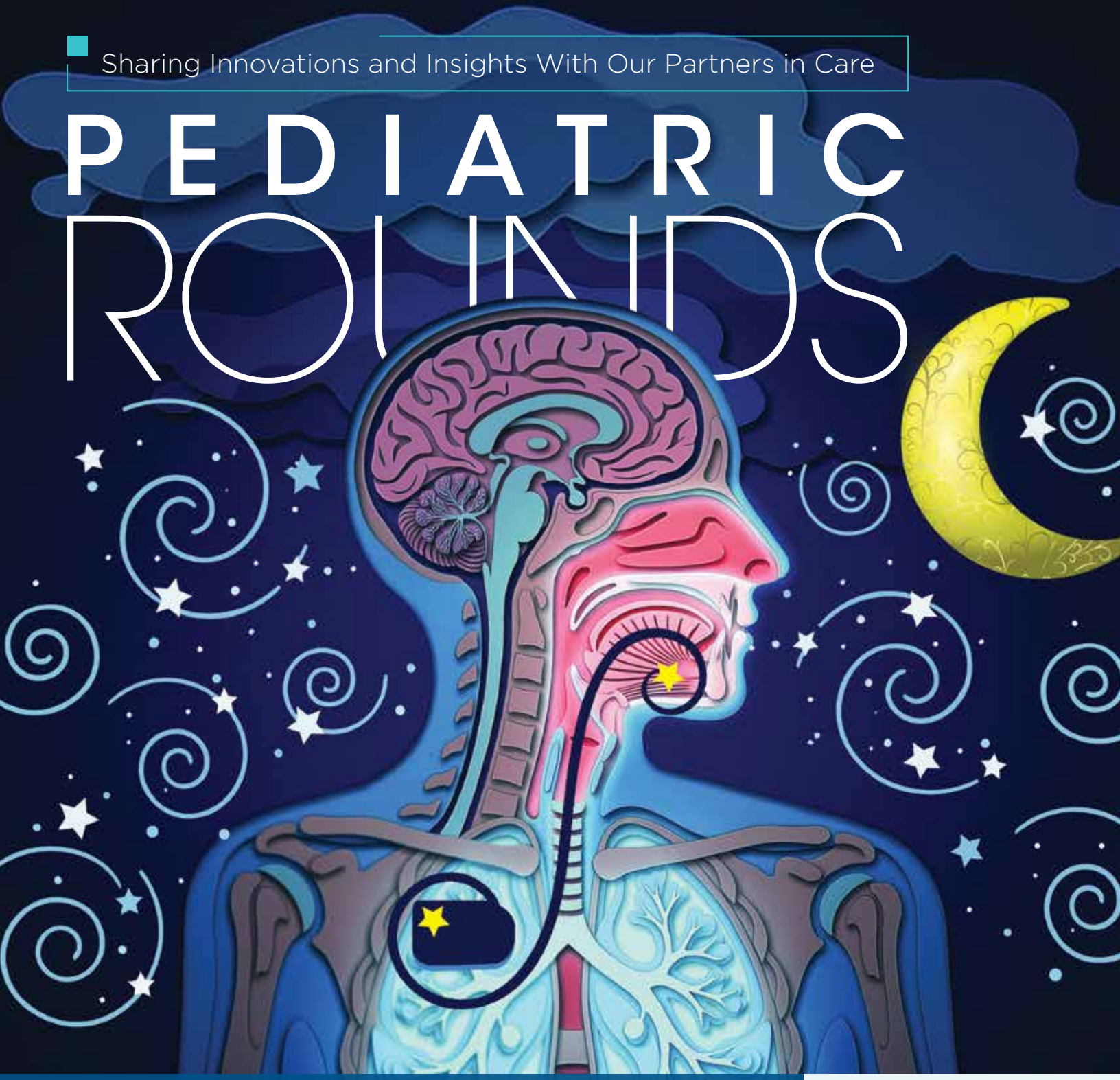
Sharing Innovations and Insights With Our Partners in Care

# PEDIATRIC ROUNDS



**Advancing Sleep Apnea Care** \08


Cardiac Anatomy in Focus \04

Specialized Neonatal Support \06

Supporting Young Cancer Patients \12

Expanding Upper Extremity Care \14


Children's Wisconsin

VOLUME 24 \ ISSUE 2 \ 2026

To refer a patient, call (800) 266-0366.

# The Right Care Is Rarely One-Size-Fits-All

*Tailoring pediatric care to the patient, the condition and the moment*

**BY JASON A. JARZEMBOWSKI, MD, PHD**



**No two children experience illness, injury or recovery in the same way.** Age, anatomy, development, life circumstances and response to treatment can all shape what comes next. This issue of Pediatric Rounds explores how teams across our practice are tailoring care to the individual needs of each patient.

Our cover story examines Inspire hypoglossal nerve stimulation as an emerging option for adolescents with Trisomy 21 and refractory obstructive sleep apnea. That same commitment to individualized care can be seen in patient-specific 3D cardiac modeling that brings complex congenital heart anatomy into focus, and in our Small Baby Program, where specialized practices address the distinct needs of infants born before 28 weeks' gestation.

Throughout the issue, you will also see how pediatric upper-extremity specialists account for the anatomy and development of growing patients; how ADHD co-management guidelines help children receive the appropriate level of care; and how our multidisciplinary polyendocrine metabolic ovarian syndrome care team addresses interconnected endocrine, metabolic and ovarian concerns.

Our Adolescent and Young Adult Cancer Program recognizes the distinct medical and psychosocial needs of adolescents and young adults, while sport psychology brings the mental dimensions of injury and recovery into the care of young athletes. Finally, multidisciplinary trauma and burn initiatives show how coordinated practices can reduce preventable complications.

Together, these stories demonstrate how teams across Children's Wisconsin continue to push pediatric care forward, finding better ways to meet the unique needs of every child and family we serve.

JA Jarzembowski, MD, PhD

*Jason A. Jarzembowski, MD, PhD, Chief Executive Officer, Children's Specialty Group; Medical Director, Pathology and Laboratory Medicine, Children's Wisconsin; Vice Chair and Professor, Department of Pathology and Senior Associate Dean of Clinical Affairs, Medical College of Wisconsin*

## We'd love your feedback!

**Please scan here to share your thoughts on Pediatric Rounds.**

**We value your feedback and will use it to continue to shape the future of Pediatric Rounds.**

# ADHD Co-Management Guidelines Support

*Earlier diagnosis and more efficient access to specialty care*

**Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders encountered in pediatric practice, and most children with concerns related to attention, impulsivity or executive functioning first present in the primary care setting.** To help clinicians confidently diagnose and manage uncomplicated ADHD cases while streamlining access to specialty services for more complex presentations, Children's Wisconsin has developed ADHD co-management guidelines in collaboration with providers in the Center for Child Development.

The initiative is intended to empower pediatricians and referring providers with evidence-based tools that support timely diagnosis and treatment, reducing unnecessary delays for families and allowing specialty resources to be directed toward children who would benefit most from comprehensive evaluation.

"Primary care is really the epicenter for ADHD care," said Samuel Gable, PhD, Child Psychologist at the Children's Wisconsin Center for Child Development. "Most families can have their concerns addressed effectively in that setting, and our goal is to collaborate on those gray-area cases where additional expertise may be helpful."



