Scottish Rite for Children trains physicians and allied health professionals in multiple pediatric orthopedic disciplines. Scottish Rite’s history of excellence includes expert, compassionate care and leading-edge research.

U.S. News & World Report has repeatedly recognized the achievements of Scottish Rite for Children, consistently ranking the institution, in conjunction with Children’s Health, among the leading pediatric orthopedic facilities in the U.S.

Some images were taken prior to the COVID-19 pandemic.
Scottish Rite for Children opened its doors to the children of Texas in 1921 after a group of Texas Scottish Rite Masons approached Dallas’ first orthopedic surgeon, W. B. Carrell, M.D., about caring for children with polio. For 100 years since that auspicious beginning, more than 325,000 patients have been treated, and the facility has emerged as a world leader in pediatric orthopedic research, treatment and education. The hospital primarily cared for children with polio until the 1950’s when the Salk and Sabin vaccines virtually eradicated the disease in the Western Hemisphere. This allowed the medical staff at Scottish Rite to expand treatment for a wide range of orthopedic conditions.

Now led by the organization’s fourth chief of staff, Daniel J. Sucato, M.D., M.S., and President/CEO Robert L. “Bob” Walker, Scottish Rite is one of the nation’s leading pediatric orthopedic centers. The facility treats a wide range of orthopedic conditions, including sports injuries and fractures, as well as certain arthritic, neurological and learning disorders, such as dyslexia. The multidisciplinary approach to care tailors treatment to the individual needs of each child and family. Through the generous support of friends in the community, patients are treated regardless of their ability to pay.

Scottish Rite opened a second facility within the larger Dallas-Fort Worth Metro area. The Scottish Rite for Children Orthopedic and Sports Medicine Center is located in Frisco, Texas. This facility offers orthopedic outpatient clinics, a fracture clinic that accepts walk-in patients with no physician referral, a leading-edge Movement Science Lab with specialized capabilities for sport-specific training and testing to be co-located with several state-of-the-art physical therapy gyms. The Frisco campus has operating rooms for day surgeries and on-site radiology services, dedicated space for psychology, an infusion lab, and other ancillary patient services. In 2019, Scottish Rite opened a clinic at Baylor Scott & White Sports Therapy & Research at The Star. The sports medicine surgeon, sports pediatrician and advance service providers at The Star treat children with orthopedic issues in its outpatient clinic.

Letter from Daniel J. Sucato, M.D., M.S.

Dear staff and collaborators,

We are excited to share the 2020 Annual Research Report, which highlights the innovations and collaborations throughout the year at Scottish Rite for Children. As an institution committed to patient care, research and education, we remain steadfast to our mission in providing the best care to children with pediatric orthopedic conditions and other related disorders.

Although 2020 required adapting to a new normal, our principal investigators, staff and colleagues contributed to another successful year in productivity. Despite COVID-19, our various research divisions have made significant strides in discovering the most innovative treatment options for our patient populations with 125 publications, seven grants awarded and continued participation in societies.

This annual report will give you a glimpse into the busy year of 2020 and showcase our Research department’s great work. Thank you for your continued support of Scottish Rite for Children and our commitment to giving children back their childhood.

Daniel J. Sucato, M.D. M.S.
Chief of Staff
A Novel Hinge-Link Correction System for Vertebral Column Resection (VCR) in the most Severe Scoliosis


Summary of Project: Very severe scoliosis limits mobility and function and can impair pulmonary function. Surgical treatment is required and can be quite challenging for the surgeon as it may involve the complete removal of one or more segments of the spine. This is known as a vertebral column resection or VCR. Due to this surgery’s complexity, we are constantly looking for ways to make it safer for patients, particularly in reducing the chance of a neurologic injury. It provides a three-dimensional correction of the deformity with excellent control of the spine to prevent damage to the spinal cord while also decreasing surgical time.

Purpose: To develop and introduce a hinge-link correction system for safe, easier and better surgical treatment of the most severe scoliosis, which needs to undergo VCR while also being able to surgically assess the instrumentation.

Why Does This Matter: This new instrumentation system would offer: 1) better maintenance of spinal stability throughout the surgery to reduce risk of spinal cord injuries; 2) more reliable reconstruction of the vertebral column; 3) better and easier correction of the deformity, and 4) shorter operative time. This novel implant system would be especially useful in challenging pediatric patients who have the most severe spinal deformities.

