



# Neonatal Neurology Program



## What Is Neonatal Neurology?

Neurology is the study of the nervous system, including the brain and spine. Neonatal neurology is the diagnosis, care and treatment of neurological conditions in newborns.

There are several reasons a newborn may have a neurological condition. Neurological issues can be present at birth (congenital) or due to prematurity or a difficult delivery.

We understand the possibility of a neurological condition discovered in your newborn can bring a great deal of fear, anxiety and uncertainty. That is why Pediatrix® Specialty Care of Austin offers a unique multidisciplinary program to address your needs. We vow to help guide you every step of the way from diagnosis and treatment to long-term follow-up care.

## Neonatal neurological conditions we evaluate and treat in newborns include:

- **Extreme prematurity** — Babies born extremely early can be at risk for both short- and long-term neurological and developmental problems
- **Hypoxic-ischemic encephalopathy** — This occurs when the baby does not get enough oxygen or blood flow to the brain before, during or right after birth
- **Neonatal seizures** — Seizures that take place during the first month of life
- **Intracranial hemorrhage** — Bleeding into or around the brain
- **Stroke** — Sudden injury to brain cells due to lack of oxygen caused by blockage of blood flow or rupture of an artery in the brain
- **Neural tube defects** — Brain and spinal cord birth defects, including spina bifida
- **Brain or cerebrovascular malformations** — Abnormal development of brain tissues or the blood vessels in and around the brain
- **Hypotonia** — Abnormally low muscle tone
- **Arthrogryposis** — Multiple joint contractures or permanent shortening of a joint at birth
- **Congenital neuromuscular diseases** — Diseases causing weakness at birth
- **Infections of the nervous system** — Viral or bacterial infections
- **Hydrocephalus** — A buildup of fluid inside the brain

Our neurology team collaborates closely with neonatologists, neonatal nurses, pediatric neurosurgeons, neuroradiologists, pediatric medical subspecialists (e.g., infectious diseases, genetics) and other specialty areas, such as speech therapy, physical therapy, occupational therapy, case management and social work, to provide the best care for your baby.



## How Do We Evaluate Newborns?

We evaluate and treat high-risk infants using innovative procedures and technology, including:

- **Total body cooling (hypothermia)** — Lowering body temperature to slow or limit brain injury for newborns who may have suffered from oxygen deprivation prior to or shortly after birth.
- **Brain imaging** — Head ultrasounds and brain MRIs.
- **Amplitude-integrated EEG** — A test looking at brain-wave activity used to predict neurological problems after birth.
- **Intensive video EEG monitoring** — For infants with seizures or suspected seizures.

After our neurology team examines your baby, we will share the results and any subsequent diagnosis and treatment plan with you. We will also discuss any future developmental risk to your baby and answer questions you may have about their neurological health.

Pediatrix Specialty Care of Austin is committed to your child's long-term neurological care and growth. We will be by your side every moment that your baby is in the neonatal intensive care unit (NICU) and well after your baby graduates from there.

## Meet The Team



### **Dawn McElvain, CPNP**

Dawn is a pediatric nurse practitioner at Pediatrix Specialty Care of Austin. She has extensive experience in pediatric neurology and collaborates with the neonatal neurologist to assess and treat NICU infants with neurological conditions and works with the multidisciplinary NICU team to ensure timely communication and coordination of care.



### **Anthony Rudine, M.D.**

Dr. Rudine is a board-certified neonatologist with Pediatrix. He is the director of research for neonatology and the founding medical director of the neurocritical care nursery at St. David's Medical Center. The goal of his research is to improve the quality and deliver of neonatal care in Central Texas and beyond. He also collaborates closely with a multidisciplinary team to ensure every NICU patient receives the best neurological care.



Learn more about  
our practice.