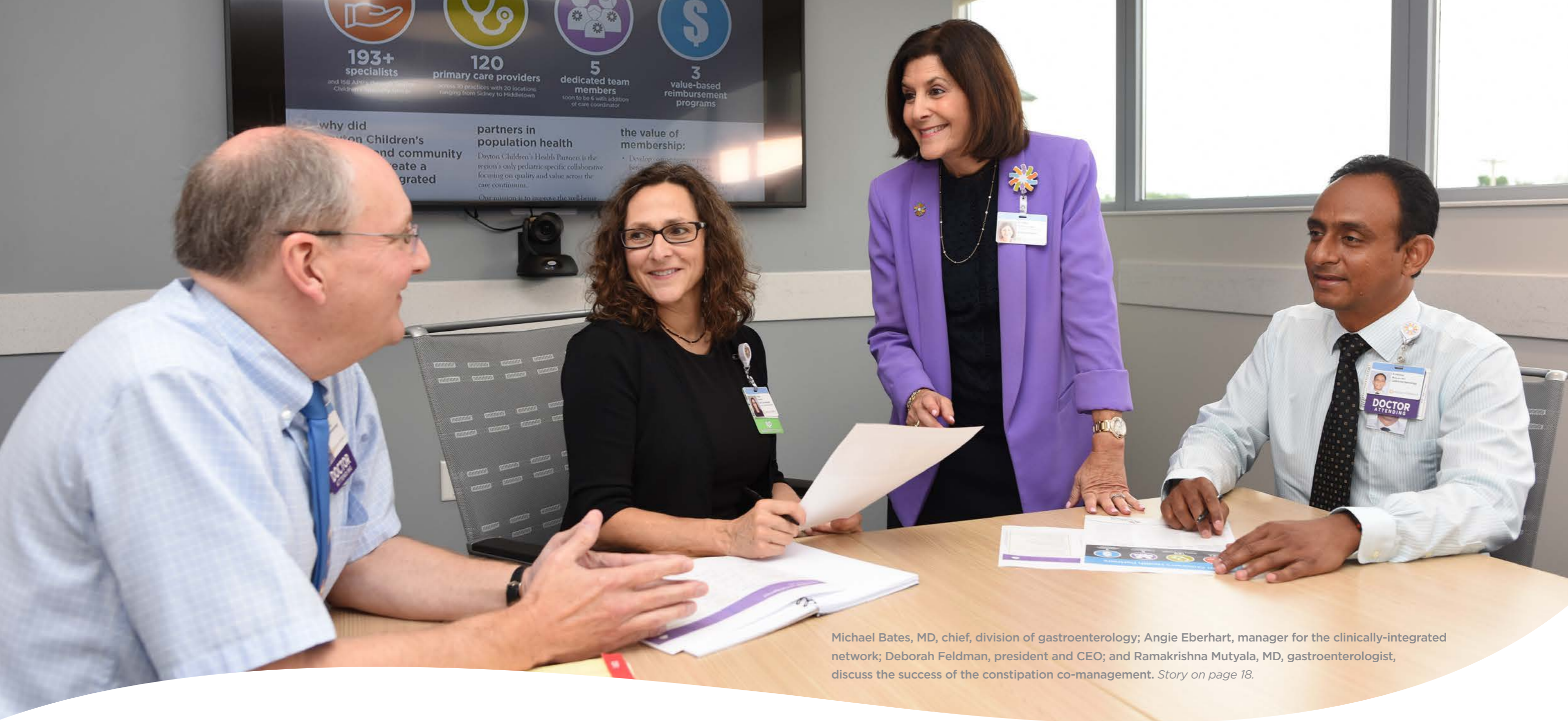




odyssey



Michael Bates, MD, chief, division of gastroenterology; Angie Eberhart, manager for the clinically-integrated network; Deborah Feldman, president and CEO; and Ramakrishna Mutyala, MD, gastroenterologist, discuss the success of the constipation co-management. *Story on page 18.*

Unparalleled. That is my word for the work you will read about in this issue of Odyssey. It's truly care at the highest level that you would find anywhere, by people with the biggest hearts imaginable, for children with endless potential.

You'll learn how our largest division, orthopedics is leading the industry in innovation, being one of just 28 sites selected to perform a new spinal surgery that is getting kids back to what they love sooner, with less pain and more freedom of movement. We are also using 3D technology to track movement in children in our gait and motion analysis laboratory. This state-of-the art technology provides detailed information about how a child's muscles and joints are working, allowing our team to customize treatment to relieve pain or weakness.

At the same time, our sports medicine team noticed a trend of recurring injuries in teen girls. Digging a little deeper, they found an untapped reservoir feeding these injuries – a broad spectrum of misalignment in eating, body issues, improper training and mental health that were holding our powerful girls down. Thus was born The Center for the Female Athlete, a one-of-a-kind program in Ohio to support the entire girl – inside out, top to bottom. You may be surprised how different her needs are from a male athlete. Don't just take my word for it – hear from a mom who said this program was the game-changer for her daughter.

I'm also sharing one of our newest services – rheumatology. It's a specialty that doesn't get talked about much but the more you hear, the more you realize it's connected to so many conditions. It can be a supporting bridge connecting care across specialties. During COVID-19, with children developing MIS-C at a higher proportional rate in Dayton than other areas, rheumatology was the go-to specialist.

Finally, we'll share the work our clinically-integrated network has been doing for the past five years to reinvent the path to care for kids in our area. The teamwork and commitment to providing the very best care consistently is truly above and beyond.

Turn the page and join me in this Odyssey on an unparalleled journey through care at Dayton Children's.

Debbie Feldman

on the cover:

This girl has the power! Georgia Sosebee is from Dayton and is featured in The Center for the Female Athlete ad campaign. *Story on page 6.*



industry leading innovation

we've got your back!

Dayton Children's is one of only 28 children's hospitals selected to perform ApiFix — a new faster, easier spinal surgery that gets kids back to what they love sooner.

How many of us have turned to Google after a visit to the doctor?
C'mon, raise your hand – you know you have! Pretty sure we've all taken a turn at getting our web-based doctor's degree while we looked up article after article on ordered tests or diagnosis decisions.

That's just what 12-year-old Victoria Hernandez did when a doctor told her she had scoliosis. Her parents, Jose and Linda, took her to an orthopedic doctor in their home town of Chicago when they noticed that one of her shoulders was higher than the other.

That specialist gave them a few options for next steps: a brace, spinal fusion surgery or a new spinal procedure called ApiFix - a minimally invasive procedure that was recently approved by the Food and Drug Administration.

Victoria and her parents knew right away that they did not want spinal fusion surgery. That's when the vertebrae in the spine are basically welded together, preventing movement. One of Victoria's cousins had recently had a fusion surgery and his recovery had been long and difficult.

