

# Brain Injury

Education and Resources  
For Patients and Caregivers



This Patient and Family Education handbook includes information and resources about the different types of brain injury, including traumatic brain injury and acquired brain injury. We have collected the information included in this handbook from various sites, and our teams hope that this information will help you better understand your brain injury or how you can best support someone you know with a brain injury as they recover.

**To find more detailed information regarding brain injury, visit:**

Brain Injury Association of Michigan  
7305 Grand River, Suite 100  
Brighton, MI 48114  
Phone: 800.772.4323  
Fax: 810.229.8947  
[www.biami.org](http://www.biami.org)

Centers for Disease Control and Prevention  
[www.cdc.gov](http://www.cdc.gov)

Brain Line  
[www.brainline.org](http://www.brainline.org)

Brain injury is unpredictable in its consequences. Brain injury affects who we are, the way we think, act and feel. It can change everything about us in a matter of seconds. Things to remember:

- A person with a brain injury is a person first
- No two brain injuries are exactly the same
- The effects of a brain injury are complex and can vary greatly from person to person
- The effects of a brain injury depend on many factors, including cause, severity, age of the person, etc.

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This handout does not take the place of a discussion with your doctor.  
 Discuss any questions or concerns you may have with your doctor.

# Your Recovery Team for Traumatic Brain Injury

Traumatic brain injury (TBI) is a blow or jolt to your brain that can change the way your brain works. A TBI can change the way you think, feel, act, and move. It can cause different kinds of problems and symptoms. Because everybody's brain is different, it is hard to predict how your brain will recover from a TBI. It takes a team of health care providers to help you develop the best plan for your recovery.

Teamwork is important. And one of the most important members of your recovery team is you. You need to be an active member of your recovery team and work closely with all the other team members. Let's take a look at who might be on your recovery team:

## **The Psychiatrist**

This is a medical doctor who specializes in rehabilitation. You could think of this health care provider as the quarterback. This is because he or she calls the plays for all the other members of your recovery team. While you are recovering from a TBI, your psychiatrist may be your primary doctor.

## **The Rehabilitation Nurse**

This is a nurse who specializes in rehabilitation. A rehabilitation nurse will help educate you on your medications and assist the rehabilitation team in your recovery journey.

## **The Physical Therapist**

TBI can change the way you walk and move. It can cause weakness and clumsiness. Your physical therapist can help you learn to move and walk well. In physical therapy, you can also work on painful or stiff muscles and joints.

## **The Occupational Therapist**

This professional helps you learn to handle your day-to-day activities after a TBI. For example, you might have trouble doing tasks you need to do at work or at home. Your occupational therapist will help you find ways to adjust to any changes caused by the TBI.

## **The Psychologist**

Emotional problems like anxiety, depression, mood swings, and irritability are common after a TBI. Your psychologist can help. Psychologists may do testing to find out how much your TBI is affecting the way you think and feel. Psychologists also do counseling, or talk therapy, to help you deal with the emotional effects caused by TBI.

## **The Neuropsychologist**

A TBI can cause slowed thinking, called cognitive dysfunction. This may result in memory loss, trouble concentrating, and trouble organizing. This person can do tests to find out where you need help. He or she can teach you ways to improve memory, concentration, and organization.

### **The Neurologist**

This is a medical doctor who specializes in brain and nerve problems. A TBI may cause symptoms like headaches, dizziness, and seizures. This doctor may be called in to treat these problems.

### **The Psychiatrist**

Like your psychologist, this team member deals with emotional and behavior symptoms caused by a TBI. In most cases, talk therapy works best for these problems. But if medications are needed to treat symptoms like depression or anxiety, this doctor can help.

### **The Speech Pathologist**

Memory loss is not uncommon after a TBI. This can make it hard to find the right words or to put words together the right way. A speech pathologist can help you with speech and language problems. This professional may also be able to help you with memory issues or problems with attention or organization.

### **The Vocational Rehabilitation Counselor**

A TBI can change your brain in ways that may make it hard to go back to your old job and hard to find a new job. This counselor can help you find work and may provide special support as you adjust to a new job.

### **The Social Worker**

Because a TBI changes your life in so many ways, you may need help with family matters and home care after you leave the hospital. A social worker can help figure out what type of help you need and the services that are available to assist you.

### **The Recreational Therapist**

Recreation may not seem like a big priority while you are recovering from a TBI, but being active and having fun is important. Some people with a TBI spend too much time alone. Isolation is not good for a recovering brain. This therapist will help you stay active and involved in life. That will help your recovery.

Depending on how your TBI affects your brain, your recovery team may have other members, too. These could include the nurses who care for you in the hospital or at home, surgeons who repair areas of damage, or doctors who specialize in vision, breathing, or hearing.

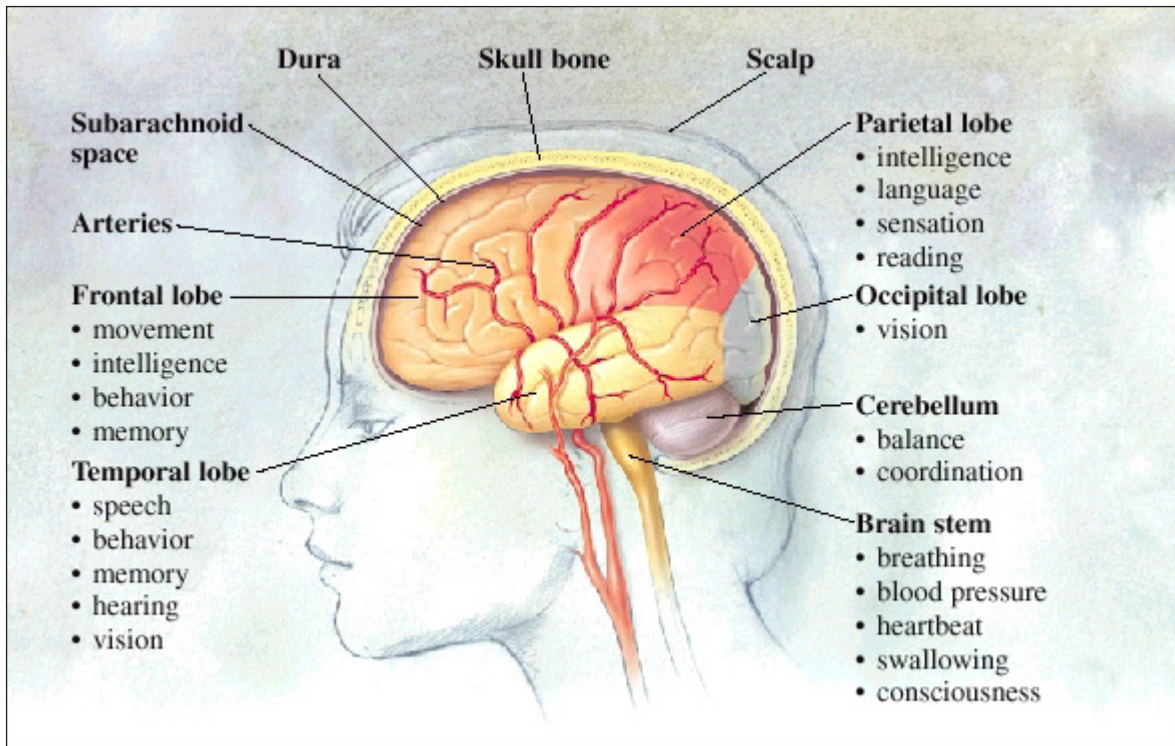
Remember that every brain recovers at its own speed. And most people do get better with time. Make sure to work closely with all your recovery team members. Make sure to ask questions when you have them and communicate with the team. And don't forget to let friends and family members become part of your recovery team. Their love and support is what makes all the teamwork worthwhile.

# The Brain

The brain controls the entire body. Some parts of the brain regulate basic functions. These include breathing, blood pressure, and heartbeat. Other parts control more complex functions, such as moving, thinking, speaking, and memory.

## Inside the Skull

Under the scalp and the skull, a tough membrane (called the dura) surrounds the brain. Beneath the dura, cerebrospinal fluid (CSF) cushions the brain. Arteries carry nutrients and oxygen-rich blood throughout the brain. Without this blood, brain tissue quickly dies.

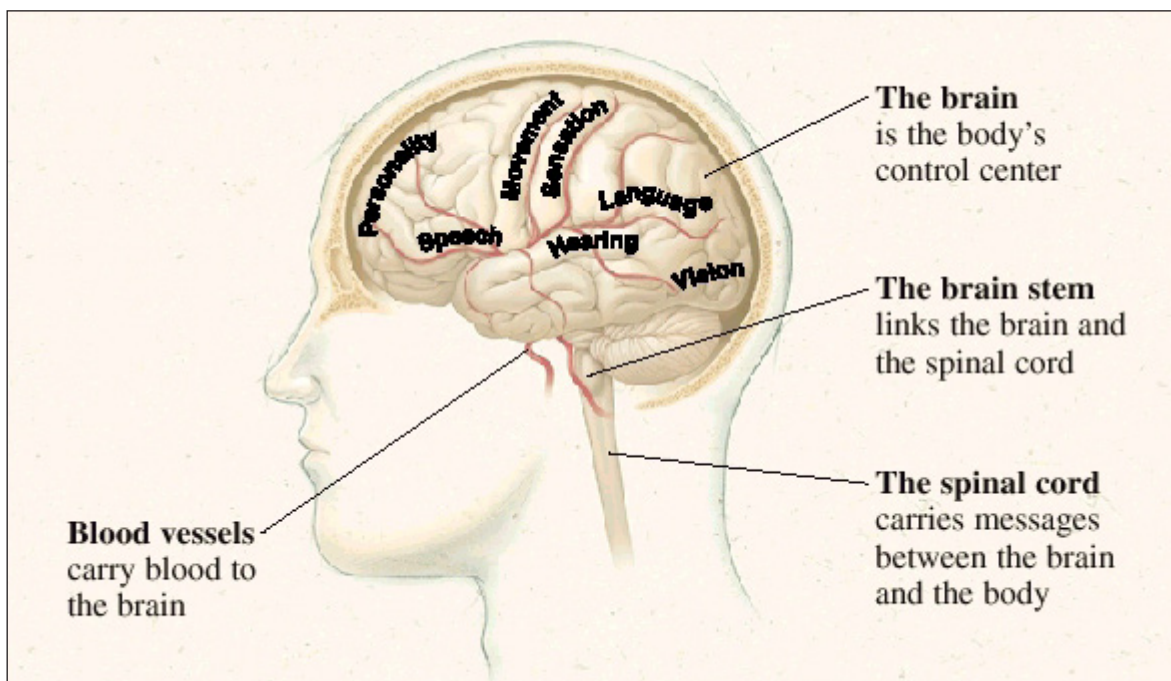


**Some body functions are controlled by just one part of the brain.  
Other functions are controlled by more than one part.**

# What the Brain Does

Each part of your brain has a role in controlling your body. The brain controls your breathing, heart rate, digestion, temperature regulation, and movement. The brain also allows you to think, handle emotions, and make judgments.

