

Pediatric Brain and Spine Center Impact Report



Pediatric Brain and Spine Services

About Us

At Intermountain Children’s Health, we believe that collaboration is the cornerstone of exceptional pediatric care.

As the flagship children’s facility for Intermountain Health and the pediatric teaching hospital for the Spencer Fox Eccles School of Medicine at the University of Utah, Primary Children’s Hospital is recognized for its leadership in pediatric neurology and neurosurgery. Our partnership fuels groundbreaking research and provides an exceptional foundation for training the next generation of physicians. Together, they ensure that young patients and their families receive world-class care and compassionate support.

Each year, children across Utah, southeastern Idaho, Montana, Nevada, Wyoming, and beyond turn to our system for care. Every family receives the best care available, regardless of ability to pay.

From bedside care to leading-edge research, Intermountain Children’s Health remains dedicated to the mission of ensuring every child has the chance to thrive.

“The child first and always.”



2025-2026 U.S. News
Now ranked #12
Neurology/Neurosurgery
program, and Top ranked
Outcomes, continuing
the achievement for
5 of the last 7 years

Table of Contents

Introduction	2	Research & Innovation	8
Specialized Programs	4	Education & Training	10
Clinical Spotlight	5	Community Outreach	14
Patient Story	6	Locations and Access	16

Annual Highlights

24 BOARD-CERTIFIED
CHILD NEUROLOGISTS

06 BOARD-CERTIFIED PEDIATRIC
NEUROSURGEONS

185+
IRB APPROVED
RESEARCH STUDIES

10,000+
BRAIN AND SPINE
PATIENTS

5,000+
NEUROSURGERY
PATIENTS

15+
PODIUM
PRESENTATIONS

12,000+
OUTPATIENT VISITS

125+
EPILEPSY SURGERIES

115+
RESEARCH
PUBLICATIONS

3,600+
VIRTUAL VISITS

900+
NEUROSURGERIES

\$2M+
NIH GRANT FUNDING

1,700+
INPATIENT ADMISSIONS

20+
NEUROVASCULAR
SURGERIES

35+
CLINICAL TRIALS

500+
TELEHEALTH CONSULTS
TO OTHER HOSPITALS

110+
TUMOR RESECTIONS

4,500+
EEGs PERFORMED

400+
SPINE SURGERIES

Explore
additional
Brain & Spine
resources.



Overview of Specialized Programs



To address the diverse and complex needs of our patients, the Brain and Spine Center offers a full spectrum of specialized programs including:

- **Complex Spine:** Coordinated care for children with spinal deformities and disorders, including scoliosis, congenital anomalies, and spinal cord pathology.
 - Pediatric Spine Foundation – Pediatric Spine Study Group
- **Craniofacial:** Surgical and multidisciplinary management of skull, facial and CSF disorders, including craniosynostosis and hydrocephalus.
 - Hydrocephalus Clinical Research Network
- **Dysautonomia:** Evaluation and treatment of disorders involving autonomic nervous system dysfunction, including POTS and related conditions.
- **Epilepsy:** Multidisciplinary care for children with epilepsy, offering advanced diagnostics including fMRI, sEEG, TMS and neuropsychological testing, with medical and surgical treatment options such as LITT, ROSA-assisted surgery and neuromodulation (RNS, VNS, DBS).
 - NAEC Level 4 Epilepsy Center
 - TSC Alliance Complex Center
 - Pediatric Epilepsy Research Consortium
- **Headache:** Specialized multidisciplinary diagnosis and treatment of pediatric headache disorders, including migraine and chronic headache syndromes.
- **Leukodystrophy:** Multidisciplinary care, genetic evaluation, and research access for children with leukodystrophies and other inherited white matter disorders.
 - ALD Connect Collaborative Research Network
 - GLIA-CTN Project site
 - Leukodystrophy Care Network (LCN) Certified Center
- **Neuro Autoimmune:** Care for autoimmune conditions affecting the nervous system, including encephalitis and demyelinating disorders.
 - Center of Excellence in Rare Neuroimmune Disorders
- **Neurogenetics:** Diagnostic and counseling services for inherited neurological and developmental conditions using advanced genomic testing.
- **Neuro Oncology:** Integrated treatment of tumors of the brain and spine, combining leading oncology and neurosurgery expertise.
 - Pediatric Neuro-Oncology Consortium
 - Children's Brain Tumor Network
- **Neuromuscular:** Diagnosis and management of disorders affecting nerves and muscles, such as muscular dystrophy, spinal muscular atrophy and peripheral neuropathies.
 - MDA Care Center
 - CureSMA Care Center
 - CMT Association Center of Excellence
 - Muscular Dystrophy Surveillance, Tracking, and Research Network (MD STARnet)
 - Certified Care Center – Parent Project Muscular Dystrophy
- **Neuro Critical Care/NICU:** Intensive care for critically ill neonates and children with acute neurological injuries or conditions requiring close monitoring and intervention.
 - Early Detection Cerebral Palsy Network
- **Pediatric Neurology:** Comprehensive evaluation and management of neurological disorders in children, including seizures, developmental conditions and complex brain disorders.
 - Hydrocephalus Clinical Research Network
- **Pediatric Neurosurgery:** Surgical care for infants and children with disorders of the brain, spine and nervous system, using advanced, minimally invasive techniques when possible.
- **Spina Bifida:** Lifelong multidisciplinary care for children with spina bifida, beginning with advanced prenatal options, including fetoscopic myelomeningocele repair when appropriate, and continuing through childhood and adulthood with a focus on mobility, bladder and bowel function, neurological health, and overall quality of life.
 - Spina Bifida Association Center of Excellence
- **Stroke and Neurovascular Disorders:** Rapid evaluation and treatment of pediatric stroke and vascular abnormalities, including AVMs and aneurysms.
 - International Pediatric Stroke Study site
 - NIH StrokeNet Site
 - Nation's first pediatric tele-stroke network
- **Teleneurology:** Remote consultation and follow-up care that expands access to pediatric neurology expertise across the six-state Intermountain region, focusing on NICU support, tele-stroke, EEG monitoring and general neurology consultations.



Multidisciplinary Care Accelerates Access to Transformative Gene Therapies



Russell J. Butterfield,
MD, PhD

Intermountain Health Primary Children's Hospital has become a regional destination for children with rare neuromuscular disorders, including spinal muscular atrophy (SMA), duchenne muscular dystrophy (DMD), inherited neuropathies, and other genetic muscle diseases. Under the leadership of Russell Butterfield, MD, PhD, the neuromuscular program combines multidisciplinary care, cutting-edge therapies and active participation in clinical research to improve outcomes for patients throughout the Intermountain West.

As one of the only programs of its kind serving Utah, Idaho, Wyoming and Montana, the clinic provides highly specialized care for children and young adults with complex neuromuscular conditions. Patients are evaluated by a coordinated team that includes neurology, pulmonology, endocrinology, physical therapy, speech therapy, nutrition, social work, psychology and genetic counseling, all during a single visit.

Many neuromuscular disorders are progressive conditions without a cure, requiring lifelong management and careful coordination of care. According to Dr. Butterfield, the goal is not only to pursue new treatments, but also to help patients navigate the medical complexities that accompany worsening muscle weakness. "Our intent is to manage all those things in a way that make life better for patients," he says.

What distinguishes the program is its ability to bring research discoveries into the clinic quickly. The neuro-muscular team has participated in clinical trials that helped lead to FDA approval of several therapies for SMA and DMD, including gene replacement therapies and other advanced genetic treatments.

For children with SMA, the impact has been profound. "The new therapies for SMA are absolutely transformative. Many of those kids weren't expected to survive their second birthday, but now they survive and thrive," says Dr. Butterfield.

