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Children's Wisconsin

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The Difference Is Teamwork

Collaboration Leads to the Best Outcome for Kids

BY JASON A. JARZEMBOWSKI, MD, PHD

At Children's Wisconsin, we believe kids deserve the best. No one individual can deliver on that aspiration alone. Our work requires a culture of collaboration by dedicated professionals who share an unwavering passion to care for kids when and where they need us.

In this issue of Pediatric Rounds, you will meet individuals across our practice who are collaborating with colleagues and educating communities to deliver the best care to kids and their families. These are just a few of the many stories at Children's Wisconsin that highlight a commitment to delivering innovative care.

On page 12, discover how our nationally recognized and accredited imaging department collaborates to meet the unique challenges of pediatric MRIs. On page 3, explore how Heather Paradis, MD, is leading efforts to inform communities about the dangers of lead and the steps families can take to protect their children. On page 10, find out how Kevin D. Walter, MD, and our Concussion Clinic are using a multidisciplinary, research-informed approach to diagnose and treat concussions in young patients. And on page 4, learn how our expanded Pediatric Sleep Center, led by Lynn D'Andrea, MD, is transforming sleep disorder diagnosis and treatment across Wisconsin.

The outcomes delivered by our teams inspire the next generation of health care professionals to new heights and have a significant day-to-day impact on kids and families throughout our region. None of it would be possible without a culture of teamwork and collaboration.

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

PROSTOCK-STUDIO VIA GETTY IMAGES

Pediatric Lead Poisoning

What Every Health Professional and Parent Should Know

While policies eliminating lead from gasoline and paint have dramatically reduced cases of lead poisoning, the toxic metal continues to pose serious health risks for children, even at the lowest detectable levels. "There is no safe level of lead in a child's body," said Heather Paradis, MD, Medical Director and Pediatrician at Children's Wisconsin, who also serves as Medical Director of the Integrated Lead Program and sits on the boards of the Wisconsin Chapter of the American Academy of Pediatrics (WIAAP) and the Wisconsin Environmental Health Network (WEHN).

AMERICA'S LOVE OF LEAD

Historically, lead's malleability and resistance to corrosion made it a favored material for everything from coins and jewelry to gasoline and residential paint. Regulatory changes, including the 1978 ban on lead-based paint in homes and the 1988 removal of lead from gasoline, marked public health victories, slashing blood lead levels across communities in the United States. However, over half of Wisconsin's housing was built before 1978, and there are nearly 160,000 lead service lines, making paint and water sources continued significant contributors to lead exposure today.

In addition, Dr. Paradis highlighted new sources now under scrutiny, such as imported spices like turmeric and cinnamon, certain processed foods, toys, jewelry, imported cookware, candy and even cosmetics. The 2023 Wana Bana recall of their cinnamon-flavored fruit puree pouches illustrated the risk and unpredictability of processed food contamination, she noted. As a result, the FDA issued new action levels for lead detection in baby food.

THE RISKS TO CHILDREN

Wisconsin's lead poisoning rate is 3.64%, with 5% of children under age 6 affected. Children are especially vulnerable to lead poisoning, primarily because of frequent hand-to-mouth activity and absorption of higher proportions of lead compared to adults.

Even low levels of lead in a child's bloodstream can result in long-term developmental delays, lower IQ, learning and behavioral problems, nervous system impairment, and growth issues. Dr. Paradis identified several key risk factors including age (with peak risk around 2 years old), low-income households, food insecurity, oral behaviors and living in older homes or being born outside the United States. Testing guidelines in Wisconsin now recommend universal screening for all children at 1 and 2 years old, with additional tests for children up to age 5. Health care providers can use both point-of-care and venous blood-testing options to identify exposure early. Electronic Health Record decision support can be useful to recognize children who are in need of testing, especially those who may not have had a recent well visit or have a history of elevated blood lead levels.

"Children can absorb up to 50% of ingested lead, compared to just 10% for adults."
—Heather Paradis

PREVENTION AND MANAGEMENT

For parents, Dr. Paradis recommends nutritional interventions, such as increasing iron, calcium and vitamin C intake; regular handwashing before meals; removing shoes indoors; keeping homes dust-free; and covering exposed soil. Developmental screenings and environmental modifications can further protect at-risk children. Pediatric health care providers are urged to conduct routine screenings, provide nutritional guidance, monitor development and coordinate with public health agencies.

PROGRESS MADE, WORK AHEAD

According to Dr. Paradis, significant progress has been made, but lead poisoning remains a critical, persistent public health issue that requires ongoing education, policy vigilance, routine screening and collaboration among families, clinicians and government agencies.

Heather Paradis, MD, Medical Director and Pediatrician at Children's Wisconsin

For more information about lead testing, visit childrenswi.org/leadtesting.

LEMANNA VIA GETTY IMAGES

Lynn D'Andrea, MD, Medical Director of Pulmonary Services at Children's Wisconsin; Chief and Professor of pediatric pulmonary at the Medical College of Wisconsin

Lauren Castner, DO, Pulmonologist and Sleep Medicine Specialist at Children's Wisconsin; Assistant Professor of pediatric pulmonary at the Medical College of Wisconsin

Children's Wisconsin Opens Expanded Pediatric Sleep Center

A newly expanded Sleep Center at Children's Wisconsin is transforming the way pediatric sleep disorders are diagnosed and treated in the state. Under the co-direction of Lynn D'Andrea, MD, and Lauren Castner, DO, the center is now the largest of its kind in Wisconsin dedicated solely to children.

Located on the second floor of the Milwaukee hospital, the new 12-bed sleep lab consolidates former locations in Milwaukee and New Berlin, significantly expanding capacity and access to care. "We used to have four beds at each campus," Dr. D'Andrea explained. "Now, with 12 beds centralized in one beautiful, child-focused space, we can serve more families, faster."

The Sleep Center at Children's Wisconsin is unique in that it combines both a sleep clinic for consultations and a sleep lab for overnight studies. This distinction is critical, as not every child with a sleep concern needs a lab-based study. "A lot of sleep issues, like insomnias, are behavioral and don't require a sleep study," said Dr. D'Andrea. "But for conditions like obstructive sleep apnea — which we commonly see in children with enlarged

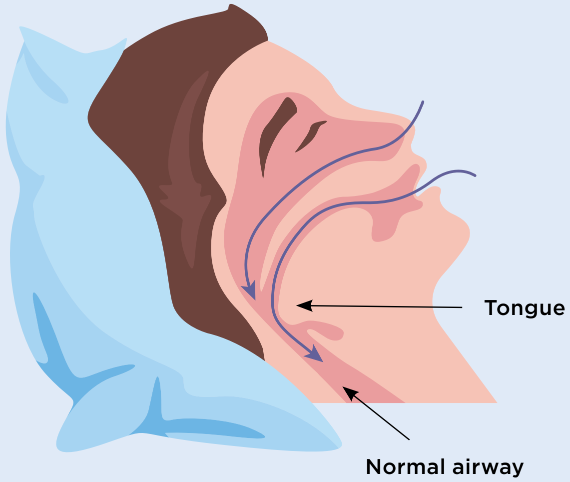
Obstructive Sleep Apnea

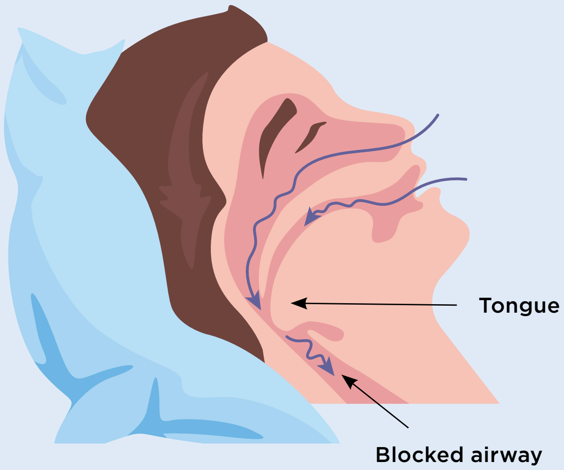
Obstructive sleep apnea is a serious sleep disorder in which breathing repeatedly stops during periods of sleep. In children, this usually occurs due to a blockage or obstruction in the airway.