## The Brain



## Roles of Different Areas in the Brain

- The front of the brain is the center for emotions and reasoning. This is where much of your personality comes from. Memory is mainly stored in both temporal lobes.
- The right side of your brain controls the left side of your body. The right side also directs problem-solving and spatial skills, such as judging distance and recognizing faces.
- The left side of your brain controls the right side of your body. It also handles most verbal or language skills.
- The brain stem handles basic body functions, such as breathing, blood flow, and swallowing.
- The back of your brain controls vision.
- The cerebellum is the part of your brain located immediately below your visual cortex. It controls coordination.

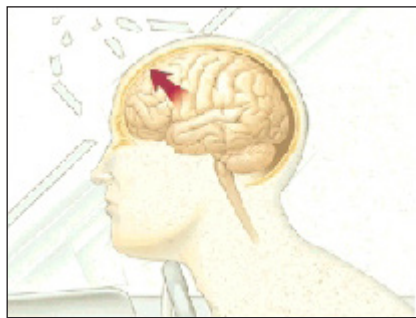


# Understanding Brain Injury

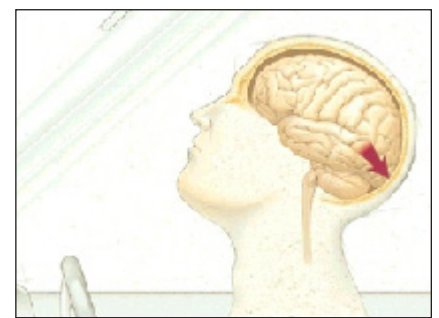
Breathing, blood flow, and movement are all controlled by the brain. The brain also allows you to think, handle emotions, and make judgments. After an injury, certain parts of the brain (or the links between these parts) may not be working optimally. Some mental or physical skills may be altered. The altered function may be short- or long-term. The full effects of a brain injury may not appear for months or even years.

## How Injury Happens

The skull does not have to be harmed for the brain to be injured (this is called a closed head injury). Injury can occur when the brain strikes the skull. In many cases, the brain rebounds from the first impact and hits the opposite side of the skull. Sometimes the brain twists on the brain stem.



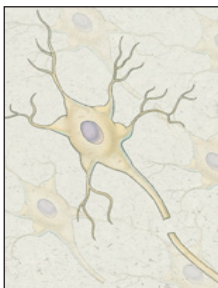
**The brain strikes the skull. This may happen if the head hits a hard surface or if a person is severely shaken or jerked.**



**The brain rebounds from the impact. As a result, the brain may hit the opposite side of the skull or twist on the brain stem.**

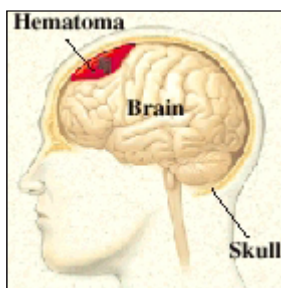
## Types of Damage

When the brain strikes the skull or twists on the brain stem, brain tissue tears. This injury may then cause a second type of damage, such as bleeding or swelling in the brain. Health care providers try to control the second type of damage to help limit long-term problems.



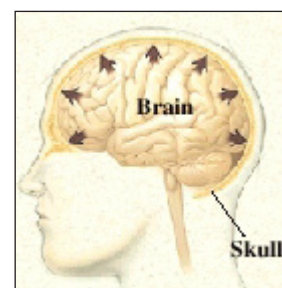
### Tearing

If nerve fibers in the brain tissue tear, signals can't pass between the brain and body. Lost signals mean altered skills or body functions.



### Bleeding

A torn blood vessel may leak into nearby tissue. This kills brain cells and can lead to a buildup of blood (**hematoma**). If this blood presses on the brain, it can cut off blood to other cells. These cells also die.



### Swelling

The brain has almost no room to expand inside the skull. If the brain swells, it may press against the skull. As the pressure increases, the brain functions may be altered.



## **Recovering From BI**

Most people recover completely from a mild BI. It may take days or weeks. If you have had more than one BI, your recovery may take longer. Everyone's brain is different, so your recovery time and treatments will depend on how your brain is healing. Here are some tips to help your recovery:

- Be honest with your health care team and let them know about all your symptoms.
- Let your health care provider know right away if your symptoms are getting worse.
- Make sure to keep all your appointments and follow your health care provider's instructions carefully.
- Give your brain time to heal. Be patient and get plenty of rest.
- Don't smoke or drink alcohol.
- Don't take any medications without checking with your health care provider first. This includes over-the-counter medicines.

Symptoms and recovery from a BI are unpredictable and are different from person to person. Most people do recover completely from most BIs. Remember that a BI can change the way you think, feel, move, and act. The best way to recover is to let your family and health care team know about all your symptoms. Work closely with your health care team and give your brain time to heal.

# What Is Traumatic Brain Injury?

A traumatic brain injury (TBI) is a sudden jolt to your head that changes the way your brain works. The jolt could be caused by a blow to your head, a blast, or an object like a bullet or fragment entering your brain. Falls, fights, sports, and motor vehicle accidents are other common causes.

## Types of TBI

A TBI can be mild, moderate, or severe. Most TBIs are mild. A mild TBI is also called a concussion. If you have a mild TBI, you might be knocked out for a short time or you might just feel stunned for a while. With a moderate or severe TBI, the duration of loss of consciousness would be longer. Your health care team will decide the severity of the TBI based on the symptoms at the time of the trauma. Symptoms of TBI are unpredictable since you could have a mild TBI and actually have more persistent symptoms than someone with a more severe TBI.

## Symptoms of TBI

Having a TBI can change your brain in many ways. A TBI can change the way you think, feel, act, and move. The symptoms depend on the part of your brain that is injured. Common symptoms of mild TBI can include:

- Headache
- Confusion
- Dizziness
- Blurry vision
- Ringing in your ears
- Feeling tired
- Loss of memory
- Mood changes
- Trouble sleeping
- Being off balance
- Being bothered by bright light
- Feeling sick to your stomach

Symptoms of moderate or severe TBI may include all the symptoms of a mild TBI as well as any or all of these symptoms:

- Severe headache that does not go away
- Repeated vomiting
- Seizures
- Extreme sleepiness
- Slurred speech
- Weakness and numbness in your arms and legs
- Being very clumsy
- Being very irritable, restless, or confused

### **Recovering From TBI**

Most people recover completely from a mild TBI. It may take days or weeks. If you have had more than one TBI, your recovery may take longer. Everyone's brain is different, so your recovery time and treatments will depend on how your brain is healing. Here are some tips to help your recovery:

- Be honest with your health care team and let them know about all your symptoms.
- Let your health care provider know right away if your symptoms are getting worse.
- Make sure to keep all your appointments and follow your health care provider's instructions carefully
- Give your brain time to heal. Be patient and get plenty of rest.
- Don't smoke or drink alcohol.

Don't take any medications without checking with your health care provider first. This includes over-the-counter medicines.

Symptoms and recovery from a TBI are unpredictable and are different from person to person. Most people do recover completely from most TBIs. Remember that a TBI can change the way you think, feel, move, and act. The best way to recover is to let your family and health care team know about all your symptoms. Work closely with your health care team and give your brain time to heal.

# Incidence and Risk Factors For Brain Injury<sup>1</sup>

*Every 10 seconds, one person in the U.S. dies from a traumatic brain injury.*

## Incidence of Brain Injury

- An estimated 2.5 million brain injuries occur every year in the United States.
- Traumatic brain injuries are most often caused by motor vehicle crashes, sports injuries, or even simple falls on the playground, at work or in the home.
- Traumatic brain injury is the leading cause of death and disability among youth and young adults.

## Risk Statistics

Anyone can get a brain injury. Here are a few statistics that identify some of the higher risk groups:

- The leading cause of TBI-related death varied by age.
- Falls were the leading cause of death for persons 65 years or older.
- Motor vehicle crashes were the leading cause for children and young adults ages 5-24 years.
- Assaults were the leading cause for children ages 0-4.
- Among non-fatal TBI-related injuries for 2006-2010:
- Men had higher rates of TBI hospitalizations and ED visits than women.
- Hospitalization rates were highest among persons aged 65 years and older.
- Rates of ED visits were highest for children aged 0-4 years.

## Leading Causes

The leading causes for traumatic brain injury are:

- Falls (40.5%)
- Motor vehicle crashes (14.3%)
- Struck by/against events (15.5%)
- Assaults (10.7%)

<sup>1</sup>Traumatic Brain Injury in the United States: Fact Sheet. Retrieved on June 5, 2015 from: [http://www.cdc.gov/traumaticbraininjury/get\\_the\\_facts.html](http://www.cdc.gov/traumaticbraininjury/get_the_facts.html)

# Problems with the Senses After Brain Injury

Sometimes an injury damages the part of the brain that controls balance, sight, or hearing. Or memory loss may keep a person from remembering certain sights, sounds, smells, or tastes. Some patients have trouble handling abstract ideas, such as time, or they may simply forget what they are doing from one moment to the next.

