

large effect sizes were found for GP NDH and parent-reported EF (BRIEF-2 GEC:  $r(15) = -.45$ ,  $p = .07$ ,  $d = 1.01$ ) and performance-based phonemic fluency (D-KEFS–Letter Fluency:  $r(13) = .31$ ,  $p = .20$ ,  $d = .65$ ).

**Conclusions:** Our findings suggest that FM, EF, and ADHD are related in youth with FLE; however, these relations appear to vary by skill and hand. We posit that our findings are due in part to the frontal-cerebellar networks given their anatomic proximity between frontal motor areas and the dorsolateral prefrontal cortex – as well as their shared functional involvement in these networks. Future studies should evaluate the predictive validity of initial FM skills for later executive dysfunction and ADHD symptomatology in FLE. If such relations emerge, contributions of early FM interventions on EF development should be examined. Further replication of these findings with a larger sample is warranted.

**Categories:** Epilepsy/Seizures

**Keyword 1:** epilepsy / seizure disorders

**Keyword 2:** executive functions

**Keyword 3:** pediatric neuropsychology

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### 39 Neurodevelopmental Complexity of a Patient with Perinatal Right Middle Cerebral Artery Stroke and Infantile Spasms

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**Objective:** A rich literature exists on cognitive changes related to focal injury in the adult brain. In contrast, the developing brains of children are less understood. In contrast to adult cases, 20% to 25% of perinatal strokes result in language disorder regardless of lesion lateralization.

Existing literature suggests children with perinatal stroke may present with a range of executive functioning and visuospatial processing difficulties. Gross and fine motor challenges are also likely to occur. Furthermore, these children have an increased prevalence of autism spectrum disorder (ASD) and carry the highest risk for epilepsy. Despite growing research on neurodevelopmental profiles in patients with perinatal stroke, published literature is limited.

**Participants and Methods:** Our study examines neurodevelopment of a 2-year-old, right-handed male with a history of perinatal ischemic right middle cerebral artery (MCA) stroke, infantile spasms, and left hemiparesis following right hemispherectomy for seizure management who underwent two neurodevelopmental evaluations at our medical center over approximately 3 years.

**Results:** Findings from the patient's evaluation with the Mullen Scales of Early Learning revealed overall cognitive ability in the low average range (SS = 89, 23rd percentile); however, notable variability was seen in his performance. His receptive language was average (SS = 98, 45th %tile) and consistent with previous evaluation results, and he has made gains in visual reception (from SS = 75, 5th %tile to SS = 91, 27th %tile) and expressive language (from SS = 55, 0.1st %tile to SS = 70, 2nd %tile). In addition, his gross motor was exceptionally low (SS = 55, 0.1st %tile) and consistent with previous evaluation results. Fine motor was low average (SS = 84, 14th %tile).  
**Conclusions:** Our patient showed cognitive gains in language and visual reception since his prior evaluation despite history of right MCA stroke and right hemispherectomy. Improvements are likely due to a combination of early brain plasticity and intensive therapies he has received. Consistent with published findings in this population, he experienced seizures associated with his stroke. Our results add to the limited literature on neurodevelopmental challenges associated with perinatal stroke and progress that can be made when appropriate supports are provided early and consistently.

**Categories:** Epilepsy/Seizures

**Keyword 1:** pediatric neuropsychology

**Keyword 2:** stroke

**Keyword 3:** epilepsy / seizure disorders

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#### 40 Performance validity in a presurgical epilepsy population

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**Objective:** To examine whether suboptimal performance as determined by formal validity testing would predict neurocognitive scores in a sample of 83 pre-surgical, non-litigating epilepsy patients.

**Participants and Methods:** Participants were 83 patients who underwent comprehensive outpatient neuropsychological testing as part as their evaluation as epilepsy surgery candidates. The sample consisted of 41 females and 42 males, with 72 patients identifying as White, 5 as Black, 2 as Hispanic, 1 as Asian, and 2 as other. Mean age was 36 (SD=12.4) mean FSIQ was 87 (SD=12.7), mean years of education of 12.9 (SD=2.1). Each patient's assessment included a stand-alone performance validity test (PVTs)—Word Memory Test (WMT), the Test of Memory Malingering (TOMM), or the Medical Symptom Validity Test (MSVT)—as well as two embedded measures of validity—the California Verbal Learning Test Forced Choice (CVLT FC) and WAIS-IV Reliable Digit Span (RDS). Pass/fail rates were analyzed, with valid performance being defined as pass score on at least two of the completed PVTs (N=73 Pass Effort group 86.9%; N=10 Failed Effort group 11.9%). Point-biserial Pearson correlations were conducted to determine the relationship between validity pass/fail status and WAIS-IV FSIQ, VCI, and PRI scores, CVLT-II Trials 1-5 Total T scores, CVLT-II Long Delay Free Recall z scores, WMS-III Logical Memory II T scores, BVMT Total Recall T scores, BVMT Delayed Recall T scores, and Trail Making Test (TMT) B T scores.

**Results:** Significant relationships were found between Failed Effort group and all neurocognitive scores except BVMT Total Recall. On average, the Failed Effort group obtained significantly lower FSIQ (M=76.57, SD=10.94), VCI (M=80.89, SD=16.03), PRI

(M=81.00, SD=14.91), CVLT-II Trials 1-5 Total (M =34, SD=6.89), CVLT-II Long Delay Free Recall (M =-2.44, SD=1.43), WMS-IV Logical Memory II (M =4.83, SD=2.79), BVMT Delayed Recall (M=26.38, SD=6.41), and TMT B (M=29.70, SD=11.46) standard scores compared to the Pass Effort group (FSIQ M=88.09, SD=12.52; VCI M=92.13, SD=13.61; PRI M=91.14, SD=12.06; CVLT-II Trials 1-5 Total M=47.86, SD=12.02; CVLT- II Long Delay Free Recall M=-.44, SD=1.11; WMS-III Logical Memory II M=8.41, SD=3.17; BVMT Delayed Recall M=39.19, SD=12.66; TMT B M=39.34, SD=13.18). Correlation coefficients were  $r=-.266^*$  (FSIQ),  $r=-.255^*$  (VCI),  $r=-.271^*$  (PRI),  $r=.361^{**}$  (CVLT-II Total),  $r=-.474^{**}$  (CVLT-II LDFR),  $r=-.298^{**}$  (WMS-IV LM II),  $r=-.308^{**}$  (BVMT DR), and  $r=-.240^*$  (TMTB). All coefficients were significant at the .05 (\*) or .01 (\*\*) level.

**Conclusions:** Results suggest that pass/fail status on formal validity testing predicts depressed performance on a variety of neurocognitive measures. Therefore, predicting surgical outcome of resection/ablation (e.g., compensation of contralateral hemisphere) should not be based upon neuropsychological memory performance alone when there are failures on tests of engagement as memory scores have strong correlations to pass/fail status on formal validity testing. Overall, this emphasizes the importance of routinely integrating PVTs as part of pre-epilepsy surgery neuropsychological evaluations.

**Categories:** Epilepsy/Seizures

**Keyword 1:** epilepsy / seizure disorders

**Keyword 2:** effort testing

**Keyword 3:** subarachnoid hemorrhage

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#### 41 Characterizing the Cognitive Profile of Pediatric Insular Epilepsy

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