

## Traumatic Brain Injury (TBI)

### DESCRIPTION AND FACTS:

The following definition was developed by the California Consortium for the Study of Programs for Brain Injuries:

“Acquired Brain Injury (ABI) [also called Traumatic Brain Injury or TBI] is an acquired impairment of medically verifiable brain functioning resulting in a loss of one or more of the following: cognitive, communication, psychomotor, psychosocial and sensory/perceptual abilities.”

Students who have survived head trauma represent the fastest growing group seeking special services on campuses today. Approximately 200 people in 100,000 in any given community can expect to survive a head injury in a given year. Well over half of the people sustaining head injuries are between the ages of 15 to 28 years, the same age range of those seeking post-secondary educational and career training opportunities. Also, many survivors who are already working when they are injured must receive retraining. The numbers of students with head injuries seeking services will continue to grow as advancements in emergency and acute medical care and rehabilitation techniques make survival more likely.

For the student with a head injury, recovery is influenced by the extent of the damage and location of the injury, by the extent of memory problems, by pre-injury achievements and goals and by the person's personality. The student usually remembers how he or she was before the injury and often does not recognize or understand the changes that have occurred. .

### POSSIBLE BARRIERS:

There is a great variation in the possible effects of a head injury on an individual, and most college students with TBI will exhibit some, but not all, of them. However, most injuries result in some degree of impairment in the following functions:

- **Memory:** Memory deficits are probably the most common characteristics of students with brain injury. The primary problem is the inability to store information for immediate recall. This causes trouble in acquiring new information. However, long-term memory or previously acquired knowledge is usually intact. The student with TBI usually has good recollection of the past, but may have poor understanding and awareness of the present and the future. The result may be memory gaps, confusion, and confabulation. Students must learn to use compensatory devices such as schedules, check lists, and other assistance in retrieving facts and organizing information. This process is often hard to accept because the adaptations required are constant reminders that the person is impaired in skills that have previously been automatic.
- **Cognitive/Perceptual Communication:** Distracted by extraneous stimuli, students may have difficulty focusing their attention on learning tasks. Attention and concentration may be influenced by medications, nutrition patterns, and fatigue resulting from disturbed sleep.
- **Speed of Thinking:** Students with cognition deficits from brain injury often take longer to process information which influences reaction time, speed of response, and quickness of data integration. However, accuracy of output may not be impaired if speed of input can be slowed adequately.
- **Communication:** Language functions (writing, reading, speaking, listening, etc.) may be impaired. Problems may include interrupting, talking out of turn, dominating discussions, speaking too loudly or rudely or standing too close to the listener. The student may have trouble comprehending written or spoken material especially under pressure, such as during exams.

- **Spatial Reasoning:** Spatial reasoning refers to the ability to recognize shapes of objects, judge distances accurately, navigate, read a map, visualize images, comprehend mechanical functions or recognize position in space. Deficits in any of these areas may cause the student difficulties on very practical levels such as crossing campus. The effectiveness of instructional materials that use visual/spatial skills will be diminished.
- **Conceptualization:** Deficits in conceptualization reduce ability to categorize, sequence, abstract, set priorities, and generalize information. The student may be very concrete and stimulus-bound.
- **Executive Functions:** Ability to engage in goal setting, planning and working toward a desired outcome in a flexible manner is often impaired. Without these skills, return to independent life may be impossible.
- **Psychosocial Behaviors:** Psychosocial behaviors such as depression/withdrawal, mental flexibility, denial, frustration tolerance/anger, irritability, restlessness, anxiety, impulsivity, sexual dysfunction, impaired social judgment, disinhibition, euphoria, apathy, fatigue and decreased awareness of personal hygiene may result from TBI. The social effects of TBI can be devastating and are often most damaging to long-term reintegration into the community. It may be far more difficult to recover from these problems than relearn cognitive skills. What makes the social behaviors even more complicated is that they can hardly be differentiated from symptoms of cognitive deficits.
- **Motor, Sensory, and Physical Abilities:** Brain injury can result in specific impairments primarily manifested in the physical condition of the student after the injury. These disabilities are motor/movement impairments: seizures, impairments of the senses (vision, hearing, touch, taste, smell), or other physical impairments which may include bowel and bladder dysfunction, poor regulation of appetite and thirst, sexual response dysfunction and respiratory complications.

### TEACHING A STUDENT WITH TBI:

The student with a head injury on a college campus may have needs similar, but not the same as, those with learning disabilities. These two groups have similar problems in attention, impulse control, organization of thoughts, location of objects or self in space, skill integration, problem solving, generalization of skills, social judgment and seeing relationships or associations, abstract concepts and complex ideas. Teaching techniques which may benefit both groups of students include task analysis and synthesis, a multisensory approach to teaching and learning, tasks which favor one's processing mode (such as visual or auditory) more than the other, strategies to compensate for cognitive deficits or analysis and synthesis of the dynamics involved in social situations. The following hints will help when teaching an individual with traumatic brain injury:

1. **Avoid overstimulation:** These students may fatigue quickly or become agitated and confused.
2. **Be consistent:** A consistent approach can help improve memory, reduce confusion, foster language skills and promote emotional control.
3. **Stay calm:** Observing others' calmness can help to reduce a student's confusion and agitation.
4. **Give step-by-step directions:** This approach lessens fatigue and confusion, improves memory and gives the student a sense of success in completing a task.
5. **Do not talk down to the person:** Talk with students at a level appropriate to their age and level of understanding.

- 6. Avoid arguments and stressful situations:** Remember that students are particularly sensitive to stress after a brain injury.
- 7. Allow response time:** These students usually take longer to respond to a question or join in a conversation.
- 8. Remember to praise:** When we tell students how proud we are of their progress, this promotes further improvement.
- 9. Try to incorporate frequent repetition:** Repeat information to be learned and emphasize the use of memory cues such as calendars, daily logs, etc.