Instead, they scoured the internet for hospitals that performed the ApiFix procedure. They found Dayton Children's Hospital and Michael Albert, MD, chief of the division of orthopedics. In just the few months since FDA approval, Dr. Albert had already used the device more than almost anyone else in the country. He was leading the industry in this innovative technique. Victoria and her parents double checked their choice with more research and then signed up to come see Dr. Albert.

In December, with the holidays on the horizon, the family made their first trip to Dayton Children's. Dr. Albert discovered Victoria had severe scoliosis with a spinal curve of 51 degrees.

"When we met with Dr. Albert, he gave us a lot of time and answered all of our questions," said José. "We never felt rushed. We had confidence in him based on our appointment and what he had done for other kids, like Victoria."



Victoria's spine x-ray shows a curve of 51 degrees.

“ Less complicated than a fusion, more effective than a brace and you can see the correction right away. ”

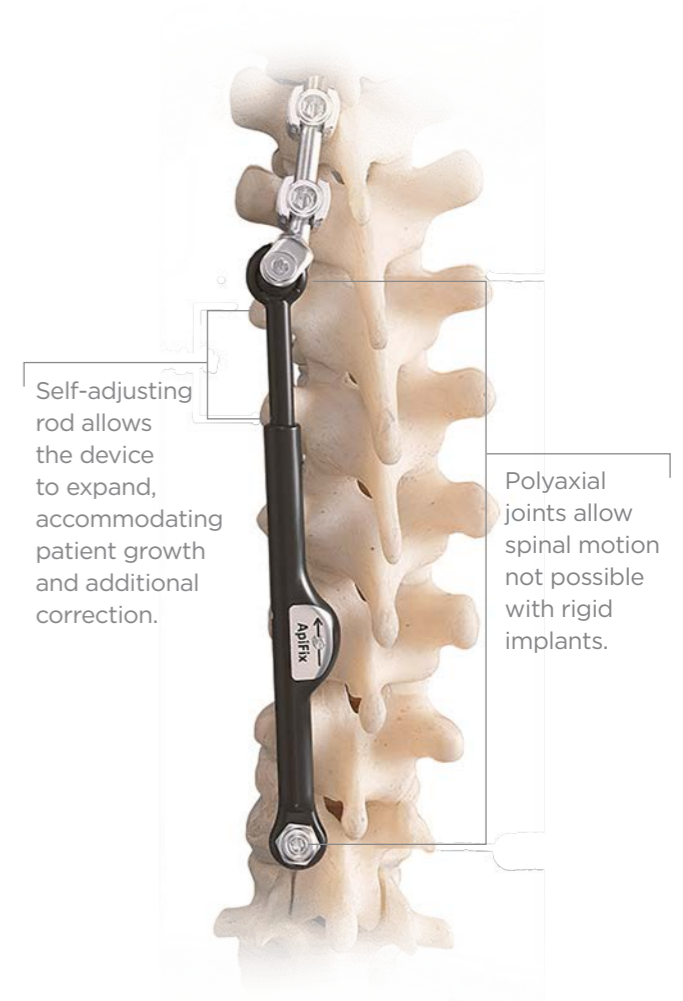
Jose Hernandez

The Hernandez family returned to Dayton for Victoria's surgery on January 28. The surgery itself took a little over an hour. Less than an hour after getting back to her room, Victoria was up and walking with the assistance of a nurse. Just one hour after back surgery! She stayed just one night in the hospital and only needed Tylenol or Advil to manage any pain she had after that.

Her parents say that Victoria was singing and dancing while watching the Super Bowl just 10 days after surgery. And, she was ready to return to school within two weeks.

She does exercises at home to strengthen her back but also returned to Dayton Children's for a "rehab kickstart." Her dad says, "you would never know she has scoliosis."

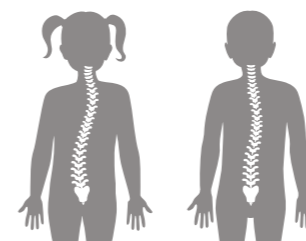
For patients and families considering ApiFix, he says, "Do it. The surgery was like magic. It's a much less complicated surgery than a spinal fusion, more effective than a brace, and you can see the correction right away. With ApiFix, you leave your child with the surgeon for a few hours, and they return with a new back."



Self-adjusting rod allows the device to expand, accommodating patient growth and additional correction.

Polyaxial joints allow spinal motion not possible with rigid implants.

The ApiFix system is engineered to stand up to active lifestyles. Instead of a fusing spinal bones together or inserting a static rod to strengthen the spine, the ApiFix uses a self-adjusting rod and polyaxial joints allow for future growth and a greater degree of motion.



more than
100,000
 children in the U.S. are diagnosed with scoliosis each year

Just like the Wright Brothers, the Dayton natives who changed the world with the airplane, Dayton Children's is pioneering new ways to elevate orthopedic care, making it safer, faster and easier.

Leading the charge for innovation at Dayton Children's is Michael Albert, MD, chief of orthopedics. Medical device companies and engineers seek Dr. Albert's input on new equipment, devices and technologies. His designs to provide better care for scoliosis patients have been incorporated into many of the systems in use today across the country.



Michael Albert, MD, chief, division of orthopedics, was also the first surgeon in the country to use the BandLoc spine correction system in 2016 and trained surgeons internationally on its use.

Under Dr. Albert's leadership, Dayton Children's now offers scoliosis patients several minimally invasive options to correct their curve, including:

- **ApiFix:** ApiFix is a minimally invasive procedure that offers substantial benefits over a traditional fusion surgery to straighten a curved spine, including a smaller incision, faster operation and shorter hospital stay. It acts as an internal brace and naturally expands as the child grows or exercises. Dayton Children's is one of only 28 hospitals offering this procedure.
- **BandLoc:** BandLoc is a specialized polyester implant that improves spinal deformity and correction. The technology was pioneered by Dr. Albert and was used in surgery for the first time in the country at Dayton Children's in 2016.
- **Meta casting:** For children younger than 4 years old, this is a non-invasive way to harness the power of their rapid growth rate to correct a curve of the spine in three directions. It's like a plaster vest with an hourglass cut out of the middle. It's replaced every two to four months until the curve reaches an acceptable level, normally one to two years.
- **Bracing:** Like a stiff plastic jacket, braces wrap around a child's torso to straighten their spine as they grow. It works best for a certain range of curvature, such as 20-40 degrees.
- **Scolio-pilates:** Dayton Children's is the only children's hospital in the country to offer Scolio-Pilates, a treatment option that improves flexibility, strength and quality of life in young scoliosis patients.

state-of-the-art steps

Dayton Children's is one of the few hospitals in the world that offers patients a gait and motion analysis laboratory. The gait lab's state-of-the-art computer technology can identify problems that are not always detectable in a typical clinical exam and offer children more specific treatment options for movement issues with often better results.