## Problems with Sight or Sound

If a patient is sensitive to light or has double vision, an eye doctor may suggest sunglasses, prescription lenses, or an eye patch. Some patients lose vision or hearing on only one side. They may be taught to turn the unaffected side of the body toward the action. If a patient has trouble hearing or is confused by background noise, limiting distractions may help.

### You Can Help

- Adjust lighting and window shades for comfort.
- Close the door if the person is bothered by noise.
- Turn off the TV if there is one.



## Regaining Balance

Keeping balance and judging distance are common problems. A physical therapist may help a patient sit up, stand, or walk. Some patients may need to use a wheelchair, walker, or cane.

If the patient lives in a multistory home, other changes may be needed. Consider having the patient stay in a bedroom on the ground floor. Adding bars in the bathroom can help the patient stand up safely.

### You Can Help

Ask the team about your loved one's abilities. Learn to help the person work at a safe skill level.

## Dealing with Time

Some patients cannot remember from one moment to the next. Others may have trouble planning ahead. Because of this, the rehab team may teach a patient to check a calendar and clocks throughout each day. Patients who can read and write are taught to use diaries or daily planners. Each team member may ask the patient, “What day is it? What time is it? Where do you need to be next?”

## You Can Help

- Try to visit at the same time each day
- Ask the person which day of the week it is when you arrive.
- Keep a calendar on the wall. Have the person cross off each passing day.
- Use the person’s daily planner to note your visits. Write down what you talked about and any decisions reached.
- Bring in a clock that’s easy to read. A digital display may be best.
- If the team agrees, get your loved one a watch with an alarm. The alarm can be used to remind the person of meals or rehab sessions.
- Try to accompany the patient to important events, such as medical appointments. If this is not possible, call to remind the patient to go to appointments.
- Use daily pill boxes to organize medications for the patient. This can help with medication compliance.



# Physical Problems After Brain Injury

Injury to the brain can affect other parts of the body. As a result, patients may have little or no control over their bodies. Muscles may weaken, tighten, or twitch. Some patients may also have physical injuries that occurred along with the brain injury.

## Improving Posture and Motion

Physical and occupational therapists help patients regain movement and strength. Improving posture and range-of-motion exercises improve movement. In addition, they help prepare patients to do tasks. For instance, a patient may work on lifting an arm above the head. This may help the patient dress more easily.

### You Can Help

- Show interest. Ask the therapist how you can help.
- Remind the person to use good posture.
- Make sure an affected arm or leg is supported in the proper position.

## Reducing Swallowing Problems

If a person has trouble swallowing, a speech therapist may help a patient increase muscle control in the face, mouth, and throat. The patient may also learn to turn or hold the head in a position that makes swallowing easier and safer.

### You Can Help

- Check with a team member before bringing in food or drink. If the person has a swallowing problem, he or she may be on a special diet.
- Limit distractions during meals.



## Reducing Muscle and Joint Problems

Damage to the brain may tighten muscles or tendons (**contracture**). Sometimes an injury causes spasms that jerk or twist affected muscles (**spasticity**). Range-of-motion or stretching exercises may help control these problems. Sometimes casts or splints are used to hold a joint in proper position. Over time, this may relax the muscle. Sometimes surgery is needed to release tight tissue.

### You Can Help

- Make sure your loved one does any prescribed exercises or stretches daily.
- Be sure the splint is on when it needs to be.

## Controlling Seizures

If too many signals flood the brain, a seizure may occur. Medications may control these attacks. Keep in mind that if a patient has multiple, unprovoked seizures, he or she should be evaluated for epilepsy.

### You Can Help

If your loved one has a seizure:

- Help the person into a safe position. Make sure your loved one will not fall or hit his or her head.
- Do not restrain the person or put anything in his or her mouth.
- Tell a team or staff member.

# Swallowing Problems After Brain Injury

Some people have trouble swallowing (**dysphagia**) after a brain injury. This makes choking more likely. It also puts the patient’s health at further risk for conditions like aspiration pneumonia. In some cases, a special X-ray may be done to find the extent of the problem. To maintain nutritional needs, a speech-language pathologist may teach your loved one ways to improve swallowing.

## Learning New Ways to Eat

If swallowing is a problem, changes in diet and body positioning may help. Some patients are directed to turn the head to a specific side to aid swallowing. Adding thickeners to liquids may also make swallowing easier. Some patients need to avoid hot or cold items. If a patient cannot take food or drink by mouth, a feeding tube may be needed. As swallowing improves, restrictions will be adjusted.

## Increasing Muscle Control

Many patients are helped by exercises. Some strengthen muscles in the mouth for better swallowing. Others improve tongue movement and lip closure. This keeps food in the mouth until the person is ready to swallow.

## Food and Drink Guide

The speech-language pathologist will teach you which food textures and liquids the patient can swallow safely. Discuss examples using foods the patient likes.



**For your loved one’s safety, prepare all food and drink exactly as directed.**

### Foods

- None by mouth/  
tube feeding
- Pureed
- Soft
- Normal
- Other \_\_\_\_\_

### Liquids

- None by mouth/  
tube feeding
- Honey thick
- Nectar thick
- Thin
- Other \_\_\_\_\_

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# Problems with Thinking Skills After Brain Injury

One of the brain's main roles is to let a person think, remember, reason, and judge. After a brain injury, a patient may be less able to coordinate sequential activities (apraxia), process thought, or use language. Initially, therapy may be provided by medical professionals, but it often requires longer-term support by family and friends.



## Coordinating Function

Coordinating functions can be hard for a patient with a brain injury. Even a simple task, such as combing hair, may need to be broken into steps. The team can teach you how to help the patient link ideas.

### You Can Help

- Find out what your loved one is working on. Ask him or her to do the task. Allow plenty of time.
- Break all tasks into simple steps.
- Change topics or tasks if your loved one gets confused. Provide words to help express an idea before your loved one gets too frustrated.
- Use pill boxes to organize medications to improve compliance.

## Improving Memory

One goal is to help patients know where they are. Signs may be posted labeling the bathroom, closet, and doorway. Maps of the patient's room or the gym may also be posted. Names of family and therapists may be on a daily schedule or in a journal.

### You Can Help

- Keep visits short, but try to visit often.
- Say who you are when you greet your loved one. Ask the same questions often.
- Go through family photo albums with the person.

## Relearning Language Skills

If patients have trouble understanding or using words, they may need to use gestures or eye blinks to communicate. To help a patient relearn words, a therapist may point to an object and ask its name. If a patient has physical trouble speaking, exercises may help. A speech therapist may show the patient how to form the lips and mouth to make certain sounds.

Altered speech functions can be extremely frustrating. It is important for family and friends to be understanding and supportive.



## You Can Help

- Re-orient the patient to person and situation often.
- Use picture flash cards with the person.
- Speak slowly. Use common words.
- Present only one idea at a time.
- Speak in simple sentences. Stick to one idea or action.
- Ask yes-or-no questions.
- Don't ask questions which require making a choice.
- Give the person time to understand you and to respond.
- Bring the person back to the main topic.
- Avoid sarcasm and abstract ideas, as many individuals with brain injury may take things literally.
- Don't "talk down" to the person or ignore them. Include the patient in every conversation
- Remember that a patient's inability to express him/herself does not mean they have lost intelligence or knowledge.
- Immediate feedback and recognition of appropriate language may help encourage these skills.

## Bring to rehab items that hold meaning for the person:

- Photos of family or friends
- Favorite clothes
- Posters
- Music

# What is Aphasia?

**Aphasia** is a loss of language skills. It may occur if the brain is damaged. This usually happens after a stroke. People with aphasia may not be able to express their thoughts (**expressive aphasia**) or understand others (**receptive aphasia**).

## Signs of aphasia

Signs of aphasia vary with each person. A person with aphasia may show some or all of the signs listed below.

### A person with aphasia may not be able to do the following:

- Understand words when others speak
- Speak in complete sentences
- Read or write
- Understand that numbers have meaning

### A person with aphasia may do the following:

- Speak using only nouns and verbs
- Mix up the order of words in a sentence
- Use the wrong words or made-up words
- Have trouble working with numbers, as when balancing a checkbook

## Practical tips for aphasia

A person with aphasia can still think, even if responding is hard. Try to:

- Ask questions that can be answered with a “yes” or a “no.”
- Speak slowly and clearly in simple sentences. Use simple words, but don’t “talk down.”
- Give the person time to understand and to respond. Try not to speak for the person unless you have to.



**A speech therapist may help a person with aphasia regain his or her language skills.**



# Behavior Changes After Brain Injury

After a brain injury, a person may behave in new or different ways and may have personality changes. Patients may become agitated or aggressive, and these mood changes may be disturbing. Some may curse, laugh, or cry out of context. Others may show increased or decreased sexual interest. Judgment may be altered. This can have financial and legal implications.

Behavior changes may be caused by damage to the brain. Or they may result from the person's increasing awareness of what has happened. Such changes may be linked to frustration, anger, or grief.



## Handling Feelings

Many patients have extreme mood swings. Others show no change in emotions. As a patient becomes more aware, depression may set in. Signs of depression should be brought to the attention of health care professionals. A number of treatments are available that may be helpful for improving the patient's quality of life.

Team members address the patient's feelings and behavior. A team member may ask an angry patient to "calm down." If the person does so, he or she is praised for using self-control. Then the patient may be asked how he or she was able to handle the emotion. If the patient knows, the technique can be used again.

## Controlling Agitation

Agitation and aggression may be stages a patient passes through. Team members may take turns staying with the patient. As a patient becomes calmer, the team may do the following:

- Point out when a behavior is not proper. Then explain what the patient could do instead.
- Redirect agitated actions such as pacing.
- Divert the patient from tasks that are upsetting.

## **Regaining Social Skills**

After a brain injury, some patients see only how matters relate to themselves. They may not be aware of how their actions and words affect others. Group rehab helps patients learn to deal with others. It also improves speech. Playing games helps patients link ideas and increase hand-eye skills.

## **You Can Help**

Try to act in ways that teach good behavior. Also, let the person know he or she is still needed and loved. Try the tips below.

