

PEDIATRIC CARDIAC CARE AT CHILDREN'S MERCY



Children's Mercy
KANSAS CITY

LOVE WILL.



CHILDREN'S MERCY KANSAS CITY

The Ward Family Heart Center at Children's Mercy Kansas City is dedicated to transforming pediatric heart care. From our patented HeartCenter® database, to multiple subspecialty clinics, to the development of app technology for home monitoring of single ventricle heart defect patients, every day we're using data and technology to find new ways to improve care for patients now and in the future.

Our patients benefit from the expertise of more than 30 board-certified pediatric cardiologists, cardiovascular surgeons and advanced nurse practitioners. The size and scope of our program means we are always ready to care for any child, no matter how rare their condition might be. The team is passionate about easing the burden of access to care and make regular visits to outreach clinics across Kansas and Missouri to better serve our patients.

Families choose Children's Mercy because of our extensive experience, knowledgeable and personable care providers, and innovative research that translates into results. And even though we care for some of the most complex kids, our survival rates continue to surpass the national average. Year after year, Children's Mercy is recognized as one of the top cardiology and heart surgery programs in the nation by U.S. News and World Report.

At Children's Mercy Kansas City, love powers healthier tomorrows for children everywhere. It pushes our researchers to find answers others could not. Gives us strength we never knew we had. And reminds us that anything is truly possible. Please join us as we share the important progress our team has made progress that is making a difference for kids every single day.



25,449

EKGs

18,642

Echocardiogram
Procedures

762

Stress lab
procedures

18,360

Outpatient visits

512

Cardiac
catheterizations

180

Electrophysiology
Procedures

506

Surgical
Procedures



Girish Shirali, MBBS, FACC, FASE;
Division Director, Cardiology;
Co-Director, the Ward Family Heart Center

James E. O'Brien Jr., MD, FACS,
Chief, Section of Cardiothoracic Surgery;
Co-Director, the Ward Family Heart Center

CHILDREN'S MERCY BRINGS ADVANCED CARDIAC CARE CLOSER TO OUR PATIENTS AND FAMILIES

Mark Gelatt, MD, Director of Outpatient Services; Assistant Professor of Pediatrics



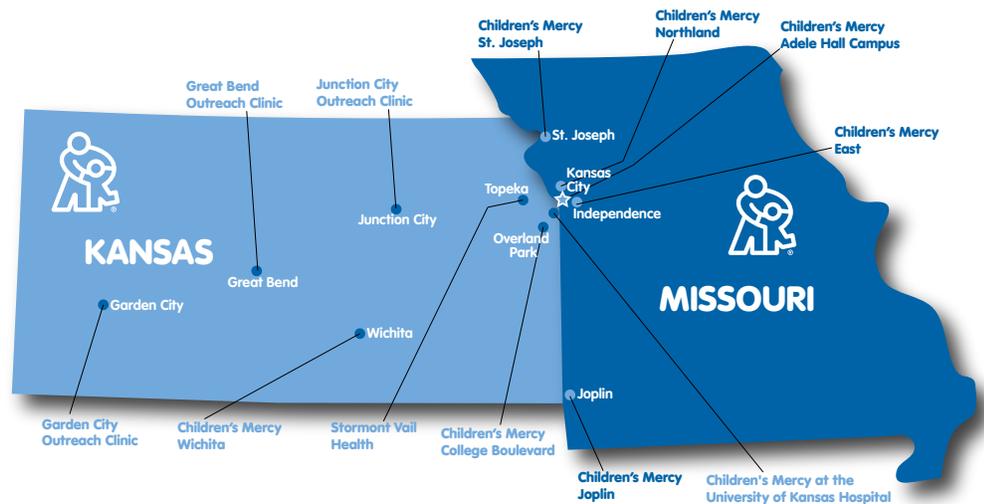
In FY 2019, the Ward Family Heart Center at Children's Mercy Kansas City conducted more than 18,000 visits at its 12 Outpatient Cardiology Clinics. These clinics cover a 150-county service area that spans the entire state of Kansas, as well as western and southern Missouri.

Our Outpatient Cardiology Clinics make it possible for patients and families to receive the advanced care the Ward Family Heart Center is known for, yet stay closer to their homes, reducing travel time, time away from work and medical expenses.

Outpatient Cardiology Clinic locations include:

- Children's Mercy Adele Hall Campus, Kansas City, Mo.
- Children's Mercy College Boulevard, Overland Park, Kan.
- Children's Mercy East, Independence, Mo.
- Children's Mercy Northland, Kansas City, Mo.
- Children's Mercy Wichita, Wichita, Kan.*
- Children's Mercy Joplin, Joplin, Mo.
- Children's Mercy Junction City, Junction City, Kan.
- Children's Mercy St. Joseph, St. Joseph, Mo.
- Children's Mercy at the University of Kansas Hospital, Kansas City, Kan.
- Garden City Outreach Clinic, Garden City, Kan.
- Great Bend Outreach Clinic, Great Bend, Kan.
- Stormont Vail Health, Topeka, Kan.

* Specialty clinics in Wichita include preventive cardiology and electrophysiology.



TELEMEDICINE IS THE ‘WAVE’ OF THE FUTURE FOR OUR REMOTE PEDIATRIC ELECTROPHYSIOLOGY PATIENTS

Lindsey Malloy-Walton, DO, MPH, Pediatric Electrophysiologist

The Ward Family Heart Center is one of the only programs in the United States utilizing teleconsultation visits for electrophysiology patients.

