

# Improving Services for Students with Traumatic Brain Injuries

Susan Davies Gfroerer, Ed.D.

The University of Dayton

Sara Timms, Ed.S.,

Columbus City Schools






# Intended Learning Outcomes

- Understanding of TBI definition and educational implications
- Knowledge of etiology & incidence of TBI
- Understanding of problems related to the current cycle of under-identification and under-service of students with TBI.
- Improved evaluation of students with TBI
- Improved school re-entry for students with TBI who are transitioning back to school from hospital or rehabilitation



## Intended Learning Outcomes, cont.

- Collaboration strategies with rehab and hospital personnel, parents, school nurses, and other related service personnel
- Model service delivery for students with TBI (both in regular education and special education settings).
- Intervention selection and progress monitoring (both academic and behavioral)
- Prevention strategies (e.g., via contact with school athletic programs)



## Examples of TBIs (by Ohio definition) *see packet for complete definition*

- Open and closed head injury
- Stroke
- Aneurysm
- Brain tumor/ surgery/ craniotomy
- Post-concussion syndrome (often sports related)
- Anoxia (as result of cardiac arrest; near drowning)





# Damage often results in:

- Localized injury to specific parts of the brain
- Injury to blood vessels which supply oxygen to brain and regulate blood flow
- Disruption to neurochemicals
- Injuries to children are often diffuse, affecting many areas and functions
- Secondary effects (swelling, brain bleeds, disruption of neurotransmitters) may cause further damage beyond that which occurs at time of injury



Brain injuries, especially severe ones, can produce deficits in:

- alertness and orientation
- intellectual functioning
- language skills
- nonverbal skills
- attention and memory
- corticospinal and motor skills
- academic functioning
- executive functions
- adaptive functioning
- behavioral adjustment



# Age and Injury

- Young children often recover faster physically from serious accidents; however, long-term cognitive problems are often more profound than with adults
- Previously learned information is often retained, but the TBI often has a profound effect on learning
  - Young children have insufficient knowledge base
  - Cognitive, social, and behavioral effects may not be apparent until later in life when skills are required.
    - Monitoring “Delayed Consequences” is critical



## TBI is **not** a low-incidence disability!

- Approximately 5.3 million Americans live with TBI.
- A TBI occurs every 21 seconds in the US.
- Over 1 million children sustain a TBI each year.
- 3,750 children sustain a TBI in Ohio each year.
- 450-600 children sustain a moderate to severe TBI in Ohio each year.





## TBI is **not** a low-incidence disability!

- More than 130,000 children with TBI have functional limitations that are significant enough to warrant special education services (Glang et. al., 2004).
- However, in 2007, only 23,805 students received special education services under the TBI category (IDEA, 2007)



# TBI in Ohio schools


- As of Dec. 2007, the Ohio Department of Education reported 1116 children served under the TBI category in Ohio's schools.
- Clearly, children with TBI are under-identified in Ohio's schools
  - and/ or are misidentified as something other than TBI (i.e.: SLD, ED, OHI...)
  - Failure to identify students appropriately may lead to their educational needs not being met



# Minute Paper

Take a minute to respond to the following questions:


- Approximately how many students have you identified with TBI?
- What process did you follow?
- What barriers have you encountered?



# Special considerations for TBI assessment (Ylvisaker, 1993)

- Students with TBI may have an unusual profile of abilities and needs. Deficits may negatively affect school performance but not be detected on tests
- Consequences of frontal lobe injury are not typically detected by commonly used IQ, academic performance, and language tests
- Ongoing neurologic recovery may quickly invalidate assessment results, necessitating frequent assessments





# Special considerations for TBI assessment (Ylvisaker, 1993)

- Certain types of injury have delayed consequences
- TBI is associated with inconsistent performance, may invalidate test performance on a given day
- Students may react unpredictably to being back in school, requiring special thoughtfulness in interpreting test results



# School-Based Observation

- Does the student begin assignments independently or are cues needed?
- Need reminders to stay on task? How often?
- Lost or confused going room to room even if surroundings are familiar?
- Able to follow directions? What type? How complex?
- Forget to do things when asked, even w/reminder
- Incomplete assignments / “careless” errors
- Difficulty comprehending new concepts? Is frequent repetition and concrete demonstration required for new learning?



