Epilepsy surgery indications

20% of patients continue to have seizures despite aggressive medical management with antiepileptic drugs AEDs. Many of these patients may be candidates for surgical procedures to control their seizures \(^1\).

Seizure disorder must be severe, medically refractory with satisfactory trials of tolerable medication for at least 1 year, and disabling to the patient. Medically refractory epilepsy is usually considered two attempts of high-dose monotherapy with two distinct AEDs, and one attempt at polytherapy.

The three general categories of patients suitable for seizure surgery have \(^2\):

1. partial seizures
   a) temporal origin: the largest group of surgical candidates (especially mesial temporal lobe epilepsy (MTLE) which is often medically refractory)
   b) extratemporal origin
2. symptomatic generalized seizures: e.g. Lennox-Gastaut syndrome.
3. unilateral, multifocal epilepsy associated with infantile hemiplegia syndrome.

The goal is to eliminate seizures or significantly reduce seizure burden.

In most state-of-the-art epilepsy units, resective epilepsy surgery is currently the standard treatment for intractable epilepsy. Generally, the success rate, defined as a seizure-free status or Engel class I, is between 62% and 71%, as compared to 14% in non-operated cases \(^3\) \(^4\).

Generally, surgery is considered in patients whose seizures cannot be controlled by adequate trials of two different medications. Epilepsy surgery has been performed for more than a century, but its use dramatically increased in the 1980s and ‘90s, reflecting its efficacy in selected patients.

Patients with comorbid psychosis and temporal lobe drug-resistant epilepsy may benefit from epilepsy surgery under close psychiatric supervision \(^5\).

Epilepsy surgery is an effective and safe therapeutic modality in childhood. In children with extratemporal epilepsy, more careful interpretation of clinical and investigative data is needed to achieve favorable seizure outcome \(^6\).

Tuberous sclerosis complex surgery

see Tuberous sclerosis complex surgery.

\(^3\)

