Info on Traumatic Brain Injury

What is TBI?

Traumatic brain injury (TBI) is a complex injury with a broad spectrum of symptoms and disabilities. The impact on a person and his or her family can be devastating. Traumatic brain injury, often referred to as TBI, is most often an acute event similar to other injuries. That is where the similarity between traumatic brain injury and other injuries ends. One moment the person is normal and the next moment life has abruptly changed.

Since our brain defines who we are, the consequences of a brain injury can affect all aspects of our lives, including our personality. A brain injury is different from a broken limb or punctured lung. An injury in these areas limit the use of a specific part of your body, but your personality and mental abilities remain unchanged. Most often, these body structures heal and regain their previous function.

Brain injuries do not heal like other injuries. Recovery is a functional recovery, based on mechanisms that remain uncertain. No two brain injuries are alike and the consequence of two similar injuries may be very different. Symptoms may appear right away or may not be present for days or weeks after the injury.

One of the consequences of brain injury is that the person often does not realize that a brain injury has occurred.

Effects of TBI

Severe brain injury is associated with loss of consciousness for more than 30 minutes and memory loss after the injury or penetrating skull injury longer than 24 hours. The deficits range from impairment of higher level cognitive functions to comatose states. Survivors may have limited function of arms or legs, abnormal speech or language, loss of thinking ability or emotional problems. The range of injuries and degree of recovery is very variable and varies on an individual basis.

The effects of TBI can be profound. Individuals with severe injuries can be left in long-term unresponsive states. For many people with severe TBI, long-term rehabilitation is often necessary to maximize function and independence. Even with mild TBI, the consequences to a person's life can be dramatic. Change in

brain function can have a dramatic impact on family, job, social and community interaction.

What are the causes of TBI?

The number of people with Traumatic Brain Injury (TBI) is difficult to assess accurately but is much larger than most people would expect. According to the CDC (United States Centers for Disease Control and Prevention), there are approximately 1.5 million people in the U.S. who suffer from a traumatic brain injury each year. 50,000 people die from TBI each year and 85,000 people suffer long term disabilities. In the U.S., more than 5.3 million people live with disabilities caused by TBI. Patients admitted to a hospital for TBI are included in this count, while those treated in an emergency room or doctor's office are not counted.

The causes of TBI are diverse. The top three causes are: car accident, firearms and falls. Firearm injuries are often fatal: 9 out of 10 people die from their injuries. Young adults and the elderly are the age groups at highest risk for TBI. Along with a traumatic brain injury, persons are also susceptible to spinal cord injuries which are another type of traumatic injury that can result out of vehicle crashes, firearms and falls.

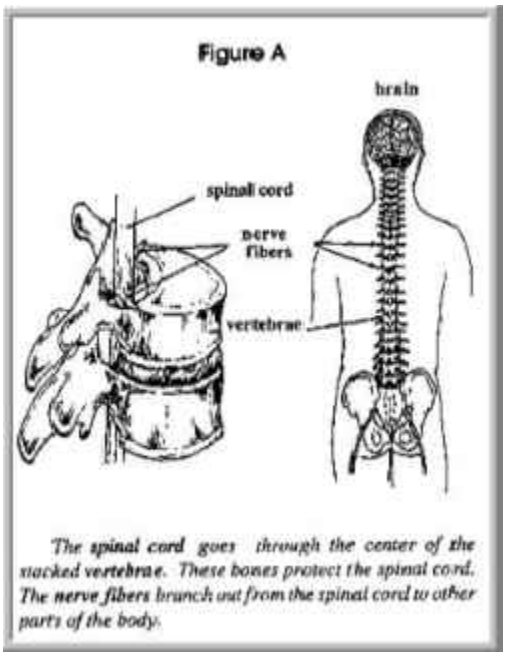
Spinal Cord Injury

People who are injured are often confused when trying to understand what it means to be a person with a spinal cord injury (SCI). Will I be able to move my hands? Will I walk again? What can I do? Each injury is different and can affect the body in many different ways.

The spinal cord is a part of your nervous system. It is the largest nerve in the body. Nerves are cord-like structures made up of many nerve fibers. The spinal cord has many spinal nerve fibers that carry messages between the brain and different parts of the body. The messages may tell a body part to move. Other nerve fibers send and receive messages of feeling or sensation back to the brain from the body, such as heat, cold, or pain. The body also has an autonomic nervous system. It controls the involuntary activities of the body; such as, blood pressure, body temperature, and sweating.