- Stay calm.
- Do not hold a grudge.
- Do not always give in to demands.
- See depression as a stage of recovery.
- Ignore outbursts of anger. Direct the person toward a task he or she can do.
- Do not cringe, frown, roll your eyes, shake your head, or clear your throat.
- Make contact. Hug, hold hands, offer a gentle touch.

# Anxiety and Traumatic Brain Injury

Anxiety is fear and worry. Dealing with a TBI is stressful, so it's not surprising that anxiety is a common symptom of a TBI. But when fear and worry become so strong that they get in the way of your ability to live your life, you could have an anxiety disorder.

Spotting an anxiety disorder with a TBI is important. This is because an anxiety disorder can make it hard to do the things you need to do to get better. An anxiety disorder may also increase your risk for substance abuse and depression.

## Symptoms of Anxiety Disorder

Like a TBI, an anxiety disorder can change the way you think, act, and feel. It can also cause physical symptoms. In extreme cases, it can even cause a seizure. Here are some common symptoms to watch for:

- Extreme fear and worry that does not let up
- Shortness of breath
- Racing heartbeat
- Trouble sleeping
- Restlessness
- Trembling
- Dizziness
- Nausea
- Inability to think clearly
- Panic attacks

## Types of Anxiety Disorders

If you have common symptoms of anxiety that get in the way of your ability to live your life, it is called generalized anxiety disorder.

There are also these specific kinds of anxiety disorders:

- Panic disorder causes fear that is more like terror. You may live in fear of having a panic attack. People with panic disorder sometimes become afraid to leave the house.

- Phobias are intense fears of certain things or situations. If you have this type of anxiety, you may fear an activity like flying or you may be afraid of public places.
- Obsessive compulsive disorder (OCD) causes you to have uncontrolled thoughts and feelings. People with OCD repeat behaviors, like cleaning or washing, over and over again.
- Post-traumatic stress disorder (PTSD) is a type of anxiety in which people relive a traumatic event in flashbacks and nightmares. About 25 percent of people with a TBI have PTSD.

### **What to Do for an Anxiety Disorder**

Let your health care provider know about your anxiety symptoms. You are not alone. Your health care provider is aware of the risks of anxiety disorder and can help you. A mental health professional can treat an anxiety disorder with a type of counseling called cognitive behavioral therapy (CBT).

During CBT, you learn to figure out the sources of anxiety and manage your symptoms. CBT teaches you to change the thoughts that lead to anxiety. It also teaches you to deal with symptoms in healthy ways. Relaxation techniques and deep-breathing exercises may be part of the treatment. Antianxiety medications are sometimes used along with CBT.

You can also take steps on your own to cope with anxiety:

- Share your fears and worries with others.
- Stay active and spend time with friends and loved ones.
- Do not use alcohol or drugs to relieve anxiety.
- Don't smoke or drink too much coffee.
- Eat a healthy diet, get regular exercise, and keep regular hours for sleep.
- Reduce stress by taking part in activities you enjoy.

TBI symptoms get better with time. Everybody's brain heals at a different pace. Be patient and give yourself the time you need. Don't let anxiety get in the way of your recovery. You don't need to suffer since treatment for anxiety and TBI works.

# Depression and Traumatic Brain Injury

Traumatic brain injury (TBI) is an injury to your brain that can change the way you think, act, and feel. It is easy to understand how a brain injury can change your thinking. It may be harder to understand how it changes your feelings. In fact, dealing with changes in feelings and emotions may be the hardest part of a TBI.

A TBI is caused by a jolt or a blow to the brain. A TBI can be caused by a fall, car accident, fight, or sports injury. One of the changes that can occur after a TBI is depression. Studies show that depression affects anywhere from 15 to more than 50 percent of people with a TBI.

A TBI may change your brain in a way that increases your risk for depression. The stress of recovering from a TBI can also increase your depression risk. It is important to recognize and treat depression because it can slow your TBI recovery. The combination of a TBI and depression is also dangerous. It may increase your risk for substance abuse and even suicide.

## Symptoms of Depression After a TBI

Many of the symptoms of depression and TBI are similar. Having a TBI can get you down. It is normal to have “the blues” sometimes. But depression symptoms tend to be worse and last longer than the blues. Let your health care provider know if you have symptoms of depression, such as:

- Changes in sleep
- Changes in your appetite
- Trouble concentrating or paying attention
- Lack of energy
- Lack of interest in things and activities you usually enjoy, including sex
- Feeling very guilty, sad, worthless, or hopeless
- Thinking about death or suicide

## Treating Depression After a TBI

If you have a TBI and depression, you should be treated for depression in addition to the steps you’re taking to recover from the TBI. Know that depression is a medical problem, not a sign of weakness. You can’t just snap out of it using willpower. Untreated depression can lead to problems at work and at home. The good news is that you are not alone and that there is treatment for depression that works. Here are some types of effective treatment:

- **Cognitive behavioral therapy (CBT).** This is a type of counseling, or talk therapy, given by a mental health professional. CBT teaches you to recognize negative thoughts and behaviors. You will learn how to cope with these thoughts and behaviors and how to change them.

- **Interpersonal therapy (IPT).** This is another type of counseling that helps with depression. In IPT, a mental health professional helps you identify relationship problems that contribute to depression. You will learn to improve your communication and problem-solving skills.
- **Problem-solving therapy (PST).** This is a way to treat depression by learning a step-by-step approach to solving problems.
- **Antidepressant medications.** These medicines correct the chemical imbalance in the brain that causes depression. Medications take a few weeks to start working. They are often combined with counseling for the best results.

Symptoms of depression and a TBI can be very similar. Let your health care provider know about any TBI symptoms that are getting worse and about any new symptoms. If you have feelings of sadness, hopelessness, or grief that are interfering with your life and your TBI recovery, it could be depression.

Don't try to treat your symptoms with alcohol or drugs. These substances make both depression and the TBI worse. Always let someone know right away if you have any thoughts of suicide. Thoughts of suicide are a medical emergency.

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# Adjustment Disorder and Traumatic Brain Injury

A traumatic brain injury (TBI) is an injury to your brain that can change the way you think, act, and feel. Falls, fights, sports, and car accidents are common causes of a TBI.

Having a TBI and getting better after a TBI are life-changing and stressful events. Some people develop a group of symptoms called adjustment disorder after a trauma like a TBI.

Diagnosing adjustment disorder along with a TBI is important. Adjustment disorder may make it harder for you to get involved in your TBI recovery program. It may also put you at a higher risk for drug and alcohol problems. If it is not treated, adjustment disorder may even lead to thoughts of suicide.

## Symptoms of Adjustment Disorder

Adjustment disorder symptoms usually start within three months of a traumatic event. The traumatic event could be what caused your TBI. It could also be a divorce, death of a loved one, worries about money, or other major changes taking place in your life. Symptoms of adjustment disorder can be bad enough to affect your everyday life at home or at work. They may include:

- Sadness
- Worry
- Trouble sleeping
- Trouble concentrating
- Being very tense and nervous
- Crying
- Trembling
- Heart palpitations
- Making poor decisions

## What to Do for Adjustment Disorder

Many symptoms of adjustment disorder are similar to TBI symptoms. It is important to let your health care provider know about all your symptoms. They are aware of the dangers of adjustment disorder. They can connect you with a mental health professional who can help you.

Treatment for adjustment disorder is very effective. It may include a type of counseling called cognitive behavioral therapy (CBT). CBT is a form of talk therapy. It teaches you to replace negative thinking and behaviors with healthier thoughts and behaviors. You may benefit from individual sessions or group therapy.

Family therapy sessions and self-help support groups may also help. Joining a support group is a good way to share your feelings. You can also get support from others with similar problems. Medicines may be used for symptoms like trouble sleeping or anxiety, but talk therapy is the main treatment.

### **Adjusting to Recovery**

Having a TBI changes your life in many ways. Stick with your treatment and rehabilitation. Here are some steps you can take to make your adjustment easier:

- **Take good care of yourself.** Get regular exercise and eat a healthy diet. Get regular hours of sleep.
- **Have an active social life.** Let your friends and family become part of your recovery. Take advantage of their help and emotional support.
- **Find ways to reduce your stress.** Ideas include deep breathing, recreation, massage, meditation, music, and spending quality time with loved ones.
- **Be patient with your recovery.** Everybody's brain recovers at its own pace. Give yourself more time to do the things you need to do.
- **Don't treat your symptoms with alcohol or drugs.** These substances make symptoms worse. And they will slow down the healing process.

Adjusting to life after TBI is hard, but it does get better. Remember that you are not alone. Work with your health care team and get support from friends and family. Be sure to let your health care provider know about any symptoms of adjustment disorder. Treatment is available and it works.

# Improving Cognition After Traumatic Brain Injury

A traumatic brain injury (TBI) is a jolt to your brain that changes the way your brain works. This type of injury can change the way you think, act, move, and feel. One of the most common symptoms of TBI is slowed thinking. After TBI, you may have trouble remembering things, getting organized, or finding the right words to use when speaking. These types of brain functions are called cognition.

TBI symptoms, such as anger, fear, stress, or trouble sleeping, can slow down your thinking even more. Some medications used after a TBI to reduce anxiety, pain, or depression can also slow down cognition. That's why health care providers are careful about giving medications for a TBI. For these reasons, it is very important to learn ways to improve cognition after a TBI.

## Common TBI Cognition Problems

Changes in your brain after a TBI can affect the way your brain takes in and stores information. This can cause your thinking process to be slower and make it harder to stay focused. Here are some common problems you might have:

- **You might lose some memory.** After a TBI you could have trouble storing and finding memories. The most common type of memory loss after a TBI is called short-term memory loss. Short-term memories are memories of things that happened about 30 minutes earlier. One example is going to the store and forgetting what you went there to buy.
- **You might have a hard time getting organized.** Many people with a TBI complain that they have trouble doing more than a few things at once. You might put on the TV and forget about food that is cooking on the stove. You might start projects or make plans but have trouble following through.
- **You might not be able to find the right words to use.** Everybody has had the experience of having a word on the "tip of the tongue," but not being able to remember it. After a TBI, this type of problem may become more frequent. You may struggle to find the words you want to use or use wrong words instead.

