QUALIFYING STUDENTS WITH TBI FOR SERVICES:
LOOKING BEYOND NUMBERS

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DISCLOSURES

No relevant financial or nonfinancial relationships to disclose.

LEARNING OUTCOMES

- Name at least three common deficits associated with TBI
- Provide an explanation as to why only evaluating language is not sufficient to qualify students with a TBI for services
- Name three assessment tools to use with students with a TBI
MATCH IT!
Sample C:

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**GLASGOW COMA SCALE**

<table>
<thead>
<tr>
<th>Response Type</th>
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<th>4</th>
<th>3</th>
<th>2</th>
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<tbody>
<tr>
<td>Eye Opening</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Motor Response</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Verbal Response</td>
<td>5</td>
<td>4</td>
<td>3</td>
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</tbody>
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**BRAIN INJURY STATS**

- Over 812,000 kids aged 17 and under were treated in the ED for TBI
- Over 23,000 TBI-related hospitalizations for children
- 2,529 deaths TBI-related deaths for children
- 283,000 kids were treated in the ED for sports and recreation-related TBI (SRR-TBI)
- 45% of all SRR-TBI cases were due to contact sports
- Activities with the highest number of visits = football, bicycling, basketball, playground activities, etc.

CDC 2016 stats
**BRAIN INJURY STATS**

- Approximately 2.5 million students with TBI in the US educational system annually (Lundine, 2017)

- 27,000 kids with TBI served under IDEA (National Center for Education Statistics, 2017-2018)

**WHY UNDERIDENTIFICATION?**

- Lack of hospital-school communication
- Lack of awareness among educators
- Parent-educator relationships
- More obvious when the deficits are severe
- Lack of physical deficits
- Inefficient/inappropriate testing
- Documentation
- Inconsistent care
- Department of Education – TBI is a “low incidence” educational disability

**COMMON ISSUES AFTER BRAIN INJURY**

- Sensory and Motor
- Attention and Concentration
- Processing Speed
- Memory
- Visual-Spatial
- Language
- Social Skills
- Behavioral
- Executive Functions
- Emotional (sadness, irritability)
COMMON ISSUES AFTER BRAIN INJURY

- Most reported TBI sequelae re: school performance:
  - Progressive lag in academic achievement
  - Executive dysfunction
  - Social/behavioral problems

  (Chung, Prat, Tyler, & Todis, 2012)

COMMON ISSUES AFTER BRAIN INJURY

- No two injuries are the same!
- Some effects are immediate, others aren’t obvious until demands increase
- Earlier injuries usually associated with poorer outcomes
- Academic performance may be inconsistent across domains
- Rapidly changing needs and recovery

- Mild TBI (Concussion):
  - ▶️ MILD TBI – TYPICAL FULL RECOVERY WITHOUT A MONTH
  - ▶️ approx. 10% - 15% of mild TBI demonstrates persistent symptoms

EXECUTIVE FUNCTIONS

- Task initiation
- Self-awareness
- Attentional control
- Time management
- Organization
- Planning
- Working memory
- Goal setting
- Mental flexibility
EXECUTIVE FUNCTIONS

- Impairments are a result of damage to the frontal lobe
- Students may be seen as defiant, lazy, not caring about their work
- Students with executive dysfunction may:
  - Be impulsive
  - Be unorganized
  - Take a long time to respond to questions
  - Not be able to initiate tasks on their own
  - Require constant prompting and reminders, even on the most routine of tasks
  - Struggle with switching gears
  - Be late and unprepared for class
  - Not get the big picture

SOCIAL SKILLS

- Affect daily living and quality of life
- Impaired social function is the most disabling result of a TBI (Semple, Canchola, & Noble-Haeusslein, 2012)
- Students with social skills deficits after a TBI may:
  - Have difficulty interpreting nonliteral/figurative language
  - Have difficulty understanding sarcasm
  - Have difficulty navigating the dating world
  - Have difficulty interpreting nonverbal communication
  - Be disinhibited
- Social skills deficits can have a negative effect on reading comprehension and written language

QUALIFYING STUDENTS

- Typical:
  - School psychologist evaluation (WISC-IV, etc.)
  - SLP evaluation (language test)
  - Teacher report
  - Classroom observation
- IQ score
IDEA

“Traumatic brain injury” means an acquired injury to the brain which is caused by an external physical force and which results in total or partial functional disability or psychosocial impairment, or both, that adversely affects a student's educational performance. The term applies to open or closed head injuries resulting in impairment in 1 or more of the following areas:

(a) Cognition
(b) Language
(c) Memory
(d) Attention
(e) Reasoning
(f) Behavior
(g) Physical functions
(h) Information processing
(i) Speech

(1) The term does not apply to brain injuries that are congenital or degenerative or to brain injuries induced by birth trauma.
(2) A determination of disability shall be based upon a full and individual evaluation by a multidisciplinary evaluation team, which shall include an assessment from a family physician or any other approved physician as defined in 1978 PA 368, MCL 333.1101 et seq.