Because Children’s Mercy covers a 150-county service area that spans the state of Kansas, as well as western and southern Missouri, accessing pediatric electrophysiology for both new referrals and follow-up care can be a challenge.

To meet that need, we are utilizing teleconsultations at three local Children’s Mercy clinics—Joplin, Mo., Junction City, Kan., and Wichita, Kan. Each of these clinics is equipped with a telemedicine robot and staffed with a telemedicine nurse facilitator. Meanwhile, I remain based at the Children’s Mercy Adele Hall campus during consults.

For the two-year period from July 2017 to September 2019, I saw approximately 10 percent of my electrophysiology patients via teleconsult. Because the same standard of care was met, reimbursement for these visits was equal to in-person visits.



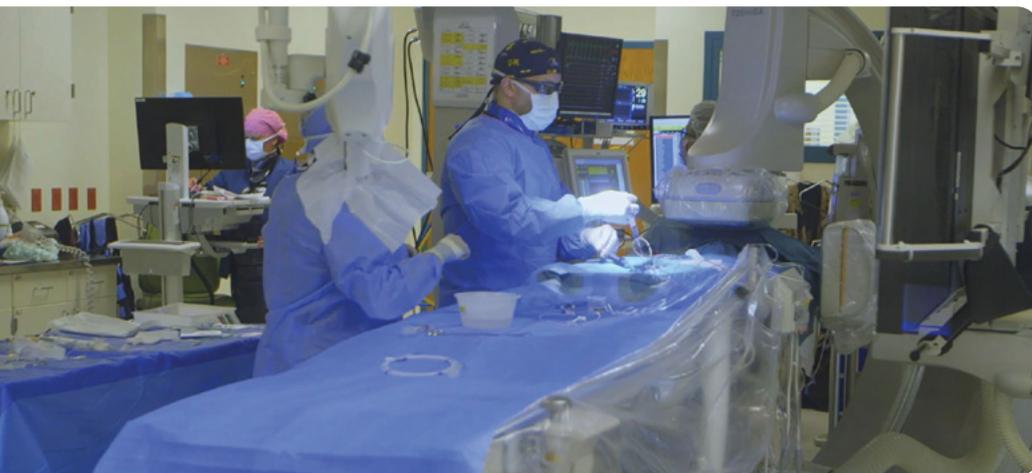
Diagnoses have included supraventricular tachycardia (pre- and post-ablation), genetic arrhythmias, high-grade heart block, incision checks, device interrogations, dysautonomia and programming changes.

In a recent satisfaction survey, 27% of patients/families were more satisfied

with their telemedicine consult than an in-person visit; while 73% were equally satisfied. Families cite reduced travel time, time away from work, and convenience as pluses. Providers have stated our teleconsults deliver the same quality of care in a timely, easy and satisfying manner.

OUR CATH LABS CONTINUE TO GROW AND SERVE MORE CHILDREN

Stephen F. Kaine, MD, Director, Cardiovascular Laboratory; Associate Director, Ward Family Heart Center; Associate Director of Fellowship



In just seven short years, from 2012 to 2019, the Cardiac Catheterization Labs at the Ward Family Heart Center have experienced significant growth, performing 709 catheterization and electrophysiology procedures in FY 2019. The lab's standardized adverse event rate for this past year was 2.85% with no mortality. The national average was 3.86% for this same time period.

The labs offer a comprehensive suite of cutting-edge services including rotational angiography for select complex interventional procedures, and 3-D mapping for electrophysiology studies.

To serve the growing number of patients, Toby Rockefeller, MD, joined the program this past year, which includes two other interventionalists, Ryan Romans, MD, and myself.

Together, our team has developed advanced expertise in catheter treatment of patent ductus arteriosus (PDA) in neonates and infants. Of the 40 patients undergoing PDA closure in the last year, 15 were neonates or small infants.

Our team also continues to collaborate closely with Children's Mercy radiologists to minimize radiation

exposure during interventional procedures.

According to IMPACT Registry data, the mean time for fluoroscopy per procedure at Children's Mercy is 14.8 minutes, compared to the national mean of 20.4 minutes. The mean dose area product per procedure for Children's Mercy is 1296 cGy-cm², while the national mean is 3688 cGy-cm².

QUALITY CARE DRIVES OUR CHILDREN'S MERCY CARDIAC SURGEONS

James E. O'Brien Jr., MD, FACS, Chief, Section of Cardiothoracic Surgery; Jerry Smith Chair in Pediatrics; Co-Director, Ward Family Heart Center

Children's Mercy was one of the first pediatric cardiac surgery programs in the nation to voluntarily share surgical outcomes with the public via the Society of Thoracic Surgeons' (STS) website.

And while Children's Mercy continues to participate in this important outcomes database, the program has turned a corner, advancing two important patient and family satisfaction initiatives.

The first initiative is called the EASE App, a HIPAA-compliant tool used by hospitals across the country to communicate in real time with patient families while they are in the waiting room.

To ensure the family's privacy is protected, the app uses 256-bit encryption, similar to online banking platforms. It also allows families to share these updates with friends and family, no matter where they're located.

The second initiative grew out of a Lean project focused on first-case on-time starts, which has a

tremendous impact on cardiac surgery's entire schedule, and family satisfaction.

By leveraging the Children's Mercy Lean System and analyzing metrics frequently, first-case on-time starts have improved from a baseline of 55 percent to 85 percent. This has translated to timely, more efficient care for the hospital's patients and families.

For cardiac surgery's outcome statistics, go to childrensmercy.org/heart or visit publicreporting.sts.org.



