



## Trauma Center



# Trauma Patient & Family Guidebook



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# Introduction to Aspirus Wausau Hospital's Trauma Center

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You or your loved one had a traumatic injury and have been brought to the Trauma Center at Aspirus Wausau Hospital.

Trauma is an unexpected occurrence. A sudden injury, along with an unexpected hospital stay and required recovery, can be a very difficult time for both the patient and his/her loved ones. This event may cause many unpleasant emotions such as fear, frustration, anxiety, and feelings of loss of control and independence. You may feel confused by some of the things you and/pr your family hear and see. You might not understand some words or descriptions used by some of the people caring for you or your loved one. This experience is not something many people ever thought they would have to face, but suddenly now must work through many unfamiliar situations and often uncomfortable emotions.

**This handbook is designed specifically for you** as a trauma patient, and for the people who care about you and are here to support you. The information in the handbook is intended to help you be better informed and to cope during this difficult time. It includes helpful information about the Trauma Center, basic explanations of some of the common types of injuries, the general patient care process after a traumatic injury, the important role that you and your loved ones/support group have in your care, and the process of rehabilitation and discharge from the hospital.

Here, you will find answers to **some** of your questions about what will/may be happening for you/your loved one in the days, weeks, and months ahead. If you, your family members, or your friends have questions or concerns that are not addressed in this handbook, or need clarification, please ask your health care team member. There are pages in the back of the handbook for you or your family to take notes and write questions, to help remind you to ask your health care team members.

We are committed to working together on your behalf to provide skilled, compassionate care and a supportive environment to make your time with us one of healing and as comfort.

# The Trauma Care Process: The Path to Recovery

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## At the Scene

When trauma occurs, local emergency medical system (EMS) personnel respond immediately to stabilize the patient and transport him/her to the appropriate hospital. Patients are brought to the Aspirus Trauma Center by ambulance or helicopter. The method of transport is determined by a number of factors, including the severity of the patient's injuries, travel distance, traffic conditions, weather conditions, and accessibility to the site where the traumatic event occurred.

During the transport, the rescue crew communicates with the hospital to give information about the patient's injuries and medical condition. This information alerts the appropriate medical personnel to prepare for the patient's arrival and to decide how to best evaluate and treat the patient and his/her specific injuries.

## Upon Arrival to the Hospital

When a patient arrives at the Aspirus Trauma Center, a team of trauma and emergency medical personnel are standing by and ready for the patient in the **Emergency Department (ED)**. The patient is quickly evaluated in a specially equipped trauma room to find and treat any life-threatening injuries. The initial care may include:

- A physical examination, including blood tests and placement of IV catheters, foley urinary catheter, gastric tube, endotracheal tube/airway, and/or chest tube(s) as needed to treat the patient's injuries
- X-rays, focused ultrasound assessments (FAST) and computed tomography (CT) scans to see and better understand the extent of the injuries
- If **needed**, transport to the Operating Room (OR) for emergency surgery
- Transfer to an appropriate level of care unit in the Hospital (See following list of Hospital Units)

Many trauma patients require surgery. Some injuries are non-life threatening and can be better treated with surgery in the next few days to weeks after the injury. Other injuries are life threatening and require surgery **immediately**. If a patient requires immediate surgery, he/she will be transported directly from the ED, CT scan area, or Intensive Care Unit to the Operating Room (OR). Board Certified Surgeons in all specialties (general surgery, trauma, neurosurgery, orthopedics, cardiovascular surgery) are available 24-7 at the Trauma Center and can provide simultaneous multi-specialty treatment and surgery for patients with life threatening injuries.

# The Trauma Care Process: The Path to Recovery

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## HOW IS THE FAMILY TAKEN CARE OF DURING THIS TIME?

When the patient's family members arrive at the Emergency Department (ED), they are met by the ED staff. Often a staff member from Pastoral Services will be called upon to provide support for the patient's family. Pastoral Services staff or Chaplains help to provide communication with the family regarding the patient's status and any updates, until the physician is able to meet with the family member(s). Family may be asked to wait in the waiting room while care is being provided to your loved one. The physician will come and talk to the family, when she/he has addressed the critical issues of care for the patient and feels it is safe to leave the patient for enough time to be able to speak to the patient's family and loved ones.

Chaplains or other staff may assist the patient's family members and friends with navigating the facility when available. We know that participation of family and friends in the care of their loved one is very important for both the patient and their loved ones. A member of the health care team will take you to see your loved one as soon as possible, with the primary consideration of the health care team providing emergent care to your loved one to promote health outcomes. We understand that this is a very difficult time for you to be away from your loved one. Please work with the staff if you would like to work with a chaplain or a member of your church, as well as any obtain any recommendations for lodging.

## The Hospital Stay

The patient will be admitted to a specialized unit in the hospital, depending on their injuries and condition. As they improve, they may be transferred to different units during their stay, based on their condition, and as they improve. Following is a list of the different units and specialized care the patient receives in each unit.

### MEDICAL/SURGICAL INTENSIVE CARE UNIT (MSICU OR ICU)

Patients are often transferred directly from the ED or CT scan to the MSICU unless emergent surgery is required. These patients may not need to go to the operating room emergently but require a high level of care and completion of urgent procedures that are performed at the bedside. Patients in the MSICU receive specialized care from highly skilled, trauma trained nurses, physicians, and other clinical staff. These patients are in critical condition and require continuous monitoring, intensive care, and treatment. Each nurse in the ICU provides care for one or two patients. Monitors are in the room and visible at the nurses' station for continuous monitoring.

### MEDICAL/SURGICAL INTERMEDIATE CARE (MSIMC)

As the patients in the ICU improve, they may transition to the MSIMC to receive an intermediate level of care. Patients may go directly from the Emergency Department (ED) to the MSIMC if they do not require the level of treatment and care provided in the ICU. Each nurse in MSIMC provides care for three to four patients.

# The Trauma Care Process: The Path to Recovery

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## MEDICAL AND SURGICAL CARE UNITS

Patients with less critical injuries are admitted to either the Medical/Pediatric Unit (MAP) or Post Surgical Care Unit (PSCU). Patients who no longer require the monitoring care and treatments provided in the ICU or MSIMC may be moved to one of these units. On these floors, each nurse may care for four to five patients during the day and up to six to seven patients during the night.

## Physical Medication and Rehabilitation

Physical, Occupational, Speech, and/or Recreational Therapies are started with the patient within the hospital setting as soon as it is appropriate for the patient's specific injuries and their stage of overall recovery. When the patient is medically stable, he/she will be discharged from the hospital. Depending on the patient's rehabilitation needs, the patient may be admitted to an Inpatient Rehabilitation Unit, a Skilled Nursing Facility, or they may be discharged to their home and receive in-home therapies. The Rehabilitation Department may provide the following services to patients while they are in the hospital or if discharged to the Inpatient Rehab Unit.

