

PEDIATRIC NEUROLOGY AND NEUROSURGERY

Neurologists and neurosurgeons at Mayo Clinic Children's Center in Rochester, Minnesota, diagnose and treat more than 500 neurological conditions yearly, including many rare or complex disorders, in infants, children and teenagers.

Mayo's pediatric neurologists and neurosurgeons are trained in treating infants, children and adolescents within subspecialized areas of brain and nervous system surgery, and work with other pediatric subspecialists in managing mental health conditions, sleep disorders, speech conditions, eye conditions, pain medicine, and physical medicine and rehabilitation among others.

Mayo Clinic's long history of pioneering medical research means pediatric patients have access to state-of-the-art diagnostic and treatment facilities and numerous groundbreaking clinical trials. Mayo's integrated, multidisciplinary practice of doctors and health care professionals provide individualized care for each patient.

REFER A PATIENT



Jacksonville, Florida

800-634-1417



Phoenix/Scottsdale, Arizona

866-629-6362



Rochester, Minnesota

800-533-1564

Use our referring provider portal to submit referral requests and view your patients' Mayo Clinic medical records at the same time we do.

In addition, access to resources including clinical trials, CME, Grand Rounds, and scientific articles and videos are available.

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INSURANCE

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CONTINUOUS PROFESSIONAL DEVELOPMENT

ce.mayo.edu

CLINICAL TRIALS

www.mayo.edu/research/clinical-trials

MAYO CLINIC LABORATORIES

[mayocliniclabs.com](https://www.mayocliniclabs.com)

WHY CHOOSE MAYO CLINIC FOR PEDIATRIC NEUROLOGY AND NEUROSURGERY CARE

Mayo Clinic's teams coordinate care across disciplines—leveraging the breadth of expertise of its specialists as well as providing seamless appointments in one location.

NEUROSURGERY

Mayo Clinic is a leader in the field of pediatric neurosurgery with state-of-the-art facilities including an intraoperative MRI suite, MRI guided focused ultrasound, laser ablation, laser ablation and comprehensive intraoperative neuromonitoring. It is one of only a few centers in the country to offer awake brain surgery, giving patients with inoperable tumors a safe way to achieve resection with minimized risk for debilitating complications.

Prenatal surgery, including fetoscopic surgery for the treatment of spina bifida and other congenital malformations, is performed by Mayo Clinic's maternal and fetal medicine program. Mayo's program uses the most advanced fetal surgery technology to treat the unborn baby ensuring safe outcomes for both mother and child.

Mayo's multidisciplinary team of neurosurgeons and plastic surgeons offers minimally invasive, advanced endoscopic techniques for correction of craniosynostosis. Mayo's endoscopic techniques result in excellent outcomes while decreasing blood loss, incisions and hospital stays. The most common form of craniosynostosis, sagittal craniosynostosis, is corrected through a single small incision. Mayo also performs open calvarial vault remodeling or cranial distraction for more complex craniofacial disorders.

BRAIN AND CENTRAL NERVOUS SYSTEM CANCERS

Mayo Clinic's subspecialized pediatric neuro-oncology team is a global leader in diagnosing, treating and managing brain and other central nervous system cancers in infants, children and teenagers. Mayo's multidisciplinary team offers expedited appointment scheduling within 24 hours.

Mayo Clinic is a top choice for referring providers for pediatric cancer, and pediatric neurology and neurosurgery for children; and is a member of the Children's Oncology Group (COG) which gives children with brain and other central nervous system tumors access to the latest in treatments through clinical trials.

Pediatric neurology and neurosurgery partner with Clinic colleagues in oncology, and are supported by colleagues in neuroradiology and neuropathology. Additional essential specialties are available as needed, such as rehabilitation, neuropsychology, endocrinology, audiology and ENT, neuro-ophthalmology, and orthopedics.

Pencil beam scanning, offered through proton beam therapy at Mayo Clinic, enhances the precision of radiation delivered to the tumor, sparing healthy tissue and reducing the risk of side effects. It is the most precise form of radiation therapy available today. When treatment requires radiation therapy, it is the treatment of choice for most pediatric brain tumors.

Mayo's pediatric neurology care and expertise available for children with central nervous system (CNS) tumors extends from the time of initial diagnosis to long term follow-up care, with a goal of optimizing outcomes for all children.

CEREBROVASCULAR DISEASES

Mayo Clinic specialists treat complex and rare cerebrovascular diseases in children and young adults including cranial and spinal arteriovenous malformations, cavernous malformations, dural arteriovenous fistulas, moyamoya disease, intracranial aneurysms and genetic causes of stroke.

EPILEPSY

Pediatric epileptologists provide medical and surgical care for both complex and straightforward problems in children with epilepsy.

