



Dayton Children's Hospital
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Dayton Children's Hospital orthopedics



#1 in Ohio



nationally recognized
in orthopedics care



nationally recognized orthopedics care

For the last three years, the orthopedics division at Dayton Children's has been recognized by U.S. News & World Report.



"At Dayton Children's, we prioritize innovation and individually designed care," said Michael Albert, MD, chief, division of orthopedics at Dayton Children's. "We work continuously to offer cutting edge, minimally invasive options that get kids back to school or their sport quickly, while preserving their long-term growth and health."


The orthopedics division at Dayton Children's is part of the hospital's Level I Trauma Center and a member of the Setting Scoliosis Straight collaborative to improve spinal surgery outcomes. The division offers a variety of the latest techniques including magnetic limb lengthening, ApiFix and BandLoc minimally invasive spinal surgeries, and gait and motion analysis.



the gait lab at Dayton Children's

Dayton Children's is one of the few hospitals in the country 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 better results.

The Gait Lab uses high-tech cameras and sensors to analyze how people move. Children are often referred to the Gait Lab if they have orthopedic/musculoskeletal conditions that impact their gait and functional mobility. Information from the lab can help with surgical planning, brace/spasticity management, and other recommended treatments.



The Spine and Scoliosis Center at Dayton Children's

The Spine and Scoliosis Center at Dayton Children's is nationally recognized for the innovative and comprehensive care provided to spine and scoliosis patients, including:

- **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** 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.
- For children younger than four-years-old, **meta casting** 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.
- Scoliosis **braces** are usually used for curvatures of 20-40 degrees. We conveniently partner with an orthotic company to help patients review bracing and fit during our spine clinics.
- 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.



THE CENTER FOR THE FEMALE ATHLETE

The Center for the Female Athlete at Dayton Children's Hospital, the first program of its kind in our region, was developed to treat female athletes holistically with the support of specialists from sports medicine, nutrition, and behavioral health. The multidisciplinary program focuses on total wellness and the unique situations that affect the female athlete.

The Center for the Female Athlete is led by an all-female team of providers that work with female athletes, ages 11-18, for a variety of conditions, including: nutritional concerns, sports specific injury prevention and performance anxiety.

The program launched in the summer of 2021 to coincide with the Summer Olympics with a social media campaign,

advertising, media relations push and a comprehensive digital strategy.

Since its launch, the Center for the Female Athlete has seen more than 200 patients. Many of the girls have come to the program after an injury and are gaining the tools needed to prevent future injury, as well as the best way to fuel their bodies and care for their mental health.



cutting-edge imaging

The EOS imaging system is a low-dose, 3-D imaging system that scans a child standing up. An EOS scan shows a child's natural, weight-bearing posture and allows us to see the interaction between the joints and the rest of the musculoskeletal system, particularly the spine, hips and legs.

EOS imaging uses an ultra-low dose of radiation to provide extremely detailed, high-quality images. It uses a significantly lower radiation dose than a general radiography X-ray. With EOS scans, the orthopedics team at Dayton Children's can make more informed diagnoses and create individualized treatment plans for children with musculoskeletal disorders.

EOS imaging offers 3-D weight-bearing images physicians can use to get the most accurate view of a child's spine and lower limbs in a natural standing position. The EOS imaging machine is primarily used to assess patients with spine, hip, and leg disorders. Dayton Children's orthopedics division has EOS imaging available at both the main and south campus.

ACL pre-hab



Before ACL surgery, the Dayton Children's team works with patients in prehabilitation (pre-surgery rehab) to return their knee back to the size and strength they had before their injury. Research shows that this helps better prepare the knee for surgery. A few visits with our physical therapists are also very important to help reduce pain. The main goals of prehab are preparing the knee for surgery by reducing the joint effusion, regaining knee motion and working on the muscles in the upper thigh (quadriceps). Meeting these goals is important for the best timing of surgery.

running clinic



The running clinic at Dayton Children's Hospital offers a 2D running gait analysis, which utilizes software to capture your running form from a sagittal view (from the side) and a frontal view (from behind). The software captures different angles of joints throughout various points of the running gait cycle. With this software, the physical therapist can analyze biomechanics, and with the addition of a musculoskeletal evaluation, make recommendations to improve running gait.

team highlights

Dr. Albert named 2022 Health Care Hero



Michael Albert, MD, chief of orthopedics at Dayton Children's, received the 2022 Dayton Business Journal Health Care Hero award under the innovation category.

The awards shine a light on those who have made an impact on health care through their concern for patients, their research and inventions, their management skills, their innovative programs for employees, their service to the

poor and uninsured and their community engagement.

"I am thrilled to be named a Health Care Hero," said Dr. Albert. "My entire career has been at Dayton Children's. I have been blessed by an excellent team of professionals that have enhanced my career and made my job easy."

welcome Dr. Gajewski!



Nicholas Gajewski, MD joined the Dayton Children's orthopedics team in summer 2022.

Dr. Gajewski attended the University of Pennsylvania for his undergraduate degree where he graduated summa cum laude. He went on to graduate with his doctorate of medicine from the Cleveland Clinic Lerner College of Medicine of Case Western

Reserve University. Dr. Gajewski completed his post-graduate training at David Geffen School of Medicine at UCLA and Nemours/Alfred I. duPont Hospital for Children in Wilmington, Delaware.

He has a special interest in treating pediatric spinal disorders and pediatric trauma.

research at Dayton Children's

completed research study



TecTraum study (completed in partnership with Akron Children's):

This study was conducted to see if brain cooling after concussion would improve

symptoms or speed recovery. The study is closed, and the results are currently being analyzed

underway



Return to School Project: Dayton Children's physical medicine & rehabilitation and sports medicine divisions are participating in a research study called the Return to School

Project. It is a research study to evaluate the effectiveness of a return to school model of services and supports for students with concussion or brain injury. It is funded by the Centers

for Disease Control. Dayton Children's is collaborating with the University of Oregon and the University of Dayton for this project.



Adolescent Idiopathic Spine (AIS) kinematics using gait lab motion analysis and EOS imaging pre- and post-spinal fusion and MID-C system:

Using Gait Lab motion analysis and EOS imaging, outcomes such as de-rotation and gait analysis for adolescent idiopathic spine patients who underwent a spinal fusion or have an Mid-C

ApiFix device will be compared. The results from this study will provide insights into patient outcomes for different spinal fusion techniques.



ACL reconstruction outcomes in pediatric and adolescent patients: The examination of re-injury and functional status of ACL reconstruction for

pediatric and adolescent patients who underwent one of the following surgical approaches: bone-tendon-bone, hamstring tendon, quad tendon, or iliotibial band.

Data from this study will help guide future surgical and rehabilitation approaches for ACL reconstructions in pediatric populations.



Opioid management protocol in elbow fractures: After determining current opioid prescription

patterns in pediatric elbow fractures, a pain management protocol will be created and implemented for elbow fractures. The pain

management protocol aims to decrease opioid exposure to pediatric patients.