daily functioning. The hospital social worker or case manager can give you a list of names for local providers.

HELPING CHILDREN

Be direct, simple and honest. Explain what happened in terms that the child can understand. Encourage the child to express feelings openly. Crying is a normal reaction to loss. Accept the child's emotions and reactions; be careful not to tell the child how he or she should or should not feel. Maintain as much order and security in the child's life as possible. Be patient. Know that children need to hear "the story" and ask the same questions again and again.

*Our advice is to stay connected . . . and please
remember to take care of yourself as well as your
loved one. It is a step by step process, and
you can't do it all by yourself . . .
ask for help when you need it.
– Mother of trauma survivor*

8. IS IT STRESS OR POST-TRAUMATIC STRESS DISORDER?

Going through a traumatic injury can cause a range of strong emotions, including mental distress. For example, it is common for people to feel sad and anxious and have crying spells and/or sleep problems right after the injury. Other emotions such as anger, anxiety, irritability, grief or self-doubt may also surface. These emotions are perfectly normal.

For some people, distress resolves over time. For others, it may hold steady or even increase. In about one out of four people, the distress is so severe that it is called post-traumatic stress disorder, or PTSD.

WHAT IS PTSD?

PTSD is a type of anxiety that occurs in response to a traumatic event. It was first described in combat veterans, but now we know that PTSD is also a common result of injuries that occur in everyday life.

PTSD has defined symptoms that are present for at least four weeks.

After a trauma, people may have some PTSD symptoms, but that does not mean they have PTSD. PTSD means having a certain number of symptoms for a certain length of time.

There are three types of PTSD symptoms:

Type	Symptoms
Hypervigilance	Having a hard time falling asleep or staying asleep Feeling irritable or having outbursts of anger Having a hard time concentrating Having an exaggerated startle response
Re-experiencing	Having recurrent recollections of the event Having recurrent dreams about the event Acting or feeling as if the event were happening again (hallucinations or flashbacks) Feeling distress when exposed to cues that resemble the event
Avoidance	Avoiding thoughts, feelings, conversations, activities, places or people that are reminders of the event Less interest or participation in activities that used to be important Feeling detached; not able to feel

Only a mental health professional can diagnose PTSD, but if a friend or family member notices any of the symptoms, it may be a sign that help is needed.

GETTING HELP IF YOU ARE A VICTIM OF VIOLENCE

Victims of violent crimes may have trouble coping. We can help during your loved one's stay in the Trauma Center.

You may also call the Victim's Assistance Resources in your home county, which you can reach by calling your local District Attorney's office.

After you are discharged from The Medical Center, Navicent Health, you can find help in the specific state and county you live in.

National Domestic Violence Hotline

1-800-799-SAFE (7233)

www.thehotline.org

National Organization for Victim Assistance (NOVA)

1-800-879-6682 (800-TRY-NOVA)

www.trynova.org

Georgia Coalition Against Domestic Violence

404-209-0280

<https://gcadv.org>

Criminal Justice Coordinating Council

1-877-231-6590

[Htps://cjcc.georgia.gov](https://cjcc.georgia.gov)

Partnership for Domestic Violence

Phone 404-870-9600

Website: www.padv.org

SAFE Center for Domestic Violence

912-629-888

Website: Safeshelter.org

Promise Place

770-692-3333

Website: promiseplace.org

9. AFTER THE HOSPITAL: PLANNING FOR DISCHARGE

Many people need specialized care after they leave the hospital. This can include special equipment or nursing care, physical therapy, occupational therapy or speech therapy.

A case manager or social worker will work with you to make a plan. They may talk with your insurance company to see what it will pay and also help you arrange for care. If you do not have health insurance, the social worker or financial counselor can help find out where you can apply for assistance.

LEVELS OF CARE IN THE COMMUNITY

Each person, each injury and each path to recovery is different. Your trauma team will tell you which is the best level of care for you and your loved one. Your social worker, case manager and insurance counselor will help you find the care you need taking into account your insurance and your ability to pay.

Here are the levels of care:

» Rehabilitation hospital

People who are able to do three hours or more of therapy each day may be able to go to an acute rehabilitation hospital. Patients have freedom of choice when deciding upon a rehabilitation hospital.

» Skilled nursing facility

People who are not yet well enough yet to do three hours of therapy each day but who still need daily physical, occupational and/or speech therapy may benefit from a short stay at a skilled nursing facility. Such care is available at many local nursing homes and can be arranged by your case manager or social worker.

» Home care

Some people can live at home with nurses and therapists coming to them. The case manager or social worker will arrange for these types of services and give you the name and phone number of a home health agency.

» Outpatient care

People who are well enough to go out of their home for continued therapy will be given a prescription when they are discharged from the hospital. This prescription is a doctor's order for care that you will need to make your own appointments. The case manager or social worker can give you the names of providers near your home.

» **Home with no home care**

Many people do not need home care from a nurse or therapist and are discharged to the care of family. The trauma doctor may tell you to come back to see him or her or to see your own doctor after you are discharged. You will need to make your own appointments with the physician's office.

*It's helped to connect with people who have had their life changed in the same degree that mine was, and to learn how people cope and deal and move forward - that some of the things I was feeling weren't unique to me.
— Support Group Member*

INSURANCE AND DISABILITY

Insurance coverage for trauma patients can be very complex. A financial counselor can help with insurance and payment questions.

IF YOU ARE UNINSURED

If you do not have health insurance or are concerned that you may not be able to pay for your care in full, we may be able to help.

Patients who wish to discuss options for financial assistance or payment for The Medical Center, Navicent Health may call the Customer Service Department at 478-633-1130 or 478-633-7005. A summary of the financial assistance policy, required documentation and the application forms are available in English and Spanish or through the NAVICENT HEALTH website at: <https://www.navicenthealth.org/for-patients-and-visitors/financial-aid-information.html>

The Financial Assistance Policy (FAP) of Navicent Health illustrates our commitment to our patients and the community we serve in providing world class care before, during and after treatment is received regardless of an individual's ability to pay. Our mission is to provide timely and appropriate financial assistance when patients meet the guidelines provided. Navicent Health offers financial assistance to eligible individuals and families who are uninsured, underinsured, ineligible for a government program or otherwise unable to pay for medically necessary care. Based on financial need, either reduced payments or free care may be available. Patients, or the person legally responsible for a patient's bill, may request financial assistance in regard to their obligation at any time before or during the billing process. Patients, or the person legally responsible for a patient's bill, may meet guidelines for full or partial assistance. Once the application and evaluation process has been completed, patients, or the person legally responsible for a patient's bill will be advised of the assistance determination. Those patients who do not qualify for financial assistance will be billed in accordance with NAVICENT HEALTH policy. Collection activity is conducted within the applicable rules and laws governing patient collections.

