

Etiology and Characteristics of Infants and Young Children with Disabilities

Introduction to Moderate and Severe Traumatic Brain Injury

Sample Syllabus

Course Description

This course provides students with an overview of content areas relevant to providers working with children who have sustained a traumatic brain injury. Weekly topics include an overview of the history of traumatic brain injury (TBI) throughout history, legislation related to TBI in the United States, signs and symptoms, statistics and causes, categories of TBI, prevention, rehabilitation and outcomes, effects on child development, placement and services, and family empowerment.

Required Texts

Batshaw, M. L., Roizen, N. J., & Pellegrino, L. (Eds.). (2019). *Children with disabilities* (8th ed.) Paul H. Brookes.

Catroppa, C., Anderson, V., Beauchamp, M. H., & Yeates, K. O. (2016). *New frontiers in pediatric traumatic brain injury: An evidence base for clinical practice*. Routledge.

<https://doi.org/10.4324/9780203868621>

Turnbull, A. P., Turnbull, H. R., Francis, G., Burke, M., Kyzar, K. K., Haines, S., Gershwin, T., Shepard, K., Holdren, N., & Singer, G. (2021). *Families and professionals: Trusting partnerships in general and special education*. (8th ed.). Pearson.

Course Learning Objectives

As a result of active participation and successful completion of course requirements, students will be able to:

1. Define 'traumatic brain injury' and the different categories of TBI.
2. Discuss common etiologies, signs and symptoms of TBI in infants and young children.
3. Identify evidence-based approaches to treatment and intervention for infants and young children with moderate to severe TBI.
4. Identify the roles and services of direct support professionals, early intervention specialists, special education teachers, and other providers for infants and young children with TBI.
5. Apply interdisciplinary principles and family centered practice to management of TBI in infants and young children.

Readings

- Bagnato, S. J. & Neisworth, J. T. (1985). Efficacy of interdisciplinary assessment and treatment for infants and preschoolers with congenital and acquired brain injury. *Analysis and Intervention in Developmental Disabilities*, 5(1-2), 107-128.
[https://doi.org/10.1016/S0270-4684\(85\)80009-4](https://doi.org/10.1016/S0270-4684(85)80009-4)
- Beauchamp, M. H., Dégeilh, F., Yeates, K., Gagnon, I., Tang, K., Gravel, J., Stang, A., Burstein, B., Bernier, A., Lebel, C., El Jalbout, R., Lupien, S., de Beaumont, L., Zemek, R., Dehaes, M., Deschênes, S., & PERC KOALA Project (2020). Kids' Outcomes and Long-term Abilities (KOALA): Protocol for a prospective, longitudinal cohort study of mild traumatic brain injury in children 6 months to 6 years of age. *BMJ Open*, 10(10), e040603.
<https://doi.org/10.1136/bmjopen-2020-040603>
- Bertullo, G. (2015). History of traumatic brain injury (TBI). *American Journal of BioMedicine*, 3(7). <https://doi:2010.18081/2333-5106/015-06/381-409>
- Brain Injury Association of America. (2021, July 19). *Traumatic Brain Injury Act*.
<https://www.biausa.org/public-affairs/public-policy/traumatic-brain-injury-act>
- Centers for Disease Control and Prevention. (2018). *Report to congress: The management of traumatic brain injury in children*.
<https://www.cdc.gov/traumaticbraininjury/pdf/reportstocongress/managementoftbiinchildren/TBI-ReporttoCongress-508.pdf>
- Ciurea, A. V., Gorgan, M. R., Tascu, A., Sandu, A. M., & Rizea, R. E. (2011). Traumatic brain injury in infants and toddlers, 0-3 years old. *Journal of Medicine and Life*, 4(3), 234–243.
- D'Amato, R. C., & Rothlisberg, B. A. (1996). How education should respond to students with traumatic brain injury. *Journal of Learning Disabilities*, 29(6), 670–683.
<https://doi.org/10.1177/002221949602900611>
- DePompei, R., & Williams, J. (1994). Working with families after TBI: A family-centered approach. *Topics in Language Disorders*, 15(1), 68–81.
<https://doi.org/10.1097/00011363-199411000-00007>
- Gracey, F., Olsen, G., Austin, L., Watson, S., & Malley, D. (2015). Integrating psychological therapy into interdisciplinary child neuropsychological rehabilitation. In J. Reed, K. Byard, & H. Fine (Eds.), *Neuropsychological rehabilitation of childhood brain injury: A practical guide* (pp. 191-214). Palgrave Macmillan.
<https://doi.org/10.1057/9781137388223>
- Keenan, H. T., Clark, A., & Holubkov, R. (2023). Longitudinal developmental outcomes of infants and toddlers with traumatic brain injury. *JAMA Network Open*, 6(1), e2251195.
<https://doi.org/10.1001/jamanetworkopen.2022.51195>