# TBI Project

- Columbus City Schools initiative to better identify and serve children with TBI.
- Pilot began in 2006-2007 school year.
- Increase number of children identified as TBI.
- Increase awareness; educate about TBI.



# TBI Project Components

- School psychologist serves as point person for pilot and evaluations for TBI.
- Core Team:
  - Executive Director of Special Education
  - School Psychologist
  - Parent Mentors
  - Head Nurse
  - Ohio Legal Rights Service
  - NCH Rehab Team
  - Hope to add OT, PT, and SLP





# TBI Project Components

- Designation of school psychologist to work specifically in area of TBI.
  - Consult with district personnel (Flow Chart)
  - Attend IAT meetings
  - Conduct TBI initial/ reevaluations
  - Attend Nationwide Children's Hospital school re-entry meetings
  - Conduct in-services
  - Conduct periodic review evaluations
  - Work with OSU Sports Medicine/ CCS Athletic Trainers to educate coaches/ athletes about concussion
  - Currently, position is a 2 day assignment.



# TBI Evaluation

- Release of information
- Cognitive ability assessment
- Academic achievement
- Social-emotional (rating scale, psychological...)
- Adaptive behavior, if applicable
- Neuropsychological report, if possible
- Observations
- Ongoing intervention data collection
- Medical report/ records
- Teacher evaluation reports
- Related service evaluation reports
- Health appraisal (school nurse)
- Parent input



# TBI Project Components

- Awareness materials shared with teachers, parents, and staff at all meetings for students with TBI
  - Posters at all school buildings and feeder sites
  - Tri-fold handouts
- \* see back of your packet for samples

# Trifold Handout

## *you and your child have rights*

*You have the **RIGHT** to:*

- ✓ **NOTICE** of your legal rights and of your school's decisions about your child;*
- ✓ **ACCESS** your child's records;*
- ✓ **CONFIDENTIALITY** of records;*
- ✓ **CONSENT** to the initial evaluation and placement for your child;*
- ✓ **CONSENT** for re-evaluation (when new assessment is needed) and to most placement changes;*
- ✓ **REQUEST** an independent educational evaluation (IEE) at the school's expense;*
- ✓ **FILE** a complaint with the Ohio Department of Education (ODE) or request mediation or an impartial due process hearing.*

*for more information  
about services your child with tbi  
may receive, please contact:*

Columbus Public Schools  
Psychologist Sara Timms  
614-365-5220  
stimms2576@columbus.k12.oh.us

Columbus Public Schools  
Parent Mentor Office  
614-365-5219

Ohio Legal Rights Service  
TEL 614-466-7264  
TTY 614-728-2553



OLRS publications are on the web  
<http://olrs.ohio.gov>

The OLRS PwTBI program is funded by the Traumatic Brain Injury Protection & Advocacy Grant, project number cda #93.234-d, from the Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau - revised March 2007

*your child with  
traumatic brain injury (tbi)  
may need  
special education services  
to*

## *thrive beyond injury*

Columbus  
Public  
Schools  
&  
Ohio Legal  
Rights Service

*are partnering  
to pilot a project  
to better identify  
students with tbi  
and to provide special  
education services to  
eligible children.*





# Trifold Handout

## *can my child receive special education services?*

The federal Individuals with Disabilities Education Act (IDEA) and Ohio law provide for special education services for children with TBI. In Ohio, the definition of TBI for educational purposes is:

An acquired injury to the brain caused by an external physical force or by other medical conditions, including but not limited to stroke, anoxia, infectious disease, aneurysm, brain tumors and neurological insults resulting from medical or surgical treatments. The injury results in total or partial functional disability or psychosocial impairment or both, that adversely affects a child's educational performance. The term applies to open or closed head injuries, as well as to other medical conditions that result in acquired brain injuries. The injuries result in impairment in one or more areas such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory; perceptual, and motor abilities; psychosocial 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.

The Ohio definition is more inclusive than the IDEA definition because it includes internal injury to the brain. The IDEA definition is limited to external injury. This means that more children with TBI would qualify for special education in Ohio than in other states without an inclusive definition.

## *what services can my child receive?*

Your child is entitled to a free appropriate public education (FAPE) if qualified under the Ohio TBI definition. A FAPE means that your child receives special education and related services that are free, provided through an individualized education program (IEP), and that allow your child to be involved in and make progress in the general curriculum.