Discovery of Genetic Factors Associated with Isolated Clubfoot

Jonathan Rios, Ph.D., Anas Khanshour, Ph.D., B. Stephens Richards, M.D., Carol Wise, Ph.D., Kristhen Atala, B.S.

Summary of Project: The goal of this study was to identify genes associated with isolated clubfoot. This was performed by testing millions of genetic markers in subjects with and without clubfoot. Following statistical analyses, we identified one gene associated with clubfoot.

Summary of Findings: We tested more than 7 million genetic markers in over 7 thousand total individuals and identified the FSTL5 gene associated with clubfoot. This association was then confirmed through an independent study of an additional ~3,000 total individuals. Before our study, little was known about this gene; however, we showed that it likely contributes to bone and nerve development. Additional genes were also implicated in this study. A second, larger study will be needed to confirm their association with clubfoot.

Why Does This Matter: Clubfoot occurs in about 1/1000 births, though few genetic factors have been discovered. Our study found a gene associated with clubfoot by testing millions of genetic variants in large groups of individuals with and without clubfoot. By looking further into this gene’s potential function, results from our study suggest clubfoot results from alterations of both the bones and nerves. By discovering genes associated with clubfoot, we understand the various factors that ultimately lead to a clubfoot deformity, which allows us to develop new ideas for how to treat clubfoot in children.
Assessment of Psychological Responses to the COVID-19 Pandemic

Whitney M. Herge, Ph.D., Emily B. Gale, Ph.D., Emily J. Stapleton, Psy.D., Daniel J. Sucato, M.D., M.S., Kiley Poppino, B.S., Shelby Cerza, M.A.

Purpose of Project: The purpose of this project is to evaluate stress and coping responses to the outbreak of COVID-19 with current or former patients (18 years+) and their families treated at Scottish Rite for Children, as well as staff from the organization and/or other local hospitals, and the general public.

Summary of Findings: Information was collected between May 2020 and August 2020 during the initial peak of the COVID-19 outbreak in the DFW area. Participants reported high rates of COVID-19 associated stress across a variety of areas, including health and safety, social connectedness and concern for employment. Participants reported low levels of post-traumatic stress generally. Participants reported using a variety of positive coping strategies, such as reconsidering things in a positive light and religion to manage COVID-19 stress. Negative coping strategies like avoidance, self-blame, denial and substance use tended to be used less often.

Why Does This Matter: This project highlights the need for community education on how individuals are responding to the pandemic. The project results also suggest that certain coping strategies that may be helpful during this time. Targeted education on warning signs of concerning symptoms should be made available, as well as ways to connect with local mental health care providers. Larger community efforts should additionally be made to help support safe, creative and socially-distanced community engagement.

Continued Play Following Adolescent Sport-Related Concussion: Data from the North Texas Concussion Registry (CON-TEX)

Shane M. Miller, M.D., Jane S. Chung, M.D., Jacob C. Jones, M.D., Hannah Worrall, M.P.H., CCRP, Connor Carpenter, B.B.A.

Purpose of Project: The purpose of this study was to identify the frequency of continued play following sport-related concussion (SRC) and characteristics associated with continued play in adolescent athletes. The study also examined if the continued play was associated with worse outcomes following SRC.

Summary of Findings: Participants were 13-18 years of age and were diagnosed with an SRC sustained during either competition or practice. Participants were divided into two groups for this study: 1) those who continued play following SRC (PLAY) and 2) those who did not (NO PLAY).

231 (52.4%) reported continued play on the same day as their SRC. Participants in both groups had similar days to initial visit at Scottish Rite, and sport played. Athletes from 21 sports reported SRCs, with the most common sports being football (27.8%), soccer (24.7%) and basketball (14.7%). The NO PLAY group reported higher rates of retrograde amnesia and loss of consciousness. The PLAY group reported higher total symptom scores at the initial clinic visit; however, no difference in recovery time was seen between groups. A greater symptom severity and more days to initial visit at Scottish Rite were associated with prolonged recovery (> 1 month).