## OCCUPATIONAL THERAPY

Occupational therapy services include the evaluation of the patient and the implementation of a treatment program specific to the patient's needs to increase their function in the following areas:

- Activities of daily living (ADL's)- such as bathing, dressing, cooking, self-care
- Motor coordination and strength
- Hand function
- Cognition, visual perception difficulties
- Energy conservation and joint protection
- Use of orthopedic devices, such as hand splints
- Recommendations for adaptive equipment, seating and/or wheelchairs

# The Trauma Care Process: The Path to Recovery

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## PHYSICAL THERAPY

Physical therapy services include the evaluation of the patient and the implementation of a treatment program specific to the patient's needs to increase their function in the following areas:

- Ambulatory skills (walking, use of assistive devices for mobility)
- Muscle weakness and coordination
- Respiratory problems
- Cardiac problems
- Endurance
- Musculoskeletal pain
- Joint stiffness

## SPEECH AND LANGUAGE THERAPY

Speech and language therapy services include the evaluation of the patient and the implementation of a treatment program specific to the patient's needs to increase their function in the following areas:

- Articulation (Speaking clearly and distinctly)
- Cognition and high-level language, including problem solving and memory
- Communication, including:
  - Receptive language (processing/understanding language that is read or heard)
  - Expressive language (communicating via words, facial expressions or writing)
  - Oral motor coordination and strength (movement of mouth and tongue)
- Fluency (smooth speech)
- Swallowing and feeding, including recommendations for food and liquid consistencies

## RECREATIONAL THERAPY

Recreational therapy services include the evaluation of the patient and the initiation of a treatment program specific to the patient's needs to increase their physical, cognitive, social and leisure function through the use of recreational-based activities and interventions such as:

- Relaxation
- Diversion
- Socialization
- Arts and crafts
- Games
- Cooking and baking
- Leisure education (including adaptive devices)
- Community outings and reintegration



# The Important Role that You and Your Family Have in Your Care

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**Ask questions.** When it comes to understanding the patient's care, no question is unimportant. Ask questions, no matter how minor they may seem. When you think of questions, write them down so you can be sure to remember them and ask the providers and medical staff when you see them. Space to write questions (and the answers) is provided at the end of this book.

**It is important to designate one family member or spokesperson to serve as the primary contact to receive updates from the health care team and report out to other family members and friends.** Having one spokesperson or family contact at a time, allows the health care team to concentrate on providing care for the patient, instead of repeating the same information to several different family members at several different times throughout the day and night. If the patient requires a prolonged hospitalization (weeks to months), this responsibility may need to be shared/passed on to different family members for a break for the primary contact.

**Help the medical care team know what is important to you/your loved one.** It's important to know that you/your loved one have gone through a traumatic experience. This can affect so much and you/your loved one may not be acting like your usual self. Share with the medical care team what the patient likes and dislikes, such as types of television shows, music, favorite foods, hobbies, and interests. This information can help with the patient's comfort while they are in the hospital, as music, television channels, or room temperature can be appropriately selected. It can also help in the rehabilitation treatment plan to include things the patient likes and to help set goals and inspiration for the patient's recovery.

**Stay connected with family and friends.** Keeping in touch with friends and family is important. To make communication with friends and family easier, consider using the internet to post updates for the patient. Families in the past have made personal websites or individualized facebook accounts to post updates or have used the website [www.caringbridge.org](http://www.caringbridge.org) to help patients and their visitors keep in touch with loved ones back home. To create your free, personal, private patient and family website page:

- 1) Go to [www.CaringBridge.org](http://www.CaringBridge.org)
- 2) Click on "Create a Caring Bridge Site" and follow the easy instructions
- 3) Tell your family and friends about your Caring Bridge site

**Taking Care.** Worry and stress are hard on patient's family members and friends. You will need your strength to offer support to your loved one while they are in the hospital, but even more so when they are home and most likely will be requiring your assistance.

Family members and friends, who will be providing support and assistance to the patient, need to maintain activities that promote their own wellness while they are here with a loved one in the hospital. Adequate rest, nutrition, and exercise are important for staying healthy, and even more so during this stressful time. Family and friends need to take time to get adequate sleep, go for breaks and periodic walks, get regular meals, take care of their own personal and home responsibilities, and draw upon their spiritual resources. This will help you think better, keep up your strength, and prevent illness, so that you can be there for your loved one, when needed. Other strategies for self-care:

- Breathing exercise
- Meditation

# The Important Role that You and Your Family Have in Your Care

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- Guided imagery
- Journaling
- Yoga
- Prayer
- Go for a walk
- Get outside
- Aromatherapy

**Get involved in your treatment.** Do not be afraid to ask questions. Ask them again if you do not understand the answers. You have the right to consider different options and to discuss those options with your physician. If you are told you need a certain test, it is your right to ask for an explanation of the test and what the test will show. If you are told you will need a certain procedure, feel free to ask questions about the procedure, options, risks, and benefits of having this specific procedure. These are your rights and responsibilities in your own health care.

**Take notes.** Have a family member or friend take notes or keep a journal of what happens during your hospitalization. These notes are helpful for family members to keep up with your improvements, and they may be interesting to you in the future. There are pages in this booklet for you or your family to take notes.

**Ask for help.** Unexpected hospitalization that follows a traumatic event can be disruptive to your life, your routines, schedules, relationships, and plans. You are probably used to being very independent, but now you have to rely on other people for many things in your life. Do not be afraid to ask for the help you need. Your family and friends probably appreciate the opportunity to help out in any way that they can, and only need your guidance and invitation to do so.

**Interpreter.** Aspirus offers interpreter services, including I-pad video, telephone and in-person translation for all patients and families with limited English proficiency, Deaf, and, or Hard of Hearing.

## “WHAT I WISH I HAD KNOWN...”

Advice from your medical team and feedback from former trauma patients and their families:

- Do not be afraid to ask for pain medication. However, remember there is a process that must be followed, and it may take a while to fulfill the request for any new medication. Nurses will also ask you to rate your pain in various ways and will provide pain medication according to level of pain as this is how the provider is required to order pain medications i.e., mild, moderate, severe pain. For example: your nurse must have an order (or authorization) from the physician, the pharmacy must review the order and make it available to the nurse before you receive any medications. Try to arrange/ask for pain medication about 30 minutes before you have physical or occupational therapies. It is best to not wait until you are having extreme pain, before you ask for pain medication.