MSHA GUIDELINES

Knowing that a student is eligible for speech and language service secondary to TBI, SLPs do not need standardized assessment scores for eligibility as the student qualifies under the area of related service, although standardized testing may be helpful for treatment planning.

QUALIFYING STUDENTS - PROBLEMS

- IQ scores are not related to executive functions (Ardila, Pineda, & Rosselli, 2000)
- Language tests — typically look at the form of language (usually preserved)
- Quiet environment
- Learning new skills is more difficult than regaining “lost” skills
- Rate of recovery
- Current assessments focus on discrete cognitive functions — students with TBI will most likely show deficits in situations requiring generalization of previously learned information, retention of information over time, and focusing and monitoring attention (Ylvisaker, 1998)

QUALIFYING STUDENTS

- Interdisciplinary teams: physicians, athletic trainers, nurses, PT, OT, neuropsychologists, teachers, support staff, SP, counselors, etc.
- Curriculum-based assessments
- Teacher and parent reports/surveys
- Standardized tests:
  - Pediatric Test of Brain Injury; ages 6-16
  - S-FAVRES (Functional Assessment of Verbal Reasoning and Executive Strategies – Student Version); ages 12-19
  - CASL-2 (Comprehensive Assessment of Spoken Language, Second Edition); ages 3-21
  - Behavioral Assessment of the Dysexecutive Syndrome for Children (BADS-C); ages 8-16
- On-going, dynamic assessment and frequent monitoring
- Self-reporting measures
- Neuropsychological Report
- Education

COGNITIVE-COMMUNICATION DISORDER

- ASHA defines cognitive-communication disorders as difficulty with any aspect of communication that is affected by disruption of cognition. Some examples of cognitive processes include: attention, memory, organization, problem solving/reasoning, and executive functions.
- Affects activities of daily living, academic performance, and work performance
NEUROPSYCHOLOGISTS

- Psychologists who specialize in understanding how injuries to the brain affect cognitive functions and behaviors.
- Help clarify an individual’s strengths and weaknesses in the context of a learning or developmental disability, medical event, or psychiatric condition.
- Use standardized tests, information about premorbid functioning, and well-developed norms to compare individuals to a peer group to determine if a weakness is an actual deficit.
- Look at different domains of cognitive functioning, psychosocial history, medical history, and personality/mood factors that might be contributing to the current issues.
- Use findings to make recommendations to keep clients safe and moving towards individual goals.

MILD TBI

- Reliance on 1 assessment may not detect subtle changes following a mild TBI (Brown et al., 2019).
- Collaboration with an interdisciplinary team
- Curriculum-based assessment
- CDC Recommendations:
  - Battery of assessments
  - Neurocognitive assessment
  - Self-report measures
  - Post-Concussion Symptom Inventory 2
  - Behavior Rating Inventory of Executive Function 2
- Best predictor of academic problems = self-reported symptom severity and executive dysfunction measures (Ransom et al., 2016)
- Education

MODERATE TBI

- Collaboration with an interdisciplinary team
- Curriculum-based assessment
- Self-report measures:
  - Battery of cognitive assessments/neuropsychologist evaluations
  - Assistive technology
  - Wisconsin Auditory Technology Institute (WATI)
- Education
SEVERE TBI

- Collaboration with an interdisciplinary team
- Functional communication assessment
- Functional Communication Profile Revised
- AAC assessment
- Assistive technology
- Curriculum-based assessment
- Neuropsychological evaluation/cognitive assessments
- Education

RESOURCES

- Colorado Department of Education
- The Brain Check Survey (www.cokidswithbraininjury.com)
- Neuro-QOL (http://www.healthmeasures.net/explore-measurement-systems/neuro-qol)
- CDC HEADS UP Program
- Michigan TBI online learning (http://www.michigantbi.org)

REFERENCES

- Individuals with Disabilities Education Act of 2004, Sec. 300.8 c 12.
REFERENCES (CONTINUED)


