Epilepsy Surgery Program

The Epilepsy Surgery Program at Cincinnati Children's Hospital Medical Center provides the diagnostic and surgical expertise to treat the most complex cases of intractable epilepsy. Our team is dedicated to dramatically reducing the severity and occurrence of seizures and, when possible, eliminating them altogether. The program is part of the Comprehensive Epilepsy Center at Cincinnati Children's, one of the largest pediatric epilepsy centers in the world.

CONTACT US

For more information about our Epilepsy Surgery Program or to make a referral for surgical evaluation, call **513-803-0449** or fax referrals to **513-803-1111**

www.cincinnatichildrens.org/epilepsy

Epilepsy Surgery Program Leadership

Francesco Mangano, DO, FACS, FACOS
Co-Director, Pediatric Neurosurgeon

Hansel Greiner, MD
Co-Director, Pediatric Epileptologist

Our Approach

Our program is the only one in the United States to offer the full complement of diagnostic tests and tools needed to evaluate pediatric patients with epilepsy. This advantage allows us to broaden traditional surgical selection criteria and include patients with non-lesional epilepsy, tuberous sclerosis complex and other complex medical issues. We also perform grid placement and resection on patients who might elsewhere be regarded as too young. Such an aggressive approach is necessary when a child's quality of life and developmental progress are at stake.

Surgical Treatment for Every Type of Intractable Epilepsy

Cincinnati Children's offers surgical treatment for all types of intractable epilepsy, including:

- Partial lesional and non-lesional epilepsy
- Single lesional epilepsy
- Neocortical epilepsy
- Epilepsy of the temporal, frontal, parietal and occipital lobes
- Multi-lesional epilepsy (tuberous sclerosis)

Our team of specialists also treats the different types of seizures associated with epilepsy, such as partial, drop, absence / petit mal and grand mal (generalized tonic-clonic) seizures, as well as infantile spasms and epileptic spasms.

300+

Surgeries performed by the epilepsy surgery team at Cincinnati Children's

More than 50%

Patients achieving complete seizure freedom post-surgery in the last three years

Patients who do not achieve complete seizure freedom post-surgery typically experience a significant reduction in seizures, sometimes more than a

90% reduction

Advanced Technology to Help Diagnose, Treat Intractable Epilepsy

In order to determine surgical candidacy, patients undergo several days of noninvasive testing in the eight-bed epilepsy monitoring unit at Cincinnati Children's. Those who are identified as surgical candidates usually have grid placement surgery, in which electrodes are placed directly on the brain in order to further localize the seizure zone. Once the zone is identified, our pediatric neurosurgeons have the surgical capabilities to resect, disconnect or stimulate the area of the brain involved in the seizures.

The surgical team at Cincinnati Children's uses advanced technologies to create detailed cortical maps, identify the seizure foci, evaluate electrical and magnetic waveforms in the brain and measure the electrographic spread of seizures within hundredths of a second. These technologies include:

- 3T MRI with special epilepsy surgery protocol
- FDG-PET with SPM analysis
- Ictal/interictal SPECT with subtraction analysis (SISCOM)
- Magnetoencephalography with source localization imaging (MEG/MSI)
- High-density EEG with source localization
- fMRI and EEG-fMRI
- Invasive EEG monitoring with grid placement

Clinical Research Advances Treatment Options

Hand in hand with our commitment to comprehensive diagnostics and surgical treatment is our focus on clinical research. Cincinnati Children's receives the largest amount of NIH funding for pediatric epilepsy research in the nation. Our participation in clinical research trials contributes to advancements in the field and allows us to offer the most effective technologies and surgical techniques based on the latest scientific findings.

Intraoperative Imaging Technologies Enhance Safety, Accuracy

Surgeries take place in our stereotactic surgical suite, where imaging technologies such as intraoperative MRI allow the surgical team to further pinpoint the seizure zone and its proximity to primary language, motor and sensory areas of brain. Among the epilepsy surgeries performed at Cincinnati Children's are:

- Lobar resection (lobectomy)
- Multilobar resection
- Corticectomy (cortical resection)
- Corpus callosotomy
- Hemispherectomy or hemispherotomy
- Multiple subpial transections
- Insertion of vagal nerve stimulator

For immediate consultations, physician referrals and patient care follow-up, call the national Physician Priority Link at **1-888-987-7997.** For international inquiries call **+1-513-636-3100.**

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