The nerve fibers that make up the communication systems of the body can be compared to a telephone system. The telephone cable (spinal cord) sends messages between the main office (the brain) and individual offices (parts of the body) over the telephone lines (nerve fibers). The spinal cord is the pathway that messages use to travel between the brain and the other parts of the body.

Because the spinal cord is such an important part of our nervous system, it is surrounded and protected by bones called vertebrae. The vertebrae, or backbones, are stacked on top of each other. This is called the vertebral column or the spinal column. The vertebral column is the number one support for the body. The spinal cord runs through the middle of the vertebrae (figure A).



Adjusting to SCI

When you are first injured, it takes time to get use to your life after injury. Some people grieve longer than others, so the adjustment period is different for everyone. It may take as much as a year for you to accept the realities of your injury. You will also experience a continued process of adjusting to the unique issues that occur in your everyday life as a person with SCI.

One of the biggest keys to adjusting to spinal cord injury is personal motivation. Individuals who are newly injured are often motivated to attend therapy sessions out of a desire to gain strength and function. You probably have a strong belief that your paralysis is only temporary, and you will soon return to your old, "normal" self. This hope is a common reaction after an injury. Unfortunately, it is far more likely for individuals to recover function based on their level and completeness of injury. In fact, only a few people actually fully recover from their injury. This does not mean that all hope is lost for a full or partial recovery. Almost all individuals with SCI continue to hope that they will walk again one day. However, a cure for paralysis may or may not come in your lifetime. A healthy approach to this reality is to move forward with your life after injury with the continued hope that advances in medicine will one day lead to a cure. In other words, do not wait on a cure to proceed with your life!

People who adjust well to life after injury are usually motivated to meet personal goals. These goals are different for everyone and often change throughout life. For example, your goal today may be to get a job, and you may want to have children in the future. It is up to you to find purpose in your life and the motivation to achieve your goals. It may help to think about what you wanted out of your life before you were injured. For example, you may have once strived for good health, an enjoyable job, and a loving family. There is no reason that you cannot continue to strive for the same things now that you have a spinal cord injury.

As an individual with SCI, it is important to recognize that your injury also has a tremendous impact on your family. Although they may not have to adjust to losing the use of their hands or ability to walk, your family may experience a loss of the way their life was before your injury. For example, they may have to adjust to the role of caregiver. They may need to work to help with family finances. All of the changes that they face can lead to added stress and anxiety. As your family comes to accept the injury, they face issues of adjustment similar to those you may experience.

Realizations and Expectations

No matter if you have a spinal cord injury or not, you have control over your life by choosing how you want to think about your situation. You can be happy and

more hopeful about your life, but it will only happen when you work to make it happen. Your thoughts, feelings, and behavior do not change overnight. Believe me it takes time to grieve your loss and come to accept the realities of the injury. Then, you face a continued process of adjusting to everyday issues of living with SCI. If you avoid false assumptions, unrealistic ideas, and irrational beliefs, you will give yourself more opportunities to reach your goals and have the life that you desire.

All information/resource contained on the above pages are from: The National Spinal Cord Injury Association

http://www.spinalcord.org/resource-center/askus/index.php?pg=kb.page&id=1383

See more TBI info at bottom. Info was taken from the Centers for Disease and Control

http://www.cdc.gov/traumaticbraininjury/get_the_facts.html

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Traumatic brain injury (TBI) is a major cause of death and disability in the United States, contributing to about 30% of all injury deaths.1 Every day, 138 people in the United States die from injuries that include TBI. Those who survive a TBI can face effects lasting a few days to disabilities which may last the rest of their lives. Effects of TBI can include impaired thinking or memory, movement, sensation (e.g., vision or hearing), or emotional functioning (e.g., personality changes, depression). These issues not only affect individuals but can have lasting effects on families and communities.

