

neuro-occupational therapy, biofeedback, online exercises (e.g., brain games), and mindfulness/psychosocial group therapy sessions.

Main Outcome Measures: Daily PCSS scores.

Results: Three latent subgroups emerged; Mild, Responders, and Delayed; all with unique profiles of response to treatment. While all groups displayed significant improvement (reduced symptom endorsement) by the end of the treatment, the three distinct response trajectories may reflect a spectrum of symptom severity within mTBI that plays an important role in the timing of treatment response.

Conclusions: Implications of differing severity amongst mTBI and clinical implications for differing treatment times in novel setting. Treatment approaches may benefit from considering symptom severity within mTBI to individualize treatment and expedite recovery processes with a minimum of healthcare utilization.

Author(s) Disclosures: No conflicts to declare.

Keywords: Neurorehabilitation, PCS, Latent Subgroup

Late Breaking Research Poster 1432860

Assessing the Impact of the Timing of a Psychiatric Diagnosis on mTBI Rehabilitation



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Research Objectives: To investigate the impact of a pre-injury psychiatric diagnosis on response to a 4-day PCS treatment in a cohort of 117 individuals with a comorbid psychiatric diagnosis.

Design: PCS symptoms were assessed at baseline and post-treatment using the Post-Concussion Symptom Scale (PCSS) and a Repeated-Measures ANOVA (RMANOVA) was conducted.

Setting: Novel PCS treatment setting.

Participants: 117 participants with PCS and comorbid psychiatric diagnosis.

Interventions: Four day rehabilitation treatment using various neuro-rehabilitative methods including: neurocognitive therapy, vestibular and ocular therapy (Dynavision™), neuromuscular therapy, neuro-occupational therapy, biofeedback, online exercises (e.g., brain games), and mindfulness/psychosocial group therapy sessions.

Main Outcome Measures: PCSS scores.

Results: No significant findings from RMANOVA, findings indicated that the timing of a psychiatric diagnosis (before or after sustaining a mTBI) was not significantly associated with symptom report at baseline or post-treatment.

Conclusions: In the context of this novel treatment, the rehabilitative potential of mTBI patients was independent of pre-injury psychiatric diagnosis.

Author(s) Disclosures: There are no conflicts to declare.

Keywords: mTBI, Psychiatric Disorder, PCS

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Assessment and Intervention of mTBI-related Disorders by SLPs: A Scoping Review



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Research Objectives: The purpose of this study was to complete two rigorous scoping reviews that examined two study questions:

1. What treatments exist for children and adults with mTBI or concussion and resulting speech, language and/or cognitive-communication disorders?

2. What assessment techniques exist for children and adults with mTBI or concussion and resulting speech, language and/or cognitive-communication disorders?

Design: Scoping review.

Setting: Academic medical center.

Participants: Adults and children with mild traumatic brain injury.

Interventions: Not Applicable.

Main Outcome Measures: Four databases (PubMed, CINAHL, Scopus, PsycInfo), grey literature and relevant journals were searched with specific inclusion and exclusion criteria based on analysis of text words and index terms. Keywords and index terms were chosen and combined with Boolean Operators OR and AND. The search was limited to a date range of 1987-2020 and only articles in English were included. Quality assessment was implemented using American Academy of Neurology measures for grading evidence. Rigor was ensured through use of the PRISMA Extension for Scoping Reviews (PRISMA-ScR) Checklist.

Results: Preliminary results indicated treatment studies that were classified into three categories: metacognitive, educational and domain-specific. Assessment studies were categorized into three categories as well: cognitive-communication, speech and language and neurobehavioral assessments. The review also resulted in identifying a number of significant gaps in the scientific base of mTBI-related speech, language and cognitive-communication disorder treatment and assessment. These gaps include a paucity of studies, a lack of a well-understood natural history of recovery of the disorders examined and a still-emerging precise characterization of speech, language and cognitive-communication performance after mTBI. **Conclusions:** Results of this scoping review identified clinical and research gaps in the literature base regarding management of mTBI-related speech, language and cognitive-communication disorders. Clinical implications for management of these disorders by speech-language pathologists are discussed. Recommendations for future research are included, which emphasize the need to increase the evidence base for this rapidly growing clinical population.

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Keywords: Speech-Language Pathologists, Mild Traumatic Brain Injury, Assessment, Treatment, Cognitive-Communication

Late Breaking Research Poster 1432842

Assistive Effects of Dynamic Weight Support on Open-area Overground Mobility of Infants With Down Syndrome Over Time: A Report of Two Cases



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Research Objectives: To assess the ability of infants with motor delays to use dynamic body weight support (DBWS) to alter their mobility during free-play activities in two different dosing participation and interaction paradigms.

Design: Two case studies with repeated measures during a 1-month (Case 1) and a 10-month period (Case 2).

Setting: Research laboratory on a university campus (Case 1) and participant's home (Case 2).

Participants: A 24-month old male (Case 1) and an 11-month old female (Case 2) diagnosed with Down syndrome.

Interventions: In each session, participants under DBWS were encouraged in open-area active exploration activities by socially-assistive robots (Case 1: twice/week) and caregivers (Case 2: average 4 times/week—dependent on family's convenience).

Main Outcome Measures: In Case 1, all sessions (N=8) were video-recorded and used for assessment. In Case 2, separate in-lab monthly assessment sessions (N=9) were video-recorded. The head location in 2D space was digitized offline from video-recordings of the ceiling-mounted camera to obtain the x,y coordinates at each frame. The average total path length per minute was computed to describe differences in mobility with and without DBWS.

Results: Overall, participants demonstrated greater mobility with DBWS in the majority of sessions (Case 1: 75%, Case 2: 100%) which increased over time. In Case 1 (short-term, low-dose paradigm), there was an interaction effect arising from the participant moving less with DBWS initially (session 1–2 average difference: –183cm/min) and more later on (session 3–8 average difference: 13 cm/min).

Conclusions: Infants with limited independent mobility seem to immediately utilize the effect DBWS devices have on the biomechanical