- Kirkwood, M. W., Yeates, K. O., Taylor, H. G., Randolph, C., McCrea, M., & Anderson, V. A. (2008). Management of pediatric mild traumatic brain injury: A neuropsychological review from injury through recovery. *The Clinical Neuropsychologist*, 22(5), 769–800. <https://doi.org/10.1080/13854040701543700>
- Lester, A., Leach, P., & Zaben, M. (2021). The impact of the COVID-19 pandemic on traumatic brain injury management: Lessons learned over the first year. *World Neurosurgery*, 156, 28–32. <https://doi.org/10.1016/j.wneu.2021.09.030>
- Lundine, J. P., Ciccia, A. H., & Brown, J. (2019). The speech-language pathologists' role in mild traumatic brain injury for early childhood-, preschool-, and elementary school-age children: Viewpoints and guidelines from the Centers for Disease Control and Prevention. *American Journal of Speech-Language Pathology*, 28(3), 1371-1376. https://doi.org/10.1044/2019_AJSLP-18-0295
- Mei, C., Anderson, V., Waugh, M. C., Cahill, L., Morgan, A. T., & TBI Guideline Development Group (2018). Evidence- and consensus-based guidelines for the management of communication and swallowing disorders following pediatric traumatic brain injury. *The Journal of Head Trauma Rehabilitation*, 33(5), 326–341. <https://doi.org/10.1097/HTR.0000000000000366>
- Narang, S. K., Fingarson, A., Lukefahr, J., Council on Child Abuse and Neglect, Sirotiak, A. P., Flaherty, E. G., Gavril, C. A. R., Gilmartin, A. B. H., Haney, S. B., Idzerda, S. M., Laskey, A., Legano, L. A., Messner, S. A., Mohr, B., Moles, R. L., Nienow, S., & Palusci, V. J. (2020). Abusive head trauma in infants and children. *Pediatrics*, 145(4): e20200203. <https://doi.org/10.1542/peds.2020-0203>
- Perkins, A., Gracey, F., Kelly, G., & Jim, J. (2022). A new model to guide identity-focused multidisciplinary rehabilitation for children and young people following acquired brain injury: I-ForM. *Neuropsychological Rehabilitation*, 32(8), 1928-1969. <https://doi.org/10.1080/09602011.2022.2100794>
- Rose F. C. (1997). The history of head injuries: An overview. *Journal of the History of the Neurosciences*, 6(2), 154–180. <https://doi.org/10.1080/09647049709525700>
- Saadi, A., Bannon, S., Watson, E., & Vranceanu, A.-M. (2021). Racial and ethnic disparities associated with traumatic brain injury across the continuum of care: A narrative review and directions for future research. *Journal of Racial and Ethnic Health Disparities*, 9(3), 786-799. <https://doi.org/10.1007/s40615-021-01017-4>
- Yue, J. K., Upadhyayula, P. S., Avalos, L. N., & Cage, T. A. (2020). Pediatric traumatic brain injury in the United States: Rural-urban disparities and considerations. *Brain Sciences*, 10(3): 135. <https://doi.org/10.3390/brainsci10030135>

Accommodations

Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 require the institution to provide academic adjustments or accommodations for students with documented disabilities. Students seeking academic adjustments or accommodations must self-identify with the Coordinator of Services for Students with Disabilities on the appropriate campus.

Attendance

Since many of the classes involve activities, videotapes, discussion, etc., regular attendance is vital to gain maximum benefit. Because this is a 15-week course, each class member needs to make every effort to attend each class. Anyone who misses more than one class will lose 5 points for each class missed after the first absence. Significant tardiness or early departure beyond 15 minutes will count as an absence. If you know ahead of time you will not be in class, please contact the instructor the day before the class.

Communicating with the Instructor

All correspondence from the instructor to the students by way of announcements, updates, assignments, and so forth, will be communicated via school email or online learning management system if not verbally in class. It is the student's responsibility to ensure their university e-mail is correct. Failure to do so may result in missing important information that could negatively impact your grade. Please be mindful of professionalism.