Symptoms

The most common symptoms of sleep apnea include:

- Loud snoring or noisy breathing during sleep
- Gasping noises at night
- Episodes in which you stop breathing during sleep
- Mouth breathing
- Restlessness during sleep
- Excessive daytime sleepiness or irritability





tonsils or those who are overweight — lab studies are essential for diagnosis and treatment planning."

Each of the new sleep lab rooms is designed with children and families in mind, featuring individual bathrooms, beds for caregivers and kid-friendly decor. The facility also includes upgraded technology, including in-room CPAP equipment for titration studies. "There's even a quiet room for parents," Dr. D'Andrea added. "We've tried to think of everything to make the experience comfortable."

One of the Center's greatest strengths lies in its specialization. "This is a children's hospital. Everyone here — from the techs to the doctors — is trained specifically in pediatric care," Dr. D'Andrea emphasized. That includes support from members of the Child Life team, who help ease anxiety and ensure children feel safe during their overnight stays.

The new facility's efficiency is also a win for families. With more space and staff, the team can now accommodate up to 60 sleep studies per week, a significant increase from the previous 40, dramatically reducing wait times. A typical study includes personalized, one-on-one care from a technician, who attaches sensors to monitor breathing, movement and sleep stages throughout the night.

Addressing pediatric sleep issues early can be life-changing. "It's not normal for kids to snore," Dr. D'Andrea cautioned. "Sleep apnea in children often gets misdiagnosed as ADHD due to symptoms like hyperactivity. Getting the right diagnosis early can spare families years of confusion and ineffective treatment."

With its expanded capabilities and child-centered approach, the Children's Wisconsin Sleep Center sets a new standard for pediatric sleep care in the region.

Want to learn more about our Sleep Center? Visit childrenswi.org/sleepdisorders.

DMYTRO BOSNAK VIA GETTY IMAGES

TIRC83 VIA GETTY IMAGES

More Support for Families Using Enteral Feeding

Helping With Tube Feeding

Offering comprehensive care for patients who require nutritional support via tube feeding, the Enteral Feeding Program at Children's Wisconsin aims to bridge the gap between medical specialties for kids and their families.

Since 2020, the program has helped patients who cannot eat by mouth and tube feed due to prematurity, developmental delays, injuries, cancer or cardiac diagnoses, among others. "The program launched to send patients home with bridled tubes, then welcomed both short- and long-term tube users as outpatients," said Julie Lavoie, PhD, MSN, MS, CPNP-AC, Program Director of Enteral Feeding.

As a consultive service, Dr. Lavoie and her colleagues respond to inpatient consults from hospital medicine, oncology, cardiology or other specialties. Her team assesses the patient, educates families, determines what percentage of daily nutrition the patient is taking in by mouth and assesses which tube is appropriate. "We oversee care for the tube," she said. "Whether for months or years, that is our tube to manage."

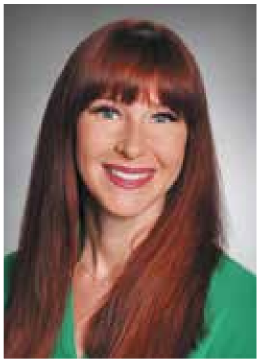
TYPES OF TUBES

Tubes are either nasogastric, which go through the nose to bring nutrition to the stomach, or gastric, a more permanent option with surgical insertion through the stomach. Most new patients to the Enteral Feeding Program are infants, often premature, who have not yet been able to eat independently. Once patients are stabilized and discharged, they can return to the Program as outpatients for enteral feeding needs.

The team answers parents' questions, offering same- and next-day visits for urgent tube concerns. "It's important for caregivers to know we exist to support them," said Karen Zorek, MD, Ambulatory Medical Director of Enteral Feeding. "They are not expected to deal with the complexity of tube feeding alone. The biggest outcome is that families aren't as frustrated when leaving the hospital. Before the development of our program, caregivers would not have a designated team to contact for issues with feedings. If a tube came out, or a patient wasn't tolerating feedings, there wasn't anyone to call. Now, they can call us. We are that continuity of care, making it less confusing for them."

HELPING KIDS HEAL AT HOME

Before the program existed, kids who needed feeding tubes typically had to stay in the hospital longer, or they would be discharged from the hospital with a tube, but parents didn't know whom to contact with questions. The introduction of the nasal bridle has helped reduce parent concerns by keeping NG-tubes more securely in place and helping prevent unintended removal.



Julie Lavoie, PhD, MSN, MS, CPNP-AC, Program Director of Enteral Feeding at Children's Wisconsin