*Samuel C. Gable, PhD, Licensed Psychologist, Children's Wisconsin Center for Child Development Assistant Professor, Medical College of Wisconsin*

The guidelines are grounded in recommendations from the American Academy of Pediatrics (AAP) and the Society for Developmental and Behavioral Pediatrics (SDBP). They provide practical direction on obtaining a thorough developmental history, incorporating validated rating scales such as the Vanderbilt Assessment Scales, applying DSM diagnostic criteria and screening for common co-occurring conditions.

Sarah Rysdyk, PsyD, Clinical Psychologist at the Children's Wisconsin Center for Child Development and Associate Chief in the Division of Pediatric Psychology and Developmental Medicine, noted that many children can be diagnosed and begin treatment within their primary care practices, often by providers who have followed them for years.



*Sarah E. Rysdyk, PsyD, Licensed Psychologist, Children's Wisconsin Center for Child Development Assistant Professor, Medical College of Wisconsin*

**ADHD affects about 7 million children.**

**Nearly one-third**
**of children who need ADHD treatment do not receive it.**



"We want to get children to the right place at the right time," said Dr. Rysdyk. "For many patients, primary care providers have the tools to make an accurate diagnosis and initiate treatment without requiring lengthy specialty evaluations."

The guidelines identify patients who may benefit from referrals for comprehensive assessment. These include young children, patients with comorbid anxiety, mood concerns, autism spectrum disorder or developmental delays, those who have not responded to treatment as expected and children whose symptoms result in substantial functional impairment.

For these patients, Children's Wisconsin offers fast-track ADHD testing and targeted interventions through the Center for Child Development. The clinic was designed to reduce wait times and provide families with timely diagnostic clarification, therapy recommendations and treatment planning.

By supporting primary care providers in managing straightforward ADHD presentations and facilitating efficient access to specialty care when needed, the co-management initiative aims to improve diagnostic accuracy, reduce care delays and ensure that children and families receive appropriate support as early as possible.

**For more information about the ADHD guidelines, visit childrenswi.org/ADHDguidelines.**

# Bringing Complex Cardiac Anatomy Into Focus Through 3D Modeling

**For children with congenital heart disease, even patients with the same diagnosis may have meaningful differences in cardiac anatomy.** Understanding those patient-specific variations is essential when planning complex surgical or catheter-based interventions. At the Herma Heart Institute at Children's Wisconsin, advanced 3D cardiac modeling gives multidisciplinary care teams a detailed, individualized view of the heart before a patient enters the operating room or catheterization laboratory.

Using imaging data from computed tomography (CT) or magnetic resonance imaging (MRI), the 3D cardiac modeling team creates patient-specific representations of complex cardiovascular anatomy. The models can be viewed on a computer, explored through virtual reality or accessed on mobile devices, allowing clinicians to examine spatial relationships that may be difficult to fully visualize in 2D images.

"When we talk about precision medicine and individualized care, this does exactly that," said Kasey Chaszczewski, MD, a Pediatric Cardiologist with advanced training in noninvasive imaging and Co-Director of the Herma Heart Institute 3D Visualization, Modeling and Computational Engineering Program. "When the surgeon goes to the operating room, they are looking at the exact details of the anatomy they are going to interact with a few minutes later."



*Kasey J. Chaszczewski, MD, Pediatric Cardiologist and Co-Director of the Herma Heart Institute 3D Visualization, Modeling and Computational Engineering Program, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*



*John F. LaDisa, Jr., PhD, Biomedical Engineer, Herma Heart Institute at Children's Wisconsin Professor, Medical College of Wisconsin*



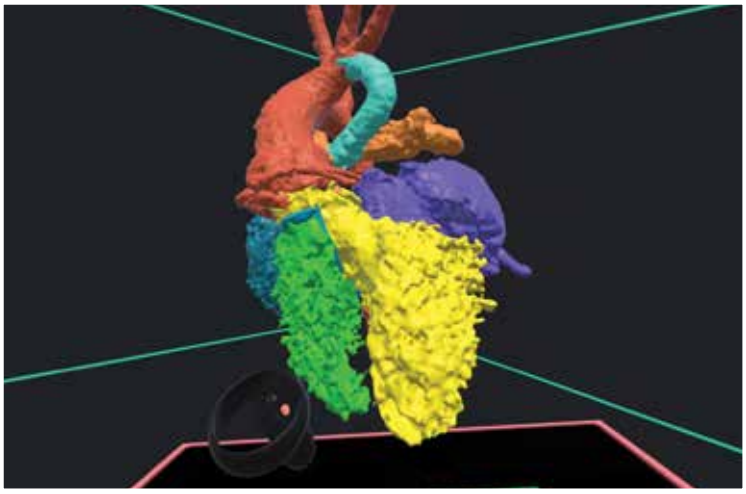
*Benjamin Goot, MD, Director, Echocardiography Lab, Children's Wisconsin, and Dr. Chaszczewski with the VR.*

## FROM CLINICAL NEED TO MULTIDISCIPLINARY INNOVATION

The initiative grew from a complex clinical case that brought cardiology, cardiothoracic surgery and biomedical engineering specialists together to explore how patient-specific modeling could support surgical planning. Following a successful outcome, the team expanded its use of modeling technologies and virtual review platforms.

Today, the multidisciplinary team includes Dr. Chaszczewski, John LaDisa, PhD, a Biomedical Engineer with expertise in computational fluid dynamics, cardiothoracic surgeons, cardiac imaging specialists and other members of the Herma Heart Institute. Approximately three to four models are developed each month for patients whose complex or atypical anatomy may benefit from additional visualization.

Rather than relying exclusively on each clinician's mental reconstruction of multiple 2D





images, cardiologists, surgeons, interventional specialists and engineers can evaluate the same patient-specific representation.

The technology can also support virtual procedural planning. The team may simulate the placement of a surgical patch to assess how a proposed repair corresponds with surrounding anatomy and identify potential challenges. For complex catheter-based interventions, models may help specialists evaluate feasibility, determine an optimal access route and anticipate the effects of atypical anatomy.

Although additional multicenter research is needed to determine whether 3D modeling reduces operative or cardiopulmonary bypass times, its current value lies in enhancing anatomic understanding and individualized procedural planning.

## SUPPORTING PATIENT AND FAMILY UNDERSTANDING

Beyond procedural planning, 3D modeling can help patients and families better understand congenital heart disease and the interventions being considered.

During preoperative consultations, a family may view and manipulate a model of their child's heart rather than rely solely on a generalized illustration. Clinicians can explain the individual anatomy, demonstrate the area requiring repair and provide a clearer picture of the procedure.

For one adult with congenital heart disease, viewing her patient-specific model marked the first time in 50 years that she understood what her own heart looked like. For a family preparing for a child's surgery, seeing the anatomy provided reassurance and helped them better understand what their child would experience.

"This is not just a cartoon drawing that you are walking families through," said Dr. Chaszczewski. "You are walking through their child's heart."

As advances in congenital heart care enable more patients to live well into adulthood, 3D modeling may also benefit those who require additional surgical or transcatheter interventions.