The program's close integration of research and clinical care allows patients to benefit from new therapies soon after they become available. "Research care determines clinical care," Dr. Butterfield explains. Because the team participates in clinical trials before FDA approval, physicians are already familiar with the therapies, their safety profiles and how best to deliver them. As a result, the program can often implement newly approved

treatments faster than many other centers. "We can move fast because we already work in the research space," he says.

Delivering these therapies requires far more than prescribing a medication. Gene therapies often involve weeks of preparation, insurance approvals, specialized administration protocols, and intensive follow-up monitoring. To support these patients, the neuromuscular program has built a comprehensive infrastructure that includes dedicated nursing support, care coordination, treatment monitoring and multidisciplinary follow-up services.

Looking ahead, Dr. Butterfield believes gene therapy will continue to transform the field of neuromuscular medicine. "The idea of gene therapy in general is a really transformative thing that is not just theoretical at this point," he says. "It's in the clinic."

Additional therapies are expected in the coming years, including new treatments for Duchenne Muscular Dystrophy (DMD) and other rare neuromuscular disorders. Through a combination of clinical excellence, research leadership and coordinated multidisciplinary care, Primary Children's is helping redefine what is possible for children living with these complex conditions.

The multidisciplinary neuromuscular clinic is one of the only places offering the program, and serves Utah, Idaho, Wyoming, Montana and Nevada. The clinic provides highly specialized care for children and young adults with complex neuromuscular conditions.

Explore additional
Neuromuscular
Program resources.



Michael Flowers – Finding Hope Through Gene Therapy for Duchenne Muscular Dystrophy



Seven-year-old Michael Flowers is known for his sense of humor and exceptional kindness. After being diagnosed with Duchenne muscular dystrophy at age 4, Michael received advanced genetic testing, coordinated specialty care, and a newly available gene therapy at Primary Children's Hospital. His story reflects how access to leading-edge treatment and a deeply connected care team can give families greater confidence and more time.



Michael Flowers

Rapid Access to Specialized Care

At 4-year-old Michael's wellness visit, his parents raised concerns about his motor development. Blood work revealed a possible muscular dystrophy on a Friday, and by the following Tuesday, the Flowers family was meeting with Stephanie

Manberg, DO, and the neuromuscular team at Primary Children's Hospital.

For Michelle and Kyle, Michael's parents, that rapid connection to specialized care was critical. The team confirmed the diagnosis, answered their questions, and immediately began outlining the next steps for genetic testing and treatment. "She stayed with us until everything was answered," Michelle says of Dr. Manberg. "She really made us feel like she was putting us first."

Advanced Testing and Gene Therapy

Genetic testing identified a deletion on exon 45 of Michael's DMD gene. This confirmed his DMD diagnosis. Further, a muscle biopsy was used to evaluate the extent of the disruption to his dystrophin protein. As the evaluation continued, Michael's specialists discussed emerging

treatment options and determined that a newly available gene therapy offered the most promising path forward.

Duchenne muscular dystrophy causes progressive muscle weakness beginning in early childhood and can eventually affect mobility, heart function and breathing. For Michael's family, that made every opportunity to preserve his strength and independence especially meaningful, and timely access to a promising new treatment all the more urgent.

Primary Children's was at the forefront of bringing that treatment to patients like Michael. His physicians advocated to make the therapy available locally and guided the family through antibody testing, insurance approval, and the risks and uncertainties of a new treatment. In June 2024, just over a year after his diagnosis, Michael received gene therapy at Primary Children's.

"It is scary being on the front lines of treatments like that, but you're also so grateful that there is even a treatment available," Michelle says. For the Flowers family, access to leading-edge care close to home made an overwhelming process more manageable and helped them look ahead with greater confidence.

A Team Supporting Michael Every Step of the Way

Michael continues to receive coordinated care from specialists in neurology, physical therapy, endocrinology, pulmonology, cardiology and nutrition. Together, they monitor his progress, manage the effects of daily steroid treatment, and help support his mobility and independence at home and school.