A child or teen is typically referred to the gait lab for pain or fatigue when walking. These issues are generally caused by conditions like cerebral palsy, spina bifida, scoliosis, other neurological or muscular diseases or injuries.

In a gait lab study, motion-capture cameras record a child as they step, walk and run on a pressure-sensor mat while wearing reflective markers. The data captured is then rendered into 3D imagery which provides an in-depth look at a child's movements, walking patterns and muscle activity.

"This data, along with a physical examination gauging a child's strength, range of motion, spasticity and balance, can help the team identify specific ways to help improve the child's or teen's ability to walk, step and run," says Claire Beimesch, MD, pediatric orthopedic surgeon. "Beyond its typical use, our gait lab is also collecting data for research on patients who have had an ACL reconstruction and for those who are about to have spine surgery using the ApiFix® system."

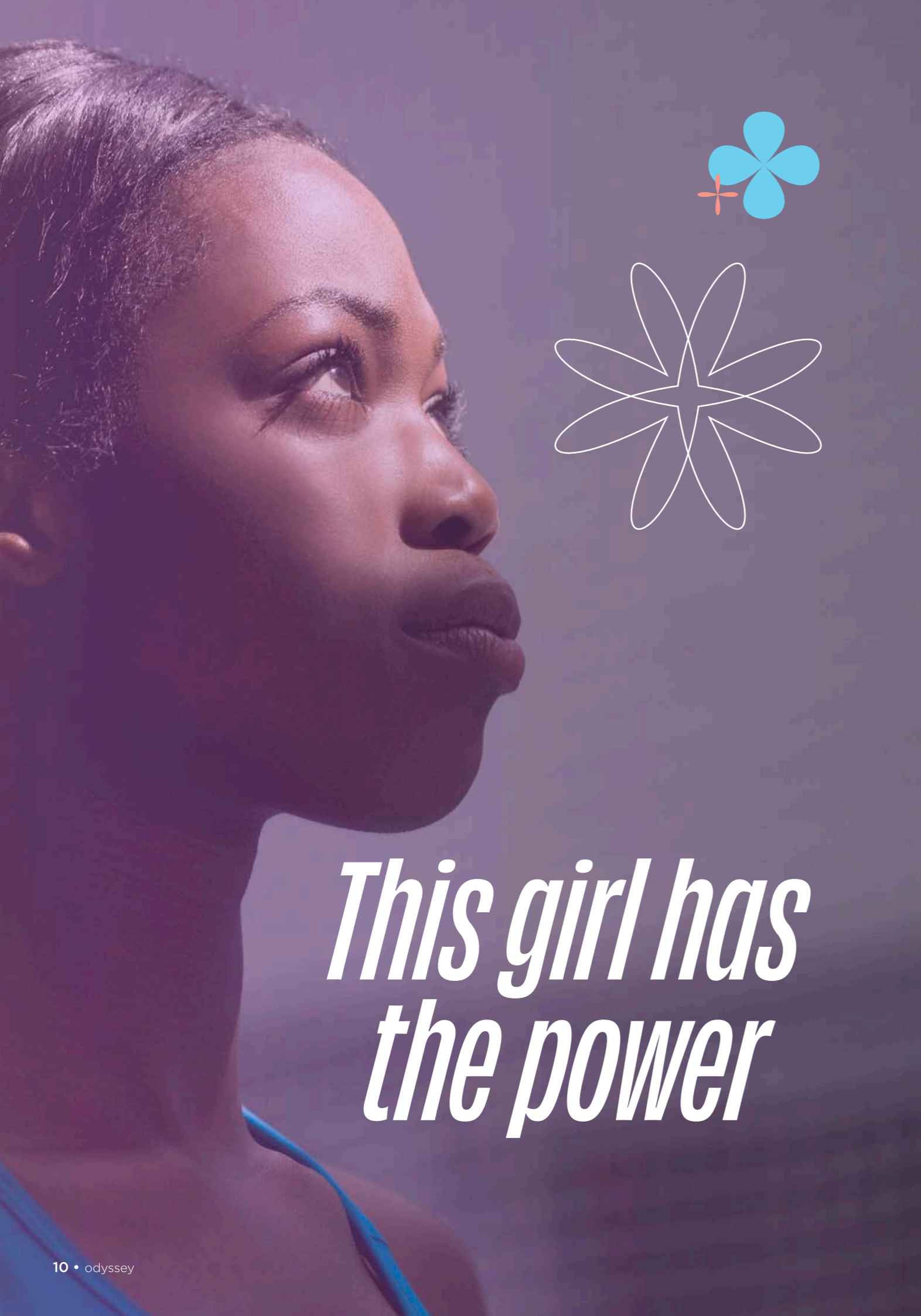
Dayton Children's has applied to become one of the few children's hospitals with gait lab accreditation through the Commission for Motion Laboratory Accreditation (CMLA) and should receive results this summer. Only 14 other labs in the world have received this prestigious recognition.

Pictured to the right,

Physical therapist Emily Puthoff tracks 6-year-old Gabriel's progress in the gait lab, as cameras and sensors capture his movement. Gait lab engineer Tessa Hill displays results on the nearby monitor.

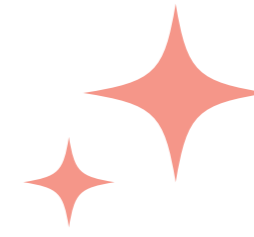


Dayton Children's orthopedics division is ranked as a U.S. News and World Report Best Children's Hospital.



This girl has the power

The Center for the Female Athlete is the only one of its kind in Ohio, helping girls reach for the gold



America's top female athletes such as Allyson Felix, Katie Ledecky and Simone Biles inspired the world at the Tokyo Olympics in July, and not just with dazzling performances in their sport. The most influential moments came as they revealed the sides not often seen in public - how much physical strength relies on mental health, how age or motherhood does not reduce an athlete's power but feeds it.

For those women to achieve the pinnacle of their careers, they needed superior support along the way, recognizing all the parts that make them whole. At Dayton Children's, a dedicated team unveiled a new program that helps young female athletes aim for that kind of greatness and be the best version of themselves.

The only one of its kind in Ohio, The Center for the Female Athlete at Dayton Children's launched in March 2021 after 18 months of research into the unique needs of girls in sports. These athletes need more than just help recovering from injuries. They need a holistic approach; comprehensive, wrap-around services that support the whole person.