# The Important Role that You and Your Family Have in Your Care

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- You can ask for a primary care team or primary care nurses. You may have better relationships with some team members than others or feel more comfortable with the personality that certain team members have or the care that they provide. Or you may feel better with the same nurses for improved continuity in your care. You can request that these team members be your primary care team members or primary nurses, and every effort will be made that your request is honored. Please be aware that many considerations are included when assigning patients to care team members, so your request may not always be honored due to these staffing considerations.
- You are not just a room number or diagnosis to your medical care team. You may hear the medical care team refer to you as the patient in room number -- - - or the trauma patient with broken ribs. This is not intended to dehumanize or offend you or your loved one. Often it is a matter of patient confidentiality that the medical team uses to communicate information relevant to the patient cares, without breaking patient confidentiality.
- Dates and times given for medical procedures, tests, and even discharge are never set in stone. There are usually many factors or people involved and the coordination efforts do not always work out as initially planned. For example, if you are scheduled for a CT scan, and an emergency comes into the hospital, the emergency will have higher priority and will go to the CT scan first. There is always a possibility you may be “bumped back” on the schedule. Consider times for procedures and tests to be targets, not guarantees.
- Try to be patient with yourself and with your recovery. Your recovery may not always follow a “straight line”. It’s common to feel relatively good and be making progress one day, and then feel tired and cranky or feel like you are not making any progress the next day. It can be frustrating to feel like you are not getting better as fast as you think you should, or to even have days when you feel like you are moving backwards. Healing takes time. Recovery takes time. You will need to be patient and focus on your long-term progress.
- Physical, Occupational and Speech Therapies are very important! Muscles weaken VERY quickly without use, and ANY activity that you can handle will help you recover more quickly. While some loss of muscle strength is natural with aging, a loss of muscle strength can occur at about 12% a week for patients who remain on bedrest with minimal movement. Try to arrange for pain medication about 30-60 minutes before you have physical or occupational therapies. If you do this your therapy will be more comfortable, and you will be able to be more involved and make more progress on your path to recovery. It is also important to follow the physician recommendations and increase activity as the provider recommends to ensure a safe recovery.
- Your discharge may come more quickly than you expect, and you may be discharged before you feel you are ready to return to normal daily functions. The best way to be prepared is to make plans as early as possible. The discharge planner/social worker and therapy staff will work with you to arrange for rehabilitation, home care, and any equipment you will need when you are discharged from the hospital. Even with all this preparation, you may find that you need additional equipment or other devices AFTER you return home. Your home care provider or doctor’s office can help you make these arrangements once you are home.

# The Important Role that You and Your Family Have in Your Care

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- Identify a point of contact at the insurance company for your insurance coverage. Depending on the complexity and severity of your injury, it can be helpful to have one person (or single point of contact) at the insurance company. Having someone who is familiar with your case and can work with and for you, can be very helpful when the bills start rolling in. The discharge planner may be able to help you find this person at the insurance company/financial office of the hospital.

## Making Connections with Others and Resources

### TRAUMA SURVIVOR NETWORK

Aspirus Wausau Hospital is also part of the National Trauma Survivor Network with many resources available to you from literature to scheduled virtual support groups. To access online resources:

1. Go to [http://traumasurvivorsnetwork.org/trauma\\_centers/206](http://traumasurvivorsnetwork.org/trauma_centers/206) or access the QR code with your smartphone



You can also become a member of the Aspirus Trauma Survivor Network by clicking “Join TSN”. When you sign up as a survivor or family member/friend, please choose Aspirus Wausau Hospital as the trauma center. This way you will also have access to any additional resources that Aspirus posts on the website for local support groups

Click on “Resources for Survivors”. You will see a list of various resources including a Traumapedia which shares many articles for different aspects of trauma care. In addition, under the Resources for Survivors tab are stories and videos of those who have been through traumatic injuries, as well as a recovery assessment for patients who are recovering from a traumatic injury.

**For any questions related to Trauma Survivor Network, please email us at:**

**Trauma-AWH-TSN@aspirus.org**

### ASPIRUS INPATIENT REHABILITATION CENTER

Once the patient is medically stable for discharge, they may need a form of rehabilitation. There are various centers that offer this as well as the Aspirus Inpatient Rehabilitation Center. Our Social Workers and Case Managers work directly with you and your care provider to identify the best placement for your need as well as insurance coverage. Although not all patients go to the inpatient rehab center, there are various resources available on their website that anyone can access.

1. Go to <https://www.aspirus.org/find-a-location/inpatient-rehab-at-aspirus-wausau-hospital-384> or access the QR code with your smartphone



# General Visitor Information

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Family and friend support is very important in a patient's healing process. Aspirus Wausau Hospital is committed to providing a safe and healthy environment for patients and their families. To maintain that environment and to help ensure that the needs of all the patients in the unit be met, we count on you as a visitor to assist in this, by following these general guidelines when visiting your loved one. Visitation guidelines are subject to change pending what is going on i.e. many changes related to COVID and infection control, so the below are general guidelines only.

- Stop at the nurse's station to check in and see if this is a good time for you to visit the patient.
- If the door is closed, please respect the privacy of the patient, and ask the patient or the staff member for permission before entering the room.
- Please read and follow all information posted on signs on the patient's door, such as isolation precautions and guidelines, and any visitation limitations.
- Observe the visitation guidelines also in the unit specific visitor guidelines hand-out.
- Please do not stand in the hallway outside the patient rooms. Doing so may compromise patient privacy of your loved one or of other patients in the unit. This may also hinder movement of equipment or patients. You are welcome to wait in the waiting room or visit the cafeteria during times when you may be asked to step out.
- Sleep is essential to the healing process for your loved one and other patients being cared for on the unit. Please do not disturb a patient who is sleeping.
- Respect the patient's right to privacy and leave the patient's room when asked by a care team member.
- There are times during a patient's stay when visitation may be limited. This may be because the patient needs to rest, or treatments must be completed. In some cases, too many visitors may be harmful to the patient's recovery. For certain injuries, such as brain injury, too much stimulation can hinder the patient's healing and recovery. The number of visitors, and length of visitation may be limited.
- Loud voices and noises (such as from pagers, cell phones, and other devices) can disrupt patient care. Cell phones are important for you to keep in touch with loved ones and to share information. However, please be considerate of your noise level with your ring tones and your voice when using your cell phone. Long conversations between visitors should be held in the waiting room, or outside of the unit.
- All children visiting must always be supervised by an adult. Before a child visits, it may be helpful to discuss the rules and expectations with the nurse to help prepare the child for the hospital environment.
- Waiting rooms are located on each unit. The unit staff members can orient you to the waiting area, lobby, cafeteria.
- **Wash your hands or use hand sanitizer that is provided at the doorway, before you go into a patient's room and after you come out of the room.**

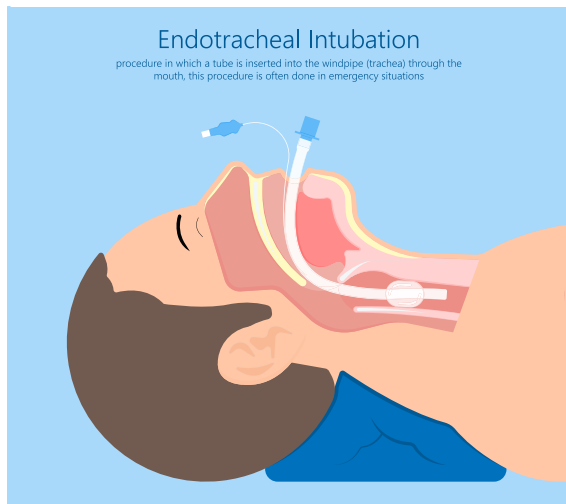
# Types of Traumatic Injuries

Traumatic injuries are due to blunt and penetrating forces. Blunt injuries occur when an outside force strikes the body. These injuries often occur as a result of a motor vehicle crash or fall. Penetrating trauma occurs when an object such as a bullet or knife pierces the skin. Sometimes patients have both types of injuries.

