seed-to-voxel analysis using a SBN mask and targeted regions of interest within the DMN and SN. Individual-level r-to-z correlations were extracted from resulting clusters of co-activation with the SBN mask and exported into SPSSv28.0 for integration with behavioral data.
Results: One-way ANOVAs used to examine group differences in social and adaptive outcome revealed significant group differences in CBCL Social Competence (F=4.49, p=.019) and all composite scores on the ABAS-3 (Fs=3.78 to 5.17, ps=.031 to .010). In each domain, children with msTBI were rated as having elevated difficulties relative to cmTBI or OI, whereas cmTBI and OI groups did not differ. Connectivity also differed significantly between groups, with children with OI demonstrating greater connectivity between the SBN and the anterior cingulate cortex of the SN (t=5.19, p(FDR)<.0001) and posterior cingulate cortex of the DMN (t=4.30, p(FDR)<.001) than children with msTBI. Children with cmTBI also showed greater connectivity between the SBN and left temporal pole of the DMN (t=7.45, p(FDR)<.000001) than children with msTBI. Degree of connectivity between the SBN and posterior cingulate was significantly positively correlated across all domains of adaptive function (rs=.451 to .504, ps=.010 to .003), whereas degree of connectivity between the SBN and left temporal pole was strongly positively related to Social Competence (r=.633, p=.006) and conceptual adaptive skills on the ABAS (r=.437, p=.037).
Conclusions: Our findings provide insights into the neural substrates of social and adaptive morbidity after pediatric TBI, particularly msTBI, by linking alterations in connectivity among the SBN, DMN, and SN with measures of social and adaptive outcome. While the posterior cingulate was broadly associated with adaptive outcome, the temporal pole was particularly strongly associated with social competence. This may reflect the diverse functions and high degree of interconnectivity of the posterior cingulate, which contributes to various cognitive and attentional processes, relative to the strong amygdala/limbic connections of the temporal pole.

Categories: Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Child)
Keyword 1: neuroimaging: functional connectivity
Keyword 2: social processes
Keyword 3: pediatric neuropsychology
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2 Infant Imitation: Detecting Risk in the First Year with PediaTrac™

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Objective: Imitation has pervasive associations with social and communicative development. However, few methods have been developed to measure this construct in typically developing infants, and even less is available for at-risk populations, such as infants born preterm. Autism spectrum disorder (ASD), a particular risk of premature birth, is associated with atypical imitation and social communication. Although imitation emerges in infancy, most current screening and diagnostic tools for ASD cannot be utilized prior to 12 months. The present study aimed to develop and validate a caregiver-report measure of infant imitation, characterize imitation profiles at 4, 6, and 9 months in term and preterm infants, and explore the relationship between imitation and scores on an ASD screening questionnaire at 18 months.
Participants and Methods: Participants (N = 571) were recruited from a larger multi-site study of PediaTrac™ v3.0, a web-based tool for monitoring and tracking infant development, and were surveyed longitudinally at birth, 2, 4, 6, 9, 12, 15, and 18 months. Participants completed the online PediaTrac™ survey and several reliable and validated questionnaires via pen-and-paper format. For the purposes of this study, only the Ages and Stages Questionnaire (3rd ed.; ASQ-3), Communication and Symbolic Behavior Scales-Developmental Profile (CSBS-DP), Brief Infant Sleep Questionnaire (BISQ), and the Modified Checklist for Autism in Toddlers – Revised with Follow-Up (M-CHAT-R/F) were examined. The following hypotheses were tested: (1) proposed imitation items will represent a unitary latent construct, for which convergent and discriminant validity will be demonstrated, (2) there will be measurement

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invariance between term status groups at each assessment period, (3) preterm infants will obtain lower caregiver-reported imitation scores compared to term infants, and (4) imitation abilities at the assessment period with the most robust imitation factor will predict M-CHAT-R/F scores at 18 months.
Results: Distinct imitation factors at 4, 6, and 9 months were modeled with confirmatory and exploratory factor analyses. Relationships between the factors and established measures of infant communication (CSBS; ASQ) and sleep (BISQ) revealed convergent and discriminant validity, respectively. Strict measurement invariance was demonstrated for the 4- and 9-month factors, and metric invariance for the 6-month measure. Full term infants scored higher on imitation at 9 months, though variance in this outcome was related to term status differences in sensorimotor skills. Lastly, the 9-month imitation factor, coupled with 6-month sensorimotor skills, predicted 18-month ASD risk over and above gestational age.
Conclusions: This study provides support for the assessment of infant imitation, utilizing imitation to detect risk in preterm infants, and extending the age of identification for ASD risk into the first year. PediaTrac™ imitation, in combination with the PediaTrac™ sensorimotor domain, may be useful in detecting developmental risk, and specifically risk for ASD, within the first year, leading to earlier initiation of intervention. Further, with its minimal completion time and ease of dissemination through digital platforms, this measure can expand access to care and improve long-term outcomes for children and families.

Categories: Autism Spectrum Disorders/Developmental Disorders/Intellectual Disability
Keyword 1: prematurity
Keyword 2: autism spectrum disorder
Keyword 3: test development
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3 Clinical Utility of Neurocognitive Monitoring During Therapy in Survivors of Childhood Acute Lymphoblastic Leukemia (ALL)

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Objective: Survivors of childhood ALL treated with CNS-directed chemotherapy are at risk for neurocognitive deficits that emerge during treatment and impact functional and quality of life outcomes throughout survivorship. Neurocognitive monitoring is the recommended standard of care for this population; however, information on assessment timing and recommendations for assessment measures are limited. We examined the role of serial neurocognitive monitoring completed during protocol-directed therapy in predicting parent-reported neurocognitive late effects during survivorship.
Participants and Methods: Parents of 61 survivors of childhood ALL completed a semi-structured survey focused on parent perspective of neurocognitive late effects as part of a quality improvement project. Survivors completed protocol-directed treatment for newly diagnosed ALL on two consecutive clinical trials (St. Jude Total Therapy Study 15, 47.5%; Total Therapy 16, 52.5%). The majority of survivors were White (86.9%), 52.5% were male, and 49% were treated for low risk disease. Mean age at diagnosis was 7.77 years (standard deviation [SD] = 5.31). Mean age at survey completion was 15.25 years (SD = 6.29). Survivors completed neurocognitive monitoring at two prospectively determined time points during and at the end of protocol-directed therapy for childhood ALL.
Results: During survivorship, parents reported that 73.8% of survivors experienced neurocognitive late effects, with no difference in frequency of endorsement by protocol (p = .349), age at diagnosis (p = .939), patient sex (p = .417), or treatment risk arm (p = .095). In survivors with late effects, 44.3% sought intervention in the form of educational programming (i.e., 504 or Individualized Education Program). Among the group with late effects, compared to those without educational programming, those with educational programming had worse verbal learning (CVLT Trials 1-5 Total, Mean[SD]; *T* = 56.36 [11.19], 47.00 [10.12], *p* = .047) and verbal memory (CVLT Short Delay Free Recall, *Z* = 0.86 [0.67], -0.21 [1.01], p = .007); Long Delay Free Recall,

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