Four-year Risk Stratified Outcomes by STAT Score

STAT Score	Number of CM cases	CM Survival	STS Survival
1	402	99.8%	99.6%
2	407	99.3%	98.6%
3	139	98.6%	97.8%
4	264	93.9%	93.9%
5	76	86.8%	86.6%

Bold = Greater or equal to STS national average.

WE'RE TAKING CHAMP TO THE NEXT LEVEL FOR SINGLE-VENTRICLE PATIENTS

Lori A. Erickson, PhD(c), RN, MSN, CPNP-PC, CHAMP Clinical Program Manager



The Cardiac High Acuity Monitoring Program at Children's Mercy Kansas City, better known as CHAMP, has made innovative monitoring technology accessible to nearly 500 single-ventricle families across the nation.

Originally developed in 2014 by Children's Mercy researchers, the CHAMP App was the first of its kind for home interstage monitoring.

Data collected in the patient's home via CHAMP is uploaded to a secure cloud-based system, and is available through a web portal to the patient's care team. The app even notifies team members when key indicators fall outside pre-determined parameters, expediting intervention.

Since implementing CHAMP, it's been used in 158 Children's Mercy patients, with a mortality of just 2.5%

in the interstage period. Prior to using CHAMP, the mortality rate was 18%.

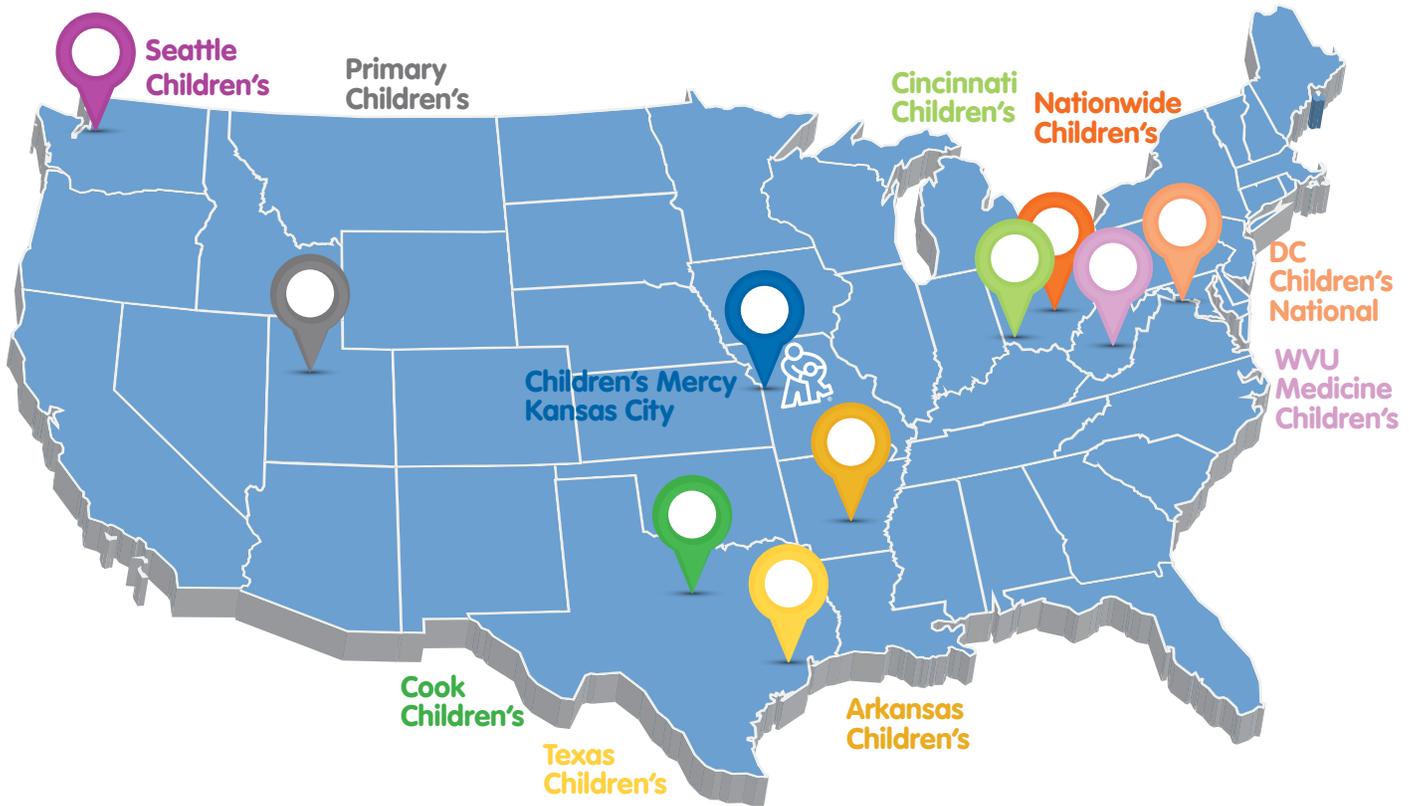
With CHAMP's documented success, the hospital has now shared the technology with nine other pediatric cardiology programs.

These programs include Seattle Children's Hospital, Cincinnati Children's, West Virginia University Hospital, Arkansas Children's Hospital, Primary Children's Hospital, Cook Children's Hospital, Nationwide Children's Hospital, Children's National Hospital and Texas Children's Hospital.

The hope was that these programs would experience the same level of success as Children's Mercy, and they have. Currently, there are 322 patients from these hospitals using CHAMP, with an overall 3% mortality rate during the interstage period.

An added benefit is that CHAMP has connected frontline caregivers at these sites with one another, creating a nationwide network of single-ventricle teams.