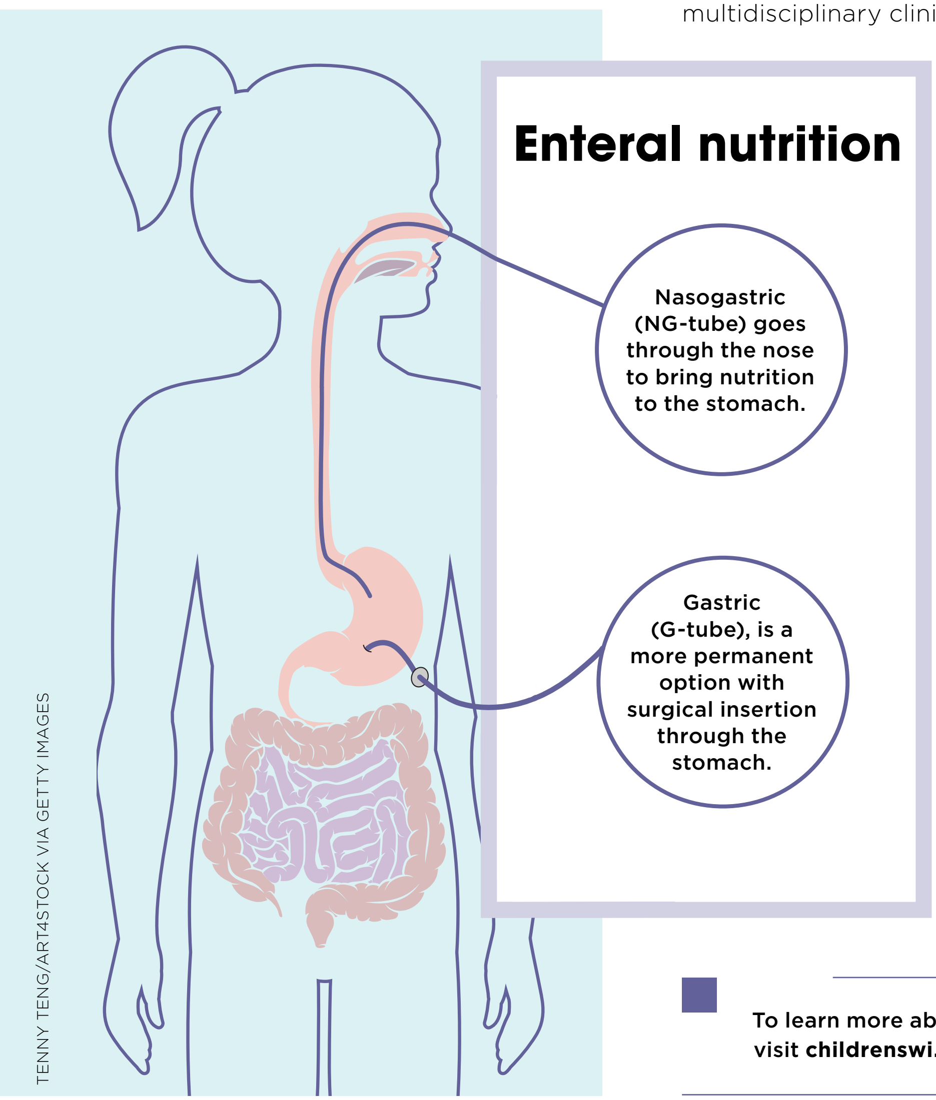
Karen Zorek, MD, Ambulatory Medical Director of Enteral Feeding at Children's Wisconsin; Assistant Professor of pediatric gastroenterology at the Medical College of Wisconsin

Kids with bridled NG-tubes are less likely to dislodge them and spend an average of 14 fewer days in the hospital, compared to those with unbridled NG-tubes, according to Dr. Lavoie's 2021 study published in the *Journal of Parenteral and Enteral Nutrition.*[1]

The program handles tube issues that others might not. "Pediatricians may not be comfortable with it, or you overreach with a gastroenterology consult, but if the patient doesn't have GI abnormalities like a stricture or malabsorption, they may not need a gastroenterologist," said Dr. Lavoie. "The Enteral Feeding Program can bridge that gap between those who require gastroenterology and those who just need nutrition support."

MULTIDISCIPLINARY TEAMWORK

Care is tailored to each patient by a multidisciplinary team including nursing, nutrition, speech therapy, gastroenterologists and surgeons. "We wouldn't be who we are without a multidisciplinary team," said Dr. Lavoie. "Our team covers patients across the entire continuum of care, and our advanced practice providers and nurses cover any patient in the hospital with a tube concern. We also have multidisciplinary clinics in Milwaukee, New Berlin and Appleton who see patients in the ambulatory setting."



Enteral nutrition

Nasogastric (NG-tube) goes through the nose to bring nutrition to the stomach.

Gastric (G-tube), is a more permanent option with surgical insertion through the stomach.

TENNY TENG/ART4STOCK VIA GETTY IMAGES

HOW IS PROGRESS MEASURED?

"That depends on whether a patient has an NG-tube or a G-tube," said Dr. Zorek. Patients on an NG-tube must take in 90% of their calories and fluid by mouth before safe removal. "Then we'll remove the tube and see if they can sustain themselves orally," she said.

For a G-tube, patients should be able to take in all their nutrition, fluid, calories and medication by mouth for three to six months, and sustain an illness without significant decreases in oral intake. "We don't want them to end up in an ER because they won't eat or drink," she said.

Whether kids use feeding tubes for a short or long time, having support makes the experience easier. "It's important for people to know how to find and reach us," said Dr. Zorek. "The primary care provider can't do it all, nor should they. We want to be that bridge."

REFERENCE

Lavoie JA, Schindler C, Garnier-Villarreal M, Bagli SP, McCarthy DO, Goday PS. Nasogastric bridles are associated with improved tube-related outcomes in children. J Parenter Enteral Nutr. 2022;46:1568-1577. doi:10.1002/jpen.2409

To learn more about the Enteral Feeding Program and their services, visit childrenswi.org/enteral-feeding-program.

Helping Kids With Cyclic Vomiting Syndrome

Individualized Treatments Help Improve Quality of Life

The Cyclic Vomiting Syndrome (CVS) Program at Children's Wisconsin has helped hundreds of patients each year for the past two decades manage episodic bouts of nausea and vomiting. The events can last anywhere from hours to a week at a time until they pass. "The condition, which affects about 2% of the pediatric population, is linked to migraines and often triggered by anxiety or excitement," said Katja Karrento, MD, Director of the CVS Program and a Pediatric Gastroenterologist.

"This is treatable if you have the knowledge, latest research and guidance," she said. "We have this unique program, the only one in the world dedicated to complex CVS patients, providing treatment for patients referred from all over the country, Mexico, Canada and Europe. I believe we can make a difference in patients' quality of life."

CVS CHARACTERISTICS

"It can take up to 2 1/2 years for patients with CVS to get formally diagnosed," said Julie Banda, APNP, Pediatric Gastroenterology Nurse Practitioner in the CVS Program. "Many families with an older child might note ongoing vomiting and self-diagnose. They may not realize these symptoms are abnormal until they have another child and see the other child doesn't get sick all the time, or that the rest of the family remains well while one child always gets sick. CVS is as common as celiac disease and is underdiagnosed," said Dr. Karrento.

Katja Karrento, MD, Director of the CVS Program and a Pediatric Gastroenterologist at Children's Wisconsin; Associate Professor of pediatric gastroenterology at the Medical College of Wisconsin

Julie Banda, APNP, Pediatric Gastroenterology Nurse Practitioner in the CVS Program at Children's Wisconsin

