

PEDIATRIC EPILEPSY SURGERY

What is medically-intractable epilepsy?

Children with seizures that fail to respond to medication are considered to have medically-intractable epilepsy. Seizure freedom rarely occurs in children who have not responded to 2 or 3 adequate medication trials. For this reason, epilepsy surgery is considered in children with medically-intractable epilepsy.

My child has medically-intractable epilepsy. Is she a good surgical candidate?

Surgery is not appropriate for all forms of medically-intractable epilepsy. Children with seizures caused by a structural brain lesion may be candidates for epilepsy surgery. Examples include cortical dysplasia (a type of congenital brain malformation), tumor, infection, and stroke to name a few. Such lesions can be a potential source for seizures. The goal of epilepsy surgery is to remove the epileptic focus.

What tests are needed prior to surgery?

A team of epilepsy specialists composed of child neurologists, neurosurgeons, nurses, and neuropsychologists are involved in the surgical evaluation. Tests include an electroencephalogram (EEG), structural and function brain imaging (MRI, PET, SPECT), and neuropsychiatric assessment. Your child will require hospital admittance for prolonged EEG monitoring. Capturing seizures on simultaneous video-EEG is a critical tool that allows for localization of the seizure focus and surgical planning. If the location of the seizure focus remains unclear after this first phase of evaluation, intracranial monitoring (“Phase 2 evaluation”) is indicated. Intracranial electrodes are temporary wires that are surgically placed onto the brain surface or inside the brain. Detecting seizures using this method allows for more accurate surgical planning. Your doctor will make sure you and your child are comfortable proceeding with each test and stage of the evaluation.

What are the risks of epilepsy surgery?

The risk of death during the presurgical evaluation or the surgery itself is very low. Some degree of bleeding during the surgery is expected and some children will require a blood transfusion. Some children have “annoying” problems after epilepsy surgery, including temporary headache or mental dullness. Some degree of weakness and vision change is possible depending on the part of the brain being removed. Surgery is not performed if there is a known risk of a severe impairment. Of course, your doctor will discuss the risks associated with the particular type of surgery you are considering.

What can I expect after surgery?

On-half to two-thirds of children will experience seizure freedom after surgery. Anti-seizure drugs are typically continued for a prolonged period following surgery. There are some children that require medication even after this period to maintain remission. However, drug doses may be lowered or some drugs eliminated. Physical therapy may be utilized after surgery to strengthen muscles. Occasionally, admittance to a rehabilitation hospital such as the Kluge Children’s Rehabilitation Center is necessary for further therapy prior to being released home.