The following pages contain some of the common types of traumatic injuries. Use the anatomy figures to help you understand this information. Your health care team members will also give you more information about the injuries.

## Airway/Breathing

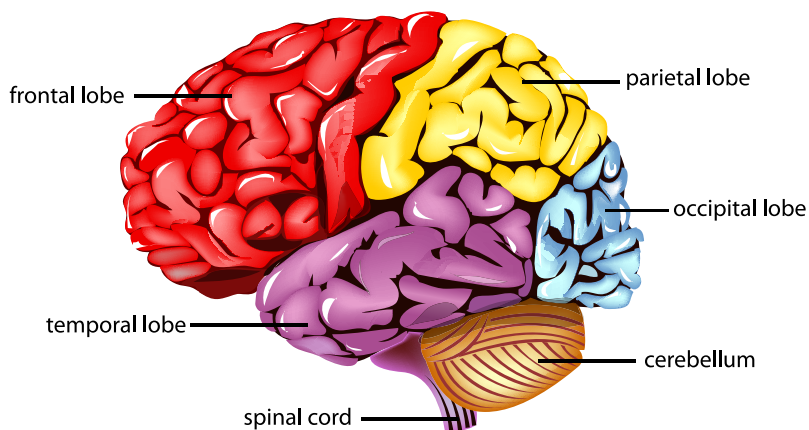
Maintaining and protecting the airway and breathing is the number one priority. The trauma patient may be intubated which means having a breathing tube placed down the throat and into the lungs. A breathing machine (ventilator) will then assist with breathing. This is done to keep the airway open and patients breathing adequately in situations when unable to breath on their own.



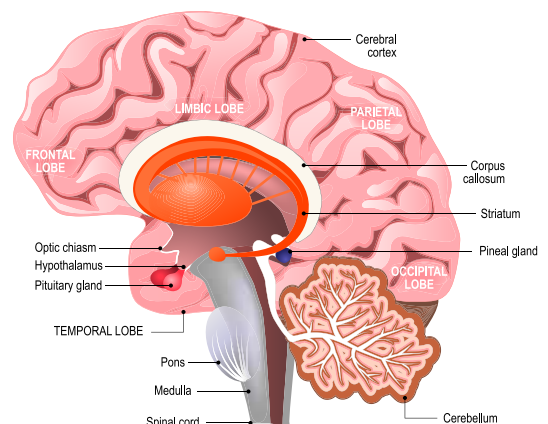
## Head/Brain Injury

A traumatic brain injury is an injury to the brain due to blunt or penetrating trauma. The following are types of head and brain injuries.

### Parts of the Human Brain



### THE HUMAN BRAIN



# Types of Traumatic Injuries

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## CONCUSSION

A concussion is a temporary disturbance of brain function resulting from a blow to the head that can cause bouncing or twisting of the brain in skull. A concussion is also called a mild traumatic brain injury. A CT scan of the head does not show this injury. A mild concussion may cause a brief period of confusion and some loss of memory about the events that caused the injury.

## SKULL FRACTURE

A skull fracture is a crack in the bones of the skull caused by blunt or penetrating trauma. The brain or blood vessels may also be injured.

## CONTUSION

A Contusion is described as bruising of the brain tissue. This can occur beneath a skull fracture, or because of a powerful blow to the head that causes the brain to shift and bounce against the inside of the skull.

## HEMATOMAS

Head injuries and skull fractures may cause tearing, shearing, and cutting of the blood vessels that carry blood into the brain. This may cause blood to pool inside the brain tissue or on the surface of the brain. A blood clot in the brain is called a hematoma. With pressure buildup, a hematoma can also result in brain cell damage and blood flow interruption. Types of hematomas include:

- **Subdural Hematoma:** Bleeding that occurs when a vein on the surface 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 surface of the brain is injured. A blood clot occurs quickly and puts pressure on the outside of the brain.
- **Intracerebral Hematoma:** Bleeding that occurs inside the brain. It usually happens when blood vessels rupture deep within the brain.

The trauma team closely monitors patients who have a head injury. When a brain injury is suspected, a scan of the brain (CT scan or MRI) is done to look for swelling, bleeding, or a blood clot.

## BRAIN INJURY TREATMENT

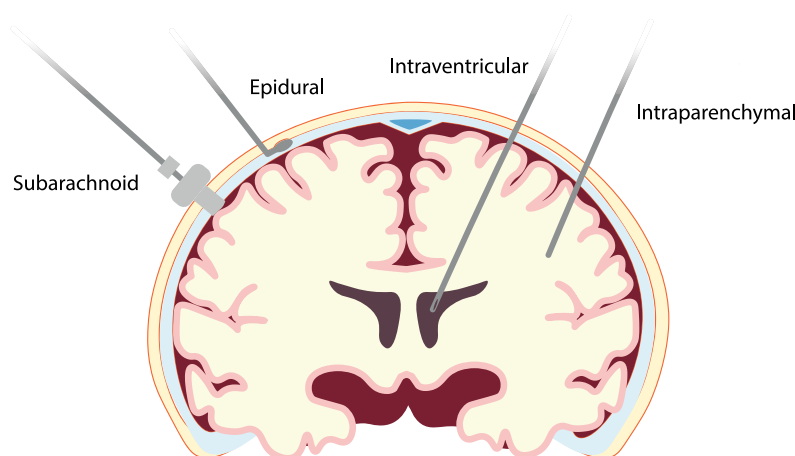
Treatment for a brain injury is based on the type and location of the injury. Treatments may include:

- Keeping a quiet, comfortable, dark environment
- Medication to augment blood pressure to ensure a lower brain pressure
- Medications to lower anxiety and change the fluid levels in the brain again to lower brain pressure

# Types of Traumatic Injuries

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- Intracranial pressure (ICP) monitor, which measures pressure in the brain. There are two types of ICP monitors:
  1. A tube placed in the brain that measures brain pressure
  2. 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



- Creating an opening in the skull (craniotomy/craniectomy) to give the brain more room to swell. A craniotomy may also be done to remove a blood clot. The skull bone may be replaced right away, or once the patient is better.

## CHEST INJURY

Chest injuries may be life threatening if the lungs or heart are bruised or punctured, time is critical in restoring and maintaining airway and heart/lung function. The following are types of chest injuries.

## RIB FRACTURES

Rib fractures (breaks) are the most common type of chest injury. They can be very painful but usually heal without surgery in three to six weeks.

## FLAIL CHEST

A Flail chest is a fracture of two or more ribs in two or more places. When multiple ribs are injured, there is likely underlying cuts and bruises on the lungs, making the chest wall unstable and harder for one to breathe effectively.