## WHAT REFERRING PROVIDERS SHOULD KNOW

Obstetricians and maternal-fetal medicine specialists are also important partners. Although 3D modeling is not performed prenatally, many complex congenital heart defects can be identified through fetal echocardiography. Following delivery, CT or MRI data may be obtained, even within the first weeks of life, to create models that support procedural planning.

Children's Wisconsin provides an integrated pathway from prenatal diagnosis and delivery through neonatal intensive care, advanced cardiac imaging and intervention. This allows newborns to transition directly to neonatal and specialty cardiac care.

For referring providers, 3D cardiac modeling reflects a broader commitment to precision, multidisciplinary collaboration and family-centered care. By transforming complex imaging data into patient-specific representations, the technology enhances clinical understanding and helps patients and families better understand the care ahead.

**References**
Anwar S, Singh GK, Miller J, et al. 3D printing is a transformative technology in congenital heart disease. JACC: Basic to Translational Science. 2018;3(2):294-312. https://pmc.ncbi.nlm.nih.gov/articles/PMC6059001/
Sun Z, Lau I, Wong YH, Yeong CH. Patient-specific 3D-printed models in pediatric congenital heart disease: current status and future perspectives. Children. 2023;10(2):319. https://pmc.ncbi.nlm.nih.gov/articles/PMC9955978/
Dave A, et al. Applications of computational fluid dynamics in congenital heart disease. 2025. https://pmc.ncbi.nlm.nih.gov/articles/PMC11856853/

**Learn more about the Herma Heart Institute at Children's Wisconsin at childrenswi.org/heart.**

# Advancing Care for the Smallest Patients: The Children's Wisconsin Small Baby Program

**At Children's Wisconsin, caring for the most premature infants has become a strategic priority.** To address the unique physiologic needs of infants born at the threshold of viability, the NICU established a dedicated Small Baby Program focused on caring for babies born before 28 weeks' gestation, including those born as early as 22 weeks.

Led by Neonatologist Alicia Sprecher, MD, in partnership with Neonatal Nurse Practitioner Emily Pokorny, APNP, and a multidisciplinary team, the program aims to standardize care, build expertise and optimize outcomes for this vulnerable population.



*23-month-old Sam entered the world at only 24 weeks gestational age, weighing 1 lb 9 oz. Sam is holding a picture of his twin, who sadly, passed after birth.*

## A SPECIALIZED APPROACH FOR EXTREMELY PREMATURE INFANTS

Infants born at less than 28 weeks' gestation may weigh as little as 1 pound at birth and face distinct challenges related to immature organ systems, neurodevelopment, respiratory support, nutrition and growth. Children's Wisconsin admits approximately 20 inborn small babies annually, in addition to 40 infants transferred from other hospitals throughout Wisconsin because of complications associated with prematurity. Although these infants account for a relatively small share of the more than 1,000 annual NICU admissions, their complex medical needs and extended hospital stays of three to six months make them a distinct and specialized patient population.

The Small Baby Program was developed to provide consistent, evidence-informed care tailored specifically to these infants. Over the past several years, the team has created institution-specific guidelines informed by published literature, collaborative learning from established programs and local quality improvement initiatives.

Standardized practices begin in the delivery room, where specially trained nurses facilitate a structured admission process designed to minimize physiological stress and preserve neurologic stability. The team has developed detailed guidelines that address everything from resuscitation roles to developmental positioning, environmental modifications, respiratory management and laboratory testing.

## BUILDING EXPERTISE THROUGH DEDICATED TEAMS

One of the program's distinguishing features is its investment in nursing expertise. Children's Wisconsin has established a cohort of Small Baby Champion nurses, many of whom have obtained certification in the care of extremely low-birth-weight infants. The program has grown from an initial pilot group to more than 20 specially trained nurses who provide direct care, mentor

colleagues and help disseminate best practices across the NICU's nursing workforce of more than 260 nurses.

Multidisciplinary collaboration extends beyond physicians and nursing staff. Physical therapists, occupational therapists, speech-language pathologists, respiratory therapists, pharmacists, lactation consultants and psychologists all contribute to individualized care plans.

Developmentally supportive interventions are emphasized early in hospitalization. The team incorporates the SENSE (Supporting and Enhancing NICU Sensory Experiences) program to guide age-appropriate sensory experiences and educate families about positive interactions with their infants. Skin-to-skin kangaroo care, four-handed caregiving techniques and the recently implemented Milk Drops program help promote neurodevelopment, strengthen parent-infant bonding and support oral feeding readiness.

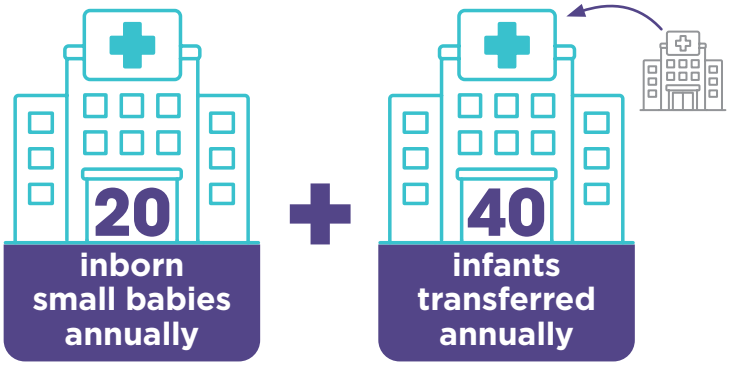
Quality improvement efforts have also focused on minimizing blood loss in these infants. By reevaluating laboratory collection volumes, the team has reduced unnecessary blood draws, helping preserve fetal hemoglobin and decreasing transfusion requirements.

## WHAT REFERRING PROVIDERS SHOULD KNOW

For obstetric and neonatal providers across Wisconsin, early maternal transfer remains a key consideration. Transporting a pregnant patient to a tertiary perinatal center is often safer than transporting an extremely premature infant after delivery. Children's Wisconsin works closely with maternal-fetal medicine specialists at Froedtert Hospital to determine optimal timing of delivery and ensure immediate access to specialized neonatal services when preterm birth appears imminent.



### Children's Wisconsin Small Baby Program Admissions




**Admissions related to complications associated with prematurity**

Families of small babies also receive comprehensive psychosocial support. Birth before 28 weeks is considered an automatic referral to NICU psychology services, acknowledging the significant emotional burden experienced by parents navigating prolonged hospitalizations and uncertain clinical courses.

As survival at 22 and 23 weeks' gestation becomes increasingly possible, the Children's Wisconsin Small Baby Program continues to evolve, driven by a shared belief that these infants have remarkable potential and deserve care that is as individualized and specialized as they are.



*Alicia J. Sprecher, MD, Neonatologist, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*



*Emily A. Pokorny, APNP, Neonatal Nurse Practitioner, Children's Wisconsin*

**Connect with the Children's Wisconsin NICU team at (877) 607-5280 to discuss a referral or visit childrenswi.org/NICU to learn more about specialized care for extremely premature infants.**

To refer a patient, call (800) 266-0366.