## Improving Cognition After TBI

Specialists who work in TBI recovery programs are trained to look for and treat cognition problems. If you are in such a program, take advantage of their help. There are also many things you can do on your own to improve cognition:

- Think of your brain as a muscle. You can help your brain improve by exercising it and keeping it active. Practice memorizing things, or work on crossword puzzles. A memory specialist can teach you different ways to improve your memory.

- To avoid losing your keys, wallet, or important papers, have one place at home where you keep them.
- Write things down. Make lists of tasks you need to remember when those things are still fresh in your mind. Keep a to-do list and fill in a daily planner for the days ahead.
- Break down your chores each day into easy pieces. Do one thing at a time and then move on to the next thing.
- If you are struggling to find the right word, talk around the word by using other similar words. You can sometimes find the word you want by going through the alphabet for the right first letter.
- Go to bed and get up at the same time every day. Being tired during the day makes cognition worse. Don't try to do too much when you're tired.
- Avoid stressful situations and strong emotions. Learn ways to reduce stress. Try exercise, deep breathing, massage, listening to music, or doing an activity or hobby you enjoy.
- Avoid caffeine, alcohol, and nicotine.

Cognition problems can cause some people to make bad decisions. One of the worst decisions you can make is to treat your symptoms with drugs or alcohol. Also, medications are usually not the answer for cognition problems. Take only medication prescribed by your health care provider. Take no other medicines, even over-the-counter ones, without checking with your health care provider first.

Cognition problems and other symptoms of a TBI usually get better over time. The time it will take your brain to recover is unpredictable, because every brain is a little different and no two TBIs are the same. Also, be sure to let your health care provider know if your symptoms are getting worse.

# Improving Sleep After Traumatic Brain Injury

A traumatic brain injury (TBI) is a sudden jolt to your head that causes your brain to change the way it works. This could be the result of a blow to your head, a blast, a sudden movement of your head that bounces your brain inside your skull, or a bullet or fragment entering your brain. Falls, fights, sports, and motor vehicle accidents are other common causes.

TBI can cause many brain changes. Because everybody's brain is different, your symptoms may be different from those of other people. Symptoms can include changes in the way you feel, act, think, and move. Having trouble sleeping is one symptom that affects many people with TBI. Studies show that about 60 percent of people with TBI have this problem.

## Why TBI Causes Sleep Problems

Having a TBI may cause a sleep problem because it can disrupt your "internal clock." This is the part of your brain that tells you when to sleep and when to wake up. Other problems and some common TBI symptoms also can make sleep more difficult. These include:

- Abuse of drugs and alcohol
- Mental health problems, such as depression and anxiety
- Daytime sleepiness (because you may end up napping during the day)
- Headache and other types of pain

## Types of Sleep Problems with TBI

If you are recovering from TBI, you may:

- Have trouble falling asleep
- Have trouble staying asleep
- Wake up frequently and easily (you're a "light sleeper")
- Not be able to fall back asleep
- Have trouble getting enough oxygen while sleeping (called sleep apnea)

## Why Sleep Is Important for TBI Recovery

Your brain needs sleep to recover from a TBI. Not getting enough sleep can make many other TBI symptoms worse. These symptoms include:

- Fatigue
- Mental confusion

- Pain
- Depression
- Anxiety
- Mood swings
- Memory problems

### **Help for TBI Sleep Problems**

Medications that help you sleep are rarely the answer for sleep problems that a TBI causes. Many sleep medications, including over-the-counter drugs, can make TBI worse. Do not take any sleep medications or aids before checking with your health care provider.

The best way to treat TBI-related sleep problems is with what is called good sleep hygiene. That means:

- Going to bed and getting up at the same time every day, including weekends
- Avoiding caffeine, alcohol, and nicotine
- Getting some exercise and sunshine every day to help reset your internal clock
- Resting during the day, but not napping for more than 20 minutes
- Avoiding heavy exercise and heavy meals for several hours before bedtime
- Keeping your bedroom quiet, dark, and at a comfortable temperature
- Not watching TV or working on your computer while in bed
- Not lying awake in bed; get up and do a relaxing activity for a short while

Sleep problems are common after a TBI. If good sleep hygiene is not solving your sleep problems, talk with your health care provider. You may need to learn some relaxation techniques or try talk therapy to help you through a mental health problem like depression or anxiety.

Sleeping well is one of the best ways to help your brain recover. Do everything you can to get the rest you need.

# Caring for a Loved One With a Traumatic Brain Injury

A traumatic brain injury (TBI) is an injury to the brain caused by a blow or shock that changes the way the brain works. The common causes of a TBI are falls, fights, auto accidents, and sports injuries. If you have a loved one with a TBI, it is important to learn as much as you can about the condition so you can take an active role in caregiving.

## What You Might Expect

TBI is classified as mild, moderate, or severe. This is based on how severe the injury was when it happened. However, every injury and every brain is different. That means it's hard to predict the types of symptoms your loved one will have and how long they will last. For instance, a person might have a mild TBI but still have serious symptoms for a long time.

A TBI can change the way your loved one acts, moves, thinks, and feels. Changes may include:

- Physical symptoms, such as visual problems, dizziness, headache, clumsiness, tiredness, and trouble sleeping
- Thinking problems, such as loss of memory, poor judgment, confusion, and being unable to pay attention
- Emotional problems, such as mood swings, anger, depression, and anxiety

Most people with a TBI do recover, but it may take days, weeks, months, or years. Older people and those who have had more than one TBI recover more slowly. If your loved one had a severe TBI, some symptoms may last for many years or even a lifetime. But there are good treatments available. Your loved one's treatment will likely include a combination of:

- Physical rehabilitation
- Mental health counseling
- Education
- Healthy lifestyle changes, such as diet and exercise
- Social support services
- Medications, if needed

## How You Can Help

Studies show that people whose caregivers include family members recover more quickly. The best way you can help is by taking an active role in supporting your loved one during recovery. Here are some caregiving tips for helping people with a TBI:

- Help them get organized by using lists and daily planners.
- Encourage them to concentrate on just one task at a time.
- Expect them to have a certain amount of fatigue. You may find it is better to plan activities for early in the day.
- Try to limit their activities if they're trying to do too much.
- Help them keep a regular schedule for eating, sleeping, and exercising.
- Go with them to health care provider and rehabilitation visits. People with a TBI may have trouble with memory and attention. Help out by writing down questions and taking notes.
- Don't be afraid to offer your opinions and observations. You are the one who knows your loved one best.
- Help your loved one avoid alcohol and drugs. It may be tempting to use these substances to relieve symptoms, but they will only make symptoms worse.
- Help by exercising and sticking to a healthy diet along with them.
- Don't get discouraged. Remember that your loved one will get better.

Finally, know that caregiving is a tough and stressful job. Make sure to take time for yourself. Ignoring your own health is not good for you or your loved one. If you are struggling physically, talk with your health care provider. If you are struggling emotionally, ask about counseling. Many caregivers benefit from joining a caregiver support group. The good news is that you don't have to do this by yourself.



# Setting Boundaries as a Caregiver

Boundaries are essential to healthy relationships and, really, a healthy life. Setting and sustaining boundaries is a skill. We might pick up pointers here and there from experience or through watching others. But for many of us, boundary-building is a relatively new concept and a challenging one.

Here are ways to build better boundaries and maintain them.

## 1. Name your limits.

You can't set good boundaries if you're unsure of where you stand. So identify your physical, emotional, mental and spiritual limits. Consider what you can tolerate and accept and what makes you feel uncomfortable or stressed. "Those feelings help us identify what our limits are."

## 2. Tune into your feelings.

Some individuals may experience feelings of discomfort and resentment. It is suggested that a caregiver think of these feelings on a continuum from one to 10. Six to 10 is in the higher zone.

If you're at the higher end of this continuum, during an interaction or in a situation, you may ask yourself:

What is causing that? What is it about this interaction, or the person's expectation that is bothering me?

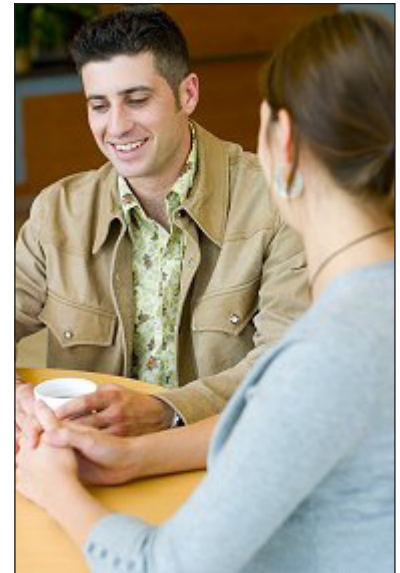
Resentment usually "comes from being taken advantage of or not appreciated." It's often a sign that we're pushing ourselves either beyond our own limits because we feel guilty (and want to be a good daughter or wife, for instance), or someone else is imposing their expectations, views or values on us.

## 3. Be direct.

With some people, maintaining healthy boundaries doesn't require a direct and clear-cut dialogue. Usually, this is the case if people are similar in their communication styles, views, personalities and general approach to life.

With others, such as those who have a different personality or cultural background, you'll need to be more direct about your boundaries. Consider the following example: "one person feels [that] challenging someone's opinions is a healthy way of communicating," but to another person this feels disrespectful and tense.

There are other times you might need to be direct. For instance, in a romantic relationship, time can become a boundary issue. Partners might need to talk about how much time they need to maintain their sense of self and how much time to spend together.



#### **4. Give yourself permission.**

Fear, guilt and self-doubt are big potential pitfalls. We might fear the other person's response if we set and enforce our boundaries. We might feel guilty by speaking up or saying no to a family member. Many believe that they should be able to cope with a situation or say yes because they're a good daughter or son, even though they "feel drained or taken advantage of." We might wonder if we even deserve to have boundaries in the first place.

Boundaries aren't just a sign of a healthy relationship; they're a sign of self-respect. So give yourself the permission to set boundaries and work to preserve them.