Special education is specially designed instruction that meets your child's unique needs. Related services are those services that are required to assist your child to benefit from the special education. Related services include, but are not limited to transportation, occupational therapy, physical therapy, speech therapy, nursing services, and attendant services.

All special education services are determined by your child's team and are provided through the IEP, a written plan that details your child's educational program. You are a member of your child's team and should participate in all decisions about your child's identification, placement and services.

The IEP must include the special education and related services your child needs to receive a FAPE. It must also include annual goals and short-

term objectives that are measurable. The goals and objectives should focus on your child's areas of need and can address academics or behavior. Your child should be educated in the least restrictive environment (LRE). This means that your child should be educated with children who do not have disabilities to the maximum extent appropriate.

## *will my child be evaluated?*

The IEP is based on a comprehensive evaluation of your child's needs. Your school will conduct a multi-factored evaluation (MFE) and write a report summarizing the results of the evaluation. Children with TBI may need a special evaluation called a neuropsychological evaluation as part of the MFE, to address problems commonly associated with TBI (memory, judgment, organization, etc.). You can ask for a neuropsychological evaluation as part of the MFE.

If you disagree with an evaluation that is conducted by your school, you can seek an independent educational evaluation (IEE) at your school district's expense. You should ask your school district for a copy of its IEE policy. You must follow the policy in pursuing the IEE in order for the school to pay for it. Your school can suggest an independent evaluator but you may choose an evaluator not on your school's list. The school is required to consider the results of the IEE but is not required to follow it.



# TBI Project Components

- School nurses send out Student Health Questionnaire to all students containing some questions related to head injury (e.g., “Has your child ever lost consciousness?” “...been admitted to hospital after hitting their head” “...had brain surgery?”)
- If parent answers “yes” to any of those questions, the Brain Injury Survey is used to gain more information (see packet).
- School nurses notify the school psychologist of the positive survey.



# TBI Project Components

- IAT meeting is held to discuss TBI and team decides if disability is suspected / obtain consent
- Students are evaluated for special education eligibility by school psychologist
- If disability under IDEIA is not suspected, alternative educational plan is recommended (intervention plan, 504 Plan, medical plan...)



# TBI Project Components

- Focus on smooth transition from hospital to school.
  - TBI school psychologist, school nurse, parent mentor, and school personnel attend school re-entry meeting at Nationwide Children's Hospital
  - Entire rehab team (therapists, medical professionals, social worker, teacher...) presents current medical condition and recommendations for the student as they return to school after the TBI.





# TBI Project - Training

- In-Service Training provided to:
  - School psychologists
  - Aides and childcare providers
  - Parent mentors
  - School nurses
  - Athletic Trainers
  - School Building Personnel
  - SNP Department (teachers, administrators, social workers, nurses, psychologists, OT, PT, SLP...)
  - Teachers and staff



# Case Examples

- Case 1.
- A senior from a CCS high school sustained a TBI after being struck by a car at the bus stop. IEP met regularly to review her IEP and modify it as needed. Provided counseling and tutoring at school, graduated from high school, now at Columbus State Community College.



# Case Examples

- Case 2.
- 5th grade student was diagnosed with brain stem tumor spring 2008. She was put on home instruction while she received chemo and radiation, which was not successful in eliminating the tumor. She was told there were no more treatment options available. Fall 2008, now in 6th grade, returned to school hoping to have as normal life as possible, but needed accommodations. School team developed a 504 Plan.



# Case Examples

- Case 3.
- A school psychology intern conducting a three year re-evaluation on a high school student saw in his file that he was hit by a car while in elementary school. He was currently being served through SLD; however, his mother never felt that was appropriate. After reviewing records and obtaining additional medical information, it was determined that this student really should have been identified as TBI.





# Case Examples

- Case 4
- 8<sup>th</sup> grade female suffered cardiac arrest while playing basketball and subsequently sustained an anoxic brain injury. She underwent surgery to have a defibrillator implanted and was told she could not play basketball again. She is an excellent athlete and good student whose life was drastically changed after her TBI.



