

## **TRAUMATIC BRAIN INJURY BRIEF**

### **Introduction**

The frequency of traumatic brain injury (TBI) in children and teens is staggering. Each year in the United States as many as one million children and youth will sustain traumatic brain injuries from motor vehicle accidents, falls, sports, and abuse. The largest group of traumatic brain injured individuals fall within the 15-24 year old age group, but the frequency is nearly as high for children and youth under 15 years of age.

### **Definition**

Minnesota Rule 3525.1348 defines Traumatic Brain Injury as an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability and/or psycho-social impairment that may adversely affect a child's educational performance and result in the need for special education and related services. The term applies to open or closed head injuries resulting in impairments in one or more of the following areas: cognition, speech/language, memory, attention, reasoning, abstract thinking, judgment, problem-solving, perception, motor, and sensory abilities, psycho-social behavior, physical functions, and information processing. *The term does not apply to brain injuries that are congenital or degenerative, or brain injuries induced by birth trauma.*

### **Characteristics/Educational Implications**

Generally speaking, traumatic brain injuries in children are often diffuse and can affect many areas and functions within the brain. Since areas of the brain are interconnected, damage to any part of the system can often result in cognitive, motor, sensory, emotional, and behavioral changes. Frontal and temporal lobe damage can often occur in a traumatic brain injury, and may result in possible changes in personality and behavior, as well as deficits in memory, judgment, reasoning, problem solving, and inhibition. Difficulties with perceptual skills and expressive language may also result. When damage occurs in additional parts of the brain, there may be changes in motor or sensory functioning.

### **Myths/Common Misconceptions**

A common misconception suggests that the degree of impairment generally correlates with the force of the impact. Although it is often true that symptoms from a mild brain injury (e.g. post-concussive syndrome) might improve quickly, this may not always be the case. Diffuse damage to the brain can result from a mild brain injury, even when there is no loss of consciousness. In some situations, an injury that is considered 'mild' may result in long-term cognitive and/or behavioral problems and the student may require special education services.

### **Myths/Common Misconceptions, continued**

Another misconception centers on the idea that young children's brains are more adaptable and pliant, therefore more resilient to the damaging effects of a brain injury. While young children may physically recover more quickly from serious accidents as compared to older youth and adults, the long-term cognitive deficits are often more profound. Generally speaking, the younger the child, the more profound the long-term effects will be. In addition, some deficits may not be apparent until later in childhood when specific developmental skills are required.

### **Eligibility Criteria**

The Minnesota criteria states that medical documentation of a traumatic brain injury is required by a physician, verifying one or more functional impairments, and evidence that the impairments are not primarily the result of previously existing conditions. A key factor to consider when determining whether a student may be eligible for special education support under the category of TBI is the *type* of acquired brain injury. There must be medical documentation stating that the student's brain has been injured by an 'external force'. Children who have an acquired *non-traumatic* brain injury as a result of infection, cerebral vascular accidents, brain tumors, poisoning, or anoxic injury may have significant educational needs, but do not meet state TBI criteria. In such situations, eligibility under other special education categories could be considered by the educational team, depending on the presenting problems. An additional option to consider for students with mild or short-term symptoms that require minor accommodations is a 504 Plan (Section 504 of the Rehabilitation Act). To view the Minnesota State Criteria for TBI in its entirety, refer to the MN Department of Education website at: <http://www.education.state.mn.us/>

### **Special Education and Related Services**

Because of the varying degrees of brain injury that can occur and the related learner implications, educational services can cover a wide range of options. When a child has a mild brain injury such as a concussion, close monitoring is required; if symptoms persist and interfere with educational performance, a 504 Plan or special education evaluation may be appropriate. When the injury is moderate or severe, careful planning for school re-entry from a hospital is critical. Parents, educators, and health care professionals must collaborate together to ensure that the transition is successful; this requires mutual communication from the time of the injury, and establishing both a hospital and school contact. An educational evaluation should be conducted to determine the existence of any functional impairment, and may include both traditional evaluation protocol and tools designed specifically for students with TBI. An educational team may include a variety of educational specialists, as well as an educational TBI specialist who is both knowledgeable and has had training in the area of TBI. A teacher licensed in Physical/Health Disabilities is often called upon to fill this role.