# Pediatric Inspire: An Emerging Surgical Treatment for Obstructive Sleep Apnea in the Trisomy 21 Population

**BY MICHAEL GORELIK, MD; CECILLE SULMAN, MD; LAUREN CASTNER, DO**

**Pediatric obstructive sleep apnea (OSA) and sleep-disordered breathing (SDB) affect up to 80% of patients with Down syndrome, also known as Trisomy 21, making them among the most common reasons for otolaryngology consultation in this population.** Common nighttime symptoms include snoring, mouth breathing, apnea and restless sleep, while daytime symptoms may include heavy breathing, nasal congestion, fatigue and sleepiness. The long-term effects of untreated OSA and SDB have significant implications for neurocognitive outcomes, cardiovascular health, growth, school performance and quality of life.

The underlying cause of SDB and OSA stems from the degree of upper airway obstruction during sleep. The spectrum of severity is largely mediated by increasing upper airway resistance from dynamic anatomic obstruction. As in the general pediatric population, adenotonsillar hypertrophy is the primary site of obstruction. However, in the Trisomy 21 population, hypotonia, macroglossia, obesity and midface hypoplasia are additional factors that predispose patients to more severe and refractory symptoms.

All children with Trisomy 21 should undergo screening polysomnography (PSG) before the age of 4, as there is often poor correlation between observed symptoms and sleep study findings. Patients with clinical symptoms or OSA identified on a sleep study should be referred to otolaryngology. The role of the otolaryngologist is to assess symptoms, perform a comprehensive physical examination and discuss surgical treatment options.

Adenotonsillectomy is generally the initial treatment, and although it has a high rate of success, up to 30%–70% of patients with Trisomy 21 continue to have residual symptoms.

## SURGICAL MANAGEMENT OF REFRACTORY SLEEP APNEA

Refractory OSA refers to persistent symptoms or residual OSA found on a sleep study following adenotonsillectomy. Treatment of refractory OSA relies on identifying regions of airway obstruction and tailoring surgical treatment to individual patient anatomy. This is accomplished using drug-induced sleep endoscopy (DISE), a procedure that involves visualization of the upper airway with a flexible endoscope during light anesthesia. DISE is routinely used to assess sites of upper airway obstruction in children with refractory OSA following adenotonsillectomy.

Based on DISE findings, a number of soft tissue surgical interventions may be offered. Surgical options include turbinate reduction, revision adenoidectomy, lingual tonsillectomy, epiglottopexy, posterior glossectomy and tongue base suspension, all of which are routinely performed at Children's Wisconsin by our pediatric otolaryngology team.

Revision sleep surgery can be successful in treating refractory OSA in pediatric patients with Trisomy 21. However, outcomes are variable and depend on the specific surgical approach and patient anatomy. Despite successful DISE-directed surgery, many patients continue to experience residual symptoms. A significant challenge is the adequate treatment of tongue base obstruction, which remains a major contributor to persistent anatomic obstruction. Given the difficulty of fully addressing refractory OSA, input from other specialties is a necessity.

## MULTIDISCIPLINARY CARE

Multiple factors ultimately contribute to refractory OSA, including obesity, airway anatomy and medical comorbidities. All patients with refractory OSA, including those with Trisomy 21, have the opportunity to be evaluated in our multidisciplinary Alternatives to CPAP Clinic at Children's Wisconsin. This clinic is staffed primarily by pediatric otolaryngology and pediatric pulmonology specialists, with collaboration from endocrinology and nutrition teams.

The goal of the clinic is to provide a comprehensive evaluation of refractory OSA, determine whether medical or surgical treatment best aligns with family goals and offer nutrition and weight management strategies. While surgery can offer excellent outcomes



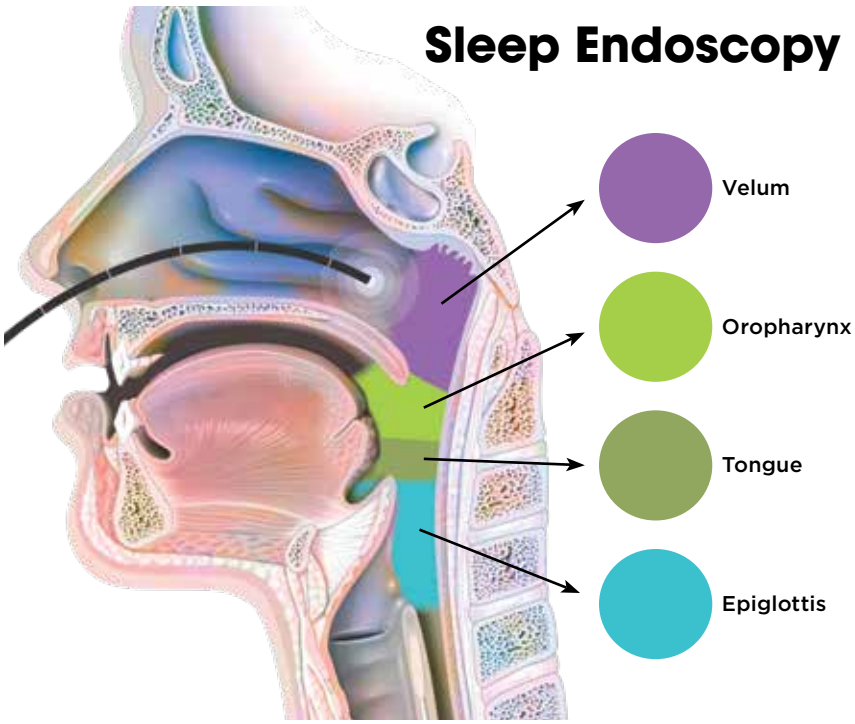
*Michael Gorelik, MD, Pediatric Otolaryngologist, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*



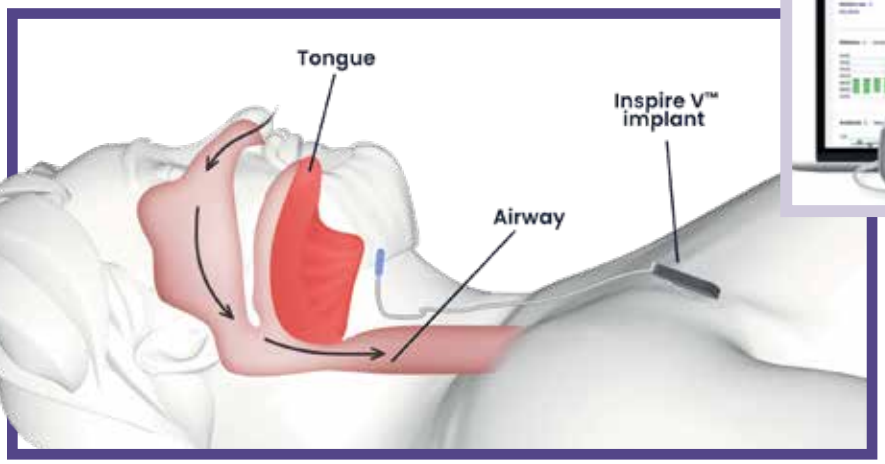
*Cecille G. Sulman, MD, Medical Director, Otolaryngology, Children's Wisconsin Professor and Chief of Pediatric Otolaryngology, Medical College of Wisconsin*



*Lauren M. Castner, DO, Pulmonologist, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*




**Drug-induced Sleep Endoscopy (DISE)** is a diagnostic procedure used to identify the specific site(s) of airway blockage in patients with **obstructive sleep apnea** or significant snoring.