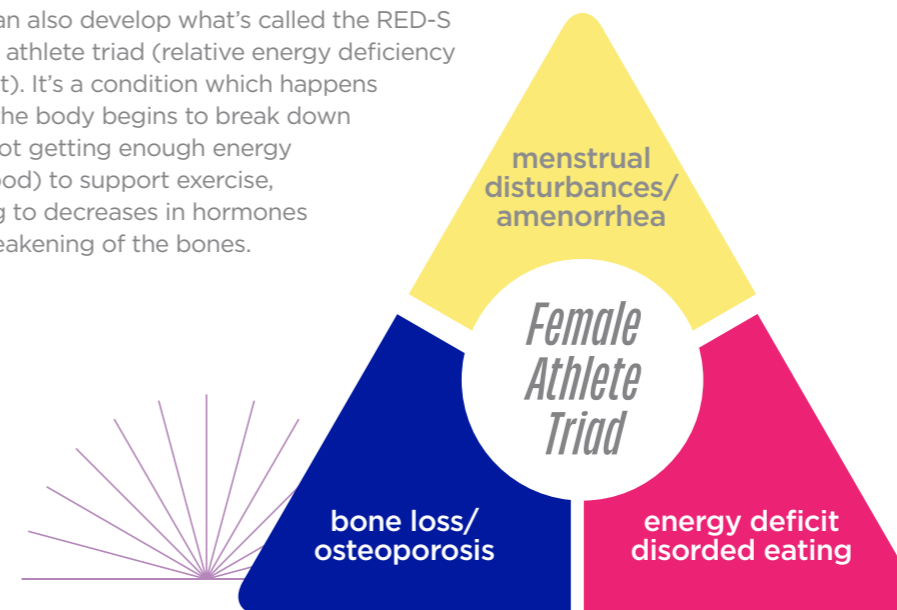
"Sports injuries are like icebergs—you see the injury above the water, but beneath the surface, a lot is going on," says Lora Scott, MD, who leads the program's clinical team and was a competitive swimmer in high school and college. "We have to look at underlying problems related to nutrition, mental health or improper training."

Dr. Scott and 10 women from a variety of specialties across the hospital came together to brainstorm how to best serve these girls. With very few programs like it in the United States, the group faced the challenging task of building this innovative service from the ground up.

Each of the women has a true passion for the project because they were once all young athletes themselves. They know the unique pressures girls face in adolescence on top of excelling at a sport.

"During adolescence, girls are going through physical changes that impact their athletic performance," says Sarah Steward, MD, orthopedic surgeon and former professional basketball player. "Many of them get stressed out about their weight and don't eat properly to support their athletic performance. Some feel anxious about competing at a high level and push themselves too hard or don't build in recovery time. These factors can all contribute to overuse injuries, such as stress fractures."

Girls can also develop what's called the RED-S female athlete triad (relative energy deficiency in sport). It's a condition which happens when the body begins to break down from not getting enough energy (aka food) to support exercise, leading to decreases in hormones and weakening of the bones.



girls who come to The Center for the Female Athlete get a holistic assessment on their first visit, including:



swimmer

Lora Scott, MD

A review of hormonal balance, bone and menstrual health with a sports medicine doctor.



gymnast

Jamie Broz

A functional movement screening with an athletic trainer to evaluate injury risks.



runner

Linh-Han Ikehara

A behavioral health assessment with a social worker.



runner

Maria Scavuzzo

An eating habits and nutrition assessment with a registered dietitian.

The first visit is three hours long to complete a holistic assessment. Each visit thereafter is custom made for the individual goals the athlete sets and can include other specialists, such as physical therapists who work on strengthening and preventing future injury.

“The girls I’ve worked with so far are really excited to have a plan that will address nagging issues that they weren’t even aware of, such as repeated stress fractures due to low bone density for example,” says Dr. Scott.

Emma’s story

“For us, The Center for the Female Athlete was really the one missing piece in my daughter’s care and we realized it once we got answers there,” said Sybil Brun, a Miamisburg mom whose 17-year-old daughter, Emma, enrolled in the program.

A competitive gymnast since she was 9 years old, Emma had been silently struggling for the last few years with troubling symptoms: black spots in her vision, dizziness and sudden heart rate spikes. She was also plagued with frequent injuries and a predisposition to depression. She never told her parents about the troubling symptoms because she assumed they were normal. Emma had been pushing through these obstacles for so long, it became just part of her routine, and it was taking a toll on her body and her spirit.

In February 2021, with the added pressures of the COVID-19 pandemic, forced isolation from friends and a loss of identity from not being able to compete or train, Emma ran out of endurance... and hope. She attempted suicide.

Emma spent 10 days in an inpatient mental health unit. The full spectrum of what she had been going through began to emerge, slowly at first, then as if a great weight was lifting from her shoulders, all the symptoms, all the struggles poured out of her.

Emma is not alone.



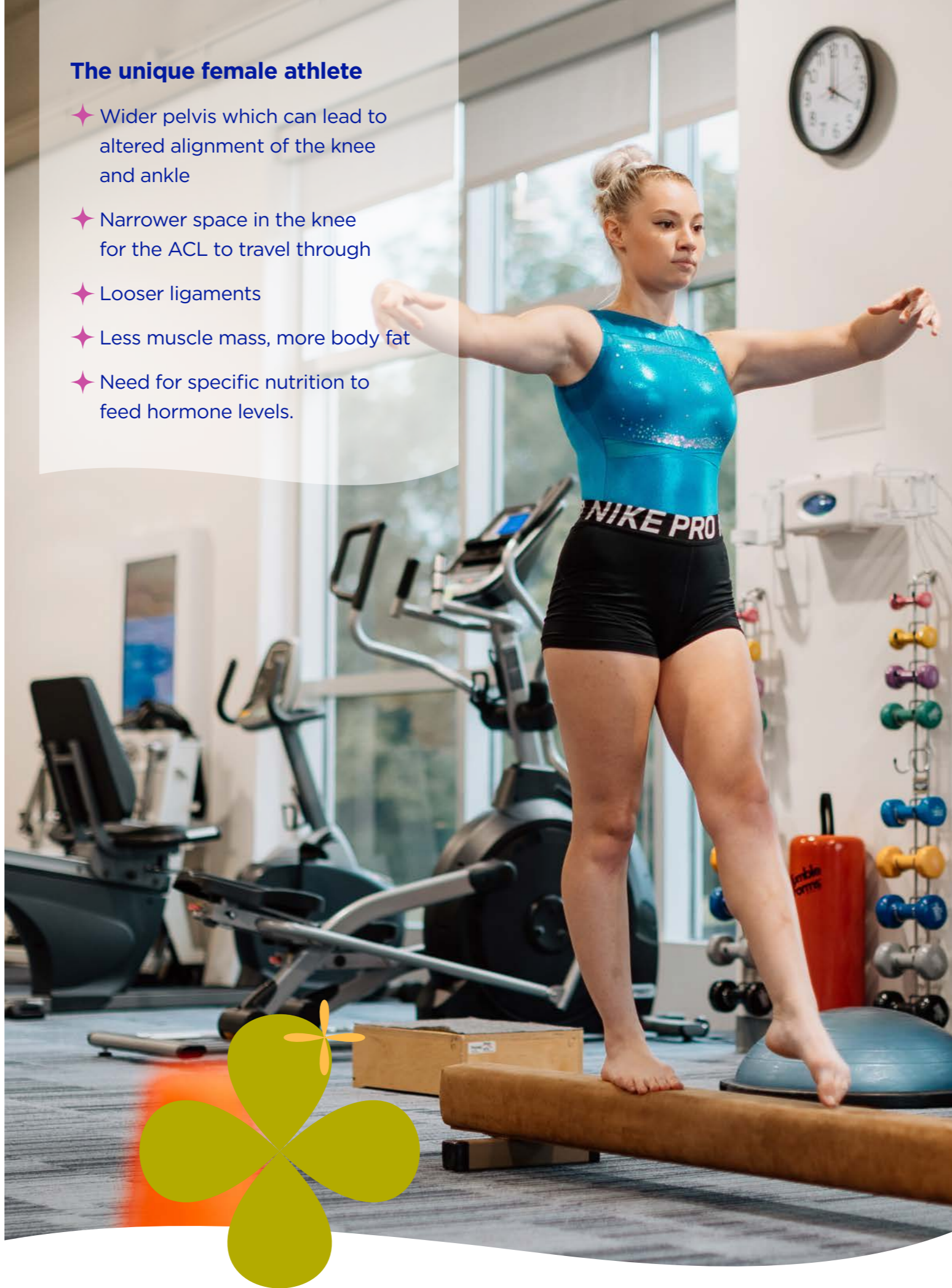
The CDC says
During February 21-March 20, 2021,
suspected suicide attempt ED visits were