Why Does This Matter: Continuing to play following an SRC puts athletes at risk for a subsequent concussion and may lead to a potentially prolonged and/or more difficult recovery period for athletes. This study shows a critical need for continued education in the sporting community to improve recognition of SRC symptoms and to report along with a better understanding of the consequences athletes face when returning to play on the same day.
Correlates of Reading Intervention Outcomes in a Sample of Students with Dyslexia Receiving Online Instruction

Anna Middleton, Ph.D., CALT

Summary of Project: In response to the COVID-19 pandemic, many school districts delayed the start of classes and mandated online instruction for all students for the first weeks of the Fall 2020 semester. In many cases, the initial mandatory online instruction period has been followed by optional virtual instruction for the remainder of the academic year, giving families the choice to participate in online or face-to-face instruction. Recent polls suggest roughly 50% of parents prefer virtual instruction over in-person classes at this time. Students who opt for online learning will receive core instruction and any ancillary service content (e.g., dyslexia intervention) through an online learning platform. However, little is known about the efficacy of virtual literacy instruction, particularly regarding the Tier 3 reading intervention program’s virtual online implementation.

Purpose: We are partnering with several districts to track students’ progress through online reading intervention coursework during the 2020-2021 academic year. The purpose of this study is to provide evidence towards the efficacy of online dyslexia intervention methods.

Why Does This Matter: This research will inform our understanding of the differential trajectories of different components of the Take Flight program on the reading skills of students with dyslexia.
Larry has been a long-time patient at Scottish Rite for Children and understands the impact of quality patient care and the importance of research on a patient’s life. Learn more about his story:

My name is Larry Williams II, and I was born with bilateral clubfeet. After years of treatment at other hospitals, my family found Scottish Rite for Children when I was 5, and ever since then, it has changed my life. At the age of 15, I had my reconstruction/leg-lengthening of my left clubfoot, which was more severe than my right. Dr. Anthony Riccio and his team did a miracle on me - did the impossible. He reconstructed my foot and ankle and lengthened my left leg with a fixator.

I decided to participate in research to help the doctors learn more about clubfoot and allow families with children who have been diagnosed with the condition to benefit from their findings. I believe that more has to be done, and I want to do my part in helping out.

Although I faced many challenges with my condition, it has never stopped me from participating in everything I love. Today, I am enjoying my senior year in high school, and I’m about to start my final season on the varsity baseball team playing first base. After graduation, I hope to attend college to earn my associate degree in business and then attend the Universal Technical Institute in Houston for diesel/automotive.

My future is wide open, and I continue to go beyond my expectations. I want to thank Scottish Rite for Children, Dr. Riccio and his team along with all the staff, for providing the best care to me. Because of Scottish Rite, I can walk and run with both of my feet!

Emily will be graduating in May of 2022 with a bachelor’s degree in speech, language and hearing sciences. After graduation, she plans to begin applying to graduate schools to pursue a master’s in Speech-Language Pathology. She hopes to work with pediatric clients in either a hospital or clinical setting.

I encourage all patients to participate in research. Every patient’s treatment can be analyzed, studied and learned from. Your willingness to participate in research will directly help children’s treatment in the future.

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Efficacy and Safety of AbobotulinumtoxinA for Upper Limb Spasticity in Children with Cerebral Palsy: A Randomized Repeat-Treatment Study

**Mauricio R. Delgado,** Ann Tilton, Jorge Carranza-Del Río, Nigar Dursun, Marcin Bonikowski, Resa Aydin, Iwona Maciag-Tymecka, Joyce Oleszek, Edward Dabrowski, Anne-Sophie Grandoulier, Philippe Picaut, Dysport in PUL study group

**Summary:** Scottish Rite for Children was part of an international clinical drug trial for FDA approval of a new botulinum toxin product (Dysport) for reducing upper limb spasticity in children with Cerebral Palsy (CP). This phase III study was conducted with 210 children from 32 facilities worldwide. In this randomized trial, children received a low dose (control) or two higher therapeutic dose injections into wrist or elbow flexor muscles concurrently with an occupational therapy home-exercise program. Subjects were assessed with standardized assessment tools at specific intervals before and after injections as well as before and after repeated injections. Data demonstrated that treatment with either therapeutic dose significantly reduced upper limb spasticity compared to the control group. The therapeutic benefits of Dysport were sustained with repeat treatment cycles. This data formed the basis of regulatory approval of Dysport for this indication and population in several countries, including the United States.
**Weightbearing and Activity Restriction Treatments and Quality of Life in Patients with Perthes Disease**