Two years after gene therapy, Michael continues to walk, run and jump independently. Although he still experiences some physical limitations, his recent physical therapy assessments have remained strong. His physician says Michael is doing better than many other patients with (DMD) following gene therapy, an encouraging sign as his care team continues to monitor his progress.

The long-term effects of gene therapy are still being studied, but Michelle and Kyle believe the treatment has helped slow the progression of Michael's condition and preserve opportunities for future therapies. "It has bought us time," Kyle says.

For the Flowers family, that time means greater mobility, a better quality of life, and renewed hope for Michael's future.

"Dr. Manberg stayed with us until everything was answered." The Flowers Family



Transforming Outcomes for High-Risk Infants



In the Primary Children's Hospital Brain and Spine Program, research and clinical care are closely intertwined and shape our commitment to continually improving outcomes for children. Through innovation, multidisciplinary collaboration, and a focus on translating discoveries into practice, our teams are advancing care for some of the most vulnerable patients: premature infants and newborns at risk for lifelong neurological disability.

Where Research and Clinical Care Intersect

A hallmark of the program is its highly collaborative Neuro NICU model. Neonatologists, neurologists and neurosurgeons work together to provide comprehensive care for infants with complex neurological conditions while simultaneously studying how earlier interventions can improve long-term developmental outcomes. This collaboration allows the team to develop standardized care pathways, evaluate outcomes across a large geographic region, and rapidly implement research findings into clinical practice.

Research efforts within the Neuro NICU are led by *Betsy Ostrander, MD, Pediatric Neurologist and Director of the Fetal Natal Neurology Program*, and *Jen Keene, MD, Neonatal Neurologist*. Together with pediatric neurosurgeon *John Kestle, MD*, they are investigating how early identification and treatment of neurological injury can improve developmental outcomes for high-risk infants. Their work focuses on neuroprotection, protecting the developing brain from further injury, and ensuring children receive the right interventions at the right time.

Improving Neurodevelopmental Outcomes

One major area of focus is posthemorrhagic ventricular dilation, a condition that can develop after brain bleeding in premature infants and lead to hydrocephalus, cerebral palsy, and severe neurodevelopmental impairment. Through close collaboration between neurology and neurosurgery, the team has implemented standardized

monitoring and treatment pathways throughout its referral network. Research from the program has shown that earlier identification of increasing pressure within the brain and earlier intervention can significantly improve developmental outcomes, including reducing rates of severe disability.

The program's unique reach has played a critical role in advancing this work. Because Primary Children's serves one of the largest pediatric referral regions in the country, researchers are able to study larger patient populations and evaluate outcomes across a diverse network of hospitals. Findings generated through this research have helped refine local care pathways while contributing to a growing body of evidence guiding care at other institutions.

Bringing Specialized Expertise Closer to Home

Innovation in care delivery is equally important. Dr. Ostrander has helped lead the development and expansion of the Neuro NICU Telehealth Program, which provides neonatal neurology expertise to NICUs throughout Utah, Idaho, Colorado and neighboring states. Through telehealth consultations, EEG monitoring, imaging review and longitudinal follow-up, infants can remain closer to home while still receiving specialized neurological care. Today, approximately 90% of consulted infants can remain in their local NICUs while maintaining access to the same neurological expertise available at Primary Children's.

Building on that foundation, Dr. Keene has led research evaluating telehealth-based neurological assessments for infants at risk for cerebral palsy. Her team demonstrated that standardized examinations, including the Hammersmith Infant Neurological Examination, can be performed remotely with the same predictive accuracy as in-person assessments. This work allows clinicians to identify children at risk for neuromotor impairment earlier and begin targeted interventions during critical periods of brain development, when therapies can have the greatest long-term impact.

A National Leader in Pediatric Neuroscience Research

The Brain and Spine Program's research leadership extends beyond the Neuro NICU. For more than two decades, Dr. Kestle has led the Hydrocephalus Clinical Research Network (HCRN), one of the most influential collaborative hydrocephalus research programs in North America. Founded at Primary Children's Hospital, the network now includes 14 pediatric neurosurgical centers and has produced dozens of peer-reviewed publications focused on improving care for children with hydrocephalus.