Technology in the past five years also has changed rapidly, helping CHAMP



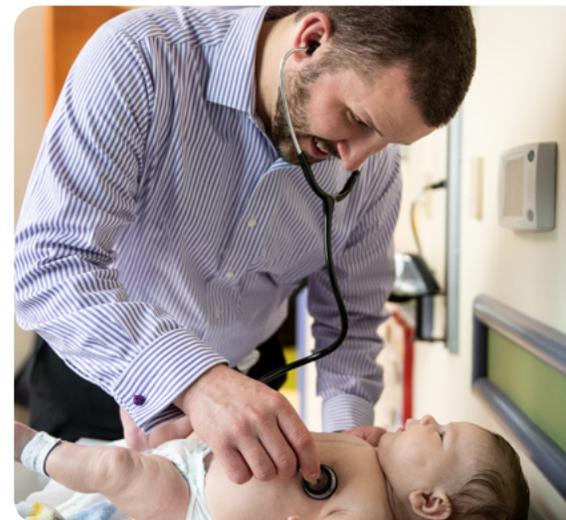
become more accessible. The original PC-based tablet technology has now transformed to a mobile version that can be downloaded to families' smartphones. Plus, it's now available in nine languages, including Spanish.

Thanks to generous philanthropic funding, CHAMP has been made available to these hospitals and their patients at no charge. And, a \$50,000 Magnet™ Award from the American Nurses Credentialing Center has made it possible for teams from these

organizations to receive extensive training in how to use CHAMP, also at no charge.

Now CHAMP is ready to take this lifesaving technology to the next level, expanding beyond the first 10 hospitals to help more single-ventricle patients and their families.

To see if your center qualifies for this multi-site project or for more information, visit childrensmercy.org/CHAMP or email champapp@cmh.edu.



OUR THRIVE PROGRAM SETS THE STANDARD FOR PEDIATRIC CARDIAC PSYCHOSOCIAL CARE

Jami N. Gross-Toolson, PhD, Child Psychologist



At the Ward Family Heart Center, we understand that caring for our patients and their families is far more complex than meeting their medical needs. That's why we created the Thrive program four years ago.

Thrive provides a streamlined model of comprehensive psychosocial support for patients and families. Since its implementation, 99.5 percent of our inpatients and their families have come in contact with one or more of our team members.

The team meets weekly for Thrive rounds, coordinating psychosocial care for every inpatient. This ensures that these patients and families have access to the resources they need, when they need them.

Plus, each inpatient leaves with an individualized psychosocial discharge plan detailing their next steps. Team members include:

- Social work
- Psychology
- Child life
- Music therapy
- Financial counseling
- Chaplaincy
- Palliative care

Unique to Children's Mercy is a special Patient and Family Advisory Council (PFAC) created just for the Heart Center. Lessons learned from this group have helped to shape the Thrive program.

Once families leave the hospital, we provide support during clinic visits, or meet with children outside of normal clinic visits if needed. We also collaborate with schools and outside care providers, and offer parents additional networking and educational opportunities.

OUR ELECTROPHYSIOLOGY TEAM IS GROWING TO MEET PATIENT NEEDS

John Papagiannis, MD, Director of Electrophysiology

Our Ward Family Heart Center Electrophysiology Program is one of the nation's busiest and most comprehensive. Currently, we follow 286 patients with implantable devices, round on eight to 15 inpatients daily, and conducted 2,165 outpatient clinic visits in FY 2019.

To meet the growing demand for our team's services, Christopher Follansbee, MD, has recently joined Svtelana TismaDupanovic, MD, CEPS, CCDS, Lindsey Malloy-Walton, DO, MPH and myself. Specially trained EP nurses and technicians round out our group.

In 2019, nearly 200 interventional procedures were performed in our lab. These were for all levels of interventional EP procedures in children, including our most complex patients—infants with hypoplastic left heart syndrome and patients on mechanical circulatory support.

Approximately 30 percent of the patients in our care have an

inherited arrhythmia, such as Long QT syndrome, Brugada syndrome, Arrhythmogenic Right Ventricular Dysplasia (ARVD), Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) or Short QT syndrome.

To meet their needs, we conduct a subspecialty Genetic Arrhythmia Clinic, which incorporates genetic counseling

and testing for patients and families, as well as management of their conditions.

Our team also provides the multidisciplinary care necessary for our most complex patients, including those diagnosed with arrhythmias with cardiomyopathy, complex syncope and fetal arrhythmias.



WE TAKE CARE OF BABIES' HEARTS EVEN BEFORE BIRTH

Anitha Parthiban, MD, FAAP, Medical Director, Echocardiography Laboratory



Each year, nearly 400 families visit the Perinatal Clinic at the Elizabeth J. Ferrell Fetal Health Center at Children's Mercy Kansas City for a consultation. About one-third of families who come to the Fetal Health Center have a baby with a heart condition.

Our fetal cardiologists, nurses and nurse practitioners help these families through the process of getting an

accurate diagnosis, understanding the condition and finding the best possible course of treatment both before and after delivery.

At Children's Mercy, our goal is not only to improve prenatal diagnosis of congenital heart defects, but to provide the expertise, counseling and state-of-the-art care necessary to support these children and their

families prenatally and beyond. To be certain each concern is addressed, the program's nurse coordinators maintain a fetal checklist, a record of everything the team discusses with the family.

Since the development of the successful checklist, it has become widely requested by other fetal cardiology and counseling programs across the nation. The National Pediatric Cardiology Quality Improvement Collaborative (NPC-QIC), a group of parents and providers who are working to improve outcomes for children with heart defects, is using the checklist to help improve prenatal counseling.