# Types of Traumatic Injuries

## HEMOTHORAX

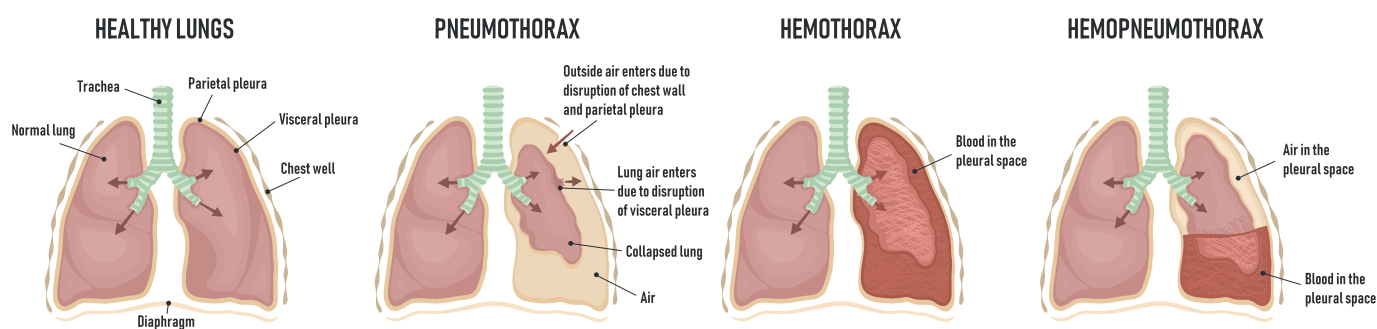
A hemothorax occurs when blood pools in the lining of the lungs and chest cavity, often due to rib fractures.

## PNEUMOTHORAX

A pneumothorax occurs when air collects in the lining of the lungs and chest cavity due to an injured lung.

## HEMOPNEUMOTHORAX

A hemopneumothorax occurs when both blood and air collect in the lining of the lungs and chest cavity.



## PULMONARY CONTUSION

A pulmonary contusion is bruising of the lung. If severe, a pulmonary contusion can be life threatening because bruised lung tissue has a decreased ability to exchange oxygen and carbon dioxide.

## CHEST INJURY EVALUATION AND DIAGNOSIS

Chest X-rays, CT scans, or both are done to learn more about a chest injury. A blood sample may be taken from an artery to determine how the lung is using oxygen.

## CHEST INJURY TREATMENT

The goal of early trauma care is to protect breathing and blood flow. Additionally, treatment is done to increase oxygen to the lungs, control pain, and prevent pneumonia.

You may be asked to cough and do deep breathing exercises to help the lungs heal. If you smoke, the trauma team will recommend smoking cessation and offer resources to help stop smoking. Medications will be given to treat pain and soreness. If medication is not adequate to treat pain, additional therapies may be used to improve the recovery process.

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

# Types of Traumatic Injuries

## ABDOMINAL INJURY

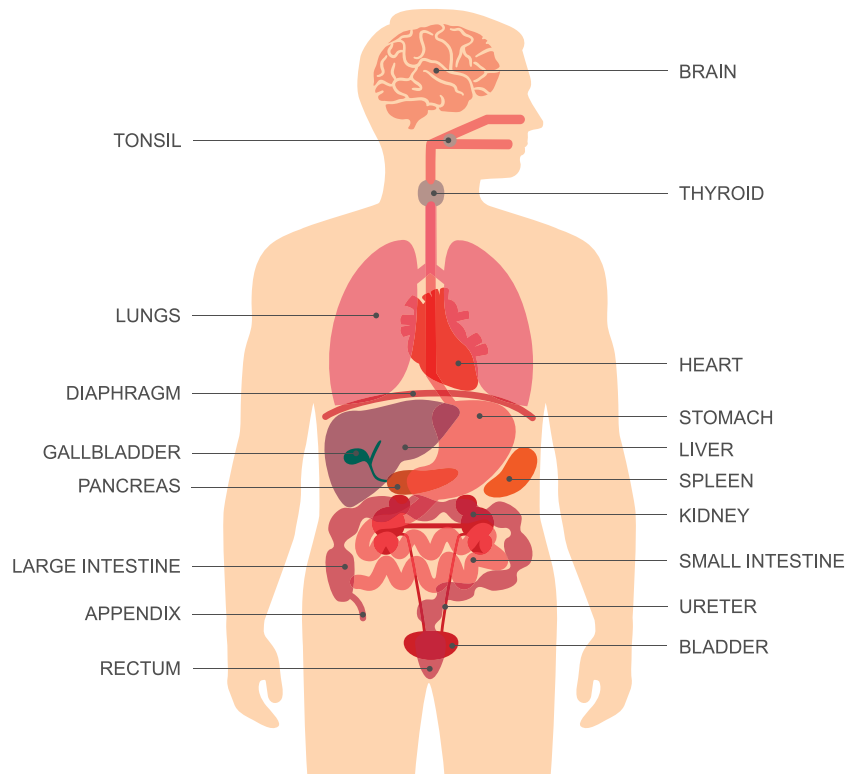
Blunt or penetrating trauma to the abdomen can injure internal organs including the liver, spleen, kidney, or stomach. Types of abdominal injuries are:

### BLUNT ABDOMINAL TRAUMA

A blunt abdominal trauma is when the lower torso is hit and injured, but there aren't any open wounds.

### PENETRATING ABDOMINAL TRAUMA

A penetrating abdominal trauma occurs when there is an open wound, such as a gunshot wound or stabbing.



## ABDOMINAL INJURY EVALUATION AND DIAGNOSIS

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

- Physical examination
- CT scan
- Blood tests
- Ultrasound

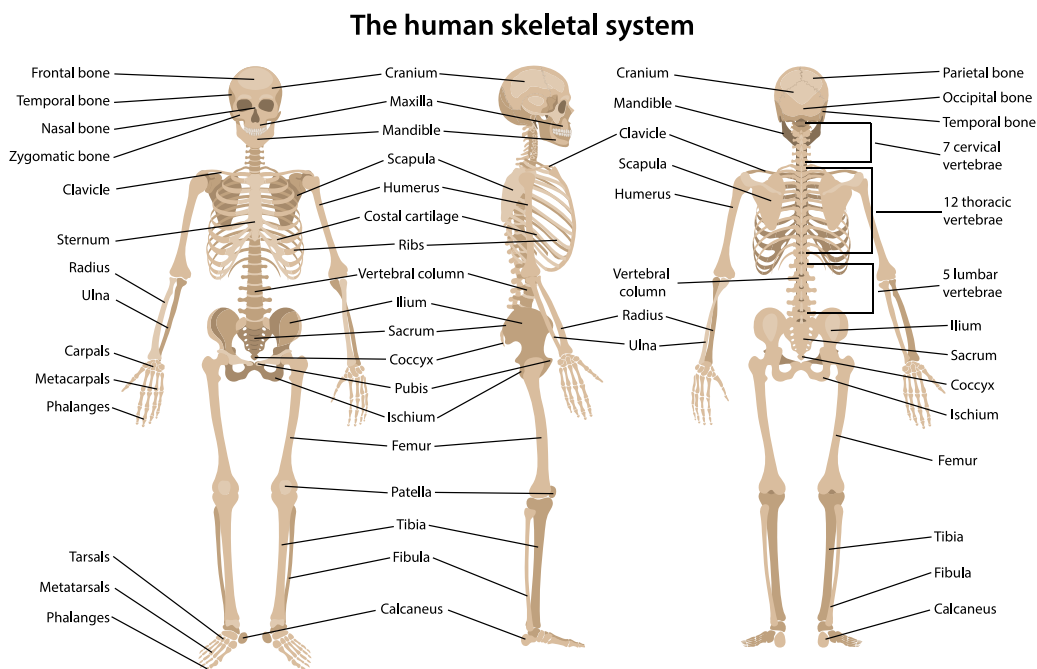
## ABDOMINAL TRAUMA TREATMENT

Treatment for an abdominal injury will vary based on the area injured and the severity of the injury. Treatment may range from close observation of the patient or to surgery for repair or reconstruction of the injured area.