MEDICAID

To apply for Medicaid, contact the Department of Social Services (DSS) in the city or county where you live. You do not need a face-to-face interview. The Medical Center, Navicent Health offers DECO to assist patients in applying for Medicaid benefits. DECO is located in the hospital and will come meet with the patient at bedside. The office hours are Monday through Friday 7:30 a.m. to 4:30 p.m. The contact number is 478-633-6927.

Patients who are residents of another county or state can go to the DSS office for help in finding the number to the patients' local DSS office and mail-in applications for Medicaid. Patients can request to complete the interview over the phone with their local DSS office. Patients can also request to have a family member go in person to complete the interview for them.

DISABILITY PAYMENTS

Payments to help a patient through long-term or short-term disability are different and come from different sources. Patients or family members are responsible for applying for these payments. Your social worker or case manager can answer basic questions.

SOCIAL SECURITY

Social Security pays benefits to people who cannot work because they have a medical condition that is expected to last at least one year or result in death. The Social Security Web site (www.ssa.gov) is easy to use

if you apply for Supplemental Security Income (SSI). You can call 800-772-1213 or call your local Social Security office. It takes many months to process an application, so it is a good idea to get started quickly.

APPLYING FOR SHORT-TERM DISABILITY

Your loved one may be entitled to short-term disability through an employer. If you are applying for short-term disability, please remember:

- Sign everything on the form that needs to be signed, and identify the fax number at work where the forms should be sent (usually the Human or Personnel Services office).
- Ask the nurse where to leave the forms, so the doctor can get them. It is best to submit these forms while your loved one is still in the hospital.
- Doctors complete the forms in their offices. The office staff returns the papers to you to submit to the employer, or the doctor may choose to fax the forms directly to the employer.

It has been twelve and a half years since our family's journey began after our son, John, was in a car accident. We call it "our journey" because it affected all of us and we're all in it together.
— Pam, John's mother

10. PATIENT RIGHTS AND RESPONSIBILITIES

At the Medical Center, Navicent Health, you will find a caring and well-trained staff providing outstanding service to our patients and respecting the values and dignity of each person with whom we come in contact. We strive every day to improve the health of our patients and our community by treating injuries, diseases and healthcare conditions, educating new doctors and healthcare workers and utilizing highly-trained specialists and state-of-the-art services and technology. We want you to know about the rights and responsibilities you have as a patient. If you cannot speak for yourself, you may name another person to make choices for you.

PATIENT RIGHTS

As a patient you have the right to:

- Receive kind, respectful, and safe care without regard to race, color, religion, gender, sexual orientation, age, disability or ability to pay.
- Be spoken to in a clear and easy to understand way. If you do not speak English or you have a hearing or vision problem, we will provide interpreting services to assist at no cost to you.
- Be informed about your sickness, treatments and the expected outcomes so that you can discuss them with your doctor.
- Know the names and roles of the people caring for you.
- Refuse a treatment, as allowed by law, during your hospital stay. If you refuse treatment, you will be offered other available care.
- Expect medical records to be private unless you give permission to release that information.
- Agree or disagree to participate in any research studies affecting your care.
- Refuse to participate in any photography or filming.
- Have an Advanced Directive, such as a Living Will or Durable Power of Attorney for Healthcare. These documents let us know your wishes for future care and who you have named to make choices for you if you cannot speak for yourself. An Advanced Directive makes sure your doctor knows if you would like to refuse or withdraw equipment and/or stop treatment (such as CPR) that may prolong your life. If you have a written Advanced Directive, you should give a copy to the hospital, a family member and your doctor.
- Have your privacy respected.
- Review your medical records and have information explained in a way that you can understand, except when not allowed by law.
- Expect care to be delivered to the best of our ability. Additional treatment, referral or transfer to another area or facility may be necessary to provide you with the best quality of care. If a transfer is necessary, you will be informed of any risks and benefits.
- Know about hospital rules affecting you, including billing charges and payment options.
- Receive information about agencies that may be helpful to you after discharge.
- Be asked about your pain and told about pain relief measures. To expect caring and concerned staff to do everything they can to safely help manage your pain.
- Be free from restraints of any type, unless your safety is at risk. If restraints are needed to prevent you from harm, we will be as gentle as possible and remove them as soon as medically possible.

*My deep commitment to the Trauma Survivors
Network is a way for me to make sure that
trauma survivors everywhere finally receive the
resources that few, if any of us, had before.
— Steve, trauma survivor*

11. MEDICAL INFORMATION: WHAT IS KEPT, WHY, AND WHO HAS ACCESS?

Whenever you come to the hospital, we will ask you for information that is appropriate to your care. Examples of data that we keep are your name, address, date of birth, next of kin and information about your medical conditions and treatments. We may keep this information as paper records in your hospital notes or in a computer database. We also keep any X-rays and test reports on file for a limited period (usually eight years in the case of adults).

There are very strict laws about who may see this information:

- You are entitled to see your own medical records, although this may not be possible on the day of the request.
- Your own medical caregivers can see them.
- Some other members of the hospital staff may see the information for other reasons, such as for teaching purposes or to monitor care in the hospital.
- Your family and friends are not allowed to see your records unless you give specific permission. Whenever possible, we will ask you to give permission so we can share information with others in your family.
- Your legal representative or surrogate, if you have one, can see the information.

AUTHORIZATION FOR ACCESS TO MEDICAL RECORDS

A patient may give someone else permission to see his or her medical records by completing an *Authorization to Access Medical Record* form. In some cases, you may need an attorney. For instance, you will need an attorney if your loved one is over 18 years of age, is unable to sign and no one has Power of Attorney for him or her.