Supported by NIH funding, including a current \$10 million grant, the network has helped reduce infections, shorten hospital stays, decrease complications, and lower rates of shunt revision surgery.

A defining feature of the HCRN is its commitment to patient-centered research. Families help shape research priorities and study design, ensuring that investigations focus not only on surgical outcomes but also on the measures that matter most to patients and caregivers. This philosophy reflects a broader commitment shared across the Brain and Spine Program: conducting research that directly improves the lives of children and families.

Whether through Neuro NICU innovation, telehealth-enabled neurological care, or nationally recognized hydrocephalus research, Primary Children's continues to advance pediatric neuroscience through collaboration, discovery, and a relentless focus on improving patient outcomes. The result is research that not only expands scientific knowledge, but also changes how children are cared for throughout the Intermountain West and across North America.



Jen
Keene, MD



Betsy
Ostrander, MD



John
Kestle, MD

Residents and Fellows in Pediatric Brain and Spine Care



At Intermountain Children's Health, we believe education is essential to caring for children and their families. Through our Brain and Spine program, we provide comprehensive, family-centered care for neurological and spine conditions in collaboration with University of Utah Health to help train the next generation of medical professionals. Together, Primary Children's Hospital and University of Utah Health are advancing pediatric neurological care. We're proud to introduce three remarkable team members whose clinical work and research are helping shape the future of the field.

Building Neurology Care Where It's Needed Most



Sara Moss, MD

As a PGY5 child neurology resident at Intermountain Health Primary Children's Hospital and University of Utah Health, Sara Moss, MD, has built her training experience around two passions: improving access to care for underserved communities and advancing the field of autoimmune neurology.

Originally from California and a graduate of the University of Michigan Medical School, Dr. Moss was drawn to the program because of its unique combination of subspecialty expertise and opportunities to work with rural populations. Through the Global Rural Underserved Child Health (GRUCH) program, she has completed rural rotations, participated in community outreach initiatives, and helped establish a pediatric neurology clinic in Blanding, Utah, serving patients in partnership with the Navajo Nation.

The clinic, which launched in January 2026, was developed through collaboration with community partners, faculty mentors and hospital leadership. The model combines quarterly in-person visits with virtual attending support, creating a sustainable framework that future residents can continue after Dr. Moss completes her residency.

Beyond her outreach work, Dr. Moss has taken advantage of the program's extensive research opportunities. Her projects include investigations into autoimmune encephalitis, social determinants of health in pediatric MOG antibody-associated disease (MOGAD), and other autoimmune neurological disorders. She credits the program's strong mentorship and research infrastructure with helping residents pursue meaningful scholarly work alongside their clinical responsibilities.

Clinical training is another area where the program stands out. Residents participate in continuity clinics where they serve as the primary face of care for their patients while receiving guidance from faculty mentors. As trainees advance, they are given increasing responsibility for clinical decision-making and patient management.

Dr. Moss also highlights the breadth of learning opportunities available through the program. "The opportunity for electives is quite extensive here," she says. Residents have access to a wide range of subspecialty clinics and can tailor elective experiences to match their interests and career goals.

One of the program's most distinctive features is its geographic reach. "Something that's very unique to this institution is covering roughly 10% of the U.S. land mass," Dr. Moss says. The large catchment area exposes residents to an exceptional diversity of neurological conditions while providing valuable experience caring for patients in rural and resource-limited settings.

In addition to her clinical and research work, Dr. Moss has been active in resident leadership and advocacy efforts, helping shape policies and initiatives that support trainees across the institution.

Reflecting on her residency experience, Dr. Moss says, "I'm walking away in my residency with such an amazing experience within that GRUCH program." For future residents interested in rural medicine, underserved communities, research and subspecialty neurology training, she believes the program offers a unique opportunity to develop as both a physician and a leader.

