

their surgical candidacy work-up. Pearson correlation analysis was conducted to examine the correlations between performance on objective measures of full-scale IQ, and parent ratings on questionnaires assessing parent perception of the patients' overall adaptive functioning, social skills, and social problems.

**Results:** As expected, earlier age of onset was associated with lower IQ, which itself was associated with weaker overall daily living skills and social skills. Later age of seizure onset was associated greater social problems. Social skills were not correlated with social problems.

**Conclusions:** The results of this study suggest that children with later age of onset of seizures, are at increased risk of social problems and that these problems may not related to social skill impairment. Implications for clinical practice and future directions are discussed.

**Categories:** Epilepsy/Seizures

**Keyword 1:** epilepsy / seizure disorders

**Keyword 2:** adaptive functioning

**Keyword 3:** social cognition

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### 43 Laterality of Hippocampal Volume Differentially Predicts Verbal Versus Nonverbal Memory Performance

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**Objective:** Epilepsy is a chronic neurological disease, and surgery is a common treatment option for persons who do not respond to medication. Neuropsychology plays an important role in the epilepsy presurgical workup, characterizing the cognitive functioning of patients with epilepsy as well as assisting in the determination of which hemisphere seizures originate in the brain through testing of different cognitive functions. NeuroQuant is a relatively newer software that analyzes clinical neuroimaging to quantify brain volume. The objective of this study was to determine if changes in left versus right total hippocampal volume predicted changes in verbal versus nonverbal memory performance.

**Participants and Methods:** Cognitive performance and NeuroQuant bilateral hippocampal volume were examined in a cross-sectional sample of 37 patients with epilepsy. All patients had undergone a comprehensive presurgical neuropsychological evaluation as well as magnetic resonance imaging (MRI) and these results were analyzed using a series of linear regression analyses.

**Results:** Total left hippocampal volume was a significant predictor of delayed verbal free recall (RAVLT  $F(1, 31) = 4.79, p < .036, R^2 = 0.13,$  and  $\beta = .37, p < .036$ ). Even when controlling for the effects of biological sex, education, and depression, left hippocampal volume remained a significant predictor ( $\beta = .42, p < .025$ ). Total left hippocampal volume did not predict other verbal memory scores. Total right hippocampal volume was a significant predictor of delayed nonverbal figure recall (RCFT  $F(1, 31) = 6.46, p < .016, R^2 = .17$  and  $\beta = .42, p < .016$ ). When controlling for the effects of biological sex, education, and depression, right hippocampal volume remained a significant predictor ( $\beta = .404, p < .026$ ). Total right hippocampal volume did not predict other nonverbal memory scores.

**Conclusions:** These findings validate prior research demonstrating the importance of the left hippocampus in verbal memory and right hippocampus in nonverbal memory. Findings also demonstrate the clinical utility of neuropsychological evaluation in determining laterality in the epilepsy presurgical workup process, as well as support NeuroQuants' inclusion as an additional consideration in that process.

**Categories:** Epilepsy/Seizures

**Keyword 1:** epilepsy / seizure disorders

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### 44 Finding the Onramp: Understanding Access to Neuropsychological Evaluation in New Onset Pediatric Epilepsy

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**Objective:** Approximately half of all children and adults newly diagnosed with epilepsy also show behavioral and/or cognitive difficulties upon evaluation. While neuropsychological screening is recommended as a routine part of care at seizure onset, in reality, access to care is often restricted by many factors. In order to better define the extent of the problem, we developed a survey to understand how frequently youth with new onset epilepsy currently undergo neuropsychological evaluation or screening and whether virtual assessment tools are used to extend access to care.

**Participants and Methods:** We created an online survey to better understand new onset epilepsy care provided within neuropsychological practice settings in the United States and Canada. The survey was disseminated via multiple listservs (e.g., AACN listservs, APPCN, PERF neuropsychologists) and respondents included 45 neuropsychologists. Survey questions were grouped by the following domains: 1) location characteristics (e.g., urban versus rural location, type of practice, affiliation with comprehensive epilepsy center); 2) volume of new onset epilepsy patient cases (e.g., number of neuropsychologists within practice who see new onset patients, percentage of new onset cases who received neuropsychological evaluations/screeners, wait time), and 3) tele-neuropsychology procedures (e.g., use of virtual testing, frequency of virtual testing, frequency of virtual intakes/feedbacks).

**Results:** Practice locations of the 45 respondents included academic medical center (n=34, 75.6%), community medical center (n=10, 22.2%), and private practice (n=1, 2.2%). All but one respondent practiced in an urban setting. Respondents were generally affiliated with Comprehensive Epilepsy Centers (level 3 or 4) (n=39, 86.7%). Practice settings typically included  $\leq 3$  epilepsy neuropsychologists (n=29, 65.9%). Of interest, neuropsychological evaluation of new onset pediatric epilepsy patients generally ranged from 0-25% of cases (n=32, 71%; mode=11-25%). Reported barriers included: insurance, poor access to rural populations, interdisciplinary communication, departmental referral patterns, limited number of providers, and need to prioritize pre-surgical patients. In terms of access, neuropsychology waitlist times for patients with nonsurgical epilepsy ranged from <1 to 6 months (n=34, 75%) with an equal proportion of patients waiting 1-3 months (33%) and 4-6 months (33%). Tele-

health was not frequently utilized in non-surgical epilepsy test administration (Do not use, n=39; 86.7%), but frequently incorporated for non-testing purposes (i.e., intakes, feedbacks) (n=40, 88.9%).

**Conclusions:** Results of this provider survey indicate that children with new-onset epilepsy do not routinely undergo neuropsychological evaluation ( $\leq 25\%$ ). Barriers included prioritizing presurgical workups, referral patterns, access to care, and limited provider bandwidth. Clearly, there is a need to improve access to care. Possible solutions include developing more time efficient screening batteries with measures most sensitive to early cognitive and psychosocial deficits, and incorporating the use of virtual technology all in the service of improving the lives of children with epilepsy.

**Categories:** Epilepsy/Seizures

**Keyword 1:** epilepsy / seizure disorders

**Keyword 2:** teleneuropsychology

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#### 45 Can Surgical Ablation Modify a Developmental Visuospatial Impairment in Periventricular Nodular Heterotopia? A Case Study

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**Objective:** Periventricular nodular heterotopia (PVNH) is a malformation of cortical development (MCD) characterized by aggregates of gray matter adjacent to the lateral ventricular walls. Clinical presentation is heterogeneous with higher rates of seizures and reading impairments typically in the setting of average IQ (Felker et al. 2011). The majority of neuropsychological inquiry has focused on reading fluency, though a single case study showed a neurocognitive profile consistent with nonverbal learning deficits in a 7-year old boy with suspected autosomal dominant bilateral heterotopia (McCann et al., 2008). Given the periventricular focus and potential for unilateral presentations, non-linguistic neurocognitive sequelae may be expected in cases affecting