# Case Examples

- Case 5
- 9<sup>th</sup> grade male hockey player referred for MFE after sustaining 5+ concussions from age 10 – 15. Student reported problems with concentration, focusing, memory, following along in class, and remembering what the teacher said. He also struggled to process information and make transitions from one topic to another. He was followed by Nationwide Children's Hospital Orthopedic Sports Medicine Center and was diagnosed with post-concussive syndrome (mild TBI).



# Case Examples

- Case 5 cont.
- “Post concussive syndrome” refers to the emergence of symptoms after a concussion regardless of the specific mechanism” (Auerbach 1987.) Usually, those with post-concussive syndrome have a normal CT scan, normal MRI, normal EEG, and/or normal neurological evaluation (Krych 2002), but can still have persisting symptoms, as was the case with this student.



# New Law: Sports Concussion

- May 2009- Law passed in Washington regulating when an athlete can return to play after sustaining a concussion
- Law prohibits athletes under 18, who are suspected of sustaining a concussion, from returning to play without a licensed health care provider's written approval.
- Law also requires school districts' develop standard for educating coaches, players, and parents on dangers of concussions and head injuries.
- It is named after a 16 yr. old who suffered a life-threatening brain injury in 2006 returned to play during the same football game following a concussion. He collapsed after the game and had to have 2 emergency brain surgeries. He remains dependent on a wheelchair and needs around-the-clock care.





# Expanding Project to Sports

- Training has expanded to athletic directors and coaches to educate them about potential effects of concussions
- Copies of the CDC's "Heads Up: Concussion in High School Sports" tool kits were provided to athletic trainers/ athletes
- Teamed with OSU Sports Medicine and CCS Athletic Trainers to get ImPACT in our high schools
- Athletic Trainers established referral guidelines to school psych. when an athlete has a concussion



# Outcomes/ Successes

- Awareness about TBI has increased among CCS staff and parents – WORD IS GETTING OUT!
- Number of students referred and identified as TBI has increased.
  - 2006-07 Initials: 10                      Re-evals: 5  
Consultations: 11
  - 2007-08 Initials: 14                      Re-evals: 23  
Consultations: 49
  - 2008-09 Initials: 11                      Re-evals: 13  
Consultations: 41



## Outcomes/ Successes, cont.

- Improved working relationship with NCH Rehab team to foster smooth transition back to school
- Made connections to BIAOH for resources for families
- Made connections with NCH TBI studies for families
- Made connections with OSU/ Dodd Hall support groups
- Gaining notoriety – only school district in Ohio to have such a program...project presented on at local, state and national conferences



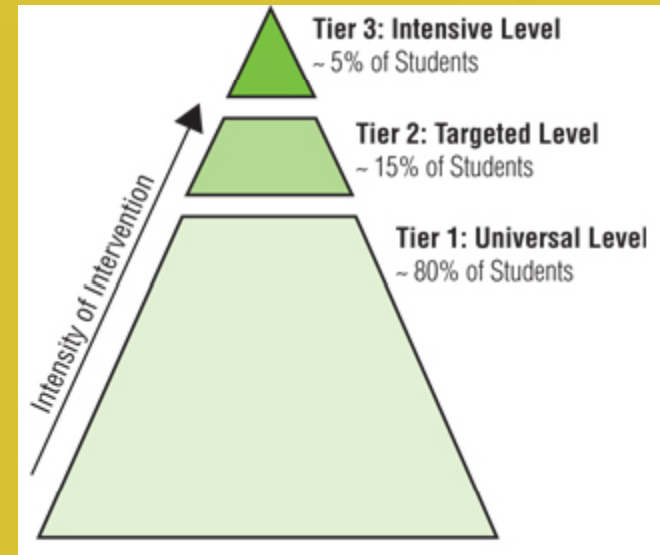
# Expansion Efforts

- Links to community resources:
  - BIAOH, Medical follow-up, AOD Treatment, Mental Health, other Agencies (MRDD, OYA...)
- Making **school psychologists** aware of steps they need to take within their own districts to ensure appropriate service delivery
- “But my district is already taking on RTI and PBS initiatives...”



# School Psychologists: Key Players

- Use these concepts as part of your TBI initiative
- Top-down approach
  - Post TBI, implement ample supports and services
  - Based on frequent progress monitoring data, gradually decrease services





# Eligibility Determination

- There must be documentation of adverse effect
  - The negative impact of the injury/disability on the child's ability to learn and participate in school
  - This negative impact must be substantial
- Some effects of TBI are not apparent until years after the injury. A child can still qualify under the TBI category even if the injury occurred years ago.



