

Berg AT, Shinnar S, Testa FM, Levy SR, Smith-Rapaport S, Beckerman B. **Two-year remission and subsequent relapse in children with newly diagnosed epilepsy.** *Epilepsia* 2001;42:1553-1562.

**Purpose:** Although remission is the ultimate measure of seizure control in epilepsy, and epilepsy syndrome should largely determine this outcome, little is known about the relative importance of syndrome versus other factors traditionally examined as predictors of remission or of relapse after remission. The purpose of this study was to examine remission and relapse with respect to the epilepsy syndrome and other factors traditionally considered with respect to seizure outcome.

**Methods:** A prospectively identified cohort of 613 children with newly diagnosed epilepsy was assembled and is actively being followed to determine seizure outcomes. Epilepsy syndrome and etiology were classified at diagnosis and again 2 years later. Remission was defined as 2 years completely seizure-free, and relapse as the recurrence of seizures after remission. Multivariable analysis was performed with the Cox proportional hazards model.

**Results:** Five hundred ninety-four of the original 613 children were followed  $\geq 2$  years (median follow-up, 5 years). Remission occurred in 442 (74%), of whom 107 (24%) relapsed. On multivariable analysis, idiopathic generalized syndromes and age at onset between 5 and 9 years were associated with a substantially increased remission rate, whereas remote symptomatic etiology, family history of epilepsy, seizure frequency, and slowing on the initial EEG were associated with a decreased likelihood of attaining remission. Young onset age (<1 year) and seizure type were not important after adjustment for these predictors. Relapses occurred more often in association with focal slowing on the initial EEG and with juvenile myoclonic epilepsy. Benign rolandic epilepsy and age at onset <1 year were associated with markedly lower risks of relapse. About one fourth of relapses were apparently spontaneous while the child was taking medication with good compliance, and more than half occurred in children who were tapering or had fully stopped medication.

**Conclusions:** A large proportion of children with epilepsy remit. Symptomatic etiology, family history, EEG slowing, and initial seizure frequency negatively influence, and age 5–9 years and idiopathic generalized epilepsy positively influence the probability of entering remission. Factors that most influence relapse tend to be different from those that influence remission.