Dang-Huy Do, Molly F. McGuire, Chan-Hee Jo, **Harry K. W. Kim**

**Summary:** Reports from patients of their quality of life during pediatric orthopedic treatment can contribute to a complete understanding of our total impact as providers. Our team found that physicians who recommended weight-bearing and activity restrictions for children with Perthes disease were not associated with the degree of pain interference, fatigue, depressive symptoms, anxiety or peer relationships at the time of the survey. However, the recommendations were associated with poorer patient-reported mobility during the initial stages of the disease. These recommendations, along with our understanding of their impact on our patient’s overall quality of life, can improve decision-making for providers, help set expectations for patients and their parents, and provide opportunities for better education and preparation.

**Incidence and Significance of Findings on Spinal MRIs in a Paediatric Population with Spinal Column Complaints**

Karl E. Rathjen, Rebecca J. Dieckmann, David C. Thornberg, AnnMarie Karam, and **John G. Birch**

**Summary:** The goal of this study was to determine why pediatric orthopedic surgeons ordered a spinal MRI on patients presenting with varied spinal complaints and if certain patient features stood out as indicating a spinal cord abnormality. We learned that there were no specific clinical features from which we could recommend a need for spinal MRI. However, surgeon indication of “curve magnitude at first visit” was positively associated with an abnormality on MRI, likely due to the experienced surgeon’s recognition that the patient characteristics were abnormal. Lastly, we learned that patients with complaints of back pain without neurological symptoms were most likely to have a normal MRI. We suggest that physicians trust their instincts in deciding whether pediatric patients need a spinal MRI for spinal deformity and/or symptoms.
2020 GRANTS AWARDED

Developmental Mechanisms of Idiopathic Scoliosis Year 5
Recipient: Carol Wise, Ph.D.
Divisions: Basic and Clinical Research (Spine)
Amount: $1,123,586 for all three projects
Funding Source: NICHD Year 5

Translating Genomics into Early Onset Scoliosis Clinical Care
Recipient: Carol Wise, Ph.D. & Brandon A. Ramo, M.D.
Divisions: Basic and Clinical Research (Spine)
Amount: $240,000 ($80,000/year for 3 years)
Funding Source: OREF/POSNA/SRS

Outcomes of Amputation or Limb reconstruction in Severe Fibular Deficiency
Recipient: Kirsten Tulchin-Francis, Ph.D.
Division: Movement Science Lab
Amount: $30,000
Funding Source: POSNA

Determining the effect of obesity on Necrotic bone healing in LCPD
Recipient: Yinshi Ren, Ph.D.
Division: Basic and Clinical Research (Hip)
Amount: $29,936
Funding Source: POSNA

Cognition and Bimanual Performance in Young Children with Unilateral Cerebral Palsy
Recipient: Angela Shierk, Ph.D., O.T.R. & Heather Roberts, Ph.D., O.T.R.
Division: Clinical Research (Neurology)
Amount: $15,000
Funding Source: Woodcock Institute Grant

POSNA QSVI Sports Committee Investigation of the Use and Awareness of Throwing Guidelines and ACL Injury Prevention Program
Recipient: Henry B. Ellis, M.D.
Division: Clinical Research (Sports)
Amount: $1,000
Funding Source: POSNA QSVI (subsite)

Ex-vivo Study of Detergent Based Intraosseous Bone Wash for Treatment of Ischemic Osteonecrosis
Recipient: Graham Andre, B.S. & Harry K. W. Kim, M.D., M.S.
Division: Basic and Clinical Research (Hip)
Amount: $1,000
Funding Source: POSNA Micro Grant

2020 GRANTS HIGHLIGHTS

Translating Genomics into Early Onset Scoliosis Clinical Care
Recipient: Carol Wise, Ph.D. & Brandon A. Ramo, M.D.
Divisions: Basic and Clinical Research (Spine)
Amount: $240,000 ($80,000/year for 3 years)
Funding Source: OREF/POSNA/SRS

Recently, Scottish Rite received a grant focused on early onset scoliosis (EOS). Children with EOS develop scoliosis before the age of 10 and are at risk of serious health issues. Due to the severity of the condition, each child with EOS requires focused attention and a multidisciplinary approach to determine the underlying causes and most effective, individualized treatment.