Mayo Clinic leads a coordinated epilepsy clinic with collaboration between epileptologists and subspecialties, and is on the forefront of stereotactic minimally-invasive laser surgery, intraoperative functional brain mapping and neuromodulation with vagus nerve stimulation for drug-resistant epilepsy. Mayo is involved in new drug trials that target rare childhood epilepsies and have an active dietary therapy program utilizing both the traditional ketogenic diet as well as newer and more palatable options such as modified Atkins or low glycemic index treatment.

Mayo partners closely with pediatric autoimmune neurology specialists. Mayo Clinic's neuroimmunology lab diagnoses patients with cognitive impairment and intractable seizures that may have an autoimmune cause. These patients have marked improvement with appropriately directed immunotherapies.

HEADACHE

Headache specialists have decades of experience treating pediatric patients with chronic and unrelenting headaches, and work to establish a multidisciplinary approach for improved patient care.

MS AND AUTOIMMUNE NEUROLOGY

Mayo Clinic has expertise in the evaluation of pediatric MS, non-MS autoimmune and other inflammatory CNS diseases, myelopathies, encephalopathies and optic neuropathies.

NEUROCUTANEOUS DISORDERS

Mayo Clinic has a history of excellence in the care of children with neurocutaneous disorders such as neurofibromatosis and tuberous sclerosis.

Genetic testing and counseling for children and their families are provided by experts in Mayo Clinic's Department of Clinical Genomics.

Dermatology at Mayo Clinic may provide essential care in the diagnosis and management of the skin manifestations of neurocutaneous disease. Dermatology partners with plastic surgery as needed.

NEURODEVELOPMENTAL DISORDERS

Pediatric neurologists have broad and deep experience in the evaluation and management of developmental disorders and work closely with colleagues in physical medicine and rehabilitation and neuropsychology. For children with suspected autism spectrum disorders, the multidisciplinary team works with the Dana Neurodevelopmental Disorders Program.

NEUROMETABOLIC AND NEUROGENETIC DISORDERS

Mayo experts have experience covering the broad and rapidly growing number of inherited metabolic disorders, and work closely with colleagues in clinical genomics. Particular interest is paid to leukodystrophies, lysosomal diseases, and congenital disorders of glycosylation. Patients have the opportunity to participate in a number of natural history and therapeutic trials, locally initiated or as part of the Lysosomal Disease Network, for which Mayo Clinic is a designated Center of Excellence. Multidisciplinary care is available for patients of all ages with x-linked adrenoleukodystrophy and other leukodystrophies.

NEUROMUSCULAR DISORDERS

Mayo Clinic has a long history of discovery in childhood neuromuscular disorders, particularly the congenital myasthenic syndromes, congenital myopathies and muscular dystrophies. Clinical expertise is supported by outstanding clinical neurophysiology and muscle and peripheral nerve laboratory services.

SLEEP DISORDERS

Childhood sleep disorders are common, and have a profound impact on learning and headaches, amongst other effects. Mayo Clinic has contributed to the understanding of many childhood sleep disorders, and advancing their effective management.

Structural abnormalities of the brain can influence normal healthy sleep. Congenital anomalies such as Chiari 1 malformation, and acquired anomalies such as tumors or brain injury, are examples of such structural abnormalities. The availability of pediatric sleep medicine at Mayo Clinic frequently provides a facet of care missing at other medical centers. Proper identification and treatment of sleep disorders in such patients, such as obstructive or central sleep apnea or acquired narcolepsy, can provide tremendous impact in the optimal care for these children.

DIAGNOSTIC LABORATORIES

Mayo Clinic's neuropathology lab team is a nationally recognized leader in molecular diagnostics for central nervous system tumors—leveraging 100 years of research experience to impact patient care with more precise, consistent, and predictive diagnostic methods.

Mayo Clinic has a state-of-the-art muscle and peripheral nerve laboratory, neurophysiology laboratory and imaging facilities.

CUTTING-EDGE DIAGNOSTICS, TREATMENTS AND RESEARCH

Through the intersection of research, education and practice, Mayo Clinic is redefining the ways pediatric patients are cared for in the future — offering less invasive treatment modalities to replace current therapies that are riskier, more expensive and less effective on patient outcomes. These advancements include:

- ▶ Cutting-edge brain imaging (F-DOPA PET scans, 7-Tesla MRI, intra-operative MRI, PET/MRI)
- ▶ Robotic and minimally invasive advances that aim to improve accuracy and patient outcomes, especially in complex cases
- ▶ MRI guided focused ultrasound
- ▶ Molecular diagnostics for individualized treatment
- ▶ Pioneering brain tumor vaccines and other treatments designed to engage the patient's own immune system into helping attack their tumor
- ▶ NIH funded laboratories studying pediatric high-grade tumors

APPOINTMENT SCHEDULING AND FOLLOW-UP COMMUNICATION

Mayo Clinic works directly with patients to schedule their appointment, and coordinates with their referring physician for follow-up regarding outcomes of their visit.