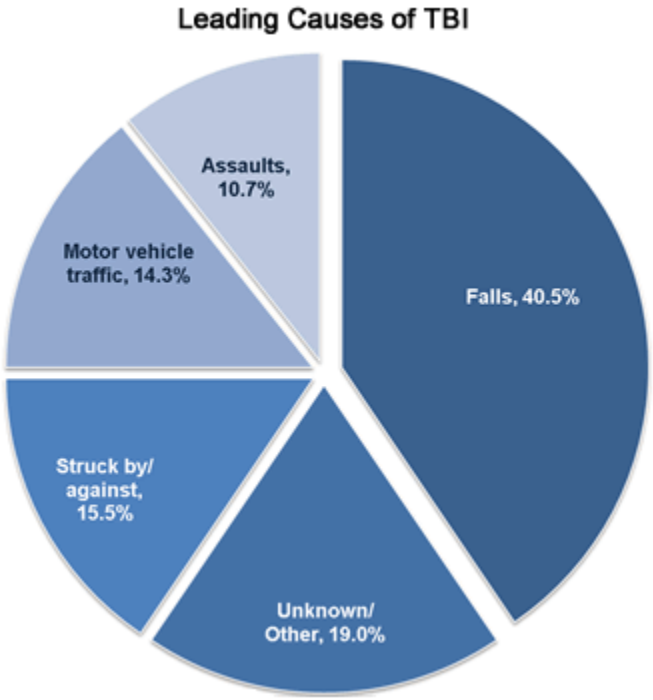
What is a TBI?

A TBI is caused by a bump, blow, or jolt to the head or a penetrating head injury that disrupts the normal function of the brain. Not all blows or jolts to the head result in a TBI. The severity of a TBI may range from "mild" (i.e., a brief change in mental status or consciousness) to "severe" (i.e., an extended period of unconsciousness or memory loss after the injury). Most TBIs that occur each year are mild, commonly called concussions.2

How big is the problem?

- In 2010, about 2.5 million emergency department (ED) visits, hospitalizations, or deaths were associated with TBI—either alone or in combination with other injuries—in the United States.
    - TBI contributed to the deaths of more than 50,000 people.
    - TBI was a diagnosis in more than 280,000 hospitalizations and 2.2 million ED visits. These consisted of TBI alone or TBI in combination with other injuries.
- Over the past decade (2001–2010), while rates of TBI-related ED visits increased by 70%, hospitalization rates only increased by 11% and death rates decreased by 7%.
- In 2009, an estimated 248,418 children (age 19 or younger) were treated in U.S. EDs for sports and recreation-related injuries that included a diagnosis of concussion or TBI.3

- From 2001 to 2009, the rate of ED visits for sports and recreation-related injuries with a diagnosis of concussion or TBI, alone or in combination with other injuries, rose 57% among children (age 19 or younger).3



What are the leading causes of TBI?

- From 2006–2010, falls were the leading cause of TBI, accounting for 40% of all TBIs in the United States that resulted in an ED visit, hospitalization, or death. Falls disproportionately affect the youngest and oldest age groups:
    - More than half (55%) of TBIs among children 0 to 14 years were caused by falls.
    - More than two-thirds (81%) of TBIs in adults aged 65 and older are caused by falls.
- Unintentional blunt trauma (e.g., being hit by an object) was the second leading cause of TBI, accounting for about 15% of TBIs in the United States for 2006–2010.
    - Close to a quarter (24%) of all TBIs in children less than 15 years of age were related to blunt trauma

- Among all age groups, motor vehicle crashes were the third overall leading cause of TBI (14%). When looking at just TBI-related deaths, motor vehicle crashes were the second leading cause of TBI-related deaths (26%) for 2006–2010.
- About 10% of all TBIs are due to assaults. They accounted for 3% of TBIs in children less than 15 years of age and 1.4% of TBIs in adults 65 years and older for 2006–2010. About 75% of all assaults associated with TBI occur in young adults 15 to 44 years of age.

Risk factors for TBI

Among TBI-related deaths in 2006–2010:

- Men were nearly three times as likely to die as women.
- Rates were highest for persons 65 years and older.
- 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.
- Falls were the leading cause of TBI-related ED visits for every age group.
    - Blunt trauma was the second leading cause of TBI-related ED visits among children 5-14 years.
- The leading cause of TBI-related hospitalizations varied by age:

- Falls were the leading cause among children ages 0-14 and adults 45 years and older.
- Motor vehicle crashes were the leading cause of hospitalizations for adolescents and young adults ages 15-44 years