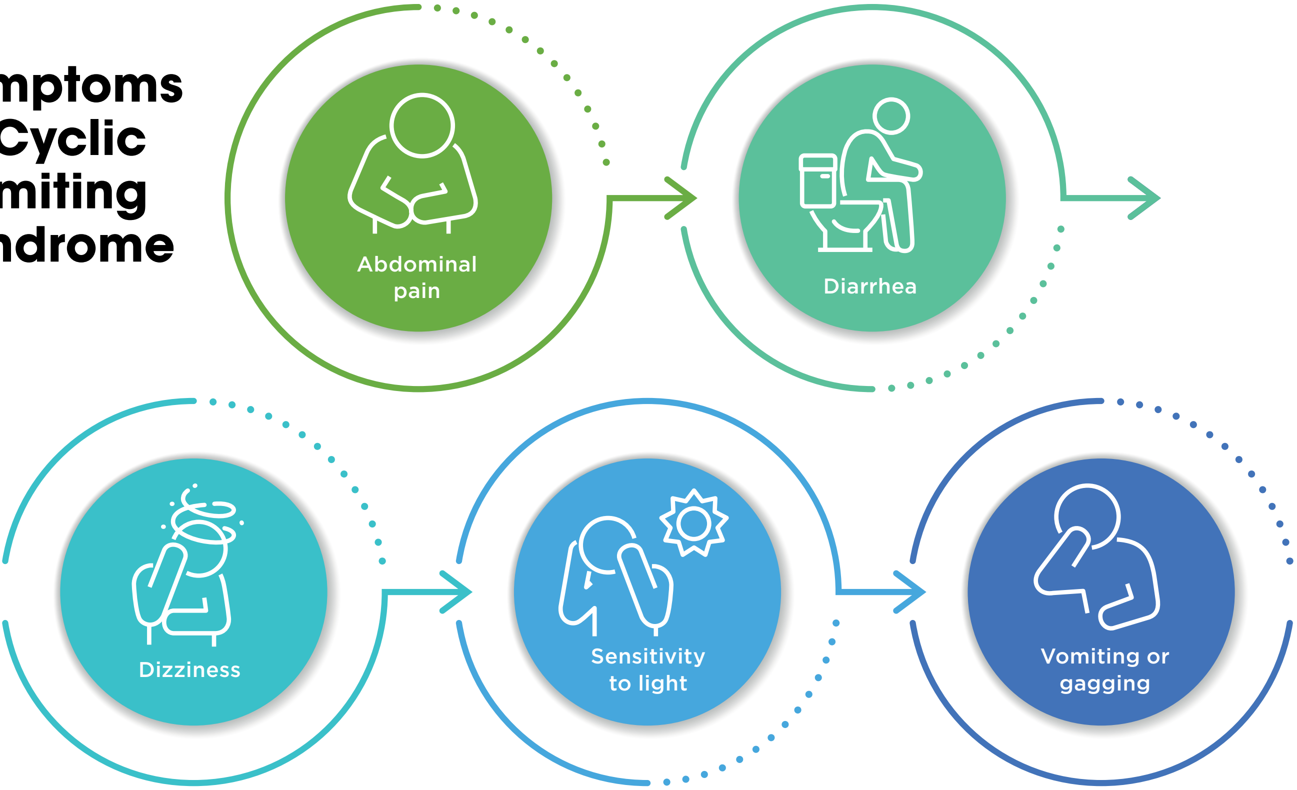
"Episodes can be triggered by anxiety and excitement, which can trigger vomiting on their birthdays," said Dr. Karrento. "Others get ill every 30 or 70 days. About 70% of all CVS patients suffer from significant anxiety, and progressive anxiety may escalate attack frequency, so it's important to address this as part of multidisciplinary therapy." The program is integrating a dedicated CVS-trained psychologist to identify what psychosocial triggers bring on an attack and how techniques, such as cognitive behavioral therapy and mindfulness interventions, can help diffuse them. Julie has also implemented individualized action plans for CVS patients so they can identify when they are feeling good, versus when they start to feel sick and initiate specific action plans during those times. "We try to influence care for our patients not only when they are in our clinics but when they are at home and try to avoid hospitalizations. We aim to care holistically for each patient," said Dr. Karrento.

Treatment is personalized to each patient and may include inpatient IV treatments, medications the patient takes at the time of an acute attack to treat migraine, nausea, anxiety and pain. Medications or behavioral interventions can be used for anticipatory anxiety for an impending episode, which can greatly affect the quality of life not just for patients but for their families as well. "It causes a lot of family distress," said Dr. Karrento. "We have learned from working with psychologists that there are patients who may not have episodes all the time, but distress from anticipation of episodes is a significant concern."

LOOKING AHEAD

Dr. Karrento recently spearheaded the creation of the North American Society for Pediatric Gastroenterology, Hepatology and

Symptoms of Cyclic Vomiting Syndrome



Nutrition 2025 guidelines for management of cyclic vomiting syndrome in children in the *Journal of Pediatric Gastroenterology*, which is the result of five years of work by an international expert panel. These guidelines incorporate evidence from pediatric migraine to formulate new, evidence-based treatment recommendations and diagnostic criteria for pediatric CVS.[1]

According to Dr. Karrento, the condition, typically first seen around age 3 or 4, can improve as kids get older. "Most outgrow CVS, but many will trade it for migraine headaches. If that happens, they don't vomit and can keep their medications down." Others later develop chronic nausea and other symptoms that can present new challenges.

The CVS Program remains committed to helping all stages of the syndrome and improving understanding about the disorder.

"We want to advance knowledge of this condition and ensure we're practicing to the highest level of research available, and where there's no research, Dr. Karrento is creating it," said Julie.

Ultimately, the entire program team wants to improve quality of life for all CVS patients.

"Our goal is to have kids live the fullest lives possible despite their condition," said Julie. "We want them to have fewer symptoms and do fun things like kids should. Our interventions are individualized with each patient's family and include hospital-wide CVS quality improvement processes and community advocacy."

REFERENCE

1. Karrento K, Rosen JM, Tarbell SE, Issenman RM, Gelfand AA, Gamboa H, Parikh S, Adams K, Wiercioch W, Li BUK. (2025a). North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition 2025 guidelines for management of cyclic vomiting syndrome in children. J Pediatr Gastroenterol Nutr. 2025 Jun;80(6):1028-1061. https://doi.org/10.1002/jpn3.70020

Learn more about Cyclical Vomiting Syndrome at childrenswi.org/cyclic-vomiting-syndrome.

ARTVEA VIA GETTY IMAGES

Advancements in Pediatric Concussion Management at Children's Wisconsin

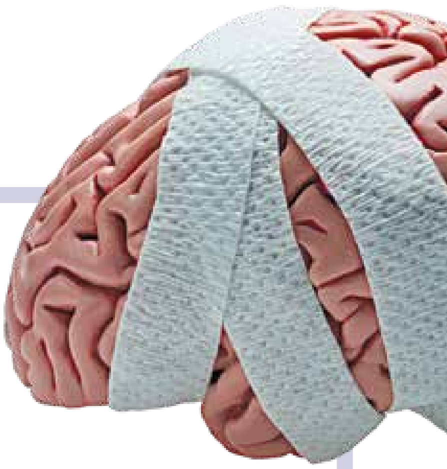
A Multidisciplinary, Research-Informed Approach to Diagnosing, Treating and Supporting Recovery for Children and Adolescents

Concussions in children present a complex clinical challenge. Symptoms can appear immediately or with a delay of several hours. Recovery timelines vary widely, and for many young patients, school and sports pressures can significantly impact their experience. The Children's Wisconsin Sports Medicine Program leads with a multidisciplinary model that combines research-driven treatment and pediatric-focused care to stay ahead in this evolving field.

RECOGNIZING A WIDE SPECTRUM OF SYMPTOMS

Diagnosing a concussion often begins with a story of a head impact or fall. "We see concussions in sports, gym class, recess — even just goofing around," said Kevin D. Walter, MD, Medical Director of Pediatric and Adolescent Sports Medicine at Children's Wisconsin.

"Most people develop symptoms right away, but a small subset will develop delayed onset symptoms, usually within a few hours."



Concussion symptoms generally fall into five clusters and may include:

1. **Physical:** headache, nausea, vomiting, ringing in the ears
2. **Vestibular/Ocular:** dizziness, blurry vision, double vision
3. **Cognitive:** fogginess, confusion, memory issues, slowed thinking
4. **Emotional:** irritability, anxiety, mood swings, sadness
5. **Sleep-related:** increased or decreased sleep or difficulty falling asleep

This broad range of symptoms — and the variability between patients — underscores the importance of a thorough evaluation and ongoing symptom monitoring.