12. IF A PATIENT CANNOT MAKE DECISIONS

In an ideal world, patients would always be able to make their own health care choices. When they are not able to do so, the trauma team will consult the patient's Power of Attorney for Health Care. This is a person chosen by the patient who can make decisions that are in keeping with the patient's wishes. This type of power of attorney only applies to health care. Another option is a court-appointed guardian, or conservator. This is a person named by the court, not the patient, to make choices about the patient's health care.

When a Power of Attorney for Health Care or a court-appointed guardian is not available, the trauma team will consult a surrogate decision maker. This is an adult who has shown care and concern for the patient, knows the patient's values and is reasonably available. When a patient cannot make his or her own choices due to injury or illness, the medical team will choose one person to make all decisions for the patient. This choice is spelled out by law and is made in the following order:

- Husband or wife
- Adult child
- Parent
- Adult brother or sister
- Any other adult relative of the patient
- Any other adult friend who meets the above criteria

If you have questions about making decisions for the patient, please ask the trauma unit staff.

13. WISDOM FROM OTHER TRAUMA PATIENTS AND THEIR FAMILIES

- » Dates and times for medical procedures, tests or even discharge from the hospital are not set in stone. There are usually many factors or people involved, and things do not always work out as planned. If you are scheduled for an MRI, for instance, but an emergency case comes in to the unit, we must handle the emergency first. Dates and times are targets, not guarantees.
- » Don't be afraid to ask for pain medicine. But keep in mind that we must follow a process, and it may take a while to fill the request. Your nurse must get your doctor's OK before you receive any medications.
- » Get involved in your treatment. You have the right to know about your options and to discuss them with your doctor. If you are told that you need a certain test, feel free to ask for an explanation of the test and what that test will show.
- » Get a person's name at your insurance company and try to always talk to that person. The social worker or case manager at the hospital may be able to help you find this person. It is easier for you and easier for the insurance person too. Having someone who knows your case can be very helpful when the bills start rolling in.
- » Physical therapy can be very important. Muscles weaken very quickly, and any activity that you can handle will help you recover more quickly. Try to arrange for pain medication about 30 minutes or so before you have physical therapy. If you do this, your therapy won't hurt so much and you will be able to do more and make more progress.
- » Plan ahead. Your discharge from the hospital may come more quickly than you expect, even before you feel really ready to go. The best way to be ready is to make plans early. Ask your nurse about what kind of help is available to arrange for rehab, home care, equipment or follow-up appointments. Even if you plan ahead, you may find that you need other equipment or devices after you return home. Don't panic! Your home care provider or doctor's office can help you once you are home.
- » Be patient with yourself. Your recovery may not always follow a "straight line." You may feel fairly good one day, then really tired and cranky the next. It can be frustrating to feel like you're losing ground, but you'll need to be patient and focus on your progress over time.
- » Take notes. Ask a family member or friend to keep a journal of what happens during your hospital stay. These notes may be interesting to you in the future.
- » Ask for help. Being in the hospital disrupts every bit of your life – routines, schedules, relationships and plans. You are probably used to being very independent, but you now rely on other people for help. Your family and friends probably want to help out in any way they can. They only need your invitation.
- » Consider taking pictures during the early stages of recovery. This may sound strange, but pictures may be very useful later for insurance claims or lawsuits, or in a documentary. It also helps you see later how far you've come in the recovery process.

14. ABOUT THE AMERICAN TRAUMA SOCIETY AND THE TRAUMA SURVIVOR NETWORK

The American Trauma Society (ATS) is a leading organization for trauma care and trauma prevention in the United States. It has been the foremost advocate for trauma survivors and their families for the past 30 years, and it continues to seek optimal care for all trauma patients. The mission of the ATS is to save lives through improved trauma care and injury prevention. For details, go to www.amtrauma.org.

The ATS knows that a serious injury is a challenge for both the person who has been injured as well as family and friends. For this reason, the ATS has joined forces with your trauma center to help you through this difficult time. Along with scientists and doctors from across the country, it has developed the Trauma Survivors Network or TSN. The goal of the TSN is to help trauma survivors and their families connect and rebuild their lives. The TSN is committed to:

- Training health care providers to deliver the best support to patients and their families
- Connecting survivors with peer mentors and support groups
- Enhancing survivor skills to manage day-to-day challenges
- Providing practical information and referrals
- Developing online communities of support and inspiration for trauma survivors and their families

The TSN offers its services together with local trauma centers. These services include:

- A link to Web pages that help you communicate with friends and family about your loved one who has been injured
- An online library where you can learn from the experts about common injuries and how they are treated
- A copy of this Patient/Family Handbook, which tells you what to expect in the hours and days after an injury
- Access to experts talking online about trauma and its treatment
- An Online forum where trauma survivors and their families share experiences and provide support and hope to others.
- Family Class to help prepare families for the caregiving role by providing support and information to family members during their loved ones' hospitalization
- A Peer Visitation Program to link trauma patients with volunteer trauma survivors who have experienced the aftermath of a serious injury and are ready to listen
- Survivors Group to help trauma survivors connect with each other, share their experiences and find strength, support and inspiration from each other
- The Next Steps program to link trauma survivors together with a trained group leader to explore the ways their lives may have changed and learn how to move forward on the road to recovery. This program is offered online or in person.

Please take a moment to explore the TSN programs and services by visiting the Web site at www.traumasurvivorsnetwork.org.

If you think we can help you—or if you want to help support and inspire others—join the TSN today! Joining takes only a minute of your time and is completely free.

15. COMMON TRAUMATIC INJURIES AND THEIR TREATMENT

Traumatic injuries are due to blunt and penetrating trauma. Blunt injuries occur when an outside force strikes the body. These injuries often occur as a result of a motor vehicle crash, a fall or an assault.

Penetrating trauma occurs when an object, such as a bullet or knife, pierces the body. Sometimes, patients have both types of injuries.

In this section of the handbook, we describe some of the common types of injuries people have and how they are typically treated. The trauma staff can give you more details about your loved one's injuries. At the end of the book there is a place for you to list these injuries.