# Types of Traumatic Injuries

## BONE, LIGAMENT, AND JOINT INJURIES

Blunt and penetrating trauma can injure bones, ligaments, and joints. The following are types of fractures or broken bones.



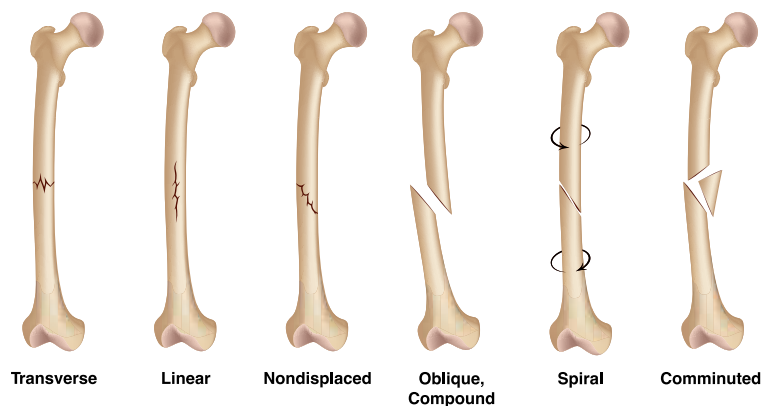
## OPEN OR COMPOUND FRACTURE

An open or compound fracture is a broken bone that pushes through the skin. It is considered serious because the wound and the bone can become infected.

## CLOSED FRACTURE

A closed fracture is a broken bone that does not pierce the skin. Closed fractures occur most often in children.

## FEMORAL SHAFT FRACTURE



# Types of Traumatic Injuries

## BONE, LIGAMENT, AND JOINT INJURY EVALUATION AND DIAGNOSIS

Most broken bones can be seen on x-rays. A CT scan may be used to examine other bones such as the spinal column. To determine whether joints or ligaments are damaged, a magnetic resonance scan (MRI) may be done.

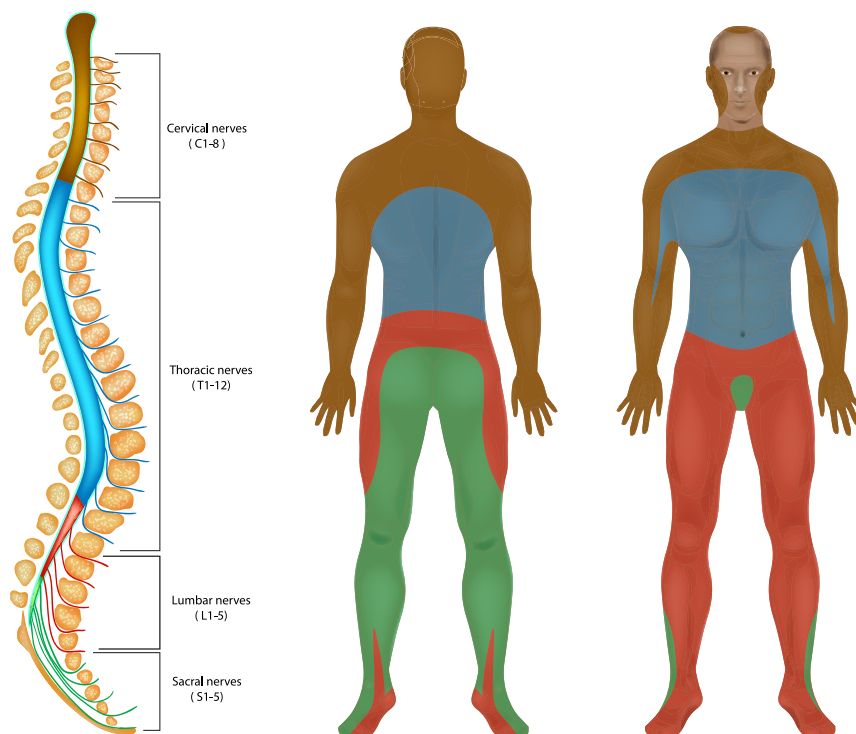
## BONE, LIGAMENT, AND JOINT INJURY TREATMENT

Treatment for a broken bone depends on the type, severity, and location of the break and whether the tissue around the bone is damaged. Possible treatment options include:

- A cast, sling, or splint.
- Closed reduction is when the limb or joint is moved to its normal position without surgery. Pain or sedation medication is given before and during the procedure.
- Open reduction is when surgery is done to return the bone to its normal position. Surgeons may use pins, wires, plates, and screws to hold the bone together.
- External fixator is when pins are put in the bone above and below the break and connected to metal bars outside the skin. This holds the bones together to heal or provide temporary stabilization until final fixation is indicated. The external fixator is removed after the fracture heals or is surgically stabilized.

## SPINAL CORD INJURY

Blunt or penetrating trauma can injure the spinal cord and associated nerve roots. Two main types of injuries can occur.



# Types of Traumatic Injuries

## TETRAPLEGIA (ALSO CALLED QUADRIPLEGIA)

Tetraplegia is an injury affecting the cervical regions of the spinal cord. This injury causes paralysis (no movement) of the arms, chest, abdomen, and legs. Injury at or above the level of C4 affects breathing; people injured at this level or higher may need a breathing machine (ventilator).

## PARAPLEGIA

Paraplegia is an injury involving the thoracic and lumbar regions of the spinal cord. This injury causes paralysis of both legs and possibly the chest and abdomen.

A spinal cord injury may be complete or incomplete.

A complete spinal cord injury means that the person cannot move and has no feeling below the level of the injury. It does not always mean that the spinal cord has been cut in two.

An incomplete spinal cord injury means that the person has some movement of feeling below the level of the injury. A rehabilitation health care provider performs tests to determine the level and completeness of the injury.

Incomplete injuries may be to the back, front, or central part of the spinal cord. With injury to the back part of the spinal cord, the person may have movement but be unable to feel that movement. With injury to the front part of the spinal cord, the person may lose movement but may be able to feel touch and temperature. An incomplete injury may get better in time. It is difficult to determine when or if full function will return.