50.6%

higher among girls aged 12-17 years
than during the same period in 2019.

The unique female athlete

- ✦ Wider pelvis which can lead to altered alignment of the knee and ankle
- ✦ Narrower space in the knee for the ACL to travel through
- ✦ Looser ligaments
- ✦ Less muscle mass, more body fat
- ✦ Need for specific nutrition to feed hormone levels.



It took months for the light of hope to begin glimmering in Emma’s eyes again as the internal struggles were addressed one by one. A psychiatrist treated the biochemical causes of her depression. Her primary care doctor diagnosed her with POTS (postural orthostatic tachycardia syndrome), a disorder where the blood vessels don’t respond to the body’s command to tighten as a person stands, which leads to not enough blood getting to the brain. Emma began seeing a rheumatologist at Dayton Children’s who then recommended several other specialists. “At one point we were going to two or three doctor’s appointments a week,” says Sybil.

Sybil then saw a comment on Facebook about the launch of The Center for the Female Athlete. Feeling it was a perfect fit, she added an appointment with those specialists, too. “It felt like coming full circle,” says Sybil. “During our intake appointment, they landed on Ehlers-Danlos Syndrome (EDS), which explained a lot of why Emma had suffered so many injuries” EDS is a group of rare inherited conditions that affect connective tissue, primarily the skin, joints and blood vessel walls.

Emma’s next visits to The Center for the Female Athlete are customized to her unique situation, sometimes with a physical therapist and sometimes with a mental health counselor. “Previously, Emma resisted going to a counselor because she said she wouldn’t know what to talk about, but it felt different to her under this umbrella,” says Sybil. “It’s a game changer to have that built into the female athlete process.”

“The center actually specializes in getting girls back to doing what they do best, treating them both physically and emotionally,” say Sybil. “I think it can be easy to forget our physical health is so closely linked with our mental health, but it’s true.”

“Our mantra is ‘you can do this!’ We are empowering girls in every aspect of their lives,” says Maria Scavuzzo, clinical dietitian and runner. “As an athlete myself, I can really connect with these girls and understand what they are going through on different levels. I think of myself as their teammate, as someone who is here to help them be their very best. How cool is that?”

Follow us on Instagram @the_female_athlete
or on Facebook @thefemaleathleteofficial.

Emma Brun, from Miamisburg,
practices on the balance beam.



diagnosing the vaguest symptoms

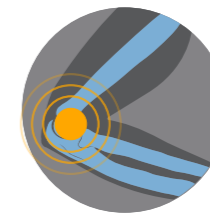
the specialist that is needed to link the seemingly simple symptoms to more complex systems



As winter started to melt away into spring and the groundhog's six weeks were almost up, instead of looking forward to new grass and blooming buds, Shiloh Douglass was aching her way through each day. "I had pounding headaches, body aches and a rash," she remembers. "My doctor sent me to the emergency department at Dayton Children's and they admitted me. For three days, everyone worked to figure out what was wrong and help me feel better."

Turns out that Shiloh had vasculitis, an inflammation of the blood vessels. Her body's own immune system turned on her, causing the walls of the tiny tubes carrying blood to become swollen and irritated.

In Shiloh's case it was the small blood vessels in the skin that were impacted, a version called Henoch-Schoenlein purpura (HSP). It causes a distinctive rash and can also cause problems in the kidneys and intestines.



"I feel very lucky that Dayton Children's had a pediatric rheumatologist," says Shiloh. "My symptoms were so common that it could have been anything. Having a doctor right there at my bedside who specialized in inflammation really helped get answers faster."

In fact, Dayton Children's has two pediatric rheumatologists — Dustin Fleck, MD, and Anne McHugh, MD, who started on the very same day in 2019. That's a real feat when you consider that there are fewer than 420 board-certified ones practicing in the country right now. In fact, nine states don't have any!

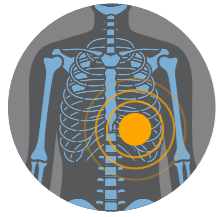
"It's nice to have two of us because it really allows collaborative thinking and a second opinion is always just a few steps away," says Dr. Fleck, chief of the division of rheumatology.

"Collaboration across specialties is also a big part of what we do because inflammation can happen anywhere in the body, impacting organs, tissues and bones," says Dr. McHugh. "Many of our patients start in sports medicine or orthopedics, because of the joint aches, and end up with us when another cause can't be found."



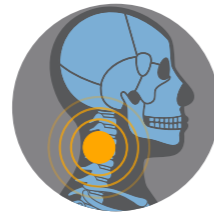
fast fact

The body is filled with an estimated 60,000 miles of blood vessels — some can be thinner than a human hair!



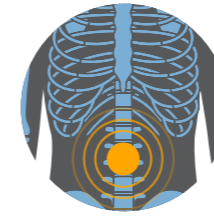
One of the most common diseases that can start as an orthopedic concern is arthritis – yes, arthritis in kids! It’s called juvenile idiopathic arthritis – the idiopathic just means no one knows what causes it.

“The symptoms come on slowly and aren’t that obvious at first; joint pain, stiffness and swelling,” says Dr. McHugh. “We do a hands-on exam with some diagnostic testing to find that inflammation. Even though it’s a disease that will be with them for life, we have really effective treatment options and outcomes are normally really good, especially if it’s caught early.”



Having two pediatric rheumatologists suddenly became very important in 2020 when an inflammatory response to COVID-19 began happening in children.