Course Outline

The following schedule is subject to change. For any course syllabi posted prior to the beginning of the semester, the course instructor reserves the right to make changes prior to or during the semester. The course instructor will notify students, via e-mail or verbal announcements when changes are made in the requirements and/or grading of this course. ***The course instructor reserves the right to revise the schedule/assignments if needed.***

Course Schedule

Week	Topic	Reading	Activities
1	The brain and nervous system	Batshaw et al., 2019, Ch 8	Weekly Reflection
2	What is traumatic brain injury?	Batshaw et al., 2019, Ch 23 CDC: Traumatic Brain Injury & Concussion: Get the facts about TBI Video: Brainline: Areas of the brain affected by concussion, or mild TBI	Weekly Reflection
3	History of TBI	Catroppa et al., 2016, Introduction, Ch 1 Bertullo, 2015 Rose, 1997	Weekly Reflection
4	Legislation	Brain Injury of Association of America; 2021 <ul style="list-style-type: none"> • Traumatic Brain Injury Act of 1996 • TBI Amendments of 2000 • TBI Act of 2008 • TBI Reauthorization Act of 2014 • TBI Program Reauthorization Act of 2018 	Discussion Prompt: How do federal policies (e.g., the Traumatic Brain Injury Act) and CDC guidelines shape educational responses to TBI, and what gaps still exist in practice? Weekly Reflection
5	TBI in children: Etiologies	Batshaw et al., 2019, Ch 23 Catroppa et al., 2016, Ch 2, 3 Ciurea et al., 2011 Narang et al., 2020 Yue et al., 2020	Weekly Reflection Assignment: Small groups: Case Study: Zander

Week	Topic	Reading	Activities
6	Assessment	Catroppa et al., 2016, Ch 4, 5, 6	Discussion Prompt: How do interdisciplinary and collaborative assessment models (e.g., Bagnato & Neisworth, 1985; Goodman & Wittenstein, 2003) improve outcomes for children with TBI? Weekly Reflection
7	Rehabilitation: Treatments and Interventions II	Catroppa et al., 2016, Ch 9 & 10 Centers for Disease Control and Prevention, 2018 Kirkwood et al., 2008	Weekly Reflection Assignment: Small groups: Case Study: Ryan
8	Rehabilitation: Treatments and Interventions II	Gracey et al., 2015 Mei et al., 2018 Perkins et al., 2022 American Academy of Physical Medicine and Rehabilitation (AAPM&R): Pediatric traumatic brain injury (moderate to severe) American Speech-Language-Hearing Association (ASHA): Pediatric traumatic brain injury	Weekly Reflection <i>How can educators and SLPs address communication and cognitive challenges following TBI (e.g., Mei et al., 2018; Nicholas, 2020)?</i>

Week	Topic	Reading	Activities
9	Placement and Services: School Part I	<p>Turnbull et al., 2021, Ch 5</p> <p>D'Amato & Rothlisberg, 1996</p> <p>Brainline: Children with TBI: School & Education: IEP and accommodations</p> <p>Brainline: Children with TBI: School & Education: Resources for Educators</p>	<p>Weekly Reflection</p> <p>In-Class Activity: Divide students into small groups and ask them to:</p> <ul style="list-style-type: none"> • Review Brainline's recommendations for IEP development and accommodations. • Identify three priority areas for support (e.g., cognitive, behavioral, communication). • Draft sample IEP goals and classroom accommodations using Brainline's guidance.

Week	Topic	Reading	Activities
10	Placement and Services: School Part II	<p>Turnbull et al., 2021, Ch 5 & 6</p> <p>Lundine et al., 2019</p> <p>Brainline: Children with TBI: School & Education: Resources for Parents</p> <p>CDC: Pediatric mTBI Guideline: At A Glance: Treatment</p> <p>CDC: Pediatric mTBI Guideline: Letter to schools to be filled in by healthcare providers</p>	<p>Weekly Reflection</p> <p>In-Class Activity: Identify three key takeaways from the Brainline resource that would be most helpful to Maria’s family. Develop a family support plan that includes:</p> <ul style="list-style-type: none"> • Communication strategies between school and home • Guidance on navigating IEPs and accommodations • Emotional support and advocacy tips
11	Outcomes	<p>Catroppa et al., 2016, Ch 7 & 8</p> <p>Bagnato & Neisworth, 1985</p> <p>Beauchamp et al., 2020</p> <p>Keenan et al., 2023</p>	<p>Weekly Reflection</p> <p>Discussion Prompt: Across decades of research—from early interdisciplinary models to contemporary longitudinal studies—what do we now understand about the developmental, cognitive, and behavioral outcomes of young children with traumatic brain injury? How should this knowledge shape educational planning, early intervention, and family support?</p>

Week	Topic	Reading	Activities
12	Disparities	CDC: Health disparities and TBI Lester et al., 2021 Saadi et al., 2021 Yue et al., 2020	Weekly Reflection Discussion Prompt: What do the research findings on racial, ethnic, and geographic disparities (e.g., Saadi et al., 2021; Yue et al., 2020) suggest about advocacy and equitable service delivery?
13	Family Empowerment I	Turnbull et al., 2021, Ch 1 DePompei & Williams, 1994 Video: How TBI affects our family, Part 1 Brainline: Children with TBI: School & Education: Resources for Parents	Weekly Reflection Discussion Prompt: What strategies can educators use to support families navigating the emotional and logistical challenges of TBI (e.g., DePompei & Williams, 1994; Kyzar et al., 2016)?
14	Family Empowerment II	Turnbull et al., 2021, Ch 4 Video: How TBI affects our family, Part 2	Weekly Reflection
15	Course Wrap Up		Final Presentations Final Paper

Instructions for Assignments

1. Weekly Reflection

Reflect on the content for this part of the course. Answer the following questions:

- What are your three most significant “take home” insights? (50 words or fewer for each insight)
- What are the two most important questions you would like to pose related to the topic that weren’t covered?