*The Inspire Device used to treat qualifying pediatric patients with Down syndrome.*

for some patients, others may achieve successful treatment with CPAP. Orthodontic appliances, medications and long-term weight management strategies may also be initiated.

**HYPOGLOSSAL NERVE STIMULATION USING THE INSPIRE DEVICE IN TRISOMY 21**

Over the last decade, a novel surgical approach known as hypoglossal nerve stimulation (Inspire) has emerged as a promising treatment for OSA. This implantable device delivers electrical impulses during inspiration to branches of the hypoglossal nerve, resulting in stimulation of tongue muscles and alleviation of tongue base obstruction during sleep. Inspire was initially FDA approved in 2014 for adult patients with OSA. Subsequent clinical trials demonstrated improvements in both sleep parameters and neurocognitive outcomes in children with Trisomy 21 and refractory OSA, leading to FDA approval for select Trisomy 21 patients in 2023.

The surgical procedure involves a small incision in the neck, through which the stimulation lead is placed around the hypoglossal nerve. A second small incision is made in the chest, where the implantable pulse generator (similar to a cardiac pacemaker) is placed to coordinate stimulation in synchrony with breathing. Most patients are able to return home the same day. Once fully healed, children can typically resume normal activities, including sports and exercise.

The device is currently FDA approved for patients with Trisomy 21 who are ≥ 13 years old and have persistent severe OSA after adenotonsillectomy and have failed or are unable to tolerate CPAP therapy. All potential candidates undergo DISE to evaluate airway anatomy and are seen in the Alternatives to CPAP Clinic to review all treatment options. After surgery, patients are followed closely by the otolaryngology and pulmonology teams. The device is activated one month postoperatively, and additional sleep studies are performed to fine-tune device settings.

Rather than positioning Inspire as a replacement for other therapies, the team incorporates it as one option within the broader Alternatives to CPAP framework, with multidisciplinary patient selection and structured follow-up to support safety and effectiveness.

**LIVING WITH INSPIRE**

Each night at bedtime, a small remote control is used to turn on the device. Stimulation begins after a 30-minute delay, which allows the child to fall asleep. In the morning, the remote is used to turn the device off. Most patients use the device for approximately six to seven hours per night. When the device is active, patients may experience a mild tingling sensation in the tongue, which is generally not bothersome.

Because the device is completely internal, there is no external equipment to wear — no mask, tubing or bedside machine. The device is silent and not visible to others. The battery lasts approximately 11 years and can be replaced with a minor surgical procedure.

**GROWING THE INSPIRE PROGRAM AT CHILDREN'S WISCONSIN**

At Children's Wisconsin, we continue to innovate and offer cutting-edge treatments for our patients. We are one of the only centers in the state of Wisconsin to provide such comprehensive management of refractory OSA. We implanted our first Inspire patient in July 2025, and our program continues to grow through collaboration with local and regional providers who care for patients with Trisomy 21. We remain committed to expanding our program to meet the evolving needs of this patient population.

**For information about Inspire Therapy at Children's Wisconsin, visit childrenswi.org/InspireTherapy.**

# Multidisciplinary Practice Strengthens Pediatric Trauma and Burn Care

**BY KELLIE SNOOKS, DO; ANDREA MAXWELL, MD; REBEKAH BARRETTE, APRN-CNS, CWOCN; WENDI REDFERN, APRN, ACNS-BC; KRISTIN BRAUN, MS, RN**



Standardized approaches to inhalational injuries and cervical spine precautions are improving consistency and reducing preventable patient harm.

Two multidisciplinary initiatives at Children's Wisconsin are helping strengthen care for children with serious burn and traumatic injuries. By bringing specialists together around shared guidelines, early risk identification and coordinated bedside practice, the teams are improving consistency while addressing complications that can arise during complex care.

## STANDARDIZING CARE FOR INHALATIONAL INJURIES

Children with inhalational injuries can require rapid, highly coordinated care across multiple specialties. These injuries accounted for nearly 10% of the pediatric burn population at Children's Wisconsin in 2024 and 2025.

To improve consistency, providers from Pediatric Surgery, Critical Care, Emergency Medicine, Pulmonology and Hospital Medicine collaborated to develop standardized guidelines for children with suspected inhalational injuries. Finalized in April 2024, the guidelines provide a shared framework for evaluation and treatment in the Pediatric Intensive Care Unit (PICU).

Since implementation, the approach has supported the care of children with significant inhalational injuries while helping teams align clinical decision-making across specialties. The work reflects how subspecialty collaboration can strengthen care delivery for critically ill pediatric patients.

## REDUCING CERVICAL COLLAR-ASSOCIATED PRESSURE INJURIES

A second initiative focused on hospital-acquired pressure injuries associated with cervical collars in trauma patients. After reviewing internal data and identifying an increase in these injuries, clinical nurse specialists from Trauma, Wound and Skin and the PICU partnered with specialists in Neurosurgery, Surgery, Neurology and Critical Care.

The team introduced several coordinated changes, including criteria to expedite cervical spine clearance for selected patients with isolated gunshot wounds, automatic Wound and Skin consultations for trauma patients and a rounding algorithm to identify patients at elevated risk. PICU nurses also received focused education and bedside coaching on pressure-relieving products, while device vendors helped review collar sizing, application and maintenance.

Together, these changes reduced unnecessary collar time, strengthened prevention practices and improved consistency across teams. As of mid-2025, only one collar-associated hospital-acquired pressure injury had been recorded in the PICU since implementation.

Children's Wisconsin continues to review outcomes and refine these practices so that trauma and burn care remains both clinically effective and skin safe.

**To consult with a Children's Wisconsin specialist or refer a patient, call (800) 266-0366.**



*Kellie C. Snooks, DO, Pediatric Critical Care Physician, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*



*Andrea R. Maxwell, MD, Pediatric Critical Care Physician, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*

# Addressing the Unique Needs of Adolescent and Young Adult Cancer Patients

**Adolescents and young adults with cancer face challenges that differ significantly from those of pediatric or older adult patients.** The MACC Fund Center for Cancer and Blood Disorders at Children's Wisconsin, in collaboration with the adult oncology program at Froedtert & the Medical College of Wisconsin Cancer Network, has developed a comprehensive Adolescent and Young Adult (AYA) Cancer Program designed to provide specialized support throughout the cancer journey.

According to the National Cancer Institute, the AYA population includes individuals diagnosed with cancer between the ages of 15 and 39. Research shows that advancements in cancer survival rates for this group have historically fallen behind those for younger children and older adults, leading to the development of dedicated AYA oncology programs nationwide.

## A COLLABORATIVE MODEL OF CARE

The AYA Cancer Program spans both pediatric and adult oncology settings, ensuring patients receive age-appropriate care. On the pediatric side, the program is led by Kristin Bingen, PhD, Co-Director, and Jocelyn Morin, MPH, Co-Associate Director, in partnership with John Charlson, MD, Co-Director, and Alexandra Leutenegger, RN, BSN, Co-Associate Director, representing the Adult Oncology Program at Froedtert & the Medical College of Wisconsin.