It became known as MIS-C, or multisystem inflammatory syndrome in children. Different parts of the body can become inflamed, including the heart, lungs, kidneys, brain, skin, eyes or gastrointestinal organs. It’s very similar to another illness treated by rheumatologists, Kawasaki disease.



Oddly enough, Dayton Children’s has always had a proportionately higher number of cases of Kawasaki disease, and also MIS-C when COVID-19 hit. There were 42 kids who developed MIS-C from May 2020 to June 2021.

“We talk to bigger institutions across the country and they are shocked – they may be four times our size and didn’t have that many cases,” says Dr. Fleck. “So far, all our kids have recovered very well from MIS-C. We are glad we are right here, so we can watch them closely to make sure there are no long-term effects.”

“Care can wind up being really fractured if you have an inflammatory disorder and don’t have a pediatric rheumatologist nearby,” continues Dr. Fleck. “Because many of our patients need to see other specialists, having us here really helps coordinate that flow of care, keep communication going and get them in fast if they have a flare-up. Families have been very grateful to be able to bring all their care home to Dayton.”

For Shiloh, treatment with steroids put her in remission. By summer’s steamy sun, she was ache-free and back to her active lifestyle, working out and planning a college career majoring in criminal justice. “I feel good now, but I know that if I start to ache again, I can come right back here and Dr. Fleck is ready to see me.”

Dustin Fleck, MD, chief, division of rheumatology, runs through a series of movements with Shiloh during her visit.



fast fact

There are fewer than 420 board-certified, practicing pediatric rheumatologists in the United States and there are 250 children’s hospitals!



Anne McHugh, MD, with Sadie Bierer.

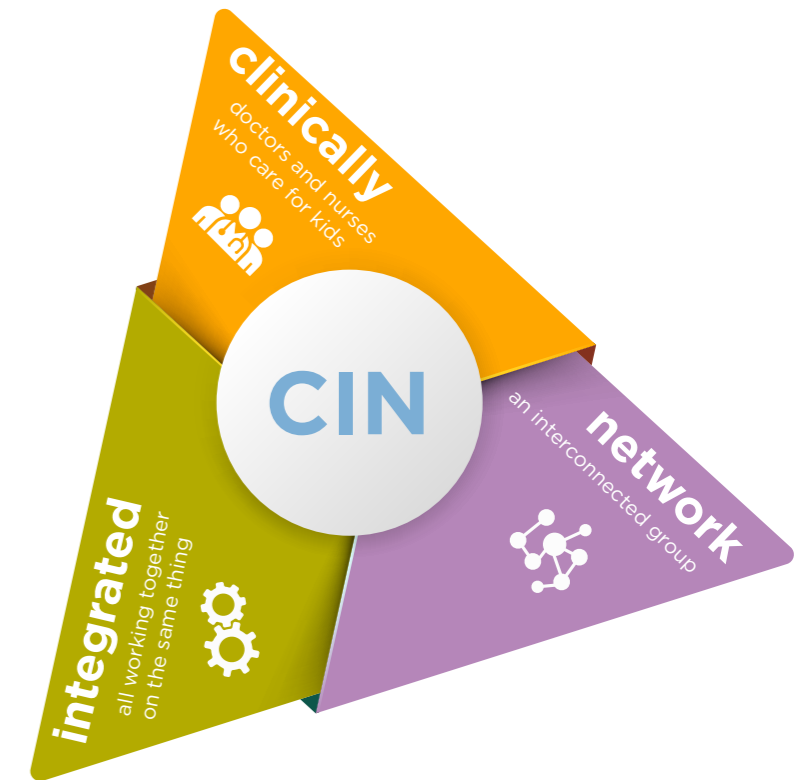
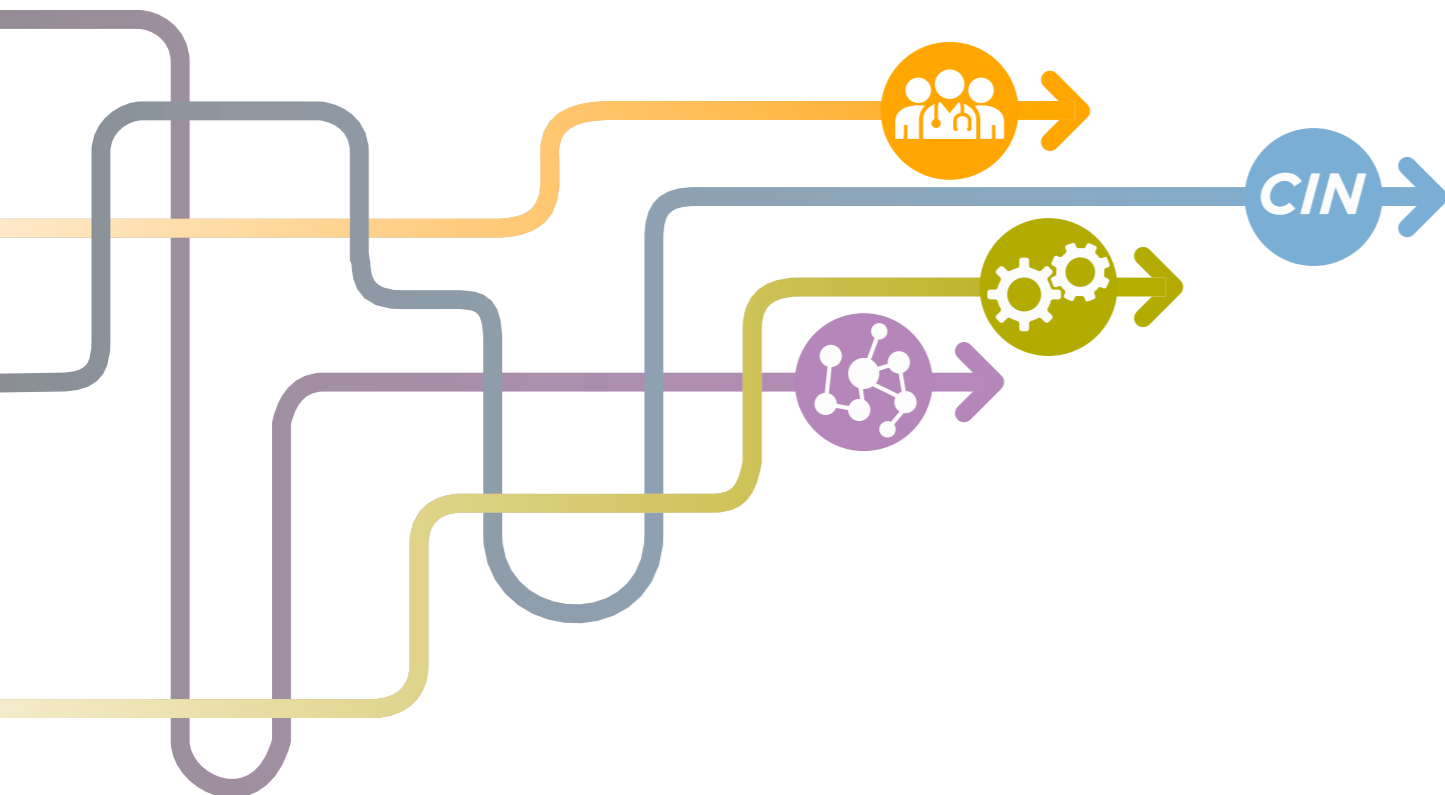
why pediatric rheumatology matters