This project aims to discover EOS disease genes and uncover new underlying causes in this unique patient population. The grant to fund this study was awarded from the Orthopaedic Research Education Foundation OREF/SRS/POSNA Transform Practice – Spinal Growth opportunity. Over the next three years, Scottish Rite will receive a total of $240,000 to support the study and collaboration with researchers from institutions across the country who participate in the Pediatric Spine Study Group.

This study’s main purpose is to further explain the genes associated with idiopathic scoliosis by studying its severest form, those children who have infantile early-onset scoliosis. Analyzing the genes can help our team better understand the disease and could impact future medical treatments.
Determining the Effect of Obesity on Necrotic Bone Healing in LCPD

Recipient: Yinshi Ren, Ph.D.
Division: Basic and Clinical Research (Hip)
Amount: $29,936
Funding Source: POSNA

Childhood obesity has become a major health concern that may lead to cardiovascular, metabolic and skeletal disorders. Recent studies revealed a high prevalence of obesity in patients with Legg-Calvé-Perthes Disease (or LCPD, a child form of femoral head osteonecrosis). However, direct evidence is lacking, and the associated pathological mechanisms are not clear. This grant will enable us to use a rodent model of osteonecrosis to study the direct effect of obesity on bone healing. Compared to large animals and clinical studies involving patient subjects, the rodent model limits genetic variants while also providing an advantage in effective alteration of body weight by high-calorie food feeding and inducing bodyweight loss (figure below). Molecular biology and histological analysis approaches will be used to specifically investigate the metabolic changes, vessel formation and bone healing following ischemic osteonecrosis. We believe that this study’s successful completion would improve our understanding of the potential contribution of obesity to osteonecrosis and provide novel thoughts on the treatment of LCPD.

POSNA Quality, Safety, and Value Initiative Sports Committee (QSVI) Sports Committee Investigation of the Use and Awareness of Throwing Guidelines and ACL Injury Prevention Program

Recipient: Henry B. Ellis, M.D.
Division: Clinical Research (Sports)
Amount: $1,000
Funding Source: POSNA QSVI (subsite)

The POSNA QSVI Sports Committee comprises of surgeons across the country who have teamed up to enhance health care delivery in pediatric orthopedics by leading research and equipping others with tools for their practices. The committee received a grant to develop a flyer for a survey designed to assess the current level of awareness about injury prevention programs available to the youth sports community. Preventing athletic injuries reduces health care costs and provides value for patient families. In addition, raising awareness is an important step towards improving care for youth athletes.
Sophia Ulman, Ph.D.
Assistant Director of Movement Science – Frisco

In the Movement Science Lab, we use motion capture technology to analyze patients’ movement patterns and healthy athletes. I love sharing what we do with everyone who comes through our lab, including students, medical staff and community partners. I enjoy describing what motion capture is, how we use it to help our patients and what we are working on in regard to rehabilitation and injury prevention for youth athletes.

I am most excited about our SAFE (Specialized Athletes Functional Evaluation) Program’s potential which allows us the opportunity to test teams all together on a single day to analyze elite athletes’ movements pre-injury. One question we hope our research answers is if there are any movement discrepancies or deficiencies in specialized athletes compared to a multi-sport or non-elite athlete. Additionally, all participants are involved in injury surveillance for a year after testing, which will be extremely interesting to observe.

Lynnette Walters, B.S., M.S.
Research Coordinator – Rheumatology

As a research coordinator in the Rheumatology department, an average day includes consenting patients at our Dallas and Frisco campuses, coordinating sample pick-up and breaking down those samples into various components.

My latest research includes studying cells found in urine that can be used in a scaffolding model to tell us more about nephritis and what role red blood cells (RBC’s) play in autoimmune diseases. I have always loved science. As a child, my favorite toy was a human anatomy model where you had to put on the skeleton, organs and muscles. My first work-study job was in a lab at The University of Texas, and I loved everything about it. I have been in research ever since.

FUN FACT
During COVID-19, I have had the opportunity to give crochet lessons virtually.

I was first introduced to sports biomechanics when I worked as a research assistant in the Michael W. Krzyzewski Human Performance Laboratory (K-Lab) at Duke University.
Bill Pierce, B.S.
Engineer – Bioengineering Division

I provide engineering and technical assistance to our staff in support of their research needs. This can range from designing or identifying appropriate electronic sensors needed to make measurements of physical phenomenon that occur in the human body to testing new surgical techniques or prototype designs of surgical implants or instruments.