Looking ahead, Dr. Moss is accepted for fellowship training in autoimmune neurology with University of Utah Health. Her work demonstrates how residents at Primary Children's are not only learning from leaders in the field, but also helping shape the future of pediatric neurological care.



Learn more about the Pediatric Neurology Fellowship.



Learn more about the Pediatric Neurology Residency.



EDUCATION SPOTLIGHT

Training the Next Generation of Pediatric Neurosurgery Leaders



Natasha Graves, MD, MPH

As a PGY4 neurosurgery resident at University of Utah Health, Natasha Graves, MD, is already building the clinical, research, and leadership skills needed for a career in pediatric neurosurgery. For Dr. Graves, one of the biggest draws of the program was the opportunity to train alongside nationally recognized experts at Intermountain Health Primary Children's Hospital.

"I actually chose this program in large part due to the really amazing pediatric neurosurgery experience that we get here," she says. "We're really lucky at Primary Children's Hospital to have a truly incredible five-physician pediatric neurosurgery practice."

The seven-year neurosurgery residency combines intensive clinical training with increasing operative responsibility and a dedicated protected research year. Residents rotate between adult and pediatric services, gaining exposure to a broad range of neurological conditions while developing expertise in highly specialized areas of neurosurgery.

A defining feature of the program is its approach to graduated autonomy. Residents are encouraged to take ownership of patient care while working within a strong support system of faculty mentors. Reflecting on her experience, Dr. Graves describes the balance as "perfect," noting that residents always have guidance available while being given increasing responsibility as they demonstrate competency.

Research is another cornerstone of the training experience. Recently, Dr. Graves presented research at the International Pediatric Stroke Organization Congress (IPSO), where she and her colleagues shared findings on a pediatric-specific access-site cocktail designed to reduce complications during neuroendovascular procedures.

EDUCATION SPOTLIGHT

The project was one of only 10 oral abstracts selected for presentation from institutions around the world. She has also contributed to research focused on fetoscopic myelomeningocele repair, helping develop educational materials that demonstrate Primary Children's innovative approach to fetal surgery for spina bifida.

According to Dr. Graves, the program's research culture begins with a clear expectation that residents will contribute to advancing the field. "This program puts a heavy emphasis on training people who are not only going to be neurosurgeons, but well-rounded researchers and leaders that are going to shape the field of neurosurgery," she says.

That commitment is supported by substantial infrastructure. Residents have access to faculty mentors, editorial staff, medical illustrators, videography support, protected research time, and funding for educational resources and conference travel. "We have a lot of resources to produce high-quality work," Dr. Graves says.

Beyond clinical care and research, Dr. Graves has also participated in mentoring future physicians through the University of Utah's Remote Education in Neurosurgery (UREIN) program. The initiative supports medical students at institutions without home neurosurgery programs, helping them gain mentorship, research experience and exposure to the specialty.

For prospective residents interested in pediatric neurosurgery, one of the program's greatest strengths is the breadth of expertise available within a single department. "It's unique that we don't have any area that's underrepresented in subspecialty neurosurgery," she says.

Looking ahead, Dr. Graves plans to pursue a career in pediatric neurosurgery. Her experience reflects the program's broader mission: training residents not only to provide exceptional patient care, but also to advance research, mentor future trainees, and help shape the future of neurosurgery.

Learn more
about the
Neurosurgery
Residency
Program.



A Fellowship Defined by Mentorship and Surgical Experience



Nebras Warsi,
MD, PhD

As the pediatric neurosurgery fellow at Primary Children's Hospital and University of Utah, Nebras Warsi, MD, PhD, came to Utah seeking advanced training in one of the nation's highest-volume pediatric neurosurgery programs. After completing neurosurgical training at The

Hospital for Sick Children (SickKids) in Toronto, he chose Primary Children's for its reputation, breadth of clinical experience, and exceptional faculty mentorship.