WHEN TO REFER TO THE CONCUSSION PROGRAM

While many primary care providers manage concussions effectively, some cases benefit from referral. "Anyone not improving over the first 10 days deserves a referral," Dr. Walter said. Patients with a history of three or more concussions — or a previous concussion that took longer than three or four weeks to resolve — should also be seen in a specialty clinic.

Research supports timely specialty care. "Athletes who saw a medical professional knowledgeable about concussion within the first seven days got better faster than athletes who did not," he added.

Additionally, families under academic or athletic pressure, such as AP classes, student-athletes or competitive athletes, may benefit from earlier referrals. Dr. Walter recommended bringing the conversation to the Concussion Program, where staff understand the impacts of school-driven dynamics such as homecoming, state championships, scholarships and more.

Kevin D. Walter, MD, Medical Director of Pediatric and Adolescent Sports Medicine at Children's Wisconsin; Associate Professor of pediatric orthopaedic surgery at the Medical College of Wisconsin

DEBBISMIRNOFF VIA GETTY IMAGES

A PEDIATRIC APPROACH THAT CONSIDERS THE WHOLE CHILD

Children's Wisconsin's approach to concussion care is centered on the unique needs of pediatric and adolescent patients. "In adult organizations, they may be more focused on getting me back to work. We're focused on getting kids back to school, sports and social life — and how all of those interact," Dr. Walter said. "If I cut you off from sports, you lose your friends. And that can lead to emotional stressors and other stressors which may prolong recovery."

The Concussion Program's team includes sports medicine physicians, physical therapists, athletic trainers, psychologists, neuropsychologists and, when needed, referral to partnered specialists in neurology, neurosurgery, physical medicine and rehabilitation, and pain and headache management. Patients may only need to see one member of the team or may require a full multidisciplinary approach if recovery is prolonged.

Dr. Walter said the team also works closely with emergency medicine, urgent care and primary care. "We've got relationships for all those pathways and can expedite those referrals as best as possible."

RETURN-TO-LEARN AND ACTIVITY GUIDANCE

One of the most critical changes in modern concussion management has been the shift away from prolonged rest. "We're pushing to move away from that. I call it 'relative rest,'" Dr. Walter said. "You might need a few days off school — but I'm trying to get you back to full days of school within a week."

Children's Wisconsin has developed a structured Return-to-Learn Program to help inform those in the patients' lives about all the things that can trigger symptoms in and out of school. "We provide detailed letters with strategies for workload, gym class, lights, noise — that also means at home."

The team also emphasizes a realistic approach to screen use. "The old thought was no screens at all. But now we push moderation," he said, adding that texting with friends is different than playing hours of video games. "And let's face it, school is all screens now, too," Dr. Walter said. "So, you've got to deal with it, but we ask them to reduce that and judge how they're feeling. If you're doing something that makes you feel worse, peel back and stop doing that as much."

Guided physical activity is another pillar of recovery. Dr. Walter said providers are now avoiding advising total rest. "We aim for low-key activities — going for walks, yoga — simple stuff that doesn't make you feel worse, but an activity which will make you feel better and prevent deconditioning."

ONGOING INNOVATION AND RESEARCH PARTNERSHIPS

Children's Wisconsin partners with Mike McCrea, PhD, ABPP, and the Neurotrauma Research Center team at the Medical College of Wisconsin to stay ahead of national standards. "Most people are just starting to shift to the 2023 Amsterdam Concussion Consensus Statement. We've been doing it for the last five years and know it works well," Dr. Walter said.

He added the team remains deeply involved in national education efforts by speaking at conferences, maintaining journal clubs and collaborating closely with research teams.

SUPPORTING LONG-TERM OUTCOMES

The program also guides patients through return-to-sport protocols. "It's not just, 'Hey, you're back.' It's a stepwise progression," he said. "We work with the athletic trainers at their schools to help the athletes get back to sport. But the key is, you've got to be back to 100% normal before resuming contact or full sport."

For those with complicated recoveries or multiple concussions, the team also navigates difficult conversations about sports changes or retirement. "These are hard discussions for anyone — but we've got the experience and knowledge to back up our decisions," Dr. Walter said, ensuring that patients get their information in a compassionate and informed way.

To learn more about the Concussion Program, visit childrenswi.org/concussion.

MALERAPASO VIA GETTY IMAGES

Safe Imaging Care for Our Children

Excellence in Pediatric Imaging, With Expertise, Innovation and Compassion

At Children's Wisconsin, providing pediatric Magnetic Resonance Imaging (MRI) is a key service delivering on our vision of creating the healthiest kids in the country. One of only a handful of pediatric imaging departments in the nation recognized by the American College of Radiology as a Diagnostic Center of Excellence accreditation, Children's Wisconsin is committed to the highest standards of safe imaging care and a continuous commitment to improvement through fostering multidisciplinary partnerships and investments in the latest technology.

ADVANCING PEDIATRIC IMAGING

In order to provide the best and safest care to our pediatric MRI patients, every exam ordered is reviewed by one of our board-certified subspecialty pediatric radiologists; partnering with our MRI technologists, the most appropriate protocol is chosen, ensuring the highest-quality diagnostic images to address the patient's and referring clinician's needs. The special needs of the pediatric patient population and the assembly of the selective specialty team, equipment and protocols cannot be understated. Such an example can be found in brain MRI imaging of the fetus or premature neonates. Use of a standard adult head coil makes obtaining adequate signal to noise difficult.[1] Gross motion of the neonate's head is another major limiting factor to obtaining high-quality scans.[1] By approaching pediatric neuroimaging differently than adult imaging, it is frequently possible to acquire a complete diagnostic or research imaging examination.[1]

The success we have as an imaging department is due to the efforts of our collective team prior to and during the appointment. Our technologist team has a combined 137 years of pediatric imaging experience, and, alongside our radiologists, are adept at nonsedated MRI protocol modifications, such as using shorter scan time, prioritizing sequences, reducing motion artifact, and noise reduction and limiting the use of gadolinium. An MRI safety officer (MRSO) is also imbedded into the team. MRSOs are certified individuals who maintain expertise in MRI safety protocols, policies and industry standards, ensuring the safety of MRI systems and patients. In addition, our well-rounded nursing team comprises nurses with PICU, NICU, PACU, Adult ICU, oncology, chemotherapy and immunotherapy experience and holds certifications in Pediatric Advanced Life Support (PALS) and Certified Pediatric Nurse (CPN).

REDUCING THE NEED FOR SEDATION IN PEDIATRIC MRI

There continues to be an increasing use of MRI in the pediatric population; the need for sedation in order to complete these exams, especially in young children, is a topic of growing importance. While sedation is generally well tolerated with few complications, completing exams without sedation is ultimately the goal. Partnering with our certified child life specialists, a child-friendly environment, in-scan entertainment and employing techniques such as exam preparation with MRI simulation and conscious sedation do help to minimize the need for sedation.

The Imaging Department providing pediatric MRI services within Children's Wisconsin has the specialized multidisciplinary team and technology available to provide you and your pediatric patients a dedicated high-quality and safe experience, moving us closer to achieving our goal of the healthiest kids in the nation.