The Collaborative AYA Network of Oncology Experts (CANOE) is a multidisciplinary group of physicians, nurses, psychologists, social workers, survivorship experts and researchers. Through CANOE, teams collaborate on initiatives focused on fertility preservation, clinical trial enrollment, survivorship planning, psychosocial support and transition services.

"The overall mission is to advance health outcomes for AYA cancer patients and survivors," said Dr. Bingen. "We want to make sure they have timely access to the resources, services and support that are unique to this age group."

## SUPPORT BEYOND TREATMENT

A defining feature of the program is its focus on the developmental and social impact of cancer during adolescence and young adulthood. Patients often feel caught between pediatric and adult care environments while feeling disconnected from peers whose lives continue, uninterrupted by treatment.

To address these challenges, the program offers peer-focused opportunities, including social support and networking activities, community outings and patient advisory initiatives. Activities such as hiking excursions, cooking classes, sporting events and social gatherings help patients build meaningful connections with others facing similar experiences.

"We want to make sure our AYAs are finding each other and building their own community," said Morin. "No matter where a patient receives treatment, we want them to have access to AYA resources and support."



*Kristin M. Bingen, PhD, Licensed Psychologist and Co-Director of the AYA Cancer Program, Children's Wisconsin Professor, Medical College of Wisconsin*



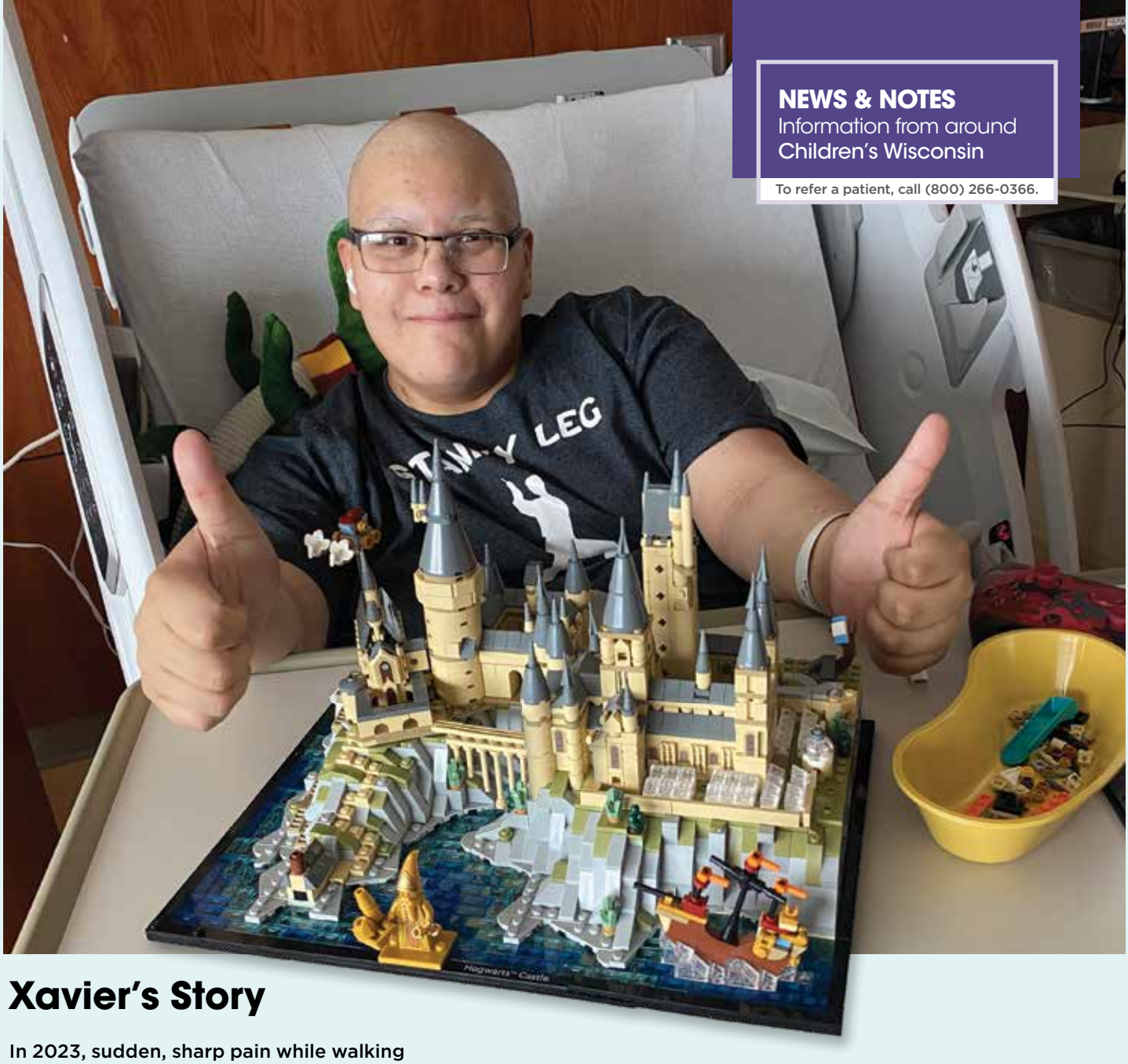
*Jocelyn Morin, MPH, Co-Associate Director of the AYA Cancer Program, Children's Wisconsin*

## WHAT REFERRING PROVIDERS SHOULD KNOW

The AYA Cancer Program offers a coordinated approach that extends beyond active treatment. The team works with primary care providers to support survivorship care, facilitate transitions back to community-based care and ensure patients remain connected to appropriate resources throughout recovery.

By combining pediatric and adult oncology expertise with supportive services, the AYA Cancer Program, sponsored by Teen Cancer America, helps ensure patients receive comprehensive, age-specific care designed to optimize medical and psychosocial outcomes.

**For more information about the Adolescent and Young Adult Cancer Program, visit childrenswi.org/AYAprogram.**




# Xavier's Story

**In 2023, sudden, sharp pain while walking was Xavier's first sign that something was wrong.** He described it as feeling like nerve pain, but when it persisted, he went to Children's Wisconsin for answers. Imaging revealed osteosarcoma.

The diagnosis of osteosarcoma was difficult for Xavier to process. "I was depressed and scared," he recalled. Chemotherapy was physically demanding, and his postoperative recovery was difficult. During the hardest days, support from his family and care team helped him feel less alone. Conversations with physicians, nurses and environmental services staff made his days better. Although Xavier considered himself an introvert, he said that being surrounded by people during treatment became an important source of connection and support.

He also found a sense of community through the Adolescent and Young Adult (AYA) Cancer Program. Xavier took part in Young Adult Oncology Group social events and later joined the AYA patient advisory committee, creating opportunities to connect with others who understood the challenges of facing cancer at a young age. Psychology services gave him another source of support and a space to talk through difficult moments in his journey.

Today, Xavier is focused on what comes next. Cancer pushed him outside his comfort zone and helped him become more open to new people and experiences. He looks forward to meeting others, trying new things and embracing life. His message to other young people who have cancer is simple: "You're not alone. There are people who want to help, listen and support you."

