

## EPILEPSY

**Surgical therapy should not be considered a last resort for pharmacoresistant epilepsy**

Resistance to antiepileptic drugs (AEDs) develops in 30–40% of patients with epilepsy, who often suffer the burden of uncontrolled seizures and an increased risk of premature death for over 20 years before surgical treatment is considered. Now, results from a controlled trial make a strong case for the use of surgery as soon as 2 years after the development of pharmacoresistance.

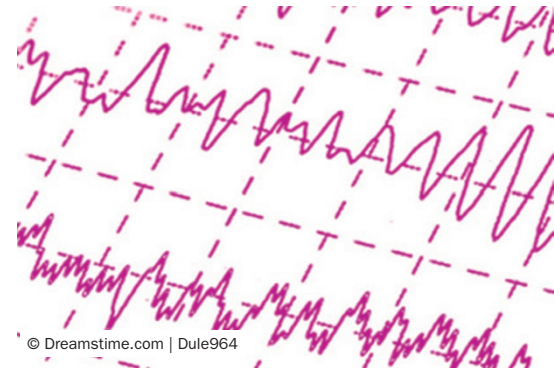
A practice parameter published in 2003 recommended early use of surgery in patients with refractory temporal lobe epilepsy (TLE). “However, the practice parameter did not define when surgery should be performed, and had no effect on referrals to epilepsy centres,” says Jerome Engel, who led the recent trial.

The Early Randomized Surgical Epilepsy Trial (ERSET) involved 38 patients with mesial TLE at 16 epilepsy centres in the USA. All patients had developed pharmacoresistance—defined as non-responsiveness to two consecutive

AEDs—no more than 2 years before the trial. Patients were randomly assigned to continued AED treatment or anteromesial temporal resection plus AEDs, and were followed up for 2 years. The small study size reflects early termination of recruitment owing to low rates of accrual.

Strikingly, freedom from seizures in the second year of follow up occurred in 11 patients (73%) in the surgical group, and in none of the patients in the medical group ( $P < 0.001$ ). Moreover, quality of life, the ability to drive, and time spent socializing with friends showed improvements in the patients who had undergone surgery compared with those assigned to medical therapy.

The surgical procedure involves removal of one hippocampus, and cognitive tests suggested a trend towards impaired memory function in the surgical group. Larger studies up are required to fully assess this potential adverse effect.



“The serious health problem represented by pharmacoresistant epilepsy is not generally appreciated,” notes Engel. He adds that the smallness of the study is symptomatic of the reluctance of physicians to refer patients to epilepsy centres for specialist treatment. “Our task now is to get the word out and raise consciousness among patients and physicians about refractory epilepsy,” he concludes.

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**Original article** Engel, J. *et al.* Early surgical therapy for drug-resistant temporal lobe epilepsy: a randomized trial. *JAMA* 307, 922–930 (2012)