Before coming to Scottish Rite 27 years ago, I worked for a NASA contractor at the Johnson Space Center in Houston, Texas. I spent three years there in support of NASA flight surgeons during roughly 20 space shuttle missions. During my time here, my main work goal has been to make sure our patients and medical staff have access to the most current technologies and resources to achieve their treatment and research goals.

Terri Beckwith, M.P.H., CCRP
Research Clinical Manager

One of the best parts about my job is translating research data into relatable and useful information to families. I love working with patients one-on-one, but bridging what we learn in our studies into everyday life is rewarding.

I went to graduate school for public health and also worked in a basic science lab. After I graduated, I wanted a role that used both sets of skills, and Scottish Rite does just that!

Fun Fact
I once lived on Adak Island in the Aleutian archipelago of Alaska. This island is home to a U.S. military base that played a prevalent role in defending our country against Japanese forces during WWII.

Fun Fact
I once stood in line at Target and made small talk with the basketball player Jason Terry when he played for the Mavericks.
Each year, Scottish Rite for Children trains five pediatric orthopedic surgeons. Part of their rigorous training involves participating in at least one clinical research project. Learn more about the current fellow class and their research projects.

William Bassett, M.D.
Bassett earned a medical degree at the Drexel College of Medicine in Philadelphia, PA. He completed his residency in orthopedic surgery at Rutgers - Robert Wood Johnson University Hospital.

Bassett is currently completing one research project with our Spine team:
• Magnetic Growing Rods “stall rate” and Risk Factors for Failure to Obtain Maximum Length

Emmanouil Grigoriou, M.D.
Grigoriou earned a medical degree at National and Kapodistrian University of Athens in Athens, Greece. He completed his residency in orthopedic surgery at University at Buffalo State University of New York.

Grigoriou is currently completing two research projects with our Hip team:
• Persistent Dysplasia after Successful Pavlik Harness Treatment for Developmental Dysplasia of the Hip
• Periacetabular Osteotomy for Adolescent Hip Dysplasia: The Role of Medialization in Gait, Hip Strength and Functional Outcomes

Allen Kadado, M.D.
Kadado earned a medical degree at Wayne State University School of Medicine. He completed his residency in orthopedic surgery at Henry Ford Health System in Detroit.

Kadado is currently completing two research projects with our Lower Limb and Hip teams.
• Reliability of the Sauvegrain Method to Assess Skeletal Age and Predict the Timing of Epiphysiodesis
• Compliance of A frame Bracing for Perthes Disease

Zachary Meyer, M.D.
Meyer earned a medical degree at Washington University School of Medicine in St. Louis, Missouri. He completed his residency in orthopedic surgery at Washington University/SLCH/BJH Consortium.

Meyer is currently completing three research projects with our Lower Limb and Hip teams.
• Tibialis Tendon Transfer Fixation: Suture Button versus Interference Screw
• Management of Pediatric Tibia Fractures Using Circular Fixators Versus Uniplanar External Fixators
• Clinically Significant Growth Disturbance Following Medial vs Anterior Open Reduction: Minimum 5 year follow up.

Edwin Portalatin, M.D.
Portalatin earned a medical degree at the University of Puerto Rico Medical Campus in San Juan. He completed his residency in orthopedic surgery at the University of Puerto Rico Medical Campus.

Portalatin is currently completing four research projects with our Lower Limb, Hip and Spine teams.
• Treatment and Outcomes of Clubfeet Associated with Down’s syndrome
• Characterization of foot deformities in Loeys Dietz Syndrome
• Primary Amputation for Congenital Pseudoarthrosis of the Tibia by Parental Choice
• Hip or Spine? What should be addressed first in GMFCS 4/5?

Learn more about the fellowship programs at Scottish Rite for Children here or scan this code.
Researchers at Scottish Rite for Children are committed to finding ways to improve the treatment and care of our patients. Throughout the decades, many findings and innovations have been discovered from our various research divisions. Learn more below:

**A History of our Research**

The TSRH® Spinal System developed in the 1980s, manufactured and marketed by Medtronic, Inc.