# Pediatric Upper Extremity Expertise Expands Access Across Wisconsin



**When Children's Wisconsin recruited Orthopedic Surgeon Jessica Hanley, MD, in 2019, it marked the beginning of a dedicated Pediatric Hand and Upper Extremity Program designed to address a longstanding gap in specialized care for children with upper limb conditions.**

Today, the program has grown into a comprehensive multidisciplinary service that provides evaluation and treatment for patients, ranging from prenatal consultations through adolescence and young adulthood. Under Dr. Hanley's leadership, the team includes advanced practice providers, certified pediatric hand therapists, nursing support staff, athletic trainers and specialized clinical staff, creating a coordinated approach to pediatric upper extremity care.

While many providers associate hand surgery primarily with the wrist and hand, the program's scope extends far beyond that. "We really specialize in the entire upper limb," said Dr. Hanley. "That includes everything from the clavicle and shoulder all the way down to the fingertips."

## A Broad Spectrum of Pediatric Conditions

**The Pediatric Hand and Upper Extremity Program manages a wide range of congenital, traumatic, neuromuscular and sports-related conditions. Common referrals include:**

- **Congenital upper extremity differences, including syndactyly, polydactyly, absent digits and limb deficiencies**
- **Neuromuscular conditions, such as cerebral palsy**
- **Upper extremity fractures and complex trauma**
- **Sports injuries involving the shoulder, elbow, wrist or hand**
- **Peripheral nerve conditions**
- **Soft tissue contractures**
- **Tumors and masses**
- **Burn-related hand and upper extremity reconstruction**

**The program also provides prenatal consultations for families whose fetal imaging reveals upper extremity differences before birth.**



*Jessica M. Hanley, MD, Pediatric Orthopedic Surgeon, Children's Wisconsin*
*Associate Professor, Medical College of Wisconsin*

Treatment options include both operative and nonoperative management, with integrated access to casting, splinting and therapy services. Pediatric certified hand therapists are available to fabricate custom orthoses for infants and children, whose anatomy often requires solutions unavailable through standard off-the-shelf devices.

### WHY PEDIATRIC UPPER EXTREMITY CARE MATTERS

For referring providers, one of the most important considerations is that pediatric upper extremity care often differs significantly from adult hand surgery.





"Kids are not small adults," said Dr. Hanley.

Open growth plates, remodeling potential and developmental considerations all influence treatment decisions. Many injuries that would routinely require surgical intervention in adults can be managed successfully without surgery in children when treated appropriately.

The distinction becomes even more important for highly specialized patient populations.

Children with congenital upper extremity differences and neuromuscular disorders often require expertise that extends beyond traditional hand surgery training. These patients frequently present with unique anatomy, complex functional concerns and multidisciplinary care needs that benefit from a pediatric-focused approach.

"Most adult hand surgeons have extensive experience with fractures, tendon injuries and nerve problems," said Dr. Hanley. "But many congenital and neuromuscular conditions can require a very different treatment approach."

The pediatric environment itself also plays a critical role in outcomes. Therapy programs designed specifically for children use developmentally appropriate techniques that transform rehabilitation into engaging, play-based activities, helping patients participate more effectively in recovery.

**IMPROVING ACCESS ACROSS THE REGION**

Since its launch, the Pediatric Hand and Upper Extremity Program has become a referral destination for patients throughout Wisconsin and neighboring states, including Illinois, Michigan and Minnesota.

The demand reflects both the rarity of pediatric upper extremity specialists and the need for timely access to care. Prior to the creation of the program, many children requiring specialized hand care were referred through adult-focused systems, often resulting in delays and fragmented care.

Today, Children's Wisconsin offers direct access to pediatric expertise while also supporting referring providers across the region.

Recognizing the growing need, Dr. Hanley routinely collaborates with other orthopedic surgeons, advanced practice providers and community clinicians throughout the health system. Through consultation, education and shared care models, the program helps ensure that children receive the appropriate level of specialty care, while preserving access for the most complex cases.

**LOOKING AHEAD**

The next phase of growth focuses on expanding access even further Children's Wisconsin is actively growing its pediatric hand and upper extremity team by adding more team members and recruiting more clinicians to expand specialty coverage throughout Wisconsin and surrounding regions.

Specialized pediatric upper extremity expertise is available for everything from common fractures to the most complex congenital and neuromuscular conditions.

As the program continues to expand, Children's Wisconsin remains committed to delivering comprehensive, child-focused care tailored to the unique needs of growing patients.

**Refer a patient to Wisconsin's only comprehensive Pediatric Hand and Upper Extremity Program by calling (877) 607-5280 or visiting childrenswi.org/HandUpperExtremity.**

# PMOS Clinic: Bringing Specialists Together

*Multidisciplinary polyendocrine metabolic ovarian syndrome clinic expands specialized care for adolescents*

**A multidisciplinary clinic at Children's Wisconsin is helping address a common but often underrecognized condition affecting adolescent girls: polyendocrine metabolic ovarian syndrome (PMOS), formerly known as polycystic ovary syndrome (PCOS).** The condition was recently renamed to better reflect its underlying endocrine, metabolic and ovarian components and to provide a more comprehensive understanding of its long-term health implications.






*Alison T. Coren, MD, Pediatric Endocrinologist, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*

## A COLLABORATIVE MODEL FOR COMPLEX CARE

The PMOS Clinic brings together specialists in endocrinology, adolescent medicine, dermatology, psychology and nutrition to deliver coordinated care for patients with this complex condition. Alison Coren, MD, Pediatric Endocrinologist at Children's Wisconsin, said the multidisciplinary model allows providers to address symptoms and health concerns associated with PMOS.

"PMOS is much more than an irregular menstrual cycle," said Dr. Coren. "It affects reproductive, metabolic, dermatologic and emotional health, which is why a collaborative approach is so important."

The clinic serves adolescents, typically age 12 through 18, and focuses on establishing an accurate diagnosis while ruling out other conditions that may mimic PMOS. Diagnosis requires both menstrual irregularities and evidence of hyperandrogenism, which may present as significant acne, excess hair growth and/or laboratory abnormalities.

## UNDERSTANDING THE LONG-TERM HEALTH RISKS

PMOS affects one in eight women and is associated with long-term health risks, including type 2 diabetes, dyslipidemia, hypertension, obstructive sleep apnea and endometrial hyperplasia, if left untreated. While obesity and insulin resistance can contribute, PMOS occurs across the weight spectrum and can affect lean and overweight adolescents.

Treatment begins with lifestyle counseling, including nutrition, physical activity, sleep and mental health assessments. Because anxiety, depression and disordered eating are more common among adolescents with PMOS, providers take a holistic approach. Interventions may include menstrual regulation therapies, dermatologic treatment, metformin and, when appropriate, weight management medications.

## WHAT REFERRING PROVIDERS SHOULD KNOW

For referring providers, Dr. Coren encourages screening questions about menstrual regularity, acne and excess hair growth during adolescent wellness visits.

"Many girls want answers about what is happening with their bodies," she said. "Early recognition can allow us to address symptoms and reduce long-term health risks."

Children's Wisconsin has expanded access to the PMOS Clinic, increasing appointments to meet growing demand. Referrals may originate from adolescent medicine or endocrinology providers, with the recommendation to refer through endocrinology for triage into the multidisciplinary clinic.