Programs are welcome to download a copy and use it from childrensmercy.org/fetalcardiology.

OUR PEDIATRIC EXERCISE LABORATORY IS ONE OF THE NATION'S HIGHEST-VOLUME PROGRAMS

David White, PhD, Exercise Physiologist

Established more than 30 years ago, the Pediatric Exercise Stress Testing Laboratory at the Ward Family Heart Center performs more than 800 studies each year, making it one of the highest-volume programs in the nation.

We have three full-time exercise physiologists, two who are doctoral-level and one who is master's-level.

We serve Children's Mercy patients in three locations: Children's Mercy Adele Hall Campus; Children's Mercy Hospital Kansas; and Children's Mercy Wichita.

At these facilities, we utilize pediatric-accessible equipment to perform a wide variety of testing for children ages 7 to 18. Their diagnoses also vary greatly, from complex congenital

heart disease or heart failure, to an intolerance to exercise. Other frequent diagnoses include:

- Fontans
- Tetralogy of Fallot
- Single-ventricle defect
- Transposition of the great arteries
- Coarctation

From basic treadmill testing to tilt table testing to maximal oxygen consumption, or vo2 testing, we utilize six protocols, tailoring the exercise test to the child's specific needs and capabilities. We also help physicians evaluate and measure each patient's test results.

Research is an important component of the work we do as well. We have an extensive database of 9,000 exercise studies, all from Children's Mercy patients, and publish three to four peer-reviewed manuscripts each year.



OUR PREVENTIVE CARDIOLOGY CLINIC IS KEEPING KIDS' HEARTS HEALTHY

Geetha Raghuvver, MD, MPH, FAAP, FACC, FAHA, Director, Preventive Cardiology Clinic

Our Preventive Cardiology Clinic at the Ward Family Heart Center is one of the nation's busiest and most comprehensive, caring for more than 400 children each year from infants to teens, with the average age being 10 years old.

These children are at increased risk for early cardiovascular disease due to abnormal lipid or cholesterol levels and/or a significant family history.

Qualifications for the program include:

- Total Cholesterol greater than 220 mg/dL
- LDL greater than 130 mg/dL
- Triglycerides greater than 200 mg/dL on two separate occasions at least three months apart

Our dedicated team includes myself, Maria Kiaffas, MD, and Jenny Ecord, APRN. Plus, we have a full-time nutritionist and exercise physiologist who counsel our patients extensively on diet and exercise. We have three clinic locations: Children's Mercy Adele Hall, Children's Mercy College Blvd., and Children's Mercy Wichita.



We actively engage our patients and families at each clinic visit by using our vegetable quiz and heart-smart shopping list, among other tools.

To proactively diagnose and monitor potential disease, we utilize echocardiograms, carotid artery

intima-media thickness, pulse wave velocity and a 400-meter walk test.

We also are actively involved in clinical research, including the NIH Dyslipidemia of Obesity Intervention in Teens (DO-IT) trial. Our hope is that this trial will provide answers on statin dosing in pediatric patients.

OUR CARDIAC NEURODEVELOPMENTAL PROGRAM IS MAXIMIZING QUALITY OF LIFE FOR PATIENTS

Elizabeth Willen, PhD, Neuropsychologist

Since 2013, the Cardiac Neurodevelopmental Program at Children's Mercy has evaluated 455 patients, meeting the neurodevelopmental needs of infants, children and adolescents with congenital or acquired heart conditions, including sudden cardiac arrest, and now stroke or seizure.

This year, we have expanded our team, adding a bilingual (English-Spanish) developmental pediatrician, and making our services more accessible to this growing patient population and their families.

Key program elements include:

- Serial neurodevelopmental/neuropsychological assessment beginning at 6 months of age.
- CND specialists, including physical, occupational and speech/language therapies, inpatient and outpatient neurology, psychology and social work, provide targeted evaluations and interventions.

- We have a coordinated interface with the Ward Family Heart Center's psychosocial program, Thrive. This ensures each patient receives support from the appropriate services.
- Our team actively works to develop 504 and individual education plans (IEPs).
- To maximize quality of life across the lifespan, we are actively working to transition our adolescent and teen patients to adult care.
- We are involved with national and international outreach and advocacy through participation in the Cardiac Neurodevelopmental Outcomes Collaborative (CNOC).
- The CND program is collaborating with the Pediatric Cardiac Care Consortium, contributing to an international database from 30-plus hospitals, all focused on cardiac neurodevelopmental outcomes.



OUR CARDIO-ONCOLOGY PROGRAM IS MONITORING NEARLY 300 PATIENTS FOR CARDIOTOXICITY

Sanket S. Shah, MD, Assistant Professor of Pediatrics; and Aliessa P. Barnes, MD, Medical Director of Cardiac Transplantation



The Ward Family Heart Center has one of the few Cardio-Oncology programs in the nation dedicated to monitoring potential cardiotoxicity in pediatric cancer survivors. Currently, we are monitoring approximately 300 patients who have completed treatment. We actively manage approximately 10% of these patients for varying degrees of cardiac dysfunction.

Our program is a collaborative effort between hematology/oncology and pediatric cardiology. We work closely with Jennifer Fulbright, MD, Director, Survive and Thrive Program, and

Wendy Heim, APRN, CPNP, oncology advanced practice nurse.

As they see these patients post-treatment in the Survive and Thrive Clinic, we check their cardiac function using a combination of echocardiography, cardiac MRI and cardiac biomarker testing, all in accordance with the most recent long-term follow-up guidelines from the Children's Oncology Group.