HEAD INJURIES

A traumatic brain injury, sometimes called a TBI, is an injury to the brain due to blunt or penetrating trauma. There are many types of brain injuries:

- **Cerebral concussion:** brief loss of consciousness after a blow to the head. A head scan does not show this injury; a mild concussion may produce a brief period of confusion; it is also common to have some loss of memory about the events that caused the injury.
- **Cerebral contusion:** contusion means bruising, so a cerebral contusion is bruising of the brain; this can occur under a skull fracture. It can also be due to a powerful blow to the head that causes the brain to shift and bounce against the skull.
- **Skull fracture:** cracks in the bones of the skull caused by blunt or penetrating trauma; the brain or blood vessels may also be injured.
- **Hematomas:** Head injuries and skull fractures may cause tearing and cutting of the blood vessels carrying blood into the brain. This may cause a blood clot to form in or on top of the brain. A blood clot in the brain is referred to as a hematoma. There are several types of hematomas:
 - **Subdural hematoma:** bleeding that occurs when a vein on the outside of the brain is damaged; a blood clot slowly forms and puts pressure on the outside of the brain.
 - **Epidural hematoma:** bleeding that occurs when an artery on the outside of the brain is injured; a blood clot can occur quickly and put pressure on the outside of the brain.
 - **Intracerebral hematoma:** bleeding inside the brain itself; it usually happens when blood vessels rupture deep within the brain.

A traumatic brain injury that is described as “mild” implies that there was little or no loss of consciousness at the time of injury. These types of injuries often are not reported or treated. Neurological exams may appear normal, which makes it hard to diagnose the injury, but symptoms often show up later. Such symptoms may include foggy memory, a hard time solving problems, headaches, dizziness, nausea, fatigue, mood swings, anxiety, depression, disorientation and delayed motor response.

Diagnosis and Evaluation

The trauma team watches patients with a head injury very closely, including:

- Checking the patient's pupils with a light
- Checking the level of consciousness. They use the Glasgow Coma Scale (GCS) to find out how badly the brain has been injured. The GCS includes testing for eye opening, talking and movement. Scores range from a high of 15 (normal) to a low of 3 (coma from injury or drugs).
- Checking to see if patients react to touch or if they feel dull, sharp or tingling feelings.

When doctors think that a patient has a brain injury, they often order a scan of the brain (CT scan). This scan can find out if there is swelling, bleeding or a blood clot.

When the patient is more stable, doctors may evaluate the patient's level of functioning using the Rancho Los Amigos Scale, often called the Ranchos Scale. The Ranchos Scale has eight levels that describe how well patients can think and how they act. It ranges from level 1 (lowest level of functioning) to Level 8 (highest level of functioning). It also gives better information about the severity of the brain injury.

Treatment

Doctors base treatment for a brain injury on the type and location of the injury. Treatments may include:

- Drugs to lower brain pressure, drugs to lower anxiety and drugs that change the fluid levels in the brain
- Intracranial pressure monitor (ICP), which measures pressure in the brain. There are two types of monitors: a tube placed in the brain that only measures brain pressure, and a tube placed into a small space in the brain that measures brain pressure and also drains fluid from the brain to lower the pressure on the brain.
- Craniotomy, which is an opening in the skull to remove a clot and lower brain pressure. This is done in the operating room.
- Shunt, which is a tube placed to drain excess fluid in the brain. This is done in the operating room.
- Craniectomy, which involves removing a part of the skull bone to give the brain more room to swell. This type of surgery may also be done when a clot is removed. The skull bone is replaced when the patient is better (usually several months later).

CHEST INJURIES

Chest injuries may be life threatening if the lungs are bruised. The goal of early trauma care is to protect breathing and blood flow. Types of chest injuries include:

- Rib fractures: the most common type of chest injury; they can be very painful but will usually heal without surgery in three to six weeks.
- Flail chest: two or more ribs are broken in more than two places and the chest wall is not working as it should during breathing.
- Hemothorax: blood pools in the chest cavity, often due to rib fractures.
- Pneumothorax: air collects in the chest cavity due to an injured lung.
- Hemo-pneumothorax: both air and blood collect in the chest cavity.
- Pulmonary contusion: bruising of the lung; if severe, it can be life threatening because bruised lung tissue does not use oxygen well.

Diagnosis and Evaluation

Doctors often use a chest X-ray or CT scan to find out more about the injury. They can tell how the lung is using oxygen by taking some blood from an artery. They may need to open the chest to examine and treat the injury.

Treatment

The goals are to increase oxygen to the lungs, control pain and prevent pneumonia. Doctors and nurses may ask the patient to cough and do deep-breathing exercises, which help the lungs heal. They will also tell the patient to stop smoking. The doctor will order drugs to treat pain and soreness.

It is important that the patient take part in the healing process. It greatly reduces the risk of other problems, such as pneumonia or lung collapse, that may need to be treated with a ventilator (breathing machine).

ABDOMINAL INJURIES

Blunt or penetrating trauma to the abdomen can injure such organs as the liver, spleen, kidney or stomach. The injuries may be lacerations (cuts), contusions (bruises) or ruptures (severe tearing of the tissue).

Diagnosis and Evaluation

There are many ways to diagnose an abdominal injury, including:

- physical examination
- CT scan
- a blood count to check hemoglobin and hematocrit, two measures of blood loss
- ultrasound
- surgery called a laparotomy in which the surgeon makes an incision in the abdominal area

Treatment

Treatment depends on the organ that is injured and the severity of the injury. It may range from watching the patient closely to surgery. Many injuries to the kidney, spleen or liver can be treated without surgery.

Often, however, severe injuries to the abdomen require a number of surgeries.

BONE, LIGAMENT AND JOINT INJURIES

Blunt and penetrating trauma can harm bones, ligaments and joints. Types of fractures or broken bones include:

- Open or compound fracture: a broken bone pushes through the skin; it is serious because the wound and the bone may get infected.
- Closed fracture: the broken bone does not pierce the skin.
- Greenstick fracture: a bone is partly bent and partly broken; occurs most often in children.
- Spiral fracture: a break that follows a line like a corkscrew.
- Transverse fracture: a break that is at right angles to the long axis of the bone.
- Comminuted fracture: a bone that is broken into many pieces.
- Hairline fracture: a break that shows on an X-ray as a very thin line that does not extend entirely through the bone; all parts of the bone still line up perfectly



Simple



Greenstick



Comminuted



Hairline



Compound



Spiral

Diagnosis

Doctors can usually see whether most bones are broken by using regular X-rays. However, for other bones, such as the spinal column, doctors may use a CT scan. To find out if there is any damage to joints or ligaments, doctors may do a magnetic resonance imaging scan (MRI).