REFERENCE

1. Barkovich MJ, Li Y, Desikan RS, Barkovich JA, Xu D. Challenges in pediatric neuroimaging. Neuroimage. 2019 Jan 15:185:793-801. https://doi.org/

Imaging for all kids

Comfort, coping and education

Some kids need a little extra help to get them through an MRI exam. At Children's Wisconsin, our child life specialists can help support children through comfort, coping techniques and education.

Our expertise allows us to conduct imaging exams the right way, at the right time and only when necessary — which means providing the best and safest care for your child.

Do you have a question about imaging services at Children's Wisconsin? Visit childrenswi.org/imaging.

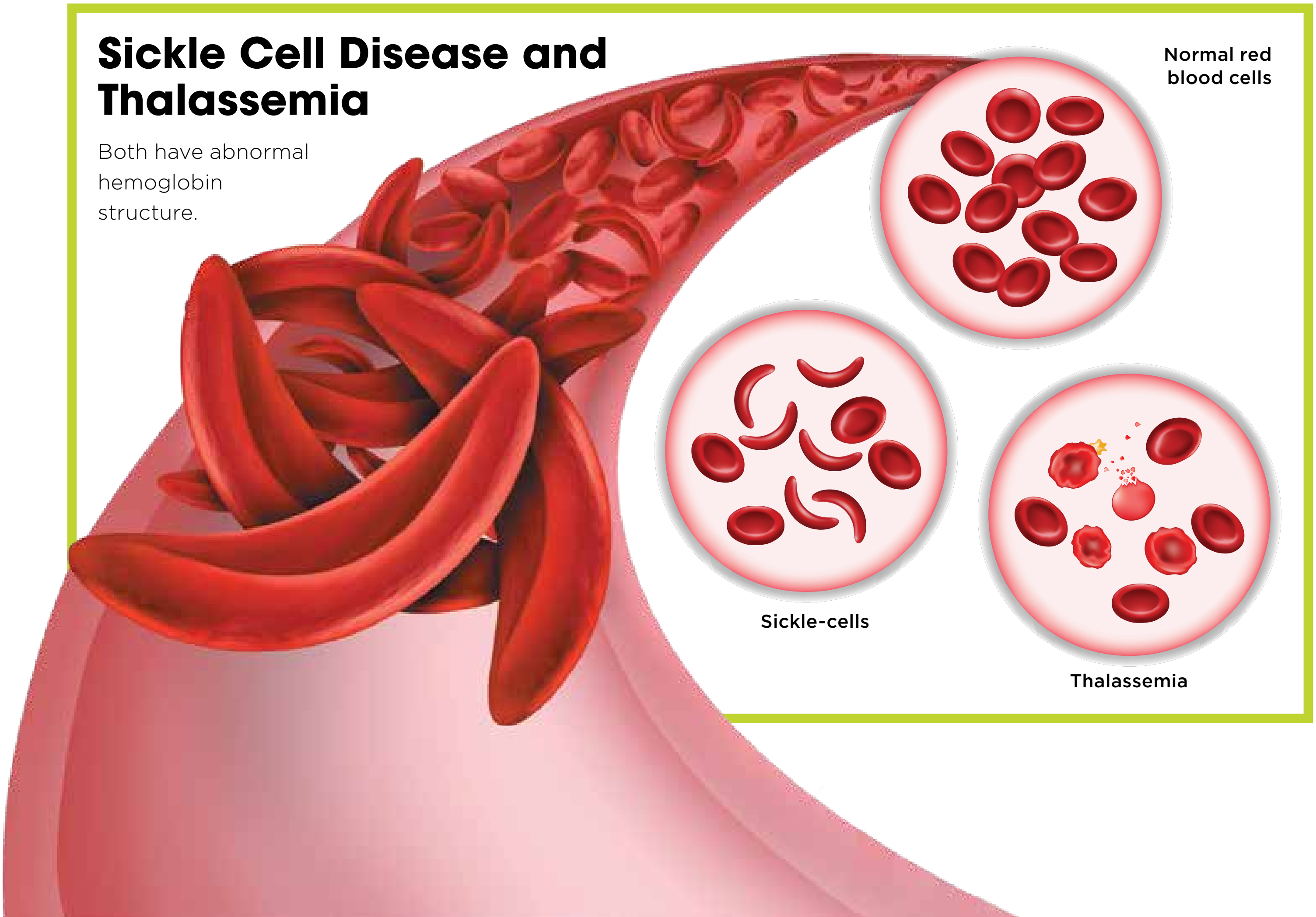
New Genetic Therapy Available for Those With Blood Disorders

Teens With Sickle Cell Disease, Thalassemia May Qualify for Casgevy Treatment

With the U.S. Food and Drug Administration's approval of Casgevy in late 2023, the MACC Fund Center for Cancer and Blood Disorders at Children's Wisconsin is now using gene therapy to treat patients with severe sickle cell disease or thalassemia. Both conditions are inherited and characterized by problematic red blood cells. In sickle cell disease, the red blood cells are misshapen and die early. With thalassemia, the red blood cells are weakened and don't produce oxygen-carrying hemoglobin. While sickle cell disease causes pain, both disorders cause fatigue and other serious health problems. Casgevy works to improve red blood cell function via infusion of modified stem cells to increase the production of fetal hemoglobin.

"In gene therapy, patients receive their own stem cells that have been genetically altered to silence a gene that leads to the increased production of fetal hemoglobin," said Amanda Brandow, DO, MS, Pediatric Blood Disorders Specialist at Children's Wisconsin. "Patients still have the sickle cell genetic mutation in their stem cells, but it is ameliorated by the genetically engineered cells."

According to Dr. Brandow, patients considered candidates for Casgevy therapy must be age 12 or older, have had severe enough disease with a certain number of pain episodes or acute events, haven't had any evidence of a stroke or brain complications and haven't responded well to hydroxyurea, an oral disease-modifying medication. "They must also not have



Sickle Cell Disease and Thalassemia

Both have abnormal hemoglobin structure.

WILDPIXEL/RUJIRAT BOONYONG VIA GETTY IMAGES

Amanda Brandow, DO, MS, Pediatric Blood Disorders Specialist at Children's Wisconsin; Professor of pediatric hematology and oncology at the Medical College of Wisconsin

Julie Talano, MD, Medical Director of Pediatric Bone Marrow Transplant and Cell Therapy Program at Children's Wisconsin; Professor of pediatric hematology and oncology at the Medical College of Wisconsin

a brother or sister who is a genetic match to the patient, since a bone marrow transplant from a sibling would be considered the standard of care," said Julie Talano, MD, Medical Director of Pediatric Bone Marrow Transplant and Cell Therapy Program at Children's Wisconsin. Other factors that make someone a poor candidate for a bone marrow transplant include intolerance of intensive chemotherapy and radiation, existing organ damage, or heart, kidney, liver or lung disease.

HOW CASGEVY WORKS

According to Dr. Talano, patients undergoing Casgevy treatment receive myeloablative chemotherapy and are hospitalized for about six weeks while they receive the gene therapy product. Afterward, they require blood transfusions and platelets. Due to their compromised immune systems, they are at risk for infection and possible organ toxicity due to chemotherapy affecting the organs. After the gene therapy cells engraft, patients should have fewer symptoms from their underlying disease.