#### **5. Practice self-awareness.**

Again, boundaries are all about honing in on your feelings and honoring them. If you notice yourself slipping and not sustaining your boundaries, it is suggested you ask yourself: What's changed? Consider "What I am doing or [what is] the other person doing?" or "What is the situation eliciting that's making me resentful or stressed?" Then, mull over your options: "What am I going to do about the situation? What do I have control over?"

#### **6. Consider your past and present.**

How you were raised along with your role in your family can become additional obstacles in setting and preserving boundaries. If you held the role of caretaker, you learned to focus on others, letting yourself be drained emotionally or physically. Ignoring your own needs might have become the norm for you.

Beyond relationships, your environment might be unhealthy, too. For instance, if your workday is eight hours a day, but your co-workers stay at least 10 to 11, "there's an implicit expectation to go above and beyond" at work. It can be challenging being the only one or one of a few trying to maintain healthy boundaries. Again, this is where tuning into your feelings and needs and honoring them becomes critical.

#### **7. Make self-care a priority.**

Self-care means recognizing the importance of your feelings and honoring them. These feelings serve as "important cues about our wellbeing and about what makes us happy and unhappy."

Putting yourself first also gives you the "energy, peace of mind and positive outlook to be more present with others and be there" for them." And "When we're in a better place, we can be a better wife, mother, husband, co-worker or friend."

#### **8. Seek support.**

If you're having a hard time with boundaries, "seek some support, whether [that's a] support group, church, counseling, coaching or good friends." With friends or family, you can even make "it a priority with each other to practice setting boundaries together [and] hold each other accountable."

## 9. Be assertive.

Of course, we know that it's not enough to create boundaries; we actually have to follow through. Even though we know intellectually that people aren't mind readers, we still expect others to know what hurts us. Since they don't, it's important to assertively communicate with the other person when they've crossed a boundary.

In a respectful way, let the other person know what in particular is bothersome to you and that you can work together to address it.

## 10. Start small.

Like any new skill, assertively communicating your boundaries takes practice. It is suggested you start with a small boundary that isn't threatening to you, and then incrementally increasing to more challenging boundaries. "Build upon your success, and [at first] try not to take on something that feels overwhelming."

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# Taking Care of the Family After Brain Injury

Any brain injury may lead to some change in the patient. This is hard on him or her, as well as on the family. Talk and plan with the rest of your family. Your roles may change, but don't give up all the things you hold dear. Get help. Remember that there is often some improvement over time. Find ways to keep your family moving ahead.

## Expect Conflicting Feelings

As the extent of your loved one's injury becomes clear, it is normal to feel angry or guilty. Allow yourself and other family members to be honest. Counseling may help you and your family adjust to these sudden change in your lives.

## Plan Ahead

Will your loved one live at home or be able to stay alone? What's to become of the family? Ask the social worker about government support services. A financial advisor can help plan for the future.

You should know that there is a lot of research on brain injury. Hopefully, in time, new treatments may become available. However, it is also important to have realistic expectations.



**Don't forget the rest of your family. Talk and spend time together. Make plans. The future still exists.**

## Rethink Household Habits

Now is a good time to rethink chores and old habits. List the tasks you do each day. Then ask yourself

- Must this task be done?
- Does it need to be done this often?
- Is there a better way to do it?
- Who else can do it?
- Can we take turns?

## **Keep Hobbies and Friends**

Life goes on, despite your loved one's injury. Take time to relax and do things you enjoy. Try to stay in touch with friends. Make new contacts. Talk about things other than the patient.

## **Stay Healthy**

Take good care of yourself. Follow these tips:

- Exercise a little each day. Stretch. Go for a walk. Work out with friends or take a class each week.
- Eat fresh foods, such as fruit and vegetables.
- Sleep when you're tired. A nap can help lighten your mood and give you energy.

## **Ask for What You Need**

You can't do it all by yourself. No one can. Ask for help, and accept help when it's offered. Don't worry about repaying favors. Ask a friend to listen. Allow a neighbor to run an errand or pull weeds.

# Recognizing and Reporting Abuse and Neglect

Despite your best efforts to take care of yourself, caring for someone with a significant brain injury can be a very stressful undertaking. If you notice that you or another family member is not treating your loved one in a healthy, respectful manner, you have an obligation to speak up so that your loved one can get the help that is right for his/her needs.

Adult Protective Services investigators protect vulnerable adults from abuse, neglect and exploitation by coordinating with mental health, public health, law enforcement, the probate courts, the aging network, community groups and the general public.

If you suspect abuse, neglect or exploitation, call **855.444.3911** any time day or night to make a report. Staff will investigate allegations within 24 hours after the report is received.



**Vulnerable:** A condition in which an adult is unable to protect himself or herself from abuse, neglect, or exploitation because of a mental or physical impairment or advanced age.

**Abuse:** Harm or threatened harm to an adult's health or welfare caused by another person. Abuse may be physical, sexual or emotional.

**Neglect:** Harm to an adult's health or welfare caused by the inability of the adult to respond to a harmful situation (self-neglect) or the conduct of a person who assumes responsibility for a significant aspect of the adult's health or welfare.

**Exploitation:** Misuse of an adult's funds, property, or personal dignity by another person.

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# Preventing Traumatic Brain Injury

Traumatic brain injury (TBI) is an injury to your brain that changes the way your brain works. A TBI can change the way you think, feel, act, and move.

A TBI can result from anything that jolts your brain. Some causes are a fall, a car accident, a fight, or a sports injury. About half of all TBIs are caused by car accidents. Violence causes about 20 percent, and sports injuries cause about 3 percent.

## Preventing a Second TBI

If you were diagnosed with a TBI in the past, you should know that recovery may be slower if you have another TBI. If you still have symptoms of a TBI, they can increase your risk for a second TBI. These symptoms include:

- Sleepiness
- Dizziness
- Fatigue
- Visual disturbances
- Slowed thinking
- Balance problems

Make sure you are aware of these symptoms. Work closely with your health care team to manage them. Don't try to drive or participate in any dangerous activity if your symptoms put you at risk for an accident.

## Preventing a First TBI

Substance abuse is using alcohol or drugs in a way that is dangerous to you and others. Alcohol or drug abuse can lead to a first or even a second TBI.

Alcohol is the most commonly abused substance in people who have a TBI. Studies show that 75 percent of people who are admitted to the hospital for a TBI have been drinking alcohol.

Risky behavior is another danger that can lead to a TBI. Mental health issues like depression and post-traumatic stress disorder can lead to poor decision-making and high-risk behavior, including problems with drugs and alcohol. All of these factors can increase your risk for a TBI.

## **Tips for Preventing TBI**

The first tip is to recognize the dangers of a TBI and avoid risky behavior. Here are some other tips:

- Don't drink and drive.
- Don't use drugs or alcohol to treat symptoms of depression or anxiety.
- Take good care of yourself. Eat a healthy diet and exercise regularly. Get good quality sleep.
- Spend time with your friends and family and be active in social activities. People who become isolated and withdrawn from loved ones are more likely to engage in risky behaviors.
- Wear a seatbelt when you drive.
- Wear a helmet if you ride a motorcycle or bicycle. Also wear one if you engage in any high-risk activities like skiing, contact sports, or snowmobiling.

If you've been diagnosed with a TBI, work closely with your health care provider until your brain heals. Be aware that your symptoms could put you at risk for another TBI. If you've never had a TBI, you can prevent one by avoiding risky behaviors.



# Family Guide to The Rancho Los Amigos Levels of Cognitive Functioning

Cognition refers to a person’s thinking and memory skills. Cognitive skills include paying attention, being aware of one’s surroundings, organizing, planning, following through on decisions, solving problems, judgment, reasoning, and awareness of problems. Memory skills include the ability to remember things before and after the brain injury. Because of the damage caused by a brain injury, some or all of these skills will be changed.

The Rancho Levels of Cognitive Functioning is an evaluation tool used by the rehabilitation team. The eight levels describe the patterns or stages of recovery typically seen after a brain injury. This helps the team understand and focus on the person’s abilities and design an appropriate treatment program. Each person will progress at their own rate, depending on the severity of the brain damage, the location of the injury in the brain and length of time since the brain injury. Some individuals will pass through each of the eight levels, while others may progress to a certain level and fail to change to the next higher level.

It is important to remember that each person is an individual and there are many factors that need to be considered when assigning a level of cognition. There are a range of abilities within each of the levels and your family member may exhibit some or all of the behaviors listed below.

## **Cognitive Level 1**

No response

A person at this level will:

- Not respond to sounds, sights, touch or movement

## **Cognitive Level 2**

Generalized response

A person at this level will:

- Begin to respond to sounds, sights, touch or movement
- Respond slowly, inconsistently, or after a delay
- Responds in the same way to what he hears, sees or feels. Responses may include chewing, sweating, breathing faster, moaning, moving, and/or increasing blood pressure.

## **Cognitive Level 3**

Localized response

A person at this level will:

- Be awake on and off during the day
- Make more movements than before
- React more specifically to what he sees, hears, or feels. For example, he may turn towards a sound, withdraw from pain, and attempt to watch a person move around the room

- React slowly and inconsistently
- Begin to recognize family and friends
- Follow some simple directions such as “Look at me” or “squeeze my hand”
- Begin to respond inconsistently to simple questions with “yes” and “no” head nods

### **What family/friends can do at Cognitive Levels 1, 2 & 3**

- Explain to the individual what you are about to do. For example, “I’m going to move your leg.”
- Talk in a normal tone of voice.
- Keep comments and questions short and simple.
- For example, instead of “Can you turn your head toward me?” say, “Look at me”.
- Tell the person who you are, where he is, why he is in the hospital, and what day it is.
- Limit the number of visitors to 2-3 people at a time.
- Keep the room calm and quiet.
- Bring in favorite belongings and pictures of family members and close friends.
- Allow the person extra time to respond, but don’t expect responses to be correct.
- Sometimes the person may not respond at all.
- Give him rest periods. He will tire easily.
- Engage him in familiar activities, such as listening to his favorite music, talking about
- The family and friends, reading out loud to him, watching TV, combing his hair, putting on lotion, etc.
- He may understand parts of what you are saying. Therefore, be careful what you say in front of the individual.