Treatment

Treatment for a broken bone depends on the type, severity and location and whether the tissue around the bone is damaged. A doctor may choose to treat a fracture in several different ways:

- a cast, sling or splint
- closed reduction: moving the limb or joint to its normal position without open surgery. Pain or sedation drugs are used during the procedure.
- open reduction: Surgery that returns the bone to its normal position. Surgeons may use pins, wires, plates and/or screws to hold the bone together.
- external fixator: the surgeon puts pins in the bone above and below the break and connects the pins to metal bars outside the skin that hold the bones together to heal. The doctor takes the fixator off after the fracture heals.

SPINAL CORD INJURY

Blunt or penetrating trauma can injure the spinal cord. Two main types of injury can occur:

- Quadriplegia (also called tetraplegia): injury to the spinal cord from the first cervical vertebra (C1) to the first thoracic vertebra (T1) level (see section under Anatomy). This means the patient has paralysis of (cannot move) the arms and legs. Injury at or above the C4 level affects breathing and patients often need a ventilator (a breathing machine).
- Paraplegia: injury to the spinal cord from the second thoracic vertebra (T2) to the 12th thoracic vertebra (T12), causing paralysis of both legs and possibly the chest and abdomen.

Doctors may also say the patient has a complete or an incomplete injury:

- A complete spinal cord injury means that the patient cannot move and has no feeling. It does not always mean that the spinal cord has been cut in two.
- An incomplete spinal cord injury means that the patient has some movement or feeling. Incomplete injuries may be to back, front or central part of the spinal cord. With injury to the back part of the spinal cord, the patient may have movement but be unable to feel that movement. With injury to the front part of the cord, the patient may lose movement but may be able to feel touch and temperature. An incomplete injury may get better in time. It is hard to know when or if full function will return.

Diagnosis and Evaluation

Doctors use physical exams, X-rays, CT scans and Magnetic Resonance Imagery (MRI) scans to diagnose a spinal cord injury. X-rays do not show the spinal cord itself but do show damage to the vertebral column or the bones around the spinal cord. CT scans and MRIs give the best picture of the spinal cord and bones. Sometimes doctors cannot do an MRI because of other injuries the patient has, because of the patient's weight, or because the patient has a pacemaker, monitor or other metal device. In such cases, doctors use other tests to evaluate the patient.

Treatment

In the first 12 hours after a blunt spinal cord injury, doctors often give steroids to the patient to reduce spinal cord swelling and improve recovery from the injury. If the spinal cord was cut in two, no treatment can reduce paralysis.

Patients need special attention to bladder and bowel function and skin care. They may need surgery to give support to the spine. Surgery may not change paralysis but will allow the patient to sit up. Talk with the surgeon about the goals of surgery. In any case, getting out of bed improves healing and the sense of well-being and lowers the risk of pneumonia, pressure sores and blood clots.

Patients with spinal cord injuries receive special attention to prevent pressure sores and a condition called autonomic dysreflexia:

- Pressure sores (also known as pressure ulcers or decubitis) are breakdowns in the skin caused by constant pressure on one area and decreased blood flow from not moving. Pressure sores can occur on the bottom, hips, back, shoulders, elbows and heels. Skin redness is the first sign that a sore may be starting, so it is important to check the skin every day to prevent these sores. If a sore occurs, it can take many months to heal or even need surgery. Moving the patient from side to side and propping up the feet can help prevent pressure sores.
- Autonomic dysreflexia may occur when the spinal cord injury is at or above the T6 level. It means that messages about blood pressure control are not being sent as they should be. As a result, when blood pressure goes up due to pain (for instance), it may not return to normal once the pain is treated. High blood pressure can cause a stroke, so it is very important to know the warning signs and find the cause. Signs of autonomic dysreflexia include headache, seeing spots or blurred vision, sweating, or flushing (redness) of the skin.

16. GLOSSARY OF COMMON MEDICAL TERMS

PROCEDURES

craniotomy: making a surgical incision through the cranium (the part of the skull that encloses the brain); usually done to relieve pressure around the brain.

craniectomy: removing part of the skull bone to give the brain more room to swell. This type of surgery may also be done when a clot is removed. The skull bone is replaced when the patient is better (usually several months later).

gastrostomy: surgery to make an opening into the stomach to place a feeding tube. This surgery is often done at the bedside. The feeding tube is usually temporary. The doctor may remove it when the patient is able to eat food.

jejunostomy: surgery to make an opening in the small intestine to place a feeding tube. The feeding tube is often temporary. The doctor may remove it when the patient is able to eat food.

laparotomy: surgery that opens the abdomen so doctors can examine and treat organs, blood vessels or arteries.

suction: a procedure to remove secretions from the mouth and lungs. Doctors also use suction to remove fluid during surgery.

thoracotomy: surgery to open the chest.

tracheostomy: surgery that makes an incision in the throat area just above the windpipe (trachea) to insert a breathing tube. When it is complete, the breathing tube in the mouth will be taken out. This surgery is often done at the bedside. The tracheostomy tube may be removed when the patient can breathe on his or her own and can cough up secretions.

EQUIPMENT

ambu bag: a device used to help patients breathe.

blood pressure cuff: a wrap that goes around the arm or leg and is attached to the heart monitor. The cuff lightly squeezes the arm or leg to measure blood pressure.

cervical collar (C-collar): a hard plastic collar placed around the neck to keep it from moving. Most patients have a C-collar until the doctor can be sure that there is no spine injury. If there is no injury, the doctor will remove the collar.

continuous passive motion (CPM): a machine that gives constant movement to selected joints. It is often used in the hospital after surgery to reduce problems and help recovery.