2. Assignment: Case Study: [Zander](#)

View Zander’s video. As a small group, discuss Zander’s case. Following the small group and large group discussions, submit a 1-2 page summary of the case and main discussion points.

3. Assignment: Case Study: [Ryan](#)

View Ryan’s video. As a small group, discuss Ryan’s case. Following the small group and large group discussions, submit a 1-2 page summary of the case and main discussion points.

4. Final Paper & Presentation

In a paper (at least 12 pages double-spaced, APA format), complete the following:

You have been hired at a school or agency that works with infants and young children with developmental disabilities and you have been assigned to work with a family whose child has recently been diagnosed with TBI by their pediatrician/primary care provider. First, describe the etiology of the TBI and the family. You may use examples from the case studies, use a family that you have a personal connection to, or make up a family that fits the criteria for a TBI diagnosis. Choose an assessment method and create a treatment plan with at least three (3) goals for the infant or young child. Identify at least two additional professionals who should also be involved with the infant or young child and family. Discuss each professional’s roles and how you will work with them on an interdisciplinary team. Develop a plan to establish and maintain a family-professional partnership. Explain how you will know if your partnership is successful. Identify at least three (3) potential challenges the family and the interdisciplinary team may face. Using the Turnbull text, describe how principles of equity, trust, and social justice can address barriers.

Prepare a 15-minute presentation that describes the infant or young child and family, your assessment, treatment plan and goals, interdisciplinary team, and the risk and protective factors to establishing and maintaining a family-professional partnership.

Course Grading

Assignments are due by 11:59pm on the indicated date. Late assignments without previous written approval of the instructor will incur a 50% penalty for the first time and lose all points beyond. This instructor and learners are required to adhere to the University's Academic Integrity policy. Any plagiarism will not be tolerated and referred to the Academic Integrity Office. The learner will be given an "F" in the course and be recommended to the Student Conduct Office.

Learners will be evaluated based upon the assignments described below. The plus/minus grading system and scale is as follows:

Letter Grade	Grade Range
A	93 and above
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D	60-69
F	59 and below

Requirement	Weight for final grade
Weekly reflections	25%
Case Study Assignments (2)	25%
Final Paper	25%
Final Presentation	25%

Resources

Resources to supplement the Syllabus:

- [American Academy of Physical Medicine and Rehabilitation: Pediatric TBI](#)
- [ASHA: Pediatric Traumatic Brain Injury](#)
- [Brain Injury Association of America](#)
- [Brain Injury Association of America: Brain Injury Fundamentals Certificate](#)
- [BrainLine: All about brain injury and PTSD](#)
- [CDC: Traumatic Brain Injury & Concussion: CDC Pediatric mTBI Guideline](#)
- [CDC: Traumatic Brain Injury & Concussion: Get the facts about TBI](#)
- [Center for Parent Information & Resources: TBI](#)
- [MSKTC: Returning to school after TBI](#)
- [National Institute of Neurological Disorders and Stroke](#)

Journals in EI/ECSE

Below are examples of journals that publish topics about EI/ECSE. Faculty may want to explain how to use articles to support practice and to examine current research. Clarify the difference between practitioner-based journals and research-based journals.

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| • <i>Brain Injury (Official Journal of the International Brain Injury Association (IBIA))</i> | • <i>Journal of Head Trauma Rehabilitation</i> |
| • <i>Exceptional Parent Magazine</i> | • <i>Journal of Neurotrauma</i> |
| • <i>Infants and Young Children</i> | • <i>Journal of Special Education Technology</i> |
| • <i>International Journal of Early Childhood Special Education</i> | • <i>Rural Special Education Quarterly</i> |
| • <i>Intervention in School and Clinic</i> | • <i>Teaching Exceptional Children</i> |
| • <i>Journal of the American Medical Association</i> | • <i>Topics in Early Childhood Special Education</i> |
| • <i>Journal of Early Hearing Detection and Intervention</i> | • <i>Young Children</i> |
| • <i>Journal of Early Intervention</i> | • <i>Young Exceptional Children</i> |

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