Compared to standard treatments like hydroxyurea or blood transfusions, gene therapy "is a potentially curative treatment; if it is successful, patients would no longer require frequent blood transfusions, pain medications or disease-modifying therapy, such as hydroxyurea," said Dr. Talano.

Because it is still so new, it's unknown how patients will do on Casgevy 5 to 10 years later. "The patients who participated in clinical trials who received gene therapy are starting to reach this time period post-therapy. The results are encouraging thus far," said Dr. Brandow.

Patients now receiving Casgevy at Children's Wisconsin are part of a national consortium, ReGent (Real World Gene Therapy Consortium), studying the real-world experience of gene therapy in patients, said Dr. Talano. "We will be learning from our patients how to offer the best care to them to improve their sickle cell disease or thalassemia," she said.

HOW TO GET TREATMENT

Children's Wisconsin follows more than 400 children with sickle cell disease who live in and around Milwaukee. Most of those who have been treated with gene therapy at Children's Wisconsin have been patients since infancy or early childhood, after their diagnoses were identified at their newborn screening. About 25 patients with transfusion-dependent thalassemia are seen in the MACC Fund Center. Some patients may cross state lines for gene therapy. "We are happy to do consultations with patients who want access to care," said Dr. Brandow.

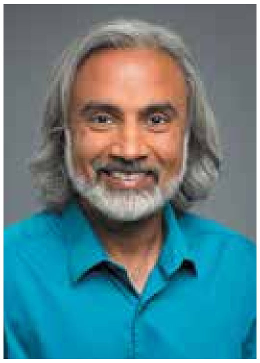
"Physicians can refer patients with severe sickle cell disease or transfusion-dependent thalassemia for consideration for gene therapy or bone marrow transplant as curative therapy," said Dr. Talano.

"Early treatment is key. Patients who are referred for potential Casgevy treatment before they have experienced a stroke or organ damage are more likely to be candidates for gene therapy," said Dr. Talano. "Patients with sickle cell disease have a reduction in their lifespan. By receiving early curative therapy, whether it is bone marrow transplant or gene therapy, we can potentially extend their lives, improve their quality of life and improve sickle cell or thalassemia complications."

To learn more about the MACC Fund Center for Cancer and Blood Disorders, visit childrenswi.org/maccfundcenter.

Learning CPR and how to use automated external defibrillators (AED) can double or triple a person's chance of survival.

Project ADAM Turns 25



Anoop K. Singh, MB BCh, Project ADAM's Medical Director and Medical Director of Pediatric Cardiology at Children's Wisconsin; Associate Professor of pediatric cardiology at the Medical College of Wisconsin

It all started with two parents determined to turn the tragic loss of their son into a lifesaving resource for other children. After 17-year-old Wisconsin native Adam Lemel died of sudden cardiac arrest during a high school basketball game, his parents joined forces with Children's Wisconsin to create a community outreach program in his memory, dedicated to preventing sudden cardiac death in schools.

Project ADAM (Automated Defibrillators in Adam's Memory) is celebrating its 25th anniversary this year. Over that time, it has made an incredible impact on expanding public access to automated external defibrillators (AEDs) and improving cardiac emergency response in schools nationwide.

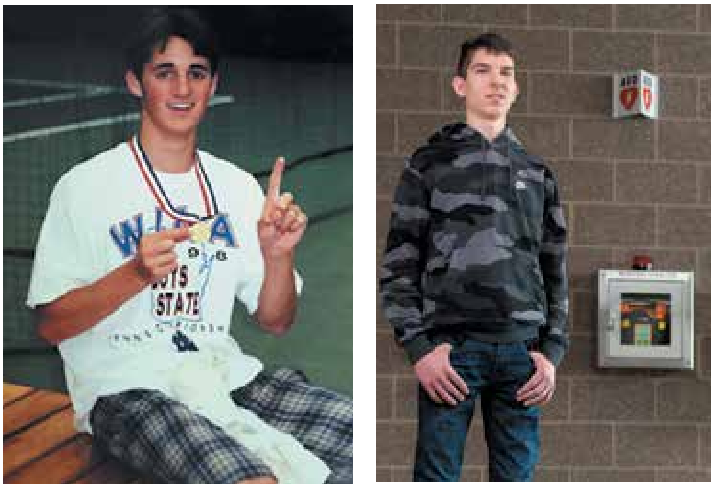
"Having schools prepared for a cardiac emergency is Adam's legacy," said Anoop K. Singh, MB BCh, Project ADAM's Medical Director and Medical Director of Pediatric Cardiology at Children's Wisconsin. "We want schools to be a place where we're giving kids the best possible chance of survival."

The research shows that it does just that. Survival rates for sudden cardiac arrest are typically around 10%, but in schools that are prepared, the survival rate jumps to 70%. To date, more than 250 lives have been saved at sites with the Project ADAM Heart Safe Designation.

EXPANDING OUR IMPACT

While Project ADAM focused mainly in Wisconsin for its first several years, it has since grown to include 52 affiliate programs across 35 states.

"It's been in the last five years that it's grown dramatically," said Dr. Singh.



(Left) Adam Lemel, 1982–1999; (Right) Hunter back at school standing next to the AED that saved his life.

The research shows that survival rates for sudden cardiac arrest are typically around

10%

In schools that are prepared, the survival rate jumps to

70%

To date, more than 250 lives have been saved at Project ADAM Heart Safe designated sites.

More than 5,000 schools nationwide have a Project ADAM "Heart Safe School" designation. Those schools not only have AEDs and properly trained staff, but they've also practiced cardiac emergency response drills.

"When sudden cardiac arrest happens, every second matters in saving that person's life, so you have to act fast," said Alli Thompson, Project ADAM's National Administrator.

Franklin High School in Franklin, Wis., knows just how important it is to act fast. In 2020, 17-year-old Hunter went into sudden cardiac arrest during social studies class, and the school's cardiac response team jumped into action immediately, calling 911, starting chest compressions and placing the AED. It took them seven minutes from the time Hunter lost consciousness to the time first responders arrived on the scene to enact a successful cardiac emergency response — something they'd practiced before as part of their Heart Safe School Designation.

To mark the 25th anniversary, Project ADAM's annual national conference will be held in Milwaukee, Sept. 10–12. While program affiliates work independently, the Project ADAM leadership, based in the Herma Heart Institute at Children's Wisconsin, serves as key members on the national committee.

Many of the current affiliates are located at pediatric hospitals, and program leaders hope to expand access in more rural areas. "We've had a few rural schools reach out, so we're starting to hopefully close that gap," Alli said. "The schools that probably need it the most are the ones that are in rural areas and not as close to emergency medical services, so we're really excited to get more traction in those areas."

ADVOCATING FOR LEGISLATION

Project ADAM is also involved in advocacy at the state and national levels. It recently joined the National Football League, the American Heart Association and other organizations in the Smart Heart Sports Coalition, advocating for all 50 states to adopt legislation to implement evidence-based policies that could prevent sudden cardiac arrest in high school students.