ECG/EKG (electrocardiogram): a painless tracing of the electrical activity of the heart. The ECG gives important information about heart rhythms and heart damage.

endotracheal tube: a tube that is put in the patient's mouth and down into the lungs to help with breathing. The patient cannot talk while it is in place because the tube passes through the vocal cords. When it is taken out, the patient can speak but may have a sore throat.

Foley catheter: a tube placed in the bladder to collect urine.

halo: A device used to keep the neck from moving when there is a cervical spine injury. When used, a C-collar is not needed.

intracranial pressure (ICP) monitor: a tube placed in the brain to measure pressure on the brain caused by excess fluid.

IV fluid: fluid put in the vein to give the patient drugs and nutrition (food).

IV pump: a machine that gives a precise rate of fluids and/or drugs into the vein.

nasogastric (NG) tube: a tube put into the patient's nose to give drugs and nutrition (food) directly into the stomach. It can also be used to get rid of excess fluids from the stomach.

orthotic: a device, such as a splint, that keeps a part of the body from moving around.

prosthetic: a device that replaces a missing body part, such as a leg, arm or eye.

pulmonary artery catheter: a line placed into a shoulder or neck vein to measure heart pressure and to tell how well the heart is working.

pulse oximeter: an electronic device placed on the finger, toe or ear lobe to check oxygen levels.

triple lumen catheter: a line placed into a shoulder or neck vein to give IV fluids and drugs.

tube feeding pump: a machine to give fluids and nutrition (food) in the stomach or small intestine using a nasogastric (NG) tube.

ventilator: a breathing machine, sometimes called a respirator, that helps patients breathe and gives oxygen to the lungs.

ANATOMY

Bones, Skeletal

acetabulum: the hip socket.

carpals: the eight bones of the wrist joint.

clavicle (collarbone): a bone curved like the letter F that moves with the breast bone (sternum) and the shoulder blade (scapula).

femur: the thigh bone, which runs from the hip to the knee and is the longest and strongest bone in the skeleton

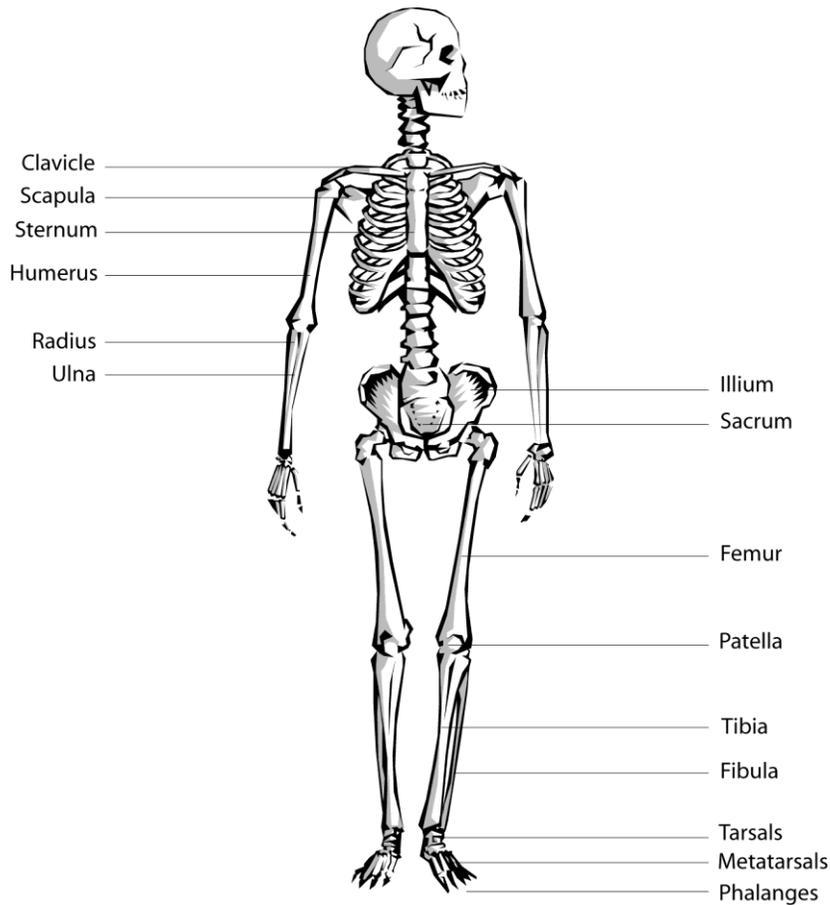
fibula: the outer and smaller bone of the leg from the ankle to the knee; it is one of the longest and thinnest bones of the body.

humerus: the upper bone of the arm from the shoulder joint to the elbow.

ileum: one of the bones of the pelvis; it is the upper and widest part and supports the flank (outer side of the thigh, hip and buttock).

ischium: the lower and back part of the hip bone.

metacarpals: the bones in the hand that make up the area known as the palm. **metatarsals:** the bones in the foot that make up the area known as the arch. **patella:** the lens-shaped bone in front of the knee.



pelvis: three bones (ilium, ischium and pubis) that form the girdle of the body and support the vertebral column (spine); the pelvis is connected by ligaments and includes the hip socket (the acetabulum).

phalanges: any one of the bones of the fingers or toes.

pubis: the bone at the front of the pelvis.

radius: the outer and shorter bone in the forearm; it extends from the elbow to the wrist.

sacrum: five joined vertebrae at the base of the vertebral column (spine).

scapula (shoulder blade): the large, flat, triangular bone that forms the back part of the shoulder.

sternum (breastbone): the narrow, flat bone in the middle line of the chest.

tarsals: the seven bones of the ankle, heel and mid-foot.

tibia: the inner and larger bone of the leg between the knee and ankle.

ulna: the inner and larger bone of the forearm, between the wrist and the elbow, on the side opposite the thumb.

Bones, Skull and Face

frontal bone: forehead bone.

mandible: the horseshoe-shaped bone forming the lower jaw.