By systematically following these patients, we can proactively identify and treat subclinical cardiac dysfunction, minimizing the cardiotoxic side effects of anthracyclines, and in some cases, chest radiation.

We also are partnering with City of Hope Hospital in a randomized trial studying how well low-dose carvedilol works to prevent heart failure in cancer survivors exposed to high-dose anthracyclines for management of childhood cancer. Wendy Heim is the lead nurse for this study nationwide.

CHILDREN'S MERCY HEART FAILURE AND TRANSPLANT PROGRAM CELEBRATES 5 YEARS

Aliessa P. Barnes, MD, Medical Director of Cardiac Transplantation

The year 2020 marks the fifth anniversary of the Children's Mercy Heart Failure and Transplant Program, making it possible for 25 patients, from infants to adolescents, to remain closer to their homes for this lifesaving treatment.

As our program has matured, we've had the opportunity to care for more and more complex patients, including successfully transplanting patients who have been on ECMO. We also continue to implant ventricular assist devices, offering support for patients awaiting transplant.

In addition to myself, our transplant-specific multidisciplinary team includes Brian Birnbaum, MD, pediatric cardiologist; and four highly experienced cardiothoracic surgeons, led by James St. Louis, MD, Surgical Director of Cardiac Transplantation.

Because managing heart failure and transplant is so complex, our team also has grown. Other professionals include advanced practice provider, nurse



coordinator, pharmacist, nutritionist, psychologist, social worker, spiritual services, child Life specialist, and a financial coordinator.

We also rely heavily on support from our colleagues in the Cardiovascular Neurodevelopmental (CND) and Thrive programs. These are resources not readily available at other pediatric transplant programs across the country. The CND Clinic makes it possible to

address the neurodevelopmental needs of our patients, while the Thrive program provides comprehensive psychosocial support.

And finally, the highlight of each year for our team is the annual heart transplant picnic. Nothing is more rewarding for us than seeing our patients and their families living normal lives beyond the walls of Children's Mercy.

CHILDREN'S MERCY IS TRANSPORTING CRITICALLY ILL HEART PATIENTS USING MOBILE ECMO

Debbie Newton, MSN, RN, CCRN, Co-Director, Extracorporeal Support (ECMO); and Sherry McCool, MHA, RRT-NPS, CMTE, Director, Transport and Transfer Center



The Ward Family Heart Center and Children's Mercy Critical Care Transport are partnering in a new endeavor, offering one of the few mobile Extracorporeal Membrane Oxygenation (ECMO) programs in the U.S. for critically ill pediatric heart patients.

Initially, the program will transport patients who are already on ECMO at another hospital in the region, and who need the lifesaving care of our pediatric heart transplant or cardiac surgery programs.

Key features of the mobile ECMO program include:

- Patients are being brought to one of the nation's only ELSO Platinum Centers of Excellence. Children's

Mercy earned this designation in 2017 for its commitment to the advanced training and technology that ECMO requires.

- Children's Mercy Critical Care Transport is one of the busiest neonatal-pediatric programs in the nation, transporting nearly 6,000 patients annually. The program is accredited by the Commission on Accreditation of Medical Transport Services in all three modes of transport.
- Each form of transport—ground ambulance, both fixed and rotor wing aircraft—and the sleds on board each, have been customized to accommodate the compact CardioHelp ECMO

equipment and additional team members necessary during transit.

- Critical Care Transport's new Sikorsky S-76 C++ model helicopter allows for expanded range and faster speed. The fixed wing aircraft can transport patients from 600-plus miles away.
- All ECMO transports will include a dedicated group of pediatric perfusionists who are licensed and certified, as well as an intensivist or a neonatologist, as appropriate.
- A dedicated team from Critical Care Transport has been specially trained in ECMO transport and will be dispatched on these calls.

OUR CARDIOVASCULAR GENETICS CLINIC ADDRESSES THE UNIQUE NEEDS OF CHILDREN WITH CONNECTIVE TISSUE DISORDERS

Luisa Waitman, MD, Director, Cardiovascular Genetics Clinic

Our Cardiovascular Genetics Clinic at the Ward Family Heart Center is the only one of its kind in the Midwest, caring for approximately 300 to 350 patients each year who may have a genetic connective tissue disorder affecting cardiovascular health.

Some of these disorders include syndromes such as Ehlers-Danlos, Loeys-Dietz, Marfan's, Noonan's and Turner's.

For these patients, our clinic offers an extensive cardiac evaluation, plus the expertise of a genetics team, all during the same clinical evaluation.

At the patient's first appointment, they meet with a genetic counselor who documents their medical history and collects a detailed family history. Our geneticist reviews the patient's history and completes a thorough physical examination, looking for signs of a genetic condition.

A patient's cardiac assessment may include an ECG and an echocardiogram, as appropriate. I also examine each patient, discussing the results of their cardiac testing and reviewing any current cardiac concerns.

For those children diagnosed with genetic cardiac conditions, we continue to follow them up in the clinic as needed. We also involve other subspecialists when necessary, such as endocrinology, pulmonology, neurosurgery, gastroenterology and dermatology.



NEW FACULTY JOINS THE TEAM

The Ward Family Heart Center provides comprehensive care for children with all types of heart conditions. The team of more than 30 pediatric cardiologists and heart surgeons, together with specially-trained nurses and staff members, works tirelessly to give children the best possible care. The size and scope of the heart program means the team is always ready to care for any child, no matter how rare their condition might be.

