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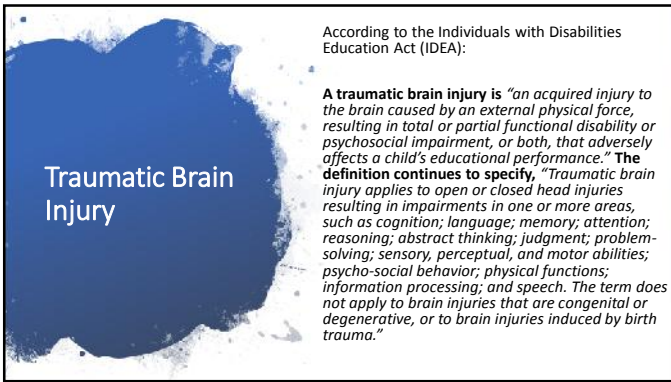
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Traumatic Brain Injury

According to the Individuals with Disabilities Education Act (IDEA):

**A traumatic brain injury is** "an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance." **The definition continues to specify,** "Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psycho-social behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma."

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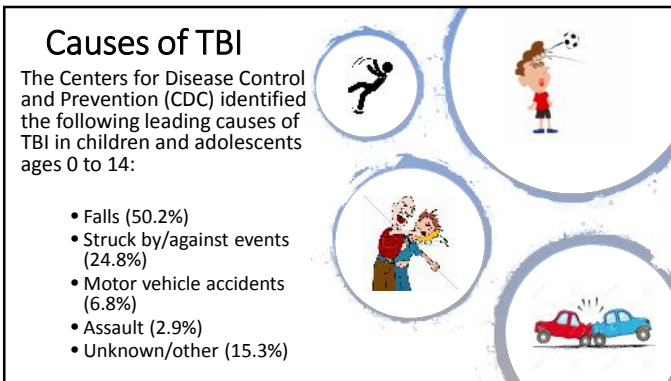
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### Causes of TBI

The Centers for Disease Control and Prevention (CDC) identified the following leading causes of TBI in children and adolescents ages 0 to 14:

- Falls (50.2%)
- Struck by/against events (24.8%)
- Motor vehicle accidents (6.8%)
- Assault (2.9%)
- Unknown/other (15.3%)



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**What the data says...**

In 2014 alone, the CDC estimated over 837,000 TBIs in children in the United States resulting in:

- over 812,000 emergency department (ED) visits
- over 23,000 hospitalizations
- and 2,529 deaths

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**The Silent Epidemic: TBI**

- Most common cause of death and disability in children and adults up to age 45
- Occurs every 15 seconds
- Approximately 5 million Americans suffer some form of TBI disability
- 1 out of 500 children and adolescents will survive a TBI that require hospitalization

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**Traumatic Brain Injury (TBI) and IDEA**

Though it is considered a low incidence disability, TBI is its' own category under the federal law that ensures appropriate services for students with disabilities.

In 2015-16 the United States Department of Education National Center for Education Statistics, reported approximately 27,000 students receiving services, nationwide, with the identification of TBI.

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In a Journal of Learning Disabilities article from 1991, Segalowitz and Brown found:

*"The hospital-reported incidence of mild head injury among children indicates a prevalence of 2% to 3% in high-school-aged adolescents (14 to 18 years). Yet, our survey of 616 high school adolescents suggests that light and mild head injury (not necessarily leading to hospital admission) is almost 10 times this level. Despite the common notion that such injury is generally benign, we found significant relationships in our sample between reported head injury and hyperactivity, stuttering, mixed handedness, and dislike of mathematics."*

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### Traumatic Brain Injury Incidence in Maryland School Aged Individuals

In 2014 alone there were 367 hospitalizations in the state of Maryland where the patient was between birth and 18 years of age and the primary diagnosis was traumatic brain injury.

This does not include individuals seen at their primary care physician's office, walk in medical care centers, or who were seen but not admitted to the hospital.

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### Maryland School Data

According to the Maryland State Department of Education (MSDE) there were 221 students state wide receiving special education services with the identification code of TBI.