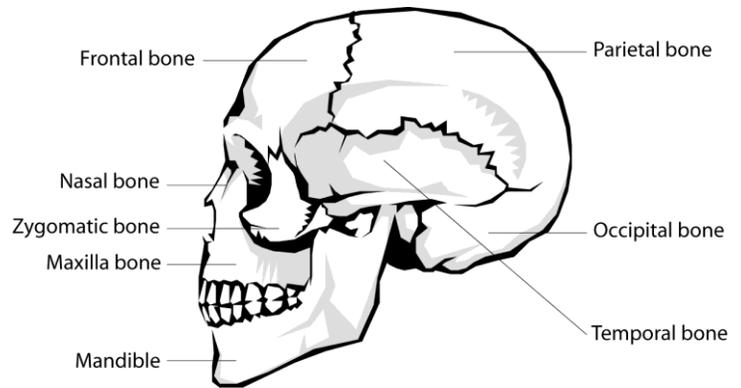
maxilla: the jawbone; it is the base of most of the upper face, roof of the mouth, sides of the nasal cavity and floor of the eye socket.

nasal bone: either of the two small bones that form the arch of the nose.

parietal bone: one of two bones that together form the roof and sides of the skull.

temporal bone: a bone on both sides of the skull at its base.

zygomatic bone: the bone on either side of the face below the eye.



Bones, Spine

atlas: the first cervical vertebra.

axis: the second cervical vertebra.

cervical vertebrae (C1–C7): the first seven bones of the spinal column; injury to the spinal cord at the C1–C7 level may result in paralysis from the neck down (quadriplegia).

coccyx: a small bone at the base of the spinal column, also known as the tailbone.

intervertebral disk: the shock-absorbing spacers between the bones of the spine (vertebrae).

lumbar vertebrae (L1–L5): the five vertebrae in the lower back; injury to the spinal cord at the lumbar level may affect bowel and bladder function and may or may not involve paralysis below the waist (paraplegia).

sacral vertebrae: the vertebrae that form the sacrum.

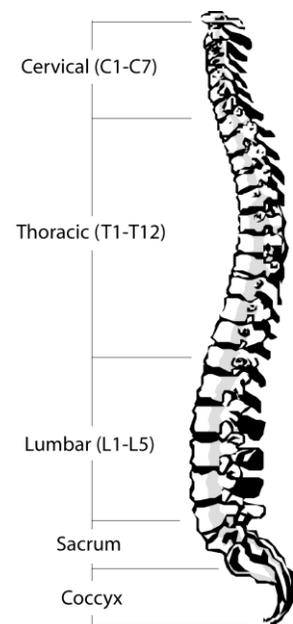
sacrum: five joined vertebrae at the base of the vertebral column (spine).

sciatic nerve: the largest nerve in the body, passing through the pelvis and down the back of the thigh.

spinous process: the small bone that protrudes at the back of each vertebra.

thoracic vertebrae (T1–T12): the 12 vertebrae in the middle of the back that are connected to the ribs; injury to spinal cord at the thoracic level may result in paralysis from the waist down (paraplegia) and may affect other organs such as the liver, stomach and kidneys, and functions such as breathing.

transverse process: the two small bones that protrude from either side of each vertebra.



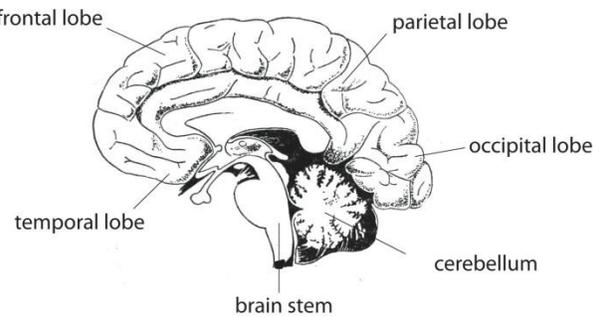
Brain

brain stem: the part of the brain that connects to the spinal cord; it controls blood pressure, breathing and heartbeat.

cerebellum: the second-largest part of the brain; it controls balance, coordination and walking.

cerebrum: the largest part of the brain, with two halves known as hemispheres; the right half controls the body's left side and the left half controls the body's right side. Each hemisphere is divided into four lobes:

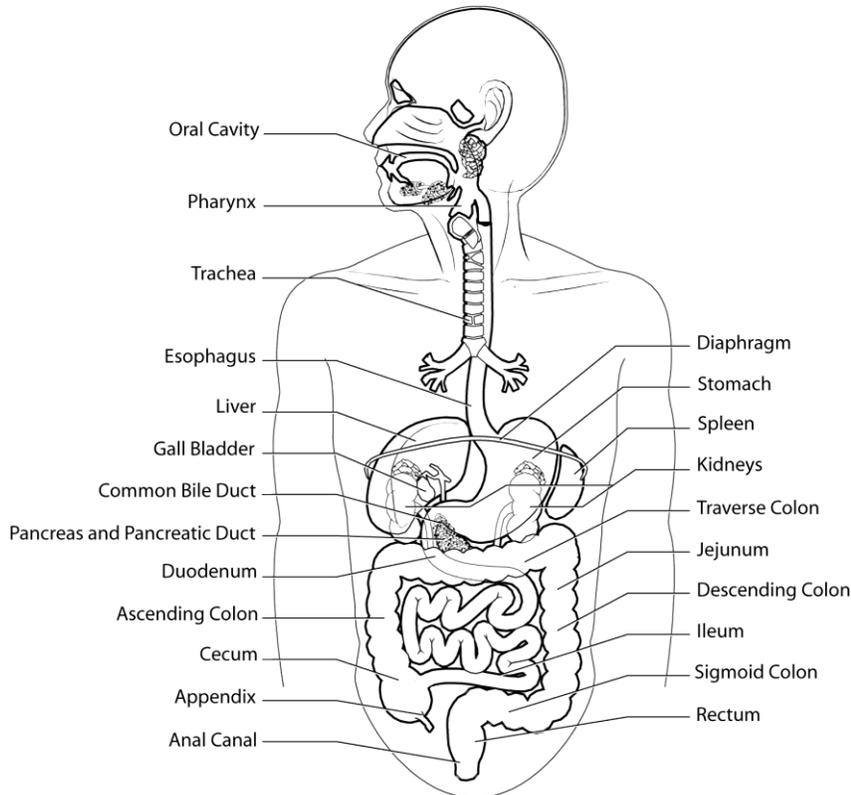
- **frontal lobe:** area behind the forehead that helps control body movement, speech, behavior, memory and thinking.
- **occipital lobe:** area at the back of the brain that controls eyesight.
- **parietal lobe:** top and center part of the brain, located above the ear, helps us understand things like pain, touch, pressure, body-part awareness, hearing, reasoning, memory and orientation in space.
- **temporal lobe:** part of the brain near the temples that controls emotion, memory, and the ability to speak and understand language.