The TRUE/LOK™ External Fixation System, developed in 1998 and now manufactured and marketed by Orthofix, Inc.

A gene associated with PAPA syndrome, an inflammatory disease affecting the joints and skin, identified at Scottish Rite for Children in 2000.

The TSRH® SILO™ 5.5 Spinal System, developed in 2005. A modified design of the TSRH® Spinal System developed in the 1980s, it allows for shorter surgery and uses lower profile implants for patient comfort.

In 2007, the first gene associated with idiopathic scoliosis, a progressive condition that causes the spine to curve, was identified at Scottish Rite for Children. The study is outlined in the May 2007 issue of the American Journal of Human Genetics.

In 2011, Carol Wise, Ph.D., and our Molecular Genetics research team identified two additional genes - CHL1 and DSCAM - that give new insight into idiopathic scoliosis.

The Neurology team was the lead site in an international clinical drug trial of Abobotulinumtoxina (Dysport). In 2019, Dysport gained FDA approval for the indication of upper limb spasticity in pediatric patients 2 years and older.
Center for Pediatric Bone Biology and Translational Research

A core mission at Scottish Rite for Children is to conduct research that improves the care of children. The work of our scientists has resulted in various innovations, including:
• The discovery of the mechanisms causing a rare form of early onset arthritis in children, as well as lower limb and hip anomalies.
• The identification of the first gene associated with the development of adolescent idiopathic scoliosis (AIS).

Scottish Rite for Children has established a new Center for Pediatric Bone Biology and Translational Research in collaboration with the University of Texas Southwestern Medical Center. Plans for this innovative center for scientific collaboration and study include:
• Recruiting an established biologist to head the center.
• State-of-the-art laboratories, which will become the home for novel patient-centered research.
• Core facilities for cell- and model-based studies.
• Infrastructure for seminars and teaching.

The center’s focus will be on modeling musculoskeletal disorders and developing targeted therapies that address each patient and family’s challenges and ultimately replace or reduce the need for surgical interventions.

The current estimated budget for Phase I of the center is $5 million. Your generous gift toward this exciting new project will help us as we work to define the fundamental causes of pediatric orthopedic disorders and improve care for children around the world!

Boundless Centennial Campaign

Coinciding with this year’s 100th birthday, the Boundless Centennial Campaign honors our patients for their boundless potential to be and do whatever they wish, with the help from our experts to make these patients’ dreams possible. This campaign celebrates our first century of accomplishments while paving the way for the next 100 years of discovery and innovation.

To continue our commitment to providing world-renowned care to children, we have an ambitious goal to raise $100 million. It is imperative that we invest in our infrastructure, research and patient care initiatives in order to guarantee a legacy of exceptional care for our patients and families during our second century. We are grateful for the loyal support from our community of friends who continue to help us reach our goals.

Why Scottish Rite?
Scottish Rite for Children is world-renowned for its pediatric orthopedic excellence and commitment to quality improvement. We provide each child and family our unique brand of comprehensive care, which is in a class by itself and unlike what any other health care provider can offer. We truly believe Scottish Rite for Children represents the best health care philanthropic investment in our community.

Groundbreaking Research
At Scottish Rite for Children, our commitment to research allows our experts to provide the best and most innovative treatment options for the children we treat. With more than 280 active research projects, our clinical and basic studies focus on patient-oriented research in order to discover the underlying causes of disorders and translate those discoveries into preventions or cures for patients. To date, our scientists and clinicians have been awarded more than 50 patents on revolutionary medical devices. In 2007, our researchers also identified the first gene associated with adolescent idiopathic scoliosis and have mapped six additional genes that affect expression of the complex disease. Scottish Rite for Children plans to expand its research expertise in molecular mechanisms and establish model systems crucial for studying musculoskeletal disease and for testing novel, less invasive therapies.

For more information or to make a donation, please call the Development department at 214-559-8374.

To learn more about the Boundless Centennial Campaign, visit scottishriteforchildren.org/boundless.
Our story started in 1921 in a one-room clinic run by W. B. Carrell, M.D., who began treating children with polio, free of charge. As patient demand grew, so did our capability. The clinic evolved into a burgeoning hospital, specializing in a wide variety of pediatric orthopedic conditions. Along the way, our experts have redefined the science of healing muscles, joints and bones — as we became an institution known and respected across the world.