The program continues to add great new talent. Including the following:



Hassan Farra, MD, joined the Children's Mercy team in January. He completed medical school at the University of Damascus, Syria followed by residency training in Pediatrics at Indiana University and fellowship in Pediatric Cardiology (including an extra year of interventional cardiology) at St Louis Children's Hospital. Dr. Farra has worked in Riyadh, Saudi Arabia; Damascus, Syria; Wichita, Kan.; Columbia, Mo. and Nashville, Tenn. In addition to his experience as a board-certified general pediatric cardiologist, Dr. Farra has a master's in Lipidology from the National Lipid Association and is board-certified in Clinical Lipidology.



Chris Follansbee, MD, joined the Children's Mercy team this summer. Dr. Follansbee earned his doctorate from the University of Pittsburgh School of Medicine. He completed his Pediatric residency and Pediatric Cardiology fellowship at the Children's Hospital of Pittsburgh where he served as chief fellow. He then completed his advanced fellowship in Pediatric Electrophysiology at Texas Children's Hospital. His research interests include innovative pacing strategies, variant analysis in inherited arrhythmia syndromes, noninvasive diagnostic strategies for long QT syndrome and pacing induced cardiomyopathies in congenital heart disease.



William Gibson, DO, returned to the Children's Mercy team this summer. Dr. Gibson graduated from Kansas City University of Medicine and Biosciences. He then completed residencies in general surgery and thoracic surgery at the University of Kansas before completing his congenital cardiac surgery fellowship at Emory University – Children's Healthcare of Atlanta.



Geetha Haligheri, MD, joined the Children's Mercy team this summer. Dr. Haligheri graduated medical school at Osmania Medical College in Telangana, Hyderabad. She completed her Pediatric residency at Children's Hospital of Michigan and Pediatric Cardiology fellowship at the Hofstra Northwell School of Medicine at Cohen Children's Hospital in New York. Dr. Haligheri's special interests are in cardiac imaging and clinical cardiology.



Arif Hussain, MD, joined the Children's Mercy team in January. Dr. Hussain is an experienced cardiologist who completed medical school at Rawalpindi Medical College, Pakistan. He completed residency training in Pediatrics at the Children's Hospital of Buffalo, fellowship training in Pediatric Cardiology at St. Louis Children's Hospital and fellowship in Pediatric Critical care at Children's Hospital of Buffalo. Dr. Hussain has since worked in Jeddah, Saudi Arabia and Halifax, Nova Scotia, Canada before returning to the United States. Dr. Hussain serves as Medical Director for the cardiology team at Children's Mercy Wichita.



Toby Rockefeller, MD, joined the team this summer. Dr. Rockefeller is an interventionalist. He graduated medical school at the University of Oklahoma Health Sciences Center in Oklahoma City. He completed residency training in Pediatrics, fellowship in Pediatric Cardiology and a fourth year of training in Interventional Cardiology at St Louis Children's Hospital. In addition to his role in the cath lab, Dr. Rockefeller sees patients both in the hospital and in outpatient clinic and is involved in several research projects.



Nikki Singh, MD, returned to the Children's Mercy team this summer. Dr. Singh graduated from Creighton University School of Medicine and then completed her Pediatric residency at Children's Mercy. After her residency, she continued her academic pursuits in Pediatric Cardiology at Children's Hospital of Wisconsin and then Cincinnati Children's Hospital for her Advanced Heart Failure and Transplant fellowship. She returned to Children's Mercy to work with the heart failure and transplant team.

Joining Summer 2020:

Doaa Aly, MBBCh, will return to Children's Mercy in July. Dr. Aly completed her Bachelors of Medicine and Surgery (MBBCh) from Cairo University School of Medicine in Egypt, followed by pediatric residency at the Children's Hospital at State University of New York (SUNY). She then completed her fellowship in Pediatric Cardiology at Children's Mercy Kansas City before joining Children's Hospital of Colorado to complete her Pediatric Advanced Cardiac Imaging fellowship. She will bring expertise in transthoracic and transesophageal echocardiography, as well as cardiac MR and CT angiography. She will see patients both in the hospital and in outpatient clinic and will be involved in research.

Matthew Moehlmann, DO, will join the Children's Mercy team in August. Dr. Moehlmann completed his DO at Midwestern Chicago College of Osteopathic Medicine, followed by his Pediatric residency, fellowship in Pediatric Cardiology and a fourth year of fellowship in Advanced Imaging at the Children's Hospital of Milwaukee. Dr. Moehlmann's areas of interest include all forms of cardiac imaging as well as cardiac MR and CT angiography. He will have a general cardiology outpatient clinic and will provide inpatient service.

FACULTY

Cardiovascular Surgeons

James E. O'Brien Jr., MD, FACS

Chief, Section of Cardiothoracic Surgery; Jerry Smith Chair in Pediatrics; Co-Director, Ward Family Heart Center

William I. Douglas, MD

Congenital Cardiovascular Surgeon; Surgical Director of Cardiac Critical Care

William Gibson, MD

Cardiovascular Surgeon

James St. Louis, MD

Surgical Director, Cardiac Transplantation, Joseph Boon Gregg/Missouri Endowed Chair in Pediatric Surgery

Cardiologists

Girish Shirali, MBBS, FASE, FACC

Division Director, Cardiology; Melva and Randall O'Donnell, PhD Chair in Pediatric Cardiology; Co-Director, Ward Family Heart Center

Doaa Aly, MBBCh*

Michael Artman, MD

Joyce C. Hall Eminent Scholar in Pediatrics; Chair, Department of Pediatrics; Senior Vice President and Pediatrician-in-Chief

Aliessa Barnes, MD

Medical Director, Heart Failure and Cardiac Transplantation; Director, Pediatric Cardiology Fellowship Training; Director, Solid Organ Transplant Program

Brian Birnbaum, MD

Director, Pulmonary Hypertension

Hassan Farra, MD

Christopher Follansbee, MD

Daniel Forsha, MD, MHS

Mark Gelatt, MD

Director, Outpatient Services

Lalitha Gopinetti, MD

Wichita, Kan.