### **Cognitive Level 4**

Confused and agitated

A person at this level may:

- Be very confused and frightened
- Not understand what he feels or what is happening around him
- Overreact to what he sees, hears, or feels by hitting, screaming, using abusive language, or thrashing about. This is because of the confusion
- Be restrained so he doesn’t hurt himself
- Be highly focused on his basic needs; i.e., eating, relieving pain, going back to bed, going to the bathroom, or going home

- May not understand that people are trying to help him
- Not pay attention or be able to concentrate for a few seconds
- Have difficulty following directions
- Recognize family/friends some of the time
- With help, be able to do simple routine activities such as feeding himself, dressing or talking

#### **What family/friends can do at Cognitive Level 4**

- Tell the person where he is and reassure him that he is safe
- Bring in family pictures and personal items from home, to make him feel more comfortable
- Allow him as much movement as is safe
- Take him for rides in his wheelchair, with permission from nursing
- Experiment to find familiar activities that are calming to him such as listening to music, eating, etc.
- Do not force him to do things. Instead, listen to what he wants to do and follow his lead, within safety limits.
- Since he often becomes distracted, restless, or agitated, you may need to give him breaks and change activities frequently.
- Keep the room quiet and calm. For example, turn off the TV and radio, don't talk too much and use a calm voice.
- Limit the number of visitors to 2-3 people at a time.

#### **Cognitive Level 5**

Confused and inappropriate

A person at this level may:

- Be able to pay attention for only a few minutes
- Be confused and have difficulty making sense of things outside himself
- Not know the date, where he is or why he is in the hospital
- Not be able to start or complete everyday activities, such as brushing his teeth, even when physically able. He may need step-by-step instructions
- Become overloaded and restless when tired or when there are too many people around; have a very poor memory, he will remember past events from before the accident better than his daily routine or information he has been told since the injury
- Try to fill in gaps in memory by making things up (confabulation)
- May get stuck on an idea or activity (perseveration) and need help switching to the next part of the activity
- Focus on basic needs such as eating, relieving pain, going back to bed, going to the bathroom, or going home.

### **What family/friends can do at Cognitive Level 5**

- Repeat things as needed. Don't assume that he will remember what you tell him.
- Tell him the day, date, name and location of the hospital, and why he is in the hospital when you first arrive and before you leave.
- Keep comments and questions short and simple.
- Help him organize and get started on an activity.
- Bring in family pictures and personal items from home.
- Limit the number of visitors to 2-3 at a time.
- Give him frequent rest periods when he has problems paying attention.

### **Cognitive Level 6**

Confused and Appropriate

A person at this level may:

- Be somewhat confused because of memory and thinking problems, he will remember the main points from a conversation, but forget and confuse the details. For example, he may remember he had visitors in the morning, but forget what they talked about
- Follow a schedule with some assistance, but becomes confused by changes in the routine
- Know the month and year, unless there is a severe memory problem
- Pay attention for about 30 minutes, but has trouble concentrating when it is noisy or when the activity involves many steps. For example, at an intersection, he may be unable to step off the curb, watch for cars, watch the traffic light, walk, and talk at the same time
- Brush his teeth, get dressed, feed himself etc. with help
- Know when he needs to use the bathroom
- Do or say things too fast, without thinking first
- Know that he is hospitalized because of an injury, but will not understand all of the problems he is having
- Be more aware of physical problems than thinking problems
- Associate his problems with being in the hospital and think that he will be fine as soon as he goes home.

### **What family/friends can do at Cognitive Level 6**

- You will need to repeat things. Discuss things that have happened during the day to help the individual improve his memory
- He may need help starting and continuing activities
- Encourage the individual to participate in all therapies. He will not fully understand the extent of his problems and the benefits of therapy

## **Cognitive Level 7**

Automatic and appropriate

A person at this level may:

- Follow a set schedule
- Be able to do routine self care without help, if physically able. For example, he can dress or feed himself independently; have problems in new situations and may become frustrated or act without thinking first
- Have problems planning, starting, and following through with activities
- Have trouble paying attention in distracting or stressful situations. For example, family Gatherings, work, school, church, or sports events
- Not realize how his thinking and memory problems may affect future plans and goals.
- Therefore, he may expect to return to his previous lifestyle or work
- Continue to need supervision because of decreased safety awareness and judgment. He still does not fully understand the impact of his physical or thinking problems
- Think slower in stressful situations
- Be inflexible or rigid, and he may seem stubborn. However, his behaviors are related to his brain injury
- Be able to talk about doing something, but will have problems actually doing it

## **Cognitive Level 8**

Purposeful and appropriate

A person at this level may:

- Realize that he has a problem in his thinking and memory
- Begin to compensate for his problems
- Be more flexible and less rigid in his thinking. For example, he may be able to come up with several solutions to a problem
- Be ready for driving or job training evaluation
- Be able to learn new things at a slower rate
- Still become overloaded with difficult, stressful or emergency situations
- Show poor judgment in new situations and may require assistance
- Need some guidance to make decisions
- Have thinking problems that may not be noticeable to people who did not know the person before the injury

## **What family/friends can do at Cognitive Levels 7 & 8**

- Treat the person as an adult by providing guidance and assistance in decision making
- His/Her opinions should be respected
- Talk with the individual as an adult. There is no need to try to use simple words or sentences

- Be careful when joking or using slang, because the individual may misunderstand the meaning. Also, be careful about teasing him
- Help the individual in familiar activities so he can see some of the problems he has in thinking, problem solving, and memory. Talk to him about these problems without criticizing. Reassure him that the problems are because of the brain injury
- Strongly encourage the individual to continue with therapy to increase his thinking, memory and physical abilities. He may feel he is completely normal. However, he is still making progress and may possibly benefit from continued treatment
- Be sure to check with the physician on the individual's restrictions concerning, driving, working, and other activities. Do not just rely on him for information, since he may feel he is ready to go back to his previous lifestyle
- Discourage him from drinking or using drugs, due to medical complications
- Encourage him to use note taking as a way to help with his remaining memory problems
- Encourage him to carry out his self-care as independently as possible
- Discuss what kinds of situations make him angry and what he can do in these situations
- Talk with him about his feelings
- Learning to live with a brain injury can be difficult and it may take a long time for the individual and family to adjust. The social worker and/or psychologist will provide the family/friends with information regarding counseling, resources, and/or support organizations

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**Disclaimer:** Information presented on this page is for specific health education purposes only. Persons should consult qualified health professionals regarding specific medical concerns or treatment. Each clinician caring for the patient is responsible for determining the most appropriate care.

Provided as a courtesy by Rancho Los Amigos National Rehabilitation Center

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# Preventing Falls: Making Changes in Your Living Space

Is your living space filled with hazards that could cause you to fall? Changes can make you safer. They could even save your life. Take a careful look around your home. Change what you can on your own. Hire someone or ask friends or family to help with harder tasks.

## Remove hazards

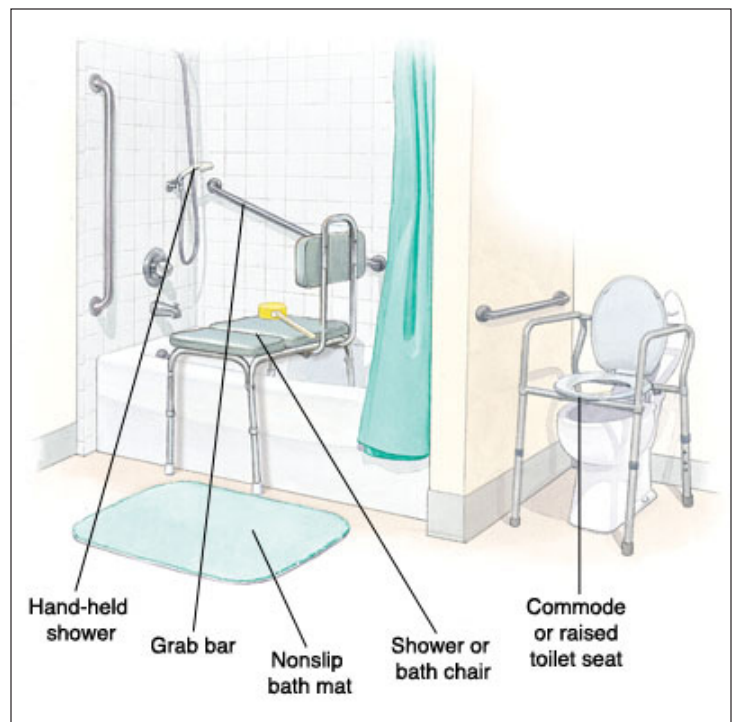
- Remove things that can trip you, like throw rugs, boxes, piles of paper, or cords.
- Don't store items on stairs.
- Keep walkways clear.
- Clean up spills right away.
- Replace glass tables with wooden ones. They're safer if you fall.

## Add safety devices

- Add handrails to both sides of stairs.
- Buy a raised toilet seat.
- Add grab bars near the toilet and in the shower.
- Get grabbers to help you reach things and avoid climbing.

## Improve lighting

- Add nightlights to halls, bedrooms, and bathrooms.
- Put light switches at the top and bottom of stairs.
- Be sure each room and flight of stairs has proper lighting.
- Use shades or curtains to cut glare from windows.
- Put flashlights in each room. Replace burned-out bulbs.
- Get glowing light switches for room entrances.



**Be sure to add a nonslip mat to the inside of your shower or bathtub. Always keep a nightlight on.**

### Take other precautions

- Use nonskid floor wax.
- Buy a nonslip mat and a liquid soap dispenser for the shower.
- Tack down carpets or use slip-resistant backing.
- Put most-used items within easy reach.
- Add bright paint or tape on the top front edge of steps.
- Save big jobs, such as moving furniture or other heavy objects, for family or friends.
- Get professional help installing grab bars. They can be unsafe if not installed the right way.