### **Accommodations/Modifications**

Educational programming, accommodations, and modifications to curriculum, methodology, materials and equipment are individualized to meet the unique needs of students with traumatic brain injury. Evaluation results will assist the team in identifying these accommodations and modifications. Some examples include: environmental changes, use of technology to access the environment or complete written work, a modified grading system, support for transitions and organizational tasks, modified assignments, tests, memory aids, alternate response methods, opportunities for re-teaching and/or review, a behavior intervention plan, special transportation, accessible classrooms/restrooms, doorways, etc.. Information on these and other strategies can be found in the MDE publication entitled, *Special Education Evaluation and Services for Students with Traumatic Brain Injury: A Manual for Minnesota Educators* (revised 2004).

### **Staff Qualifications/Training**

There is currently no teacher licensure for the Traumatic Brain Injury category in the state of Minnesota, although professional competencies were developed in 2004 and were used to create the framework for the TBI Certificate program available through Hamline University, St. Paul, MN. Training and support in the area of TBI is available to educators and families through ongoing regional and state workshops and conferences. Frequently, the Physical/Health Disabilities (P/HD) teacher has often received the necessary training to serve as a local or regional TBI specialist. Technical assistance is provided by the statewide TBI specialist with the MN Low Incidence Projects; and the State Low Incidence Specialist with the MN Department of Education. Other learning opportunities are also made available to educators, such as graduate coursework offered through colleges and universities, and conferences hosted by local and state agencies. A Statewide Educational TBI Network was created in 1999 to bring together educators, stakeholders from community agencies, and representative parents in a collaborative environment to address common issues and initiatives as they relate to meeting the needs of students with TBI. Currently, the statewide network meets twice a year. In addition, some communities have organized local TBI networks and support groups for children, teens, and families.

**Sponsored Activities:** Partnerships between the Minnesota Low Incidence Projects and the Brain Injury Association of Minnesota support a number of events and activities, including the annual Brain Injury Conference for Professionals, and the Brain Injury Family & Consumer Conference. Another Low Incidence Projects event held annually is the TBI Family Retreat, in which 15 families from around the state who have a child or teen with a TBI come together for a weekend of activities customized to meet their needs.

## **Contacts**

Barbara Sisco, State Low Incidence Specialist  
Minnesota Department of Education  
Phone: (651) 582-8226  
Email: [Barbara.Sisco@state.mn.us](mailto:Barbara.Sisco@state.mn.us)

Deb Williamson, Statewide Traumatic Brain Injury Specialist  
Minnesota Low Incidence Projects/Metro ECSU  
3055 Old Highway 8, Suite 302  
St. Anthony, MN 55418  
Phone: (612) 638-1532  
Email: [Deb.Williamson@metroecsuo.org](mailto:Deb.Williamson@metroecsuo.org)

## **Resources**

*Special Education Evaluation and Services for Students with Traumatic Brain Injury: A Manual for Minnesota Educators* (revised 2003)

Available on websites: MN Dept. of Education: [www.education.state.mn.us](http://www.education.state.mn.us)

MN Low Incidence Projects: [www.mnlowincidenceprojects.org](http://www.mnlowincidenceprojects.org)

Brain Injury Association of Minnesota

Phone: (612) 378-2742 (800) 669-6442

Website: [www.braininjurymn.org](http://www.braininjurymn.org) Email: [info@braininjurymn.org](mailto:info@braininjurymn.org)

National Brain Injury Association:

Phone: (800) 444-6443

Shaken Baby Alliance

Website: [www.shakenbaby.com/](http://www.shakenbaby.com/)

Department Of Health and Human Services, Centers for Disease Control and Prevention (CDC)

- General Website: [www.cdc.gov/TraumaticBrainInjury/index.html](http://www.cdc.gov/TraumaticBrainInjury/index.html)
- Concussion & Mild TBI Information: [www.cdc.gov/concussion/](http://www.cdc.gov/concussion/)