- **Kids have open growth plates.** Inflammation over time can damage the places where bones lengthen. Bones can grow faster than they should, leading to one leg longer than the other, and knees can become wider. Damage can prematurely close growth plates, stopping growth altogether.
- **Kids’ bodies aren’t fully developed.** Inflammation can cause lasting damage to still developing bone and tissue. In kids, bones are still solidifying so there is still a lot of cartilage. Connective tissue hasn’t fully matured.
- **Kids metabolize medicine differently.** Medications have different side effects in kids and require different dosing.
- **We see a lot.** What may be a pretty common disease for pediatric rheumatologists may be rare in the adult world, so kids benefit from that expertise.

vision in action

Curious about what reinventing the path to children's health care looks like?

Here's a real-world example of how Dayton Children's is using strong alliances and care innovation to achieve the optimal health for every child within our reach



Everyone wants the best care for kids; that's a no-brainer. How do you get there? What does it look like? How do you raise quality but also keep costs down?

Collaboration efforts called clinically integrated networks have been gaining momentum in the past decade and are now considered the gold standard of physician alignment models for children's hospitals.

Our network, or CIN (pronounced like sin, but much less controversial!), called Dayton Children's Health Partners formed in 2016. It joins primary care pediatricians and the specialists at Dayton Children's to find the best ways to take care of kids who have common conditions.

Sounds simple, right? Not so fast... It's not as easy as it might seem.

For example, while bathroom habits don't make the best conversation, it's an issue we talk about a lot in kids. One out of every four kids who go to a gastroenterology (GI) specialist has constipation concerns.

Imagine your child is wracked with agonizing stomach cramps, so you start with their primary care doctor for a look. You might think it would be routine for them, but that's not necessarily the case.

"Through this process, we realized we only 'sort-of' practiced the same way," says Rebecca Dandoy, MD, pediatrician at CMC Middletown. "We have four pediatricians at CMC Middletown and we might all prescribe Miralax, but I might say take it for three days while a colleague might say take it for four days. Another colleague may choose a different medication. It's not a big difference but it's not consistent in the way we wanted it to be."

GI specialists at Dayton Children's were seeing those little inconsistencies in the referrals and knew constipation was a condition that could be treated faster, easier and at lower cost in the primary care doctor's office. All that was needed was a consistent way to do it.

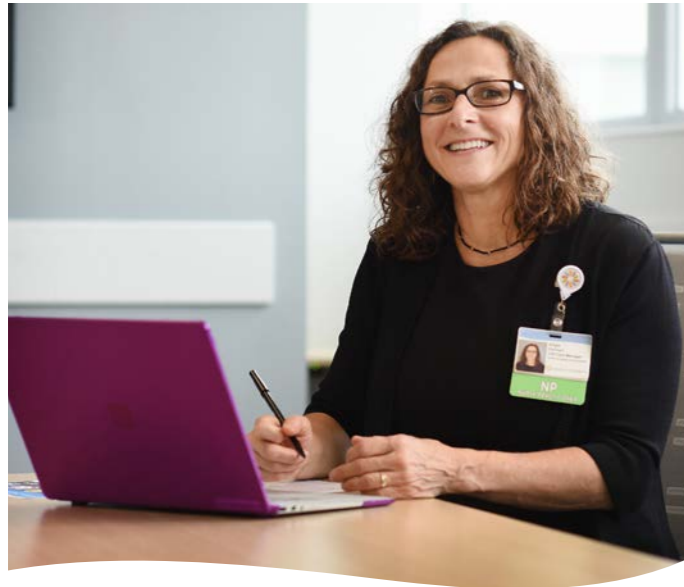
In 2018, several primary care doctors and GI specialists in the CIN started meeting monthly in a constipation co-management committee to determine how to standardize care for this one condition.



Rebecca Dandoy, MD

Dr. Dandoy is a pediatrician at CMC Middletown and also at Dayton Children's urgent care.

We want to improve outcomes not for just one patient but all 120,000 kids in our care.



“The group created an algorithm that outlines how to medically manage a patient with constipation – which medications to use, how long to use them, red flags to look for,” says Angie Eberhart, manager for Dayton Children’s Health Partners. “They created handouts for the family that explained the condition and provided an action plan. The action plan is individualized for each child based on his or her situation, but it follows the same protocols that every pediatrician in the CIN was now following.”

“They are all speaking the same language now,” says Eberhart. “No matter where a child is in the spectrum of care the provider can say ‘let’s pull out the action plan, see if we missed something and determine what we should do next.’”

“Now it’s hard to think what we would do without it because we use it so much,” says Dr. Dandoy. “I think it helps the specialists too because if they get a referral from one of the CIN practices, they know we’ve done all the preliminary work for them to take it to the next level.”

Dayton Children’s Health Partners now has four co-managements in process. (see chart next page)

So how do you know it’s working?

A big part of the CIN is sharing data and analytics to track processes and outcomes. Compiling and accessing all the data for 120,000 kids across varying medical records systems would be difficult without investing in a “big data” software system. Through a partnership with Anthem Blue Cross and Blue Shield, the CIN leverages a “big data” system and adheres to a value-based payment model, earning incentive payments when goals are met.

There are also the intangible benefits that can’t be measured on a scale: better relationships between primary care doctors and specialists, a higher confidence level in treatment, a standardized quality of care for the child, more information for the family and less time spent in doctor’s visits.

Angie Eberhart, DNP, APRN, FNP-C*





Angie is the manager of population health and quality improvement for the CIN. All those initials after her name mean she is an elite nurse - among the top one percent of nurses in the country when it comes to education! It means she is able to bring the latest research on patient care to the exam room.

*DNP = Doctor of Nursing Practice
 APRN = Advance Practice Registered Nurse
 FNP-C = Family Nurse Practitioner - Certified

This collaboration with Anthem was the first of its kind in the Dayton region and the first in the state for a pediatric population.

