

Handling Challenges & Changes after TBI



The *million small victories* Institute.

UPMC Rehabilitation Institute

Quick Facts about Traumatic Brain Injury (TBI)

- The CDC reports that roughly 2.5 million Americans have a TBI each year
- The most common causes are: falls, motor vehicle accidents, and impact from an object
- Two peaks of incidence:
 - Childhood to early adulthood (assaults, falls, accidents)
 - Elderly (falls)

Severity of TBI

- Severity is based on the Glasgow Coma Scale (GCS) score (Motor, Verbal, and Eye Response)
 - Mild GCS 13-15
 - Moderate GCS 9-12
 - Severe GCS 3-8
- Severity ranges from Mild to Severe:
 - Mild (concussion) to Complicated Mild: brief change in mental status or consciousness.
 - Moderate to Severe: significant period of unconsciousness (coma) or amnesia after the injury, positive neuroimaging findings, hospitalization.

Post-Traumatic Amnesia (PTA)

- The person is disoriented and confused.
- The person generally does not remember their injury/accident.
- There is often a period of time prior to injury that the person does not remember.
- The person's memory is not recording new information well.
- Limitations in attention/processing.
- On the brain injury unit, Dr. Rubinsky ('Hilly') assesses PTA

Agitation after Brain Injury

- “an excess of one or more behaviors that occurs during an altered state of consciousness” (Bogner & Corrigan, 1995).
- Can include:
 - Restlessness
 - Aggression
 - Disinhibition (i.e. “impulsivity”)
- Hard to predict

Effect of TBI on the Brain

- The brain is the “control center” for:
 - Cognition: problem solving, memory and planning
 - Language: speaking, understanding speech
 - Movement: walking, reaching, dressing
 - Sensations: hearing, smelling, seeing, tasting, feeling,
 - Emotions: anger, sadness
- A TBI can cause an impairment to one or more of these areas

Common Cognitive Impairments

- Orientation:
 - Where you are, what day it is, etc.
- Attention
 - Ability to stay focused on a task or idea
- Memory
 - Ability to recall old and new information

Common Cognitive Impairments

- Problem solving
 - Ability to understand an issue or task and choose an appropriate response or course of action
- Executive Functioning
 - Ability to organize, plan and execute functional tasks effectively

Language Impairments

- Aphasia: A neurological disorder where there is damage to portions of the brain that are responsible for language
 - Patients with TBI often have a combination of *expressive* and *receptive* aphasia, where they may have some difficulty understanding or speaking with others

Physical Impairments: Motor

- Weakness
 - Hemiplegia: Weakness on one side of the body
 - Focal: Weakness in one concentrated area
 - Generalized: Weakness occurring throughout most regions of the body
- Abnormal tone
 - Spasticity: Abnormal tightness of a muscle as it is being moved
 - Flaccidity: Abnormal looseness of a muscle

Physical Impairments: Sensory

- Visual Disturbances
 - Field cut: loss of vision in part of the visual field
 - Visual neglect: focused attention/awareness to one area, ignoring others
 - Visuospatial impairments: impairments in the visual perception of spatial relationship of objects

Physical Impairments: Sensory

- Hearing impairments
- Tactile impairments
 - Numbness/tingling sensation in part of the body
- Taste/smell function impairments
- Joint position impairments

Emotional Impairments

- It is possible that certain aspects of personality may be enhanced after a brain injury
- Some common emotional issues may include:
 - Agitation
 - Aggression
 - Excessive crying
 - Excessive laughing
 - Flat affect
 - Depression

Goal of Brain Injury Rehabilitation

- The goal of the rehabilitation team is to assess areas of ability as well as impairment in order to improve daily functioning
 - Healing, strengthening, compensation

Helpful Hints for Rehab

- Issues of restlessness, irritability, agitation:
 - Reduce distractions, noise and number of visitors at once
 - Break down difficult tasks into smaller steps and give simple, one step directions
 - Redirect in the face of frustration
 - Allow (schedule) rest breaks
 - Remain calm in interactions

Helpful Hints for Rehab

- Issues of Attention/impulsivity
 - Be sure you have the patient's attention before you speak to them
 - Speak slowly, clearly, and softly using the patient's name frequently to keep their attention
 - Use demonstration in addition to verbal instructions when possible
 - Plan ahead and give steps one at a time

Helpful Hints for Home

- Individuals often have residual changes in physical, cognitive and emotional functioning when they leave the hospital.
- Greatest recovery in the first year following injury, however slower improvement may continue.
- Follow-up: Therapies, medical status, assessments for return to driving, work, school as appropriate.

Helpful Hints for Home

- Many individuals are eventually able to return to work, school, driving or other life roles.
- The ability to do so depends on the severity of injury and resulting levels of physical, cognitive and emotional disability, as well as the degree of family and community support.