- 215 in the local education agencies.
- 6 students with the disability code of TBI at the Maryland School for the Blind

	Traumatic Brain Injury	
	Total	Percent
Total State	221	0.21%
Allegany	5	0.36%
Anne Arundel	28	0.31%
Baltimore City	40	0.30%
Baltimore	36	0.25%
Calvert	0	0.00%
Caroline	2	0.34%
Carroll	0	0.00%
Cecil	10	0.42%
Charles	9	0.29%
Dorchester	4	0.85%
Frederick	5	0.11%
Garrett	0	0.00%
Harford	5	0.10%
Howard	5	0.09%
Keet	1	0.40%
Montgomery	19	0.10%
Prince George's	29	0.19%
Queen Anne's	0	0.00%
St. Mary's	2	0.11%
Somerset	1	0.24%
Talbot	1	0.22%
Washington	4	0.17%
Wicomico	9	0.50%
Worcester	2	0.24%
<b>I.E.A. Total</b>	<b>215</b>	<b>0.20%</b>

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## Traumatic Brain Injury in Maryland Schools

In Maryland there were 108,495 students receiving special education services through an Individualized Education Plan as of October 1, 2017.

Of these only 221 students are identified as having a disability of Traumatic Brain Injury.

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## The Numbers Don't Add Up

- The CDC estimates brain injury prevalence at 10%
- There is approximately 1.3 million school aged kids in Maryland
- That means 130,000 kids with brain injuries.
- If 5% suffer the onset of a disability that still equates to 6,500 individuals with a disability as the result of a brain injury!
- **WE ONLY SERVE 221 STATEWIDE!!!**

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How does this impact me as a professional in the school?

- Even though a student with a brain injury may exhibit behaviors and characteristics that mirror other disabilities, it is still essential that they are identified properly.
- Proper identification leads to more effective interventions and services that are appropriate.
- Many times TBI ends up being misidentified as emotional disturbance.

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## What Can Be Done?

- Communication, Communication, Communication!!!
- Collaboration!
- The family and the student should be an integral part of the team.



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## Best Practices...

Brain injury should be explored any time there is a concern with a student. This includes, but is not limited to:

- Screening meetings
- Child find meetings
- "Kid Talk" meetings
- Individualized Education Plan (IEP) meetings
- 504 Plan meetings
- Functional Behavioral Assessment (FBA) and Behavior Intervention Plan (BIP) meetings
- Parent/Teacher conferences
- During vision and hearing screenings



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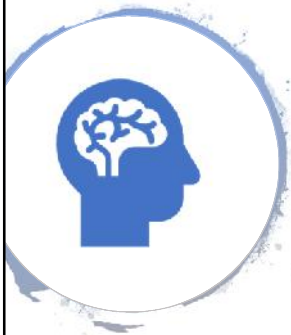
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## How to ask parents about history of brain injury

- Has your child ever had a concussion?
- Has your child ever hit their head and lost consciousness, even if for only a short time?
- Has your child ever received medical attention as a result of hitting their head?
- Has your child ever hit their head and had a headache that lasted more than a couple hours?
- Has your child ever hit their head and had difficulty with thinking, emotions, or behavior, even if only for a little while?



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**Things to remember**

- TBI is under diagnosed and under reported, especially in schools.
- Academic, behavioral, and emotional difficulties are all common consequences of a TBI.
- All TBIs do not result in loss of consciousness.
- A concussion is a brain injury!

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**More things to remember**

- There are simple screening tools that can be used such as the HELPS brain injury screening tool. <https://www.nashia.org/pdf/hotopics/pa-helps-screening-tool.pdf>
- The impact of brain injury may not become evident for months or sometimes even years after the injury, this is especially true in the developing brain of a child.
- If student with brain injuries are not properly identified they most likely will not be served appropriately, however if served appropriately then most likely outcomes will improve.

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**Still more things to remember**

- It is likely that there are students that are not being served appropriately because they have not been properly identified as having a TBI.
- Educate parents and other professionals about TBI and its' frequency.
- Parents/guardians may be hesitant to report a TBI or may not see a correlation between a past TBI and current school difficulties.
- Ask about possible history of TBI in children.

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# TBI is an Epidemic!!!

TBI is present in 85% of traumatically injured children, either alone or with other injuries.<sup>1</sup>

*Carli P. Orliaguet G (February 2004)*

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## Sources

- Carli P, Orliaguet G. Severe traumatic brain injury in children. *Lancet*, 2004 Feb 21; 363 (9409): 584-5.
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