**To learn more about the PMOS co-management guidelines, visit childrenswi.org/PMOSguidelines.**

MALIK ADEEL, SULAIMAN VIA ADOBE STOCK

# Supporting the Mental Side of Youth Sports



*Charlotte M. Shanaver, PhD, Sport Psychologist, Children's Wisconsin Assistant Professor, Medical College of Wisconsin*

**For many young athletes, sports are more than an activity. Years of training, competition and sacrifice can make athletic participation an important part of their identity.** When an injury disrupts their ability to compete or threatens their future in sports, the psychological effects may extend well beyond the physical diagnosis.

At Children's Wisconsin, sport psychology is integrated within the Orthopedics and Sports Medicine Program to address the connection between physical recovery, mental health and athletic performance. Charlotte Shanaver, PhD, Sport Psychologist, works alongside primary care sports medicine physicians, orthopedic surgeons and other specialists to support athletes experiencing challenges related to injury, recovery and performance.

"Sport is an identity for a lot of people," said Dr. Shanaver. "It is an identity that can be taken away at any time."

## SUPPORTING RECOVERY AND RETURN TO PLAY

Sport psychology services may help athletes recovering from major injuries address apprehension, hesitation or loss of confidence as they prepare to return to competition. Although some concern is expected following an injury, persistent fear or hesitation may affect performance and potentially increase the risk of reinjury.

Psychological support can help athletes manage uncertainty, rebuild confidence and navigate changes in their athletic identity. Dr. Shanaver also works with schools and athletic programs throughout Wisconsin, collaborating with athletes and their support teams to address mental performance, team dynamics, crisis response and individual psychological needs.

## RECOGNIZING THE PRESSURES FACING YOUNG ATHLETES

Today's athletes face pressures that extend beyond practices and competition. Recruiting, social media visibility and name, image and likeness opportunities can introduce public attention and performance expectations at increasingly younger ages.

Understanding these influences may help providers create an environment in which athletes feel comfortable discussing their symptoms and concerns.



To a young athlete, an injury may represent more than a concussion, fracture or stress injury. It may mean separation from teammates, uncertainty about recruitment or the loss of an identity developed over many years. Recognizing that impact can strengthen the patient-provider relationship and support recovery.

## WHEN TO CONSIDER A REFERRAL

Pediatricians and primary care providers play important roles in identifying athletes who may benefit from specialized support. Referral may be appropriate when psychological concerns interfere with recovery, treatment adherence, return to play, daily functioning or athletic performance.

Children's Wisconsin offers multidisciplinary sports medicine services, including specialized care for concussions, relative energy deficiency in sport and other sports-related conditions. Collaboration among medical, surgical, rehabilitation, nutrition and psychological specialists allows care teams to address the physical and emotional factors affecting an athlete's health.

Early access to appropriate support can help young athletes navigate recovery while acknowledging the important role sports may hold in their lives.

**Scan here to learn more about sport psychology and Dr. Shanaver's work.**

JACOB LUND PHOTOGRAPHY VIA GETTY IMAGES

## Adolescent Medicine



**Kelli-Ann M. Corrao, MD,** is a Physician at Children's Wisconsin and an Assistant Professor at the Medical College of Wisconsin.

- St. Louis University School of Medicine, MD
- University of Nebraska Medical Center College of Medicine — Pediatrics
- Medical College of Wisconsin — Adolescent Medicine (Pediatrics)
- Pediatrics

## Nephrology



**Matthew Biehl, MD, PhD,** is a Nephrologist at Children's Wisconsin and an Assistant Professor at the Medical College of Wisconsin.

- University of Illinois at Chicago College of Medicine, MD
  University of Illinois at Urbana-Champaign, PhD
- Washington University/BJH/SLCH Consortium — Pediatrics
- Washington University/BJH/SLCH Consortium — Pediatric Nephrology
- Pediatrics

## Emergency Medicine



**Jamie Holland, MD,** is a Physician at Children's Wisconsin and an Assistant Professor at the Medical College of Wisconsin.

- University of Nebraska College of Medicine, MD
  University of Nebraska–Lincoln, BS
- Primary Children's Medical Center (Utah)
- Lurie Children's/Northwestern — Pediatric Sports Medicine
  Medical College of Wisconsin — Pediatric Emergency Medicine
- Pediatric Emergency Medicine
  Pediatrics — General
  Sports Medicine

# Interested in learning more?

## SCAN HERE →

**to read the previous issue of Pediatric Rounds**

**KEY TO SYMBOLS:** DEGREE RESIDENCY FELLOWSHIP BOARD CERTIFICATION

**NEW ON STAFF**
Specialists in our network ready to help

To refer a patient, call (800) 266-0366.

# Departures

**Mental and Behavioral Health**
Daniel Schulties, MD

**Hematology**
Melissa Azul, DO

**Child Advocacy and Protection**
Lynn Sheets, MD

**Complex Care**
P. Galen DiDomizio, MD

**Neurosciences**
Jenna Jacobs, APNP

**Infectious Diseases**
Kelly Henrickson, MD

**Gastroenterology**
Janice Bitong, MD

**Complex Care**
Kimberly Jane Lee, MD

**Neonatology**
Kaitlyn Kelly, MD

**Neurology**
Virginia Kaperick, MD

**Hospital Medicine**
Andrea Carberry, MD

**Nephrology**
Victoria Besser, MD

**Rheumatology**
James Bistolarides, MD

# New Advanced Practice Providers

**Orthopedics**
Baylee M. Broehm, PAC

**Adolescent Medicine**
Melanie Ruetz, APNP

**Nephrology**
Benjamin Bruhn, PAC

# We'd love your feedback!




## Please scan QR code to share your thoughts on Pediatric Rounds.

We value your feedback and will use it to continue to shape the future of Pediatric Rounds.

Children's Wisconsin
PO Box 1997
Milwaukee, WI 53201-1997

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
MILWAUKEE, WI
PERMIT NO. 2284

CHW-128788

**LEARN & DISCOVER**
Medical education and research opportunities

# Continuing Medical Education

Children's Wisconsin is committed to supporting medical professionals with continuing medical education and resources. Our physicians and providers are eager to share their knowledge and research to help you care for your patients. We are continually planning events that highlight the latest news about our specialties, best practices and other important topics.

## Adolescent & Young Adult Survivorship Virtual Conference

**NOV. 6, 2026**
childrenswi.org/ayasurvivorship

## Sports Medicine and Rehab Teaching (SMART) Series

**NOV. 11, 2026, JAN. 13, 2027, JUNE 16, 2027 AND NOV. 10, 2027**
childrenswi.org/SMART







**Missing from our previous issue within Robotic Laparoscopic Surgery in Pediatric Urology:**

**Author: Travis W. Groth, MD**
Children's Wisconsin proudly has a dedicated robotic surgery program that supports this work, including an in-house da Vinci Surgical System and five fellowship-trained pediatric urologists with training in robotic-assisted laparoscopic surgery: Elizabeth Roth, MD; Jonathan Ellison, MD; Susan Jarosz, DO; Doug Storm, MD; and Travis W. Groth, MD.

Register for upcoming events and find recorded events at **childrenswi.org/cme**.

Questions? Email **mdconnect@childrenswi.org**.

**SUBSCRIBE TO OUR REFERRING TO CHILDREN'S WISCONSIN E-NEWSLETTER**