

Surgical Therapy

When seizures are determined to be caused by a hematoma, vascular malformation, or tumor, surgical removal is usually recommended. Epilepsy surgery is the most effective treatment for children with medically refractory epilepsy due to focal cortical dysplasia and mesial temporal sclerosis. About 80% of these patients will be seizure-free 4 years after surgery ([Moosa and Gupta, 2014](#)). Refractory seizures are usually defined as the persistence of seizures despite adequate trials of three antiepileptic medications, alone or in combination ([Téllez-Zenteno, Hernández-Ronquillo, Buckley, et al, 2014](#)). Epilepsy surgery does not always eliminate the need for antiepileptic drug therapy. The goal is to improve seizure control without worsening or producing serious deficits. Some children will see improvements in their cognition, behavior, and quality of life ([Ryvlin, Cross, and Rheims, 2014](#)). Types of surgeries include focal resection of the epileptogenic focus, functional hemispherectomy, and corpus callosotomy which severs the connection between the hemispheres.

Status Epilepticus

Status epilepticus is a continuous seizure that lasts more than 30 minutes or a series of seizures from which the child does not regain a premorbid LOC ([Huff and Fountain, 2011](#)). It has been suggested that the term *impending status epilepticus* be used for a continuous seizure or series of seizures lasting between 5 and 30 minutes with the designation of *impending status* indicating that treatment should begin after 5 minutes of seizure activity ([Freilich, Schreiber, Zelleke, et al, 2014](#)). The initial treatment is directed toward support of vital functions, that is, the CAB of life support, measuring blood glucose, administering oxygen, and gaining IV access, immediately followed by IV administration of antiepileptic agents ([Dulac and Takahashi, 2013](#)). Simultaneously with life support measures and emergency medications, the underlying cause of the status epilepticus is identified and corrected ([Abend and Loddenkemper, 2014](#)). Buccal or intranasal midazolam, buccal lorazepam, and rectal diazepam are simple, effective, and safe treatments for home or prehospital treatment of status epilepticus ([Shorvon, 2011](#)). Cessation of seizure occurs in approximately 8 minutes with buccal midazolam and 15 minutes with rectal diazepam ([Shorvon, 2011](#)). Respiratory