Traumatic Brain Injury: Signs, Symptoms, and Personal Successes

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Traumatic Brain Injury: Defined
Definition of TBI

Traumatic Brain Injury (TBI) is an insult to the brain, not of a degenerative or congenital nature but caused by an external physical force, that may produce a diminished or altered state of consciousness, which results in an impairment of cognitive abilities or physical functioning (National Head Injury Foundation, 1997).
Definition of TBI

These impairments may be either temporary or permanent and cause partial or total functional disability or psychosocial maladjustment (National Head Injury Association, 1997).
CAUSE, PREVALENCE AND RECOVERY FROM TRAUMATIC BRAIN INJURY (TBI)
Brain Injury: Causes

- Generally, brain damage is caused by one or more of the following factors:
  - A blow to the skull or penetration of the skull.
  - Disease or infection.
  - A restriction or interference with blood and oxygen reaching the brain.
  - Substance abuse.
Brain Injury: Causes

- Males are most at risk for injury (2:1).
- The peak incidence of injury is for individuals ages 15 to 24.
- Causes of brain injury are: 1) Car accidents, 2) Sports, 3) Falls, 4) Assaults, and 5) Abuse.
- The increased risk of additional injuries is due to impulsivity and judgment deficits; and balance and coordination problems.
Prevalence of TBI

- The CDC estimates that 5.3 million people in the United States (2%) have experienced a TBI.
- The majority of brain injuries (85%) are mild and do not result in long-term disability.
- Approximately 56,000 Americans die annually of a TBI.
- Over 300,000 Americans are hospitalized.
- Nearly 100,000 individuals sustain moderate to severe brain injuries which result in lifelong disabilities.
## Prevalence of TBI

<table>
<thead>
<tr>
<th>On average, a person in the United States sustains a TBI every 15 seconds.</th>
<th>Motor vehicle crashes are the leading cause of brain injury, accounting for over 50% of all injuries.</th>
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<tr>
<td>Brain injury is the leading cause of death and disability for American children and young adults.</td>
<td>Since 1990, firearms are the leading cause of brain injury fatality.</td>
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<td>Concussions from sports injuries are very common TBIs.</td>
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Recovery from TBI

* Recovery of deficit areas are most profound in the first year (zero to one year) after injury.
* Recovery continues, but at a slower pace:
  * 1st to 3rd year post-trauma.
  * Recovery occurs at a much slower pace:
    * 3rd to 10th year post-trauma.
  * Additional recovery is possible after the 10th year.
Common Signs and Symptoms of Traumatic Brain Injury
Social, Behavioral and Emotional Problems After Brain Injury

Persons with TBI may have social, behavioral or emotional problems after injury.

These problems may include:
Sudden changes in mood, anxiety, and depression.
Trouble relating to others.
May be restless and may laugh or cry a lot.
Lack of motivation; not much control over emotions.

National Dissemination Center for Children with Disabilities
Social, Behavioral, and Emotional Problems After TBI

Social, behavioral, and emotional problems may include:

Irritability.
Depression.
Anxiety.
Sleep disturbances.
Problems with emotional control.
Loss of initiative.
and/or problems related to employment, marriage, relationships, home management, or school management.
Social Difficulties After TBI

Social difficulties may include:
Impaired social capacity resulting in self-centered behavior.
Unable to see the other person’s point of view.
Difficulty making and keeping friends.
Difficulty understanding and responding to the nuances of social interaction.

http://medicalcenter.osu.edu/patientcare/healthinformation/diseasesandconditions/rehabilitation/brain
Personality Changes Following TBI

- **Personality changes may include:**
  - Apathy.
  - Decreased motivation.
  - Emotional labiality.
  - Irritability.
  - Anxiety and depression.
  - Disinhibition, including temper flare-ups, aggression, cursing, lowered frustration tolerance, and inappropriate sexual behavior.
Speech and language problems
Altered ability to process information
Inability to store or retrieve new information
Lack of critical capacity
Problems with organization and planning
Deficits in problem-solving capacity
Decreased intellectual capacity
Memory loss
Problems with Concentration
Reduced information processing capacity
Difficulty with decision-making
Slowed thinking and reaction time
Problems/inability to attend to more than one activity at a time
Difficulty with mental tracking
• Impaired Self-control
• Dependency
• Depression
• Difficulty with routine changes
• Anxiety
• Emotional instability
• Decreased patience
• Increased stress and worries
• Suicidal thoughts and behaviors

Emotions
Spasticity (problems controlling movements of the limbs)

Joint mobility

Fatigue

Seizure Management

Sensory Problems (impairment in sense of taste, touch, smell, lack of appetite)
General Health After TBI

- Insomnia
- Difficulties with self-care
- Fatigue
- Excessive longing for sleep
- Tiredness
- Hypersensitivity to light or noise
- Sexual disinterest or sexual preoccupation
Personal Successes

AFTER TRAUMATIC BRAIN INJURY
Return to School – Keep Moving Forward
Amy always dreamed of being a cheerleader when she grew up. But she never expected a cheerleading accident would lead to TBI. The most important thing for any survivor to know is that you really have to just believe in yourself and find inner strength in you. Learn what helped this former Miss Utah recover.

https://www.youtube.com/watch?v=4zYpwG6Aetc&feature=related
Five summers ago, Noelle McNeil was participating in a riding exhibition and looking forward to her junior year in college when an accident, and catastrophic injury occurred leaving her in a coma and near death. When she awoke she was unable to speak, and faced prospects of never walking again, sending Noelle into a deep depression.
Noelle McNeil

Now, after a lengthy rehab and with graduation from Monmouth University only days away, Noelle says the sky is the limit. She walks fairly normally and is already building a career around helping others deal with traumatic brain injury, including injured soldiers returning from war.

https://www.youtube.com/watch?v=vhG9x0vjUAg
Kevin Pearce – Dream Interrupted

It's been a long road to recovery for snowboard champion Kevin Pearce.
Kevin Pearce

Not long ago, Pearce was considered to be one of the world's top snowboarders and was headed for the Vancouver Winter Olympics.

However, his Olympic dreams were crushed on December 31, 2009 when he sustained massive head injuries while training for the Olympics qualifier in Park City, Utah.

So, what is Pearce's future? While a full return to competition is too far off to be certain, he says his prognosis is a full year for the brain to heal, and then he hopes to snowboard again.