Dayton Children’s Health Partner’s co-management

global goal | treat and manage patients within primary care when appropriate with a uniform treatment program*

|  constipation |  asthma |  headaches |  behavioral health |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>By December 2022 for ages 1-18 years:</p> <ul style="list-style-type: none"> Decrease emergency department (ED) visits Decrease inpatient admissions Increase primary care use of constipation action plan Increase primary care follow-up visits for constipation | <p>By December 2022 for ages 5-21 years:</p> <ul style="list-style-type: none"> Decrease emergency department (ED) visits Decrease urgent care (UC) visits Increase routine asthma care visits Increase primary care use of asthma action plan | <p>By December 2022 for ages 8-21 years:</p> <ul style="list-style-type: none"> Decrease emergency department visits Decrease inpatient admissions Increase primary care use of headache action plan Decrease missed school days | <p>By December 2022, for ages 12-21 years</p> <ul style="list-style-type: none"> Decrease emergency department (ED) visits Decrease inpatient admissions Decrease psychiatry visits for mild depression Increase depression screening 50% from practice baseline Increase PCP confidence using pre- and post-survey Increase PCP use of safety plan Increase PCP use of action plan <p>for ages 0-21 years:</p> <ul style="list-style-type: none"> Decrease time to be seen by integrated mental health professional Increase the number of positive PHQ-A referrals to integrated mental health professional Increase PCP confidence in integrated model using pre- and post-survey |
| <p>lifecycle stage</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> actualize <input checked="" type="checkbox"/> audition <input checked="" type="checkbox"/> adopt <input checked="" type="checkbox"/> attune <input type="checkbox"/> assess <input type="checkbox"/> autopilot | <p>lifecycle stage</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> actualize <input checked="" type="checkbox"/> audition <input checked="" type="checkbox"/> adopt <input type="checkbox"/> attune <input type="checkbox"/> assess <input type="checkbox"/> autopilot | <p>lifecycle stage</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> actualize <input checked="" type="checkbox"/> audition <input checked="" type="checkbox"/> adopt <input type="checkbox"/> attune <input type="checkbox"/> assess <input type="checkbox"/> autopilot | <p>lifecycle stage</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> actualize <input checked="" type="checkbox"/> audition <input type="checkbox"/> adopt <input type="checkbox"/> attune <input type="checkbox"/> assess <input type="checkbox"/> autopilot |

lifecycle stages

- Actualize** create the co-management
- Audition** pilot the co-management among a small group
- Adopt** once the pilot works out the trouble spots, roll the co-management out to the primary care practices in the CIN
- Attune** fine tune any newly discovered trouble spots
- Assess** revisit the key drivers to ensure the outcomes are what was desired
- Autopilot** the maintenance stage; the co-management process should be second nature

*for all the CIN practices as a group, however rates at individual practices may vary due to pre-established protocols.

What's next?

"We are taking this program to our friends in the GI division at Nationwide Children's Hospital in Columbus to create a "co-management think-tank," if you will," says Eberhart. "We collaborate with them in Partners For Kids as well — which is like a CIN but with Medicaid insurance plans — so that's just another layer to add into our thought processes."

Anthem shared that Dayton Children's Health Partners is the most mature they have seen, as far as established protocols and the trek to value-based care with population health and quality improvement standards. "We really attribute that to the engagement of all the providers — both in private practice and at the hospital," says Eberhart.

"It took years of baby steps, one conversation, one layer at a time, to get to this point," says Eberhart. "We are so pleased with the care we see happening for our kids, but we never get comfortable in one spot. We always want that next best thing. We know the sky is the limit and that's where we are aiming."

population health

A key tenet of value-based care* is population health, looking at the overall health of the kids in the Dayton region and seeing how we can bring every child to their optimal health.

While many kids may be able to follow the co-management action plan and find relief, it's just not doable for other kids because of outside factors. These are called the social determinants of health — all the things that happen outside of the doctor's office that get in the way of a child achieving optimal health. Dayton Children's Health Partners has hired a dedicated care coordinator and is working with the practices to leverage that level of care. Let's look at an example:



meet Suzie

Her primary care doctor knows she is struggling with weight issues. She is also not doing well in school. Suzie sees a GI doctor for chronic upset stomach and a pulmonologist for asthma.

Still no matter how hard Suzie tries to eat better or how diligently she uses her inhaler, she just can't seem to lose weight, get rid of her tummy troubles or breathe easier.

Suzie with population health help

At Suzie's latest visit, she was introduced to a new care coordinator. That person looks at outside factors that could be influencing Suzie's health, also known as the social determinants of health. The care coordinator visits Suzie at home, discovering Suzie sleeps on an air mattress on the floor. They also find a very old vacuum and some moldy spots on the walls.



Suzie needed a little extra boost to get to her optimal health, but through the CIN we are dedicated to not just seeing one child in one exam room, but improving care for each of the 120,000 kids in our care.

Suzie's family is connected with agencies that can help — they remove the mold, get a new HEPA filter vacuum and get Suzie a proper mattress and bed frame.

Suzie sleeps better now. She finds she is able to focus better at school and craves less fatty and salty foods.

With a new green cleaning routine at home, her lungs are less irritated.

Given some time, Suzie finds she is breathing easier and having fewer stomach aches. She enjoys school more and is even slimming down as she grows taller.

avoiding the emergency department

case studies in quality improvement

A key goal of Dayton Children's Health Partners is keeping kids out of the emergency department for non-emergency visits. Emergency care is expensive and the medical home is usually the best place to start.

case

1

walk-in hours

Analyzing the big data, CMC Middletown saw that its patients were showing up in emergency departments in the afternoon more frequently than any other time. The team came together to brainstorm how to make a quality improvement to fix that.

They already had walk-in hours every weekday morning from 8:00 am to 9:00 am for parents to check out suspicious symptoms that popped up overnight before work or school. They decided to open another slot of walk-in hours from 3:30 pm to 4:30 pm — when kids get out of school.

"It was a big hit," says Dr. Dandoy. "Sometimes it gets pretty busy and families have to wait a bit but they are all very understanding — and happy to be in their child's doctor's office and not the emergency department. Without tracking the data, we never would have known there was an opportunity for better care there."

case

2

the call first campaign

Another goal is to keep a child's care in the medical home, or pediatrician's office, as much as possible to improve consistency, quality outcomes and avoid high cost ED visit.

When Dayton Children's opened Kids Express, a pediatric-focused retail clinic for little illnesses and injuries, a parent survey revealed that the family may not check with their pediatrician's office first to see if they had an opening.

Dayton Children's partnered with the CIN pediatricians to create "call first" cards. The pediatricians give the cards to their patient families to remind them to call the office first so they can make a care plan together.

If the pediatrician's office has no open appointments, then the family is referred to Kids Express. Kids Express then sends follow-up information back to the office.

Definitions

Fee for service model — payment for each service performed, such as each office visit or each test. This is the current standard for health care.

Value-based care model — compensates providers for the quality of the care they provide, measured by patient health outcomes. Providers share the risk with the insurer — they are rewarded for effectively managing the health of individuals and populations; they will not be paid as well if children in their care have poorer health outcomes.