# Pediatric Neurosurgery

The Division of Pediatric Neurosurgery at Cincinnati Children's Hospital Medical Center is an international referral center for the surgical treatment of rare and complex neurological diseases and disorders. Our pediatric neurosurgery program is one of the largest, most comprehensive in the United States. Using technology unavailable elsewhere, our team of pediatric neurosurgeons is able to remove certain deep-seated tumors and other brain lesions previously considered inoperable.

## CONTACT US

For patient referrals and non-urgent consultation during business hours, contact the program directly at:

Phone: **1-513-636-4726**
**neurosurgery@cchmc.org**

**International**
Phone: **+1-513-636-3100**
**international@cchmc.org**

**www.cincinnatichildrens.org**

BEST CHILDREN'S HOSPITALS
U.S. News & WORLD REPORT
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Ranked #3 in the nation and #6 in Neurology & Neurosurgery.

## DIVISION LEADERSHIP

Francesco T. Mangano, DO, FACS, FAAP, FACOS
*Division Chief, Pediatric Neurosurgery*
*Tritsch Family Chair and Professor of Neurosurgery and Pediatrics*

## FULL SPECTRUM OF CONDITIONS TREATED

In collaboration with pediatric neurologists and other pediatric subspecialists at Cincinnati Children's, our neurosurgeons evaluate and treat virtually every pediatric neurological disease and disorder, including:

- Arachnoid cysts
- Blood vessel lesions, such as aneurysms and arteriovascular malformations
- Brain tumors and other neuro-oncology conditions
- Cerebrovascular disorders and stroke
- Chiari malformations
- Complex cervical spine disorders
- Craniofacial abnormalities
- Dystonia
- Hydrocephalus and other congenital cysts or lesions of the brain and spine
- Intractable epilepsy
- Movement disorders
- Spasticity
- Spina bifida/myelomeningocele
- Spinal cord tumors
- Spinal disorders
- Tethered cord
- Traumatic and post-traumatic disorders of the brain and spine

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.

For international inquiries, call +1-513-636-3100 or email international@cchmc.org.

## SURGICAL EXPERTISE

We offer surgical procedures for many conditions, such as:

- **Cerebrovascular disorders**
  - Endovascular and open procedures
- **Craniofacial disorders**
  - Endoscopic and open procedures
- **Epilepsy**
  - Brain mapping with selective cortical resection
  - Corpus callosotomy
  - Hemispherectomy
  - Hemispherotomy
  - Laser ablation
  - Lobectomy
  - Vagus nerve stimulation (VNS)
  - Responsive neurostimulation (RNS)
  - SEEG (Stereo EEG)
  - Robot-guided Stereotactic Surgery
- **Fetal repair of myelomeningocele**
- **Movement disorders**
  - Deep brain stimulation
- **Neuro-oncology conditions**
  - Brain tumor resection
  - Spinal tumor resection
  - Brainstem tumor biopsy
  - Intraoperative MRI
- **Skull Base disorders**
  - Endoscopic, transnasal and open procedures
- **Spasticity**
  - Baclofen pump
  - Selective dorsal rhizotomy

Neurosurgeons at Cincinnati Children's also use minimally invasive techniques to treat a variety of conditions, including arachnoid cysts, brain tumors, craniosynostosis and hydrocephalus, among others. These technologies minimize the trauma of neurological surgery for the patient and the nervous system.

Our sophisticated surgical technology also includes the Brainsuite® operating room featuring an integrated neurosurgical microscope, multimodality intraoperative MRI and robotic assisted stereotactic guidance and laser ablation technology. A specialized bed allows for safe intraoperative images while maintaining the sterility of the operative field. This technology optimizes safety for surgical manipulation and tissue resection during surgery to remove lesions that cause intractable epilepsy and brain and spinal cord tumors.

## CURRENT RESEARCH

Cincinnati Children's conducts basic, clinical and translational research to help advance the treatment of a variety of neurological conditions. Cincinnati Children's is a member of the Pediatric Brain Tumor Consortium, a national research organization committed to the rapid development of novel therapies for children with brain tumors, as well as the Cerebral Palsy Research Network, which is a multi-institution, multi-discipline collaboration between clinicians and patients to improve treatments and outcomes for people with cerebral palsy.

Our researchers are conducting research in the following areas:

- Collaborative trials to improve outcomes of Moyamoya disease and other cerebrovascular arteriopathies, including pediatric stroke
- Pre-surgical evaluations and outcomes for pediatric epilepsy
- The outcomes, benefits and risks of surgery used to treat tethered spinal cord
- Participating in a national registry that studies children with Chiari malformations and syringomyelia
- Headquarters of the DIPG Collaborative

Cincinnati Children's was the principal site for the study of the use of magnetic resonance imaging in the field of hydrocephalus, which has been funded by the National Institutes of Health and other research institutes. It established diffusion tensor imaging (DTI) as a non-invasive biomarker for hydrocephalus.

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