Neurology

What Is Neurology?

Neurology is a branch of medicine that studies and treats the nervous system, including the brain, spinal cord and nerves. Gillette Children’s Specialty Healthcare is a regional leader in pediatric neurology and pediatric neurosurgery.

Conditions Neurology Treats

Our neurology department cares for children, teens and adults who have complex neurological conditions and injuries that affect the spinal cord, neck, nerves and/or brain.

Some of the conditions that most often require neurological care include:

- Cerebral palsy
- Epilepsy and seizures
- Brain injury and related neurotrauma, including concussions
- Muscular dystrophy, spinal muscular atrophy and other neuromuscular conditions
- Arteriovenous malformations and other cerebral vascular conditions
- Brachial plexus birth injury
- Complex movement disorders
- Microcephaly and other conditions related to atypical brain formation
- Neurocutaneous syndromes
- Neurodevelopmental delays
- Neuroimmunological conditions such as multiple sclerosis and other related disorders, acute demyelinating encephalomyelitis (ADEM), transverse myelitis, optic neuritis and neuromyelitis optica (NMO)
- Autoimmune disorders of the brain, spine and peripheral nerves
- Pediatric stroke and related disorders
- Sleep disorders
- NMDA receptor encephalitis, neuroimmunology leukodystrophies and other metabolic and genetic neurological disorders

Tests and Treatments
For children, teens and adults who need neurological care, our leading neurology doctors use the latest technology and techniques to diagnose and treat a wide variety of conditions.

Early care is critically important in cases of neurological and neurodevelopmental delays. That’s why we offer a number of neurology tests with our neurology specialists.

A typical neurology test, treatment or evaluation might include:

- Developmental tests.
- Epilepsy life stages visits.
- **First seizure evaluations.**
- Genetic evaluation.
- **Ketogenic diet** and **low glycemic index treatment diet** for **epilepsy and seizures.**
- Medical management of **epilepsy and seizures.**
- Neurodiagnostics, including **electroencephalography (EEG), video EEG, electromyography** and **sleep study (polysomnography).**
- Neurological care for **cerebral palsy** and other complex disorders.
- **Vagus nerve stimulation** for **epilepsy and seizures.**

Because many of the conditions Gillette treats are diagnosed during pregnancy, our neurologists also offer prenatal consultations. We talk to you about conditions such as lissencephaly, schizencephaly, and malformations of the central nervous system. We teach about current treatment options, offer counseling and (if needed) help plan a course of treatment.

**Integrated Care**

If your child needs specialized treatment for a complex neurological condition, they might work with a child neurologist to treat one or more of the following:

- **Seizures and epilepsy.**
- **Acquired brain injuries.**
- Neurodevelopmental delays.
- **Complex movement disorders.**

Your family can trust the expertise of our neurology team, which is made up of health care professionals who specialize in neurological conditions and injuries. Additionally, our pediatric nurse practitioners provide expert clinical care and patient and family support.

Children, teens and adults who have complex disorders often have many needs beyond neurological care. Our
neurologists often collaborate with providers in the following specialties:

- **Rehabilitation medicine**
- **Comprehensive inpatient rehabilitation**
- **Rehabilitation therapies**
- **Neurodiagnostics**
- **Neuropsychology**
- Neurosciences inpatient care.
- **Neurosurgery**
- **Sleep medicine**
- **Radiology and imaging**
- **Adult Services**

If your child has a complex neurological condition or injury, internationally recognized Gillette specialists will work closely with you in a family-centered neurology clinic to create a customized treatment plan.

**Galen Breningstall, MD**

Pediatric Neurologist
Randal Richardson, MD
Pediatric Neurologist

Cathleen Rock, APRN, CPNP, ACPNP, PMHS
Pediatric Nurse Practitioner
Nicole Williams Doonan, MD

Pediatric Neurologist

Locations

Services vary by location. For all locations, visit Locations.

St. Paul Campus

Burnsville Clinic
This information is for educational purposes only. It is not intended to replace the advice of your health care providers. If you have any questions, talk with your doctor or others on your health care team.

If you are a Gillette patient with urgent questions or concerns, please contact Telehealth Nursing at 651-229-3890.

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