Geetha Haligheri, MD

Hayley Hancock, MD

Director, Cardiac High Acuity Monitoring Program

Howard Heching, MD

Medical Director, Lean Operations

Arif Hussain, MD

Medical Director, Children's Mercy Wichita

Natalie Jayaram, MD, MSB

Stephen Kaine, MD

Associate Director, Ward Family Heart Center; Director, Cardiovascular Laboratory;

Maria Kiaffas, MD

Nitin Madan, MD

Lindsey Malloy-Walton, DO, MPH

Director, Inpatient Cardiology Floor Service

Matthew Moehlmann, DO*

John Papagiannis, MD, CCDS, CEPS

Director, Electrophysiology

Anitha Parthiban, MD

Director, Echocardiography

John Plowden, MD

Topeka, Kan.

Geetha Raghuvver, MD

Director, Preventive Cardiology

Toby Rockefeller, MD

Ryan Romans, MD

Associate Director, Pediatric Cardiology Fellowship Training Program

Sanket Shah, MD

Director, Advanced Imaging

Nikki Singh, MD

Svetlana Tisma-Dupanovic, MD, CCDS, CEPS

Director, Cardiac Pacing

Jonathan Wagner, DO

Luisa Madroñero Waitman, MD

Director, Cardiovascular Genetics

* Joining Summer 2020.

Cardiac Anesthesiologists

Carrie M. Clarke, MD

William B. Daniels, DO

John Erkmann, DO

Kathy M. Perryman, MD, FAAP

Paul Sheeran, MD

Adam B. Striker, MD

Susan J. Whitney, MD

Cardiac Intensivists

Jeremy Affolter, MD

Geoffrey L. Allen, MD

Bruce Banwart, MD

Jennifer Flint, MD

Laura Miller-Smith, MD

Erica A. Molitor-Kirsch, MD

Brian S. Olsen, MD, FAAP

Kelly S. Tieves, DO, MS

Cardiac Neonatologists

John M. Daniel IV, MD, MS

Howard W. Kilbride, MD

Michael Nyp, DO

Steven L. Olsen, MD

Eugenia K. Pallotto, MD, MSCE

Joshua E. Petrikin, MD

Ayan Rajgarhia, MD

Julie Weiner, DO

Advanced Practice Nurses

Darcie Al-Hassan, MSN, RN, CPNP-AC, PC
CICU

Mary Allemang, MSN, RN, CPNP-AC
CICU

Amy Bohm, MSN, RN, CPNP-PC
CICU

Mark Costanzo, DNP, RN, CPNP-AC
Inpatient Cardiology Team

Sara Crawford, MSN, RN, CPNP-AC
Inpatient Cardiology Team

Jenny Ecord, MSN, RN, NNP-BC, APRN-C
Outpatient Cardiology -
Children's Mercy Wichita

Melissa Elliott, MSN, RN, FNP-BC
Cardiac High Acuity
Monitoring Program

Lori Erickson, PhD(c), MSN, RN, CPNP-PC
CHAMP Clinical Program
Manager

Pam Finn, MS, RN, PCNS-BC
APRN Nurse Manager,
Outpatient Cardiology -
Kansas City

Shermineh Foy, DNP, RN, CPNP-AC
Electrophysiology

Stacey Gibson, MSN, RN, CPNP-PC
Pre-Admission/Cardiac
Procedure Areas

Allegra Grannell, DNP, RN, CPNP-AC/PC
CICU

Aaron Hahn, MSN, RN, CPNP-AC
Cardiology Consult

Mari Hanson, MNsc, RN, CPNP
APRN Education
Coordinator/CICU

Megan Jackson, MSN, RN, FNP-C
Cardiology Consult

Megan Jensen, MSN, RN, CPNP-PC
APRN Nurse Manager,
Inpatient

Lisa Laddish, DNP, RN, CPNP-AC, PC
Director, Heart Center
Clinical

Sarah Lagergren, DNP, RN, ACCNS-P, CPN
Inpatient Cardiology Team

Jennifer Leath, MSN, RN, CPNP-AC
Inpatient Cardiology Team

Lauren Lind, MSN, RN, FNP-C
Inpatient Cardiology Team

Julie Martin, MSN, RN, FNP-BC, PNP-BC
Outpatient Cardiology -
Kansas City

Laura Martis, MSN, RN, CPNP-AC
CICU

Melissa McGraw, MSN, RN, CPNP-PC
Pre-Admission/Cardiac
Procedure Areas

Pennie Mesmer, DNP, RN, FNP-BC
Pre-Admission/Cardiac
Procedure Areas

Leann Miles, MNsc, RN, CPNP-AC
APRN Nurse Manager,
Electrophysiology

Marissa Mirakian, DNP, RN, FNP-BC
Pre-Admission/Cardiac
Procedure Areas

Kitty O'Grady, DNP, RN, MC-CNS
APRN Nurse Manager,
Pre-Admission/Cardiac
Procedure Areas

Kelsey Pinnick, MSN, RN, FNP-C
