had a normal neurological examination and intellectual development, and the EEG showed no focal abnormality. The risk of recurrence at six months was 22%, at one year 28.5%, at three years 32.6% and at eight years 37.7%. Fifty-eight percent of recurrences occurred within the first six months and 87% within the first two years. The risk of recurrence after two years in patients with EEGs showing spikes or spike-and-wave was 40% and this risk was not significantly different from that for 51 patients with normal EEGs (29%). However, 73% of patients with abnormal EEGs were receiving treatment compared to 52% of those with normal EEGs. Phenobarbital was prescribed for 46 patients, sodium valproate 19, carbamazepine 4, phenytoin 1, Trimedone 1, and phenobarbital and clonazepam 2. Drug compliance was not evaluated. When the seizure lasted less than five minutes, the risk of recurrence at two years was 25% compared with 42% for those whose seizures lasted longer than five minutes. Age at onset of the initial seizure did not affect the risk of recurrence. Seizure duration and history of epilepsy in the family were not significant risk factors. In summary, single, short duration, convulsive seizures of the grand mal type should not be systematically treated, especially when clinical examination and EEG findings are normal. A diagnosis of epilepsy will be confirmed or disproved within two years of follow-up: if seizures do recur they usually do so within that period. A history of febrile seizures does not increase the risk of recurrence of a single unprovoked grand mal seizure. (Boulloche J et al. Risk of recurrence after a single, unprovoked, generalized tonic-clonic seizure. Dev Med Child Neurol October 1989; 31:626-663).

> COMMENT. Seizures that are focal or associated with mental retardation or brain damage have a higher risk of recurrence and warrant prophylactic treatment with anticonvulsant drugs. A single unprovoked generalized tonic-clonic seizure does not require treatment but medication should be commenced if these seizures recur. In the present study, the cumulative risk of recurrence for treated patients was lower than that of untreated patients but the difference was not significant. One might speculate that the difference may have been significant if compliance with therapy had been monitored and adequate therapeutic drug levels maintained.

DRUG WITHDRAWAL AND RELAPSE RATE FOR GRAND MAL SEIZURES

The relapse rate when monotherapy was discontinued in 187 children who were seizure-free for three consecutive years was studied at the Leeds General Infirmary and St. James University Hospital, Leeds, England. Of a total group of 640 children with grand mal seizures 30% had become seizure-free on monotherapy. Children were assigned to one of three groups: 1) Normal neurologically and EEG; 2) normal neurologically, abnormal EEG; and 3) abnormal neurologically, including mental retardation with or without abnormal EEG. Relapse occurred in 22 of the total (12%). The relapse rate was the same in groups 1 and 2 and lower in the group 3 patients with abnormal

neurologic exams (7.7%). Relapse was related to the age of onset of the seizure disorder; the younger the age of onset the greater the risk of relapse. Of the 22 children who relapsed 67% had a seizure while drug therapy was being withdrawn or within one year of withdrawal, and 86% relapsed within two years. Of 49 children who had EEGs before drug withdrawal the incidence of relapse was 19% in the normal EEG group (37) and 25% in the abnormal group (12) and the difference was not significant. The authors concluded that prewithdrawal EEG for a neurologically normal child is not of prognostic benefit. Since some relapses occurred as late as eight years after withdrawal the authors recommended that follow-up should continue for ten years. (Ehrhardt P, Forsythe WI. Prognosis after grand mal seizures: A study of 187 children with three-year remissions. Dev Med Child Neurol October 1989; 31:633-639).

COMMENT. Recommendations for the withdrawal of anticonvulsant treatment vary, some employing a two year remission, others a three year remission, and some four, five, and even ten year remission before withdrawing treatment. The present paper was more specific than some regarding the relationship of the clinical characteristics of the patients in relation to prognosis. The group of children with neurological dysfunction and mental retardation was small comprising only 13 of the total group and the actual risks of drug withdrawal could not be assessed in this investigation. Of those patients who had EEGs before drug treatment was discontinued, the relapse rate was almost double the relapse rate in the total group. In those with abnormal EEGs the relapse rate was 25%. It would be interesting to know the factors involved in deciding which of these patients required EEGs. This group may deserve further study.

A paper reviewed in the last issue of Ped Neur Briefs (1989; 3:83) showed that the relapse rate after drug withdrawal in 425 children with epilepsy was 12% (the same rate of relapse as in the present study) and the risk was greatest in the first year. Factors related to relapse were neurologic abnormalities and organic etiology, mental retardation, seizure type (infantile spasms, absence seizures), and the appearance or persistence of EEG abnormalities during the course of the illness and before discontinuation of the drugs. The value of the EEG before drug withdrawal as a predictive factor for relapse cannot be discounted.

TOXIC AND METABOLIC DISORDERS

LOW DOSE LEAD AND CNS DEFICITS:

The long term effects of exposure to low doses of lead in childhood have been examined in 132 of 270 young adults who had