# School-Based Evaluation (ETR) vs. Neuropsychological Eval.

- The school-based evaluation focuses on academic achievement and skills (academic and behavioral) needed for success
  - Includes context-specific information, such as ecological assessment of classroom variables
  - Focus is not exclusively on within-child issues
- The neuropsychological evaluation diagnoses learning or behavior disorders caused by altered brain functioning or development.
  - ▣ The school team can use neuropsych eval data to substantiate or draw a contrast to other findings.
    - ▣ must credit the source, specifying dates, instruments, and evaluators



# Intervention Planning: Prioritize Concerns

- What areas most interfere with ability to function?
- What areas can be resolved quickly or compensated for easily?
- Problem areas identified by student
- Problem areas identified by family
- Problem areas identified by school staff
  
- Consider demands of new environments (bus, cafeteria, gym, hall) and the skill needed to be successful in those environments (memorize locker combination)





# Intervention Planning: Four Major Goal Areas

- Improving **cognitive** processes and compensating for new deficits
- Helping student learn or relearn appropriate **behaviors** and social skills
- Helping student adjust **socially and emotionally**
- Helping the student acquire curricular content and ensure **academic** success
- Traumatic Brain Injury: A Guidebook for Educators (2002). State Department of Education Office for Special Education Services, New York.



# Intervention Planning: Educational Approaches

- Teach new skills and concepts (or help relearn)
- Develop compensatory strategies
- Modify the environment to help compensate for losses in physical and cognitive abilities
- Modify teaching approaches



# Compensatory Strategies

- Orientation
  - Attention/Concentration
  - Visual/Perceptual Process
  - Organization
  - Memory
  - Problem Solving
  - Self-Monitoring
- See handout for specific strategies



# Environmental Modifications

- Orientation
  - Attention/Concentration
  - Visual/Perceptual Process
  - Organization
  - Memory
- See handout for specific strategies





# Intervention: Behavioral

- Use previously discussed instructional and compensatory strategies
- Avoid interventions that rely solely on contingency management (rewards and consequences)
- Understand the significant interaction between cognitive and behavioral problems (Ylvisaker, 1993).
- Difference between skill vs. performance deficit



# Intervention Planning: Social and Emotional

- Altered sense of identity & personal expectations
- Changes in friendships
- Stress within families
- COUNSELING can help monitor social and emotional circumstances and assist student in addressing the identified difficulties
  - Rebuild self-image, approach challenges of school and socialization with increased confidence and skill, help child understand and deal with effects/problems.



# Counseling Techniques

- Emphasize strengths and assets
- Reassure of continued improvement
- Teach compensatory strategies
- Set realistic short term goals (collect data)
- Develop skills via cuing, instruction, practice, rehearsal, role playing, monitoring progress
- Give **specific strategies** for use when confronted with decisions, problems, and difficult situations
  - Discussing alternatives and consequences, real life problems the child is facing, providing **feedback** on problem solving process



# Intervention: Progress monitoring

- Assessment must be ongoing, flexible, and sensitive to uneven progress patterns
  - (e.g., CBM)
- Interventions and accommodations should change as natural recovery takes place
- Specify the vehicles to reach the objectives
  - Should focus on promoting independence and functioning in real life situations





# Case Study

- Read the case study in your packet. Using the information you have learned in this workshop, what are specific steps you could take to meet the needs of this student?



## Minute Paper #2

- When you return to work next week, what is one specific thing you can do to better meet the needs of students who have sustained a TBI?



# Contact Information

Susan Davies Gfroerer, Ed.D., NCSP, Assistant Professor  
Department of Counselor Education and Human Services  
University of Dayton  
300 College Park  
Dayton, OH 45469-0530  
937-229-3652  
[gfroersd@notes.udayton.edu](mailto:gfroersd@notes.udayton.edu)

Sara Timms, Ed.S., School Psychologist  
Columbus City Schools  
Psychological Services  
2572 Neil Ave.  
Columbus, OH 43202  
614 - 365 – 5220  
[stimms2576@columbus.k12.oh.us](mailto:stimms2576@columbus.k12.oh.us)