simulator scores. They were aware of improved driving on Concerta compared with placebo, but not aware of improved performance on Adderall XR compared to placebo. Improvements in driving performance on the laboratory simulator corresponded with fewer lifetime collisions. (Cox DJ, Merkel RL, Moore M et al. Relative benefits of stimulant therapy with OROS methylphenidate versus mixed amphetamine salts extended release in improving the driving performance of adolescent drivers with attention-deficit/hyperactivity disorder. **Pediatrics** September 2006;118:e704-e710). (Respond: Daniel Cox PhD, Box 800-223, University of Virginia Health System, Charlottesville, VA 22908).

COMMENT, Long acting stimulant medication in adolescent ADHD patients who drive results in improved performance and fewer collisions. Both stimulant preparations, OROS MPH (Concerta) and dl-amphetamine (Adderall)-XR, are effective. The greater improved performance with MPH versus amphetamine in this study is probably a reflection of the choice of dosage, which seems to favor Concerta. If further studies are planned, a dose optimization design should be included. It is also surprising that the best driving performance with medication in this study is at 15 hours after taking a dose, when lower blood levels of drug would be expected. The use of stimulants in adolescents with ADHD should not be limited to daytime and school hours, if patients are regular drivers. These findings confirm several previous reports showing a correlation between ADHD in adolescents and an increased rate of motor vehicle collisions, especially in untreated patients. (Barkley RA et al. Pediatrics 1993;92:212-218; Weiss G, Hechtman LT. Hyperactive Children Grown Up. New York, NY, Guidford Press, 1986; Ped Neur Briefs Aug 1993; Millichap JG. Attention Deficit Hyperactivity and Learning Disorders, Chicago, PNB Publishers, 1998;172-3). ADHD young adults are twice as likely to be cited for unlawful speeding, have more crashes, and more accidents involving bodily injury, when compared to non-ADHD adult control subjects.

SEIZURE DISORDERS

COGNITIVE DYSFUNCTION AND BRAIN VOLUME ABNORMALITIES IN NEW-ONSET IDIOPATHIC EPILEPSY

Neuropsychological function and quantitataive volumetric measurement of grey and white matter of ccrebrum were determined in 53 children (ages 8-18 years) with recent-onset idiopathic epilepsy and compared to controls in a study at University of Wisconsin, Madison. Children with recent-onset epilepsy have mild diffuse cognitive impairment, regardless of epilepsy syndrome. In a subset of children, academic difficulties antedated the first seizure and were present at time of diagnosis. Children with a history of academic problems at onset of epilepsy have the most impaired cognition and also, significant volumetric reductions in the left occipital and parietal lobe grey matter. In contrast, in the epilepsy group as a whole, no overall differences in magnetic resonance morphometric analyses of total cerebral or lobar volumes were recognized. (Hermann B, Jones J, Sheth R et al. Children with new-onset epilepsy: neuropsychological status and brain structure. **Brain** October 2006;129:2609-2619). (Respond: Bruce Hermann PhD, Department of Neurology, University of Wisconsin, Madison, WI 53792).

COMMENT. Evaluation of neuropsychological function is an important aspect of epilepsy management in children. It is disturbing to find that academic difficulties may antedate the onset of epilepsy and can be associated with significant reductions in grey matter, specifically in the left occipital and parietal lobes. The mechanisms of these epilepsy related neuropsychological and cerebral volume disorders remain to be determined. The seizures per se and/or adverse effects of antiepileptic medications are not the only factors responsible for academic difficulties among children with epilepsy, and preexisting developmental cerebral abnormalities may be more important causes.

HIPPOCAMPAL ABNORMALITIES IN PROLONGED FEBRILE SEIZURES

Apparent diffusion coefficient (ADC) measurements were used to characterize hippocampal edema within 5 days of a prolonged febrile seizure (PFS) in a study at Great Ormond Street Hospital, London, UK. A reduction in ADC between acute and 4-8 month follow-up measurements was indicative of early vasogenic edema, followed by recovery in children investigated within 2 days, but not in those measured between 3 and 5 days of a PFS. An expected age dependence decrease in ADC observed in control subjects was not present in children following a PFS. The findings are consistent with resolution of an early onset acute vasogenic edema that follows a PFS. The authors propose that the ADC data reflect a preexisting developmental hippocampal abnormality that predisposes to a PFS resolves in 3-5 days. (Scott RC, King MD, Gadian DG, Neville BGR, Connelly A. Prolonged febrile seizures are associated with hippocampal vasogenic edema and developmental change. **Epilpsia** Sept 2006;47:1493-1498). (Reprints: Dr Rod C Scott, The Wolfson Centre, Meeklenburgh Square, London WCIN 2AP, UK).

COMMENT. These ADC findings corroborate the longitudinal MRI data reported by these authors previously (Scott RC et al. **Brain** 2003;126:2551-2557). Within 48 h of a PFC hippocampal volumes were enlarged and T2 relaxation times prolonged, whereas MRI studies delayed >48 h but within 5 days of PFC revealed large hippocampal volumes and normal T2 relaxation time. These findings were suggestive of hippocampal volumes and normal T2 relaxation time. These findings were suggestive of hippocampal volumes in hippocampal volume with asymmetry and reduced T2 relaxation time compared to the first exam. It is postulated that mesial temporal sclerosis may develop after a lag period, or the hippocampal asymmetry represents a return to a preexisting hippocampal developmental abnormalty that antedates the PFC. (**Ped Neur Briefs** Nov 2003;17:83).

Hippocampal asymmetry in 6-year follow-up MRI study of complicated convulsion at University of Sheffield, UK. (Farrow TFD et al. Pediatr Neurol 2006;35:257-260). Significant hippocampal asymmetry unrelated to edema was initially reported within 2 weeks of a first complicated early childhood convulsion in >50% of 17 subjects tested. At 6-year follow-up, 3 of 8 retested showed significantly greater asymmetry and 2, a modest increase in asymmetry; 2 showed no change and 1 a resolution of asymmetry. The asymmetry was detected only by volumetric analysis of MRI and relaxation times, and was consistent with a progressive pathology and developing hippocampal sclerosis in 2 patients.