Digestive System and Abdomen

colon: the final section of the large intestine; it mixes the intestinal contents and absorbs any remaining nutrients before the body expels them.

duodenum: the first part of the small intestine; it receives secretions from the liver and pancreas through the common bile duct.



esophagus: the muscular tube, just over nine inches long, that carries swallowed foods and liquids from the mouth to the stomach.

gallbladder: a pear-shaped sac on the underside of the liver that stores bile received from the liver.

ileum: the lower three-fifths of the small intestine.

jejunum: the second part of the small intestine extending from the duodenum to the ileum

kidney: one of a pair of organs at the back of the abdominal cavity that filter waste products and excess water from the blood to produce urine.

large intestine: absorbs nutrients and moves stool out of the body.

liver: organ that filters and stores blood, secretes bile to aid digestion and regulates glucose; due to its large size and location in the upper right portion of the abdomen, the liver is the organ most often injured.

pancreas: gland that produces insulin for energy and secretes digestive enzymes.

pharynx (throat): the passageway or tube for air from the nose to the windpipe and for food from the mouth to the esophagus.

rectum: the lower part of the large intestine between the sigmoid colon and the anus.

sigmoid colon: the S-shaped part of the colon between the descending colon and the rectum.

small intestine: the part of the digestive tract that breaks down and moves food into the large intestine and also absorbs nutrients.

spleen: organ in the upper left part of the abdomen that filters waste, stores blood cells and destroys old blood cells; it is not vital to survival but without it there is a higher risk of infections.

stomach: the large organ that digests food and then sends it to the small intestine.

Respiratory System

diaphragm: dome-shaped skeletal muscle between the chest cavity and the abdomen that contracts when we breathe in and relaxes when we breathe out.

epiglottis: a flap of cartilage behind the tongue that covers the windpipe during swallowing to keep food or liquids from getting into the airway.

larynx (voice box): part of the airway and place in the throat where the vocal chords are located.

lung: one of two organs in the chest that delivers oxygen to the body and removes carbon dioxide from it.

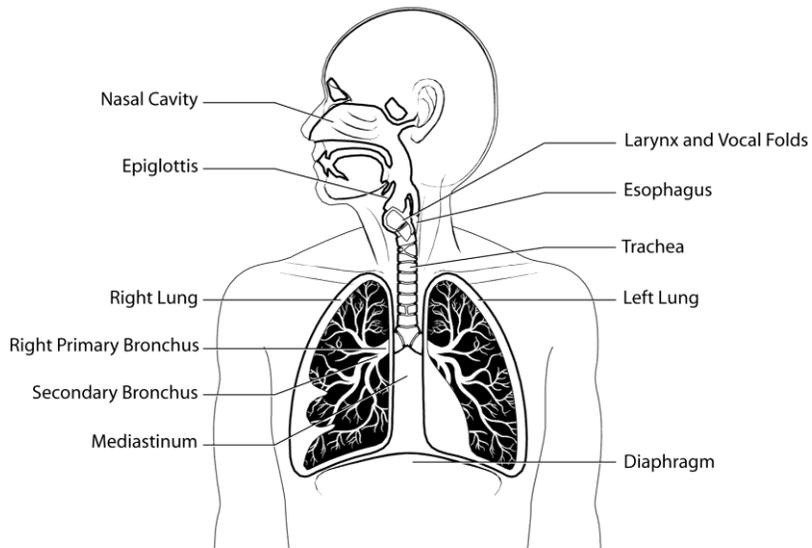
mediastinum: the part of the body between the lungs that contains the heart, windpipe, esophagus, the large air passages that lead to the lungs (bronchi) and lymph nodes.

nasal cavity: a large air-filled space above and behind the nose in the middle of the face where inhaled air is warmed and moistened.

pharynx (throat): the passageway or tube for air from the nose to the windpipe and for food from the mouth to the esophagus.

trachea (windpipe): the main airway that supplies air to both lungs.

vocal cord: either of two thin folds of tissue within the larynx that vibrate air passing between them to produce speech sounds.



17. PERSONAL HEALTH INFORMATION

Use the following pages to list the names of the doctors, nurses and others who are caring for your loved one, the injuries and procedures, questions you may have, and things you need to do and get. There is also space at the end of this booklet for you to write down anything else you may want to note.

NAMES OF PROVIDERS

Many doctors, nurses and other health professionals will be taking care of your loved one. They are all part of the trauma team, led by the trauma surgeon.

Our board-certified trauma surgeons provide 24-hour coverage of the trauma center. They are called the attending trauma surgeons. We also train future surgeons, who are known as surgical residents. Other members of the trauma team and their roles are listed at the beginning of this handbook. Take a minute and write down the names of the doctors and nurses who are taking care of your loved one.

Who are the attending trauma surgeons and residents?

Who are the physician consultants? These are doctors who help with the diagnosis and treatment of specific types of injuries.

Orthopedic Surgery _____

Neurosurgery _____

Spine Surgery _____

Plastic Surgery _____

Rehabilitation _____

Other _____

Other _____

Other _____

Who are the nurses who are taking care of your loved one? _____

Who is the Trauma Survivor Network (TSN) coordinator? _____

Who else in the hospital is helping in the care of your loved one?

Physical Therapist _____

Occupational Therapist _____

Speech Pathologist _____

Psychologist _____

Psychiatrist _____

Social Worker _____

Financial Counselor _____

Other _____

Other _____

Other _____

INJURIES AND PROCEDURES

List of major injuries:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

List of major procedures:

1. _____
2. _____
3. _____
4. _____
5. _____

6. _____
7. _____
8. _____
9. _____
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12. _____
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15. _____

This booklet is provided as a public service by the American Trauma Society and The Medical Center, Navicent Health. The booklet is based on a Trauma Handbook developed by the Inova Regional Trauma Center at the Inova Fairfax Hospital and Inova Fairfax Hospital for Children in Falls Church, Virginia.