Previously, Project ADAM leadership advocated for Wisconsin to make CPR training a high school graduation requirement. After the change went into effect in 2017, Dr. Singh recalled hearing one story of a student who learned CPR in school and saved the life of their sibling at home.

"You put something like that out in the stratosphere, and you don't always get to see the direct impact," Dr. Singh said. "When you do hear about a life being saved because of Project ADAM's efforts, it truly brings our work full circle."

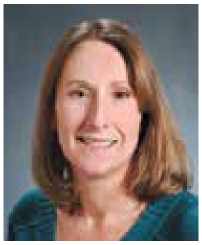
For more information about the 2025 National Project ADAM conference, visit childrenswi.org/2025projectadam, and to learn more about Project ADAM, visit projectadam.com.

Anesthesiology

Brittany J. Brandt, CAA/CRNA, is an Anesthesiologist Assistant at Children's Wisconsin.

🎓 Medical College of Wisconsin
🎗 Anesthesiology

Asthma, Allergy and Immunology



Lisa A. Crandall, APNP, is a Primary Care Pediatric Nurse Practitioner at Children's Wisconsin.

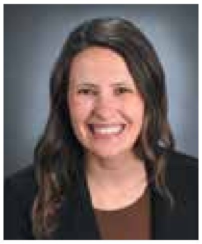
🎓 Marquette University, MSN
🛏 UW -Madison School of Medicine and Public Health, BSN
🎗 Allergy Immunology

Cardiology

Megan K. Simpson, DO, is a Pediatric Cardiologist at Children's Wisconsin and an Assistant Professor at the Medical College of Wisconsin.

🎓 Des Moines University College of Osteopathic Medicine, DO
🛏 Emory University-School of Medicine - Pediatrics
🩺 Emory University-School of Medicine - Pediatric Cardiology, Medical College of Wisconsin - Advanced Imaging
🎗 Pediatric Cardiology, Pediatrics

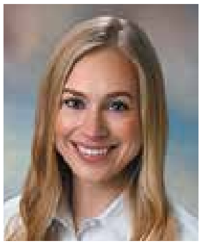
Child Advocacy and Protection



Alexandra Esboldt, APNP, is a Primary Care Pediatric Nurse Practitioner at Children's Wisconsin.

🎓 Marquette University, MSN, University of Minnesota-Twin Cities, BA
🎗 Child Advocacy and Protection Services

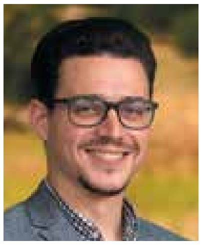
Child Advocacy and Protection



Shannon M. Allen, APNP, is a Family Nurse Practitioner at Children's Wisconsin.

🎓 Bellin College of Nursing, MSN
🎗 Child Advocacy and Protection Services

Hospital Medicine



Jorge Feria, MD, is a Hospitalist at Children's Wisconsin.

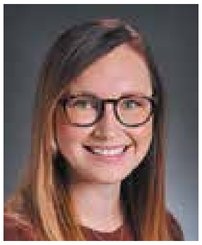
🎓 Temple University – Lewis Katz School of Medicine, MD
🛏 Milton S. Hershey Medical Center
🎗 Hospital Medicine

Neonatology

Madison Harrington, APNP, is a Pediatric Neonatal Nurse Practitioner at Children's Wisconsin.

🎓 Baylor University, DNP, University of Saint Mary, BS, Barton County Community College, AA
🎗 Neonatology

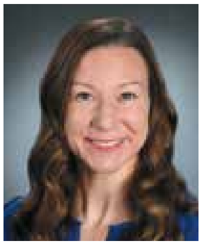
Neurology



Rachel Sawdy, APNP, is a Pediatric Neurology Nurse Practitioner at Children's Wisconsin.

🎓 Marquette University, DNP, MSN, Edgewood College, RN
🎗 Neurology

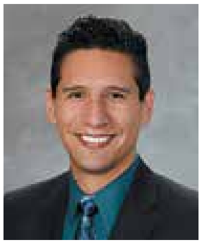
Radiology



Rachel A. Wantz, APNP, is a Pediatric Nurse Practitioner – Acute Care at Children's Wisconsin.

🎓 Marquette University, MSN
🎗 Radiology

Radiology



Michael S. Kuwabara, MD, is an Adjunct Assistant Professor of Radiology at the Medical College of Wisconsin.

🎓 University of Toledo College of Medicine and Life Sciences, MD
🛏 St. Joseph's Hospital and Medical Center
🩺 Barrow Neurological Institute
🎗 Radiology

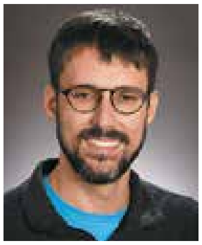
KEY TO SYMBOLS: 🎓 DEGREE 🛏 RESIDENCY 🩺 FELLOWSHIP 🎗 BOARD CERTIFICATION

Congenital Cardiac Surgery

Robert (Jake) Jaquiss, MD, is a Pediatric Cardiothoracic Surgeon at Children's Wisconsin and a Professor at the Medical College of Wisconsin.

- Vanderbilt University School of Medicine, MD
- Washington University in St. Louis School of Medicine - General Surgery
- St. Louis Children's Hospital - Pediatric Congenital Cardiac Surgery and Washington University in St. Louis School of Medicine - Thoracic-Cardiovascular Surgery
- Cardiology, Pediatric Cardiac Surgery, Thoracic and Cardiac Surgery

Hospital Medicine



Nicholas Anderson, MD, is a Hospitalist at Children's Wisconsin.

- University of Wisconsin - Madison, MD
- University of Texas Southwestern Medical Center - Pediatrics
- Hospital Medicine

New Advanced Practice Providers

Anesthesiology
Brittany J. Brandt, CAA/CRNA

Asthma, Allergy and Immunology
Lisa A. Crandall, APP

Child Advocacy and Protection
Alexandra Esboldt, APP

Child Advocacy and Protection
Shannon M. Allen, APP

Neonatology
Madison Harrington, APP

Radiology
Rachel Sawdy, APP

Radiology
Rachel A. Wantz, APP

Departures

Children's Wisconsin would like to thank the following providers for their contributions. We wish them well in future endeavors.

Colleen T. McCann, APNP
Endocrinology

Mario Saab Chaloub, MD
Pathology

Robert R. Montgomery, MD
Hematology

Tracy Geoffrion, MD
Cardiovascular Surgery

Shilpa Narayan, MD
Critical Care

Demarco A. Bowen, MD
Hospital Medicine

Peter Giddings, PA-C
Cardiovascular Surgery

Alexander Khammar, MD
Ophthalmology

Joseph Kershchner, MD
Otolaryngology

Katie Sullivan, MD
Nephrology

Retirement

Children's Wisconsin thanks our providers for their years of service.

Scott K. Van Why, MD
Nephrology

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Project ADAM National Conference — Celebrating 25 Years

WEDNESDAY, SEPT. 10-FRIDAY, SEPT. 12
childrenswi.org/2025projectadam

6th Annual Advanced Practice Provider Virtual Conference

FRIDAY, JAN. 23, 2026
childrenswi.org/cme

Best Practices in Pediatrics Conference

THURSDAY MARCH 5 - SATURDAY MARCH 7, 2026
childrenswi.org/bestpractices

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

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