

Traumatic Brain Injury and the School-Aged Child (Grades K-8)

According to the [Centers for Disease Control and Prevention](#), traumatic brain injury (TBI) is the leading cause of disability and death in children and adolescents in the U.S. Each year, among children ages 0 to 14 years, TBI results in an estimated:

- 2,685 deaths
- 37,000 hospitalizations
- 435,000 emergency department visits

These can be frightening statistics for parents of children. And yet, through awareness and knowledge, we can change these numbers and lessen the impact on our loved ones.

Symptoms

Symptoms can result in physical, cognitive, communication and/or social/behavioral impairments, and may occur to different degrees. The nature of the injury and consequences can range from mild to severe, and the course of recovery is very difficult to predict for any given child. With early diagnosis and ongoing therapeutic intervention, the severity of these symptoms may decrease in varying degrees. Symptoms can vary greatly depending on the extent and location of the brain injury, and it may be years before the deficits from the injury become apparent.

What makes a brain injury in children different?

While the symptoms of a brain injury in children are similar to the symptoms experienced by adults, the functional impact can be very different. Children are not little adults. The brain of a child is continuing to develop. The assumption used to be a child with a brain injury would recover better than an adult because there was more “plasticity” in a younger brain. More recent research has shown that this is not the case. A brain injury actually has a more devastating impact on a child than an injury of the same severity has on a mature adult. The cognitive impairments of children may not be immediately obvious after the injury but may become apparent as the child gets older and faces increased cognitive and social expectations for new learning and more complex, socially appropriate behavior. These delayed effects can create lifetime challenges for living and learning for children, their families, schools and communities. Some children may have lifelong physical challenges. However, the greatest challenges many children with brain injury face are changes in their abilities to think and learn and to develop socially appropriate behaviors.

Return to School

When children with TBI return to school, their educational and emotional needs are often very different than before the injury. Their disability has happened suddenly and traumatically. They can often remember how they were before the brain injury. This can bring on many emotional and social changes. The child's family, friends and teachers also recall what the child was like before the injury and may have trouble adjusting their expectations of the child.

It is extremely important to plan carefully for the child's return to school. Parents will want to find out ahead of time about accommodation plans (504 Plan) and special

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education services (IEP) offered in their community. This information is usually available from the school's principal or special education teacher. The school will need to evaluate the child thoroughly. This evaluation will let the school and parents know what the student's educational needs are. The school and parents will then develop a 504 Plan or an Individualized Education Program (IEP) that addresses those educational needs.

- Remember the IEP is a flexible plan. It can be changed as the parents, the school and the student learn more about what the student needs at school.
- Learn about TBI. The more you know, the more you can help yourself and your child. See the list of resources and organizations below.
- Work with the medical team to understand your child's injury and treatment plan. Don't be shy about asking questions. Tell them what you know or think. Make suggestions.
- Keep track of your child's treatment. A 3-ring binder or a box can help you store this history. As your child recovers, you may meet with many doctors, nurses and others. Write down what they say. Put any paperwork they give you in the notebook or keep it in the box. If you are asked to share your paperwork with someone else, make a copy. Don't give away your original.
- Talk to other parents whose children have sustained a brain injury. There are parent groups all over the U.S. Parents can share practical advice and emotional support. Check with the Brain Injury Association of MN to find a parent group near you.

Concussion in Children

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even a seemingly mild bump to the head can be serious. Concussions can be quite common; they often occur without loss of consciousness, and most resolve (approximately 90%) with no long term problems noted. However, some concussions can result in potential long term physical and/or cognitive problems. Children and adolescents are among those at greatest risk for concussion. The potential for a concussion is greatest during activities where collisions can occur, such as during physical education class, playground time, or a sports activity. However, concussions can happen anytime the head comes into contact with a hard surface. Proper recognition and response to the concussion can prevent further injury and help with recovery. *Children should NEVER return to sports/recreation activities on the day of the injury, and should delay a return to any physical activity until they are symptom-free and have received clearance from their physician.*

All children with concussion or suspected concussion should be followed closely by their primary care physician (PCP). A follow-up visit with the PCP after the event can offer the opportunity for families to ask questions and for the PCP to assess the child for ongoing

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symptoms. Although diagnosing post-concussion syndrome in children can be difficult, it is important to assess for these symptoms to determine if further evaluation is needed. The follow-up visit can also provide an important opportunity for discussion of age-appropriate injury prevention to minimize the possibility of subsequent concussions. Children who display the symptoms listed below for more than several weeks after a concussion may require further assessment and/or evaluation by a neuropsychologist, neurologist, or other specialist.

Acute signs and symptoms of a concussion:

- Vomiting
- Headache
- Crying and inability to be consoled
- Restlessness or irritability

Prevention

To reduce the risk of an older child sustaining a TBI, parents/caregivers should assure that:

- Everyone wears a seat belt each time they ride in a motor vehicle.
(Children should continue to ride in a booster seat until the lap/shoulder belts in the car fit properly, typically when they are approximately 4'9" tall.)
- Children wear helmets that are fitted properly, and use the right protective equipment for sports and recreation, making sure it is maintained properly.
- Living areas are made safe for children by:
 - Keeping stairs clear of clutter;
 - Securing rugs and using rubber mats in bathtubs; and
 - Not allowing children to play on fire escapes or on other unsafe platforms.
 - Confirming that playground surfaces are made of shock-absorbing materials, such as hardwood mulch or sand, and are maintained to an appropriate depth.

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RESOURCES

Information taken from the Brain Injury Association of America; and Centers for Disease Control and Prevention.

Additional resources

MN Dept. of Education: <http://www.education.state.mn.us/>

MN Low Incidence Projects: <http://www.mnlowincidenceprojects.org/tbi.html>

MN Brain Injury Alliance: www.braininjurymn.org

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

National Brain Injury Association of America: www.biausa.org

Phone: (800) 444-6443

Department Of Health and Human Services, Centers for Disease Control and Prevention (CDC)
www.cdc.gov/TraumaticBrainInjury/index.html

For more information and resources, contact your district or regional TBI educational specialist; or

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