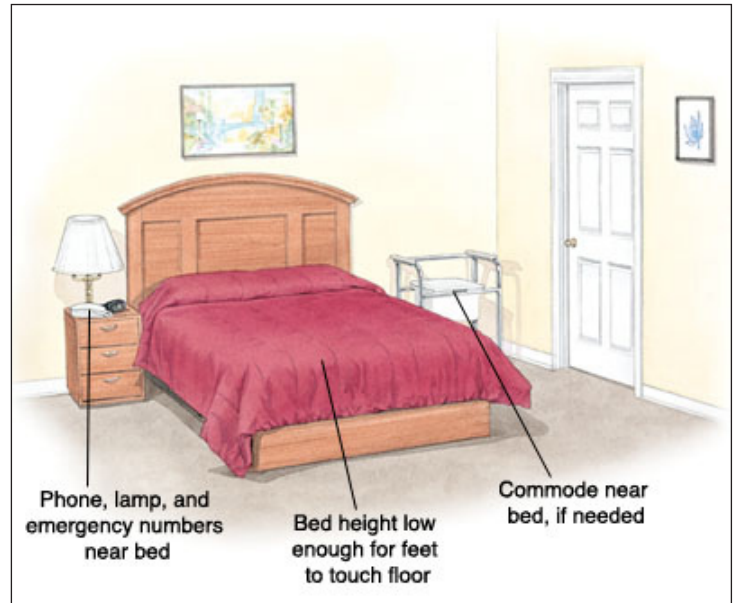
### Fix riskier rooms first

Don't tackle everything at once. Focus on one room at a time. The bathroom is a common spot for falls, so you may start there. Or start with a room you spend lots of time in, such as your bedroom. Make only a few changes at once. This will give you time to adjust to them.

### Outside your home

You might arrange for these changes yourself, or you might need to talk to your building manager or homeowners' association about them.

- Have loose boards on porches or damaged stairs repaired.
- Have rough edges, holes, or large cracks in sidewalks or driveways repaired.
- Have hazards that could trip you, such as hoses or vines, removed.
- Use high-wattage light bulbs (100 or greater) near outside doors and stairs.
- Get handrails added to outside stairs. Have them extend beyond the bottom step.
- Get help in winter weather with ice or snow removal.



**Keep a clear path from your bed to the bathroom. Move items from higher shelves to lower ones.**



# Driving after Brain Injury

Driving is often a major concern after a brain injury. Getting around after brain injury is important - but safety is even more important. Having a brain injury may change how you do things. Before you drive again, think carefully about how these changes may affect safety for you, your family and others.

## How can I tell if I can drive?

- **Talk to your doctor or occupational therapist.** He or she can tell you about your brain injury and whether it might change your ability to drive. You'll also get a professional opinion based on experience; this might include adapted devices or compensatory strategies to be utilized when driving again.
- **Contact your State Department of Motor Vehicles in your area.** Ask for the Office of Driver Safety. Ask what requirements apply to people who've had a brain injury.
- **Have your driving tested.** Professionals such as driver rehabilitation specialists can evaluate your driving ability. You'll get a behind-the-wheel evaluation and be tested for adapted equipment recommendations, functional ability, reaction time, and physically managing a vehicle. Call community rehabilitation centers or your local Department of Motor Vehicles.
- **Enroll in a driver's training program.** For a fee, you may receive a driving assessment, classroom instruction and suggestions for modifying your vehicle (if necessary). These programs are often available through rehabilitation centers.

# Emergency Preparedness

## Preparing for emergencies after a brain injury:

The likelihood that you and your family will recover from an emergency tomorrow often depends on the planning and preparation done today. While each person's abilities and needs are unique, every individual can take steps to prepare for all kinds of emergencies, like fires and floods. By evaluating your own personal needs and making an emergency plan that fits those needs, you and your loved ones can be better prepared.

- Make a plan for what you will do in an emergency including creating a personal support network, developing a family communication plan and deciding rather to stay put or go.
- Get a kit of emergency supplies including water, food, radio, flashlight, extra batteries, first aid kit, and medications.
- Be informed about handling emergencies. For more information go to: **Preparing Makes Sense with Disabilities and Special Needs** (<http://www.ready.gov/document/preparing-makes-sense-people-disabilities-and-special-needs>)

# Adapted Recreation

## **Accessing Recreation after a brain injury**

Participating in recreational activities is therapeutic; therefore, knowing how to resume your participation after a brain injury is an important part of your recovery. Consider these easy steps for accessing recreation after your brain injury.

- Get to know a recreational therapist. Many parks and recreation departments have Certified Recreational Specialists on staff. They help people with disabilities to fully participate in recreational programs.
- Check out your local parks recreational program guide. Many will offer a wide variety of activities from gardening to star gazing.
- Resume hobbies or start a new hobby. Many activities can be integrated into your recovery plan.
- Plan ahead. When preparing to visit a venue, take time to find out if it is wheelchair accessible, if there are long distances to walk or stairs to climb.

Know your rights under the Americans with Disabilities Act. This federal civil rights law prohibits discrimination on the basis of disability.

# Returning to Work/School Following Brain Injury

If you were working or planning to work or a student at the time of your brain injury, you may want to give special consideration to making plans for returning to work or school. Return to work/school information is available from your care manager.

## **Vocational Evaluation Services**

A vocational evaluation may be an important step in returning to work in order to identify strengths and barriers that may exist in your ability to do all of the tasks required by your job. If you have not worked recently, a vocational evaluation can help identify general strengths and barriers that can be considered in your job search. An evaluation may also include vocational interest testing to help you identify the types of work that interest you the most. Your care manager can assist you with information to locate vocational evaluation services.

## **Return to Work/School Plan**

A vocational counselor can assist you in developing a written Return to Work Plan or Job Placement Plan. Special educational counselors exist to help identify a plan and resources for a return to school. The purpose of the plan is to identify all of the steps in the process of returning to work/school.

- Identify changes since your brain injury to determine if they will affect how you do your job or learn.
- How much can you work or attend school: full time, part time?
- Risks: are there risks that should be identified before going to work/school?
- Supports: what family, friend and employer/educational supports will be needed for you to return to work?
- Transportation: if you are not driving, how will you get to work/school?
- Distance to work: if you are seeking new employment, how far are you willing to travel to work?

## **Return to Work/School Accommodation Strategies**

After a brain injury you may initially experience changes such as fatigue, changes in your mobility, and transportation issues that can affect your return to work/school plans. A few job/school accommodations to consider include:

- Gradual return to work/school; returning at reduced hours that increase over time.
- Part-time work may be an option with some employers if you need reduced hours due to fatigue.
- Job sharing may be an option with some employers if you find that you need reduced hours due to fatigue.

- Working at home or going to school online. Some employers may allow you to work at home for a period of time if most of your job can be completed using a computer. Many online programs exist to allow a return to school with an online curriculum.
- Different work/school hours - some employers may allow different work hours if you have special transportation needs. Registration for classes is a good time to consider a schedule which works best for you.

### **Job Placement Services**

If you are not able to return to your previous employment or if you are simply searching for new employment, a vocational counselor can also assist you in your job search activities. Some of the services that he/she may be able to assist you with include:

- Career counseling
- Assistance with your job search
- Testing of abilities and interests
- Assistance with contacting employers
- Job leads / employer development
- Job site analysis
- Assistance with setting up transportation
- Job coaching
- Follow up services after getting a job

### **Vocational Resources**

- Hope Network Rehabilitation Services 1490 E. Beltline SE Grand Rapids, MI 49506 616.940.0040
- Goodwill Industries 420 E. Alcott St Kalamazoo, MI 49001 269.382.490 goodwillswmi.org
- **Michigan Rehab Svcs Calhoun County 424 Riverside Dr. Battle Creek, MI 49015 877.901.9189 269.968.3311**
- **Michigan Rehab Svcs Kent County 750 Front St. Grand Rapids, MI 877.901.7375**
- **Michigan Rehab Svcs Allegan County (Holland Main Office) 800.481.7837 616.395.8495**
- **Michigan Rehab Svcs Kalamazoo County 4210 S. Westnedge Kalamazoo, MI 49008 269.337.3700 616.242.6488**
- Michigan Rehab Svcs Cass County 601 N. Front St. Dowagiac, MI 49047 877.901.9192 269.926.6168
- Michigan Rehab Svcs Berrien County 499 W. Main Street Benton Harbor, MI 877.901.9192

# Information about State and Federal Programs

## **Social Security Disability Benefits (SSD)**

An individual may qualify for disability benefits:

- If he/she is a disabled worker and has worked and earned enough credits to become insured;
- Survivor benefits if he/she is a disabled widow or widower, between 50 and 60 years of age based on the deceased husband's or wife's work record
- Child's benefits if he/she is a disabled child over age 18, and either of the parents is receiving Social Security Benefits or is deceased and paid enough into Social Security before death to be insured
- Social Security defines disability as:
  - Due to a medical or mental condition you cannot do work that you did before and we decide that you cannot adjust to other work because of your condition(s) and
  - Your disability is expected to last for a least one year or to result in death.

Unlike other programs, Social Security pays only for total disability. No benefits are payable for partial disability or for short term disability. Social Security program rules assume that working families have access to other resources to provide support during periods of short-term disabilities. These include workers' compensation, insurance, savings, and investments.

## **Supplemental Security Income (SSI) Payments**

SSI provides money for such basic needs as food, clothing, and shelter for people who are blind or disabled. To get SSI the claimant must have little or no income or assets.

## **Medicare**

Social Security has a special program for people of all ages who have kidney problems requiring dialysis or kidney transplant. Medicare coverage is also available to people who have been entitled to Social Security disability benefits for 24 months and to government employees who meet Social Security's definition of disability and are insured.

## **Medicaid**

Medicaid is a jointly funded Federal and State health insurance program for certain low-income individuals. Eligibility requirements vary for each State. Medicaid is administered by the Centers for Medicare and Medicaid Services under the Department of Health and Human Services.

## **Resources**

Social Security - Toll-free number is 800.772.1213, TTY is 800.325.0778 and the website is [www.ssa.gov](http://www.ssa.gov). Department of Health and Human Services - [www.accesskent.org](http://www.accesskent.org)

