American Speech-Language-Hearing Association

LET'S TALK

...FOR PEOPLE WITH SPECIAL COMMUNICATION NEEDS

# Brain Injury

*Rita Gillis, PhD, CCC-SLP*

Acquired brain injury is a term used to refer to all types of brain injury that occur after birth and are not hereditary or progressive One example of acquired brain injury is a stroke, which usually results in brain damage to a particular area of the brain where blood flow has been interrupted. A traumatic brain injury (TBI) is an acquired brain injury that is the result of some type of trauma to the head. The most common types of trauma result from motor vehicle accidents, assaults, gunshot wounds, and falls. Trauma to the head can happen to anyone at any time but is most common in males 15 to 24 years in age.

## The Brain

Our brains are responsible for all our actions, thoughts, and moods. The brain is the central regulator and commander-in-charge. The brain is composed of cells called neurons. Groups of neurons form networks that have specific functions. If enough neurons are damaged, they will not be able to carry out these functions.

The brain is not tightly attached to the skull, but is suspended in a watery fluid called cerebrospinal fluid (CSF) that serves to cushion and protect it. Although it is covered and supported by several layers of protective membranes, the brain is quite vulnerable to damage. When the head moves at a speed great enough to cause the brain to move inside the skull, the forward/backward motion can cause the brain to be damaged by the bony structures inside the cranium (skull).

Not all brain injuries result in long-term, permanent disabilities. The mildest form of traumatic brain injury is a concussion, usually associated with altered consciousness. It is important to seek medical attention following a concussion and to be aware that symptoms may persist for a period of weeks or months following the injury. A loss of consciousness for longer than 24 hours usually indicates a severe brain injury. Two of the most important factors that contribute to a positive outcome are a strong support system and access to treatment.

## Some Common Problems

The most obvious problems that result from brain injury are physical and may include headaches, seizures, dizziness, nausea, tinnitus (ringing or buzzing in the ear), changes in vision, taste and smell, and a decrease in muscular strength and coordination. Problems with swallowing solid foods and/or liquids (dysphagia) can occur following a brain injury but may not be evident initially.

Problems that are less obvious but often more debilitating include changes in behavior, emotions, and personality. These can include moodiness, irritability, aggression, emotional volatility, depression, self-centeredness, lack of motivation, inappropriate sexual behavior, and a lack of awareness of any problems.

Problems in cognitive and communication skills frequently accompany a brain injury and can be very debilitating. In the absence of physical impairments these sometimes go unrecognized, particularly in the cases of mild brain injuries. Communication skills include listening, speaking, reading, writing, and gesturing to understand and convey thoughts. Communication skills also include understanding the context in which a verbal or gestural exchange occurs.

Cognitive skills include attention, orientation, memory, organization, problem solving, reasoning, and judgment. Cognition and communication are closely intertwined; these "thinking skills" are often referred to as cognitive-communication skills and, when impaired, cognitive-communication impairments. A certified speech-language pathologist is a professional who is trained in the evaluation and treatment of cognitive-communication impairments and swallowing problems.

## Severe Brain Injury

In severe brain injuries, cognitive-communication impairments may be quite obvious immediately after the injury. The individual may have difficulty understanding and responding. Speech may be slurred or distorted (dysarthria). Most

likely he or she will be confused, disoriented (not know the time, place, or situation), and have difficulty remembering new information (what has occurred since the injury). Hearing also may be affected by a brain injury and should be evaluated by a certified audiologist, a hearing specialist who will be able to evaluate a hearing impairment and make appropriate recommendations for treatment.

## Mild Brain Injury

In mild brain injuries, problems may not be evident until a later time, such as when the individual attempts to return to work or school. If this occurs, the problems should not be ignored in hopes they will go away. Rather, the assistance of a speech-language pathologist and other team members, such as psychologists, social workers, teachers, special education teachers, and vocational rehabilitation specialists, should be sought.

It is also important to remember that many individuals who have a brain injury tire more easily than before. Some medications make fatigue worse. When individuals are tired, it becomes more difficult to process information and perform certain activities.

It is best to attempt challenging activities, in particular thinking activities, when people are rested.

## Things You Can Do to Help

- Speak calmly, slowly, and with reassurance.
- Use simple language. Ask "Are you hungry?" instead of "Do you think you would like to eat a little something?"
- Try to ask questions that can be answered with "yes" or "no."
- Talk about familiar subjects. Bring familiar objects from home, such as photos, and place them in the hospital room if permitted.
- Provide reminders and cues to help individuals remember instead of quizzing about things they may not yet remember.
- Tell the individual what is happening, or about to happen, close to the time of the activity, e.g. "The nurse is going to give you a shot now."
- Don't argue or antagonize.
- Don't take insults or aggressiveness personally and avoid overreacting.
- Keep routines simple and stick to old, familiar routines rather than trying to teach something new, particularly at first.
- Keep noise and distractions to a minimum. Avoid too much stimulation.
- Encourage the use of communication aids if recommended.

For more information, or for referral to an ASHA-certified speech-language pathologist, contact the American-Speech-Language-Hearing Association at 800-638-8255 or www.asha.org.

## ASHA Resources:

**American-Speech-Language-Hearing Association** at 800-638-8255 or www.asha.org

**Brain Injury Association** at 703-236-6000, 800-444-6443 (Family Helpline), or www.biausa.org

**Family Caregiver Alliance** at 415-424-3388 or www.caregiver.org

**ThinkFirst Foundation** at 800-Think56 (844-6556) or www.thinkfirst.org

**The Perspectives Network** at 770-844-6898 or www.tbi.org

**National Institute on Deafness and Other Communication Disorders (NIDCD)** at www.nidcd.nih.gov

**www.tbiguide.com**, an online guide to help explain traumatic brain injury

*Compliments of*
**American Speech-Language-Hearing Association**
**10801 Rockville Pike • Rockville MD • 20852 • 800-638-8255**
*and*