"They had told me that really the best place in the world for you to go for your fellowship is Utah," Dr. Warsi says. "I really wanted to come here."

For Dr. Warsi, one of the program's defining strengths has been its culture of mentorship. Throughout his fellowship, he has worked closely with a team of experienced pediatric neurosurgeons who provide guidance on everything from complex surgical cases to career development and research.

"I think having a network of mentors who are supportive and available and, you know, genuinely are people that you can connect with is really important," he explains.

That mentorship extends well beyond scheduled teaching sessions. Dr. Warsi describes a group of faculty members who remain invested in trainees' success and are always available to provide guidance on challenging cases. "If I call them at 3 a.m. for a really difficult case, they will answer," he says.

The fellowship combines that mentorship with extraordinary clinical volume and surgical experience. As the lead fellow on the pediatric neurosurgery service, Dr. Warsi helps manage inpatient care, supervises residents, and participates in approximately 500 surgical cases during the year. The breadth of pathology seen at Primary Children's is among the program's greatest strengths, exposing trainees to everything from hydrocephalus and spina bifida to complex brain tumors, epilepsy surgery, vascular malformations and spinal deformities.

The variety of cases available through the program has allowed him to gain experience across multiple subspecialty areas of pediatric neurosurgery. From complex brain tumors and epilepsy surgery to vascular neurosurgery and spinal deformity correction, fellows are exposed to procedures and pathologies that are difficult to find within a single training program.

"It almost felt like five fellowships in one," Dr. Warsi says.

Beyond clinical training, Dr. Warsi has continued to pursue his interests as a surgeon-scientist. Prior to arriving at Primary Children's, he completed a PhD focused on developing novel brain stimulation therapies for children with ADHD. During his fellowship, he contributed to a multicenter study led by Primary Children's examining implantable neurostimulation devices for epilepsy treatment while building research collaborations that will support his future academic career.

Another aspect of the fellowship that stood out to Dr. Warsi was the sense of community within the department. Relocating from Canada with his wife and young daughter, he found a welcoming environment that extended beyond the hospital walls. Faculty members and their families helped make the transition easier, creating a support system that allowed him to focus on both his professional and personal growth.

Following fellowship, Dr. Warsi will join Arkansas Children's Hospital as an assistant professor, where he will help lead brain tumor and functional neurosurgery programs while establishing his own research laboratory focused on implantable neurological devices for children.

Looking back on his experience at Primary Children's, he believes the combination of mentorship, autonomy, research opportunity and surgical volume provided the ideal preparation for this next step.

"It really does feel like after 17 years of work and doing the best residencies and the best fellowship, the job that I've gotten, the specific position really came together as something that was worth it," he says.

"I think having a network of mentors who are supportive and available and, you know, genuinely are people that you can connect with is really important." Nebras Warsi, MD, PhD

Learn about
the Pediatric
Neurosurgery
Fellowship.



Expanding Access Across the Intermountain West Through Outreach Clinics



Primary Children's Hospital continues to expand access to specialized pediatric neurology and neurosurgery care throughout the Intermountain West through a growing network of outreach clinics, telehealth services and community partnerships. From Idaho and Montana, to Nevada and Wyoming, these programs help ensure that children and families can receive expert care closer to home while maintaining access to the full range of specialists and services available through Primary Children's Hospital.

Bringing Specialized Care Closer to Home – Pocatello, Idaho

For many families living in rural communities, accessing pediatric neurological care can require hours of travel. Outreach clinics help bridge that gap by bringing specialists directly into the communities they serve.

Gary Nelson, MD, a pediatric neurologist who has provided outreach care in southeastern Idaho for over a decade, sees patients monthly in Pocatello. The clinic, established 30 years ago, serves children with epilepsy, headache disorders, developmental concerns, genetic syndromes, stroke, and other neurological conditions. Families often travel from across southern Idaho, western Wyoming and surrounding regions to access specialized care.

"The goal here is to be able to bring care closer," Dr. Nelson explains. "The patients who are farther away are not traveling 2 1/2 to 3 hours, or in some cases 5 hours, to come down to see us, but can still get the same expertise that they'd get if they were to come down and see us."

The outreach model also strengthens relationships with local pediatricians and healthcare providers. Through ongoing collaboration, Primary Children's specialists can provide consultation, assist with care planning and help manage patients between visits.

Building New Access Points in Rural Communities – Missoula, Montana

In Missoula, Montana, MaryGlen Stanich, MD, recently established a pediatric neurology practice, where no pediatric neurologist had previously been available. Dr. Stanich is caring for patients through a combination of in-person and telehealth exams.

The response from families and healthcare providers has been overwhelmingly positive. In addition to outpatient visits, Dr. Stanich provides inpatient consultations, EEG interpretation, and support for newborns and children with neurological concerns. She also serves as a direct connection to the extensive pediatric neurology subspecialty expertise available at Primary Children's Hospital.



“Well, simply, there’s no pediatric neurologist here. It’s a service that didn’t previously exist.” MaryGlen Stanich, MD

“I think it’s one of the pieces that’ll be pretty sustaining for me as I’m here on my own in Montana,” she says. “Without hesitation, I can reach out with questions.”

This collaboration allows families in Montana to access specialized expertise without always needing to travel long distances to larger academic medical centers.

Keeping Children Connected to the Resources They Need

What makes the outreach program unique is not simply the locations where care is delivered, but the connection each clinic maintains to the full resources of Primary Children’s Hospital. Patients can receive routine and follow-up care close to home while still accessing specialized testing, multidisciplinary teams, advanced therapies and subspecialty consultations when necessary.

That connection depends on ongoing communication between outreach providers and specialists in Salt Lake City, so a child’s care is never limited to whoever happens to be available locally. Whether a family is working with a local outreach physician or connecting through telehealth, this kind of collaboration allows decisions to be made with the support of a nationally recognized pediatric neuroscience program, regardless of where a family lives.



Gary
Nelson, MD



MaryGlen
Stanich, MD

For families, the benefit extends beyond shorter drive times. Fewer trips to a distant city can mean less missed school and work, and less strain on the rest of the household. Reducing how often that travel is necessary eases a burden that’s often unspoken but deeply felt for families managing a child’s ongoing care, particularly those already navigating complex or chronic neurological conditions.

Whether through monthly outreach clinics in Idaho, new pediatric neurology services in Montana, or telehealth connections throughout the region, the goal remains the same: Provide high-quality pediatric neurological care while minimizing the burden of travel on families. As these programs grow, they also strengthen ties between Primary Children’s specialists and the local providers who see these children day to day, creating a broader circle of support around each patient.

As the Brain and Spine Program continues to expand, outreach clinics remain an essential part of its mission to ensure that geography does not determine access to specialized care. By combining local presence with the expertise of a nationally recognized pediatric neuroscience program, Primary Children’s is helping more children receive the right care, in the right place, at the right time.



Brain and Spine Locations

The Intermountain Children's Health Brain and Spine Program provides specialized pediatric care for neurological and spinal conditions with locations across Utah, Idaho, Colorado, Wyoming, Montana and Nevada. Those clinics provide families with expert care nearby, making it easier to get quick diagnoses, personalized treatment and ongoing support tailored to each child's needs.

- **Brain and Spine Clinic Locations**

- Salt Lake City, Utah,
- Lehi, Utah
- Layton, Utah
- Las Vegas, Nevada
- Missoula, Montana

- **Outreach Clinics**

- St. George, Utah
- Billings, Montana
- Bozeman, Montana
- Pocatello, Idaho
- Jackson, Wyoming

- **Virtual Hospital & Telehealth Sites**

- Utah
- Nevada
- Colorado
- Wyoming
- Montana
- Idaho

To Learn More:

Visit Primary Children's Hospital, or Intermountain Children's Health Brain and Spine Program.

Explore additional Brain & Spine resources.