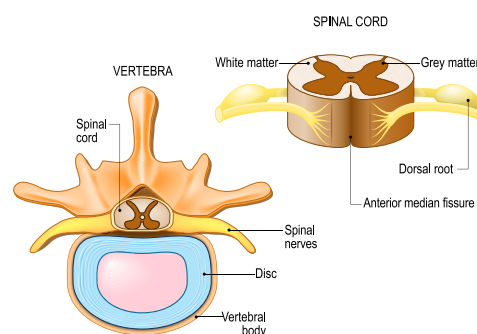
## SPINAL CORD INJURY EVALUATION AND DIAGNOSIS

Physical exams, x-rays, CT scans, and MRI scans are used 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. Other tests are used if an MRI cannot be done due to other injuries, a person's weight, or if the person has an implanted device, monitor, or other metal device.

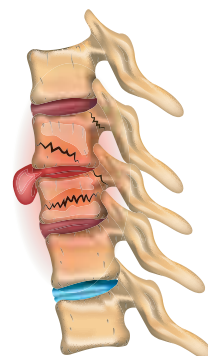
## SPINAL CORD TREATMENT AND MANAGEMENT

Medications may be given initially to help reduce the swelling of the spinal cord. Surgery may be done to reduce the amount of compression on the spinal cord and minimize further damage. An injury affecting the spinal cord causes a major life change. Such an injury raises questions, concerns or fears about the present and future. Your health care team provides information about the effects of spinal cord injury and healthy living after spinal cord injury and developing a lifelong plan.

Spinal cord



COMPRESSION FRACTURE OF THE SPINE



# Who is Taking Care of the Patient?

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## **EMERGENCY DEPARTMENT PHYSICIAN**

The Emergency Physician is a specialist in the emergency treatment of cardiac, trauma, obstetrical, medical, surgical, and neurological emergencies and other life-threatening situations. The Emergency Department is staffed by board-certified specialists in emergency medicine and supported by other medical and surgical specialists.

## **TRAUMA SURGEON**

Trauma Surgeons are General Surgery physicians that are specially trained in trauma surgery. Trauma surgeons treat internal injuries and critically injured patients and deal primarily with abdominal and chest injuries. A trauma-attending surgeon will oversee the total care provided to you or your family member while a patient of the Aspirus Trauma Center. This physician regularly visits the patient to check on their progress and to coordinate with other members of the trauma team to provide complete care for the patient and make sure that all injuries are being treated.

Trauma surgeons do not operate on or take care of injuries involving the brain, spine, or broken bones. The trauma –attending consults other specialists to deal with these types of injuries.

## **NEUROSURGEON**

Neurosurgeons are physicians that are specially trained in surgery involving the brain, the spinal cord, and the spine. has suffered an injury that causes problems with the patient’s communication abilities.

## **ORTHOPEDIC SURGEON**

Orthopedic Surgeons are physicians that are specially trained in surgery to repair broken bones.

## **NEUROLOGIST**

Neurologists are physicians that are specially trained in the non-operative treatment of injuries that involve the brain or nervous system.

## **PHYSICAL MEDICINE AND REHABILITATION PHYSICIAN**

The Physical Medicine and Rehabilitation Physician leads the interdisciplinary team in the inpatient Rehabilitation Unit. This team often includes rehabilitation nursing, social work, neuropsychology, clinical nutrition, as well as occupational, physical, speech and recreational therapies.

# Who is Taking Care of the Patient?

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## **PASTORAL CARE**

Spirituality means different things to different people. The chaplains are here to assist the patient and their family and friends through this difficult time in your lives. If you are having problems during this time, you can ask to speak with a Pastoral Care Representative. They can help you with issues of spirituality, anxiety, coping with changes related to your injuries, problems communicating with family and friends, coping with grief, and concerns with disability or concerns about death and dying. They can connect you with a local representative of your own faith tradition. To get in touch with a Chaplain, please work with the nursing staff to arrange a visit. It is also an option to work with your own priest/pastor or another member of your faith.

## **REGISTERED NURSE (RN)**

The patient's nurse performs assessments and provides cares and gives medications to the patient. The nurse communicates with the physicians and other health care team members regarding the patient's progress and any changes in the plan of care.

## **CERTIFIED NURSING ASSISTANT (CNA)**

Assists nurses in providing care for the patient.

## **RESPIRATORY THERAPIST**

Respiratory therapists provide breathing support and respiratory treatments for the patient. Treatments can be on a scheduled and/or on an "as needed" basis.

## **DIETITIAN**

Registered dietitians, or nutritionists, assess and provide for the nutritional needs of the patient. They assist the physician and provide a treatment plan related to the specific nutritional needs of each patient. This may include special diets, dietary modifications to accommodate disabilities, and patient and/or family education related to the nutritional needs and specialized diets the patient is receiving.

## **PHYSICAL THERAPIST**

A physical therapist helps a patient regain their mobility. They help the patient to learn how to walk with or without assistive devices, how to get in and out of bed and a chair safely, and how to use assistive devices, such as a wheelchair, if needed. Physical therapists work with patients to help ensure that every patient learns their specific orthopedic precautions (such as non-weight bearing on a broken leg and surgically repaired leg until it heals). They work with the patient to promote general muscle strengthening and recovery.

# Who is Taking Care of the Patient?

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## **OCCUPATIONAL THERAPIST**

An occupational therapist helps the patient regain his or her ability to perform “activities of daily living” (ADL’s). This includes such things as eating, brushing your teeth, washing your face, brushing/combing your hair, other personal cares, toileting, bathing, getting dressed, and getting in and out of bed.

## **SPEECH AND LANGUAGE THERAPIST**

A speech therapist works with the patient who has had an injury that causes problems with the patient’s ability to communicate. The speech therapist helps the patient to improve both comprehension and expression of both verbal and written communication. The speech therapist also works with the patient who has problem solving difficulties and/or swallowing difficulties.

## **RECREATIONAL THERAPIST**

A recreational therapist helps the patient work towards goals by using recreational activities as interventions. The recreational therapist will use things such as games, puzzles, cards, art, and music to help patients improve and regain functions they may have lost as a result of their injury or prolonged recovery.

## **SOCIAL WORKER/DISCHARGE PLANNER**

Social Workers and Discharge Planners provide emotional support and help the patient and family members adjust to the results of traumatic injury. Hospital social workers specialize in medical and crisis counseling, and can assist with communications between patients/family members and the medical team (family/physician conferences). The social worker facilitates access to services within the hospital, with other facilities such as rehabilitation centers or skilled nursing centers, and with the outside community. The social worker and discharge planner also may help coordinate home care needs.





MAPS-051 (2/1/2019)

# Glossary: Common Medical Terms, List of Bones and Organs

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## Procedures & Equipment

Arterial line (Art line): Commonly used in ICU and the OR. A catheter is placed into the lumen of an artery and displays continuous blood pressure and provides quick access for frequent blood draws.

Blood pressure cuff: A wrap that goes around the arm or leg. 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 the neck from moving. Most people have a C-Collar until it is determined that they do not have a neck injury. The collar is typically not removed until a patient can tell the provider they are not having any symptoms of neck tenderness. Therefore, the collar is not removed when the presence of alcohol has ceased or a patient is awake and alert.

Craniectomy: Surgery that removes part of the skull bone to give the brain more room to swell. This surgery may also be done to remove a clot. The skull bone is replaced when the patient is better (usually several months later).

Craniotomy: Surgery that makes an incision through the cranium (the part of the skull that encloses the brain) usually to relieve pressure around the brain.

ECG/EKG (electrocardiogram): A tracing of the electrical activity of the heart. The ECG gives important information about the heart rate and rhythm.

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

Foley catheter: A tube placed in the bladder to collect urine if a patient is unable to urinate on their own.

Gastrostomy: Surgery to make an opening in the stomach to place a feeding tube, often referred to as PEG or G/J tube.

Halo: A device used to keep the neck from moving when there is a cervical spine injury. When a halo is 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.

Intravenous (IV) Fluid: fluid put in a vein to give medication and nutrition.

Intravenous (IV) Pump: A machine that gives a precise rate of fluids and medications into a vein.

Laparotomy: Surgery that opens the abdomen so organs, blood vessels or arteries can be examined and treated.

Nasogastric (NG) Tube: A tube put into the nose to give medication and nutrition directly into the stomach. It can also be used to eliminate excess fluid from the stomach.

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

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

# Glossary: Common Medical Terms, List of Bones and Organs

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Pulse oximeter: An electronic device placed on the finger, toe, or earlobe to check oxygen levels.

Suction: A procedure used to remove secretions and fluids from the mouth and lungs.

Tracheostomy: An incision in the throat area just above the windpipe (trachea) where a breathing tube is inserted. When completed, the breathing tube in the mouth is taken out. The tracheostomy tube may be removed when the patient can breathe safely on his or her own and cough up secretions.

Thoracotomy: Surgery to open the chest cavity.

Triple lumen catheter: This may also be referred to as a central line. A tube placed into a shoulder or neck vein to give IV fluids and medication.

Tube Feeding Pump: A machine that gives fluid and nutrition into the stomach or small intestine using a Nasogastric (NG) tube.

Ventilator: A breathing machine that helps patients breathe and give oxygen to the lungs: also called a respirator.

## Bones

### BONES OF THE SKULL

Frontal bone: Forehead bone.

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 above the ears.

Occipital bone: A bone that forms the back of the skull.

### Bones of the Face

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

Maxilla: The jawbone. It is the base of most of the upper face, roof of mouth, sides of nasal cavity floor of the eye socket.

Nasal bone: Either of the two small bones that form the arch in the nose.

Zygomatic bone: The bone on either side of the face below the eye.

### Bones of the Skeleton-Upper Extremity (arm)

Carpals: The eight bones of the wrist joint.

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

Metacarpals: The bones in the hand that make up the area known as the palm.

Phalanges: Any one of the bones of the fingers.

# Glossary: Common Medical Terms, List of Bones and Organs

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Radius: The outer and shorter bone in the forearm. It extends from the elbow to the wrist.

Ulna: The inner and larger bone of the forearm between the elbow and the wrist of the side opposite of the thumb.

## Bones of the Skeleton-Thorax (chest)

Clavicle (collarbone): A curved bone that moves with the breastbone (sternum) and the shoulder blade (scapula).

Ribs: the 12 pairs of long curved bones that form the chest wall (rib cage).

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 of the chest.

## Bones of the Skeleton-Pelvis

Acetabulum: The hip socket.

Ilium: One of the bones of the pelvis. It supports the flank (outer side of the thigh, hip and buttock).

Ischium: The lower and back part of the hip bone.

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 (acetabulum).

Pubis: The bone at the front of the pelvis.

## Bones of the Skeleton-Lower Extremity (leg)

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 knee to the ankle. It is one of the longest and thinnest bones of the body.

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.

Phalanges: Any one of the bones of the toes.

Tarsals: The seven bones of the heel and mid-foot.

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

# Glossary: Common Medical Terms, List of Bones and Organs

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## Bones of the Skeleton-Spine

Cervical Vertebrae (C1 to C7): The first seven bones of the spinal column. Injury to the spinal cord at C1 to C7 level may result in paralysis from the neck down (Quadriplegia).

Thoracic Vertebrae (T1 to T12): The 12 vertebrae in the middle of the back that are connected to the ribs. Injury to the spinal cord at the thoracic level may result in paralysis from the waist down (Paraplegia) and may affect organs including the liver, stomach, and kidneys, and breathing functions.

Lumbar Vertebrae (L1 to 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).

Sacrum: Five joined vertebrae at the base of the vertebral column (spine).

Coccyx: A small bone at the base of the spinal column, also known as the tailbone.

Intervertebral disk: Shock-absorbing spacers between the bones of the spine (vertebrae).

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.

Transverse process: The two small bones that protrude from either side of each vertebra.

## Organs

### BRAIN

Cerebrum (cortex): 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**: The area behind the forehead that helps control the body movement, speech, behavior, memory and thinking.
- **Occipital lobe**: the area at the back of the brain that controls eyesight.
- **Parietal lobe**: the top and center part of the brain, located above the ear, helps a person understand pain, touch, pressure, body-part awareness, hearing, reasoning, memory and orientation in space.
- **Temporal lobe**: the part of the brain near the temples that controls emotion, memory and ability to speak and understand language.

Cerebellum: The second-largest part of the brain. It controls balance, coordination and walking.

Brain stem: The part of the brain that connects to the spinal cord. It controls blood pressure, breathing and heartbeat.

# Glossary: Common Medical Terms, List of Bones and Organs

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## DIGESTIVE SYSTEM

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

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

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

Small intestine: Part of the digestive tract that breaks down and moves food into the large intestine and absorbs nutrients.

Duodenum: The first part of the small intestine. It receives secretion from the liver and pancreas through the common bile duct.

Jejunum: The second part of the small intestine extending from the duodenum to the ileum.

Ileum: The lower three-fifths of the small intestine.

Large intestine: Absorbs nutrients and moves stool out of the body.

Colon: The final section of the large intestine. It mixes the intestinal contents and absorbs any remaining nutrients before the body expels them.

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

## ABDOMINAL

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

Kidney: One of a pair of organs at the back of the abdominal cavity that filters waste products and excess water from the blood to produce urine.

Liver: Organ that filters and stores blood, secretes bile to aid in 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.

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 there is a higher risk of infections.

## RESPIRATORY SYSTEM

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.

# Glossary: Common Medical Terms, List of Bones and Organs

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Larynx (voice box): Part of the airway and place in the throat where the vocal cords are located.

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

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

Trachea (windpipe): The main airway that supplies air to both lungs.

Lungs: Two organs in the chest that deliver oxygen to the body and remove carbon dioxide from it.

Diaphragm: Dome-shaped skeletal muscle between the chest cavity and the abdomen that contracts when breathing in and relaxes when breathing out.

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.

# Health Care Providers

Name of Care Provider	Title	Service/Specialty	Notes













# What's Important to Me?

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What keeps me relaxed?	
TV/Music likes	
What is my preferred room temp?	
Normal sleep schedule?	
Do I like to be covered up when I sleep?	
What is important to include in my care?	
What are my goals for recovery?	
Who is my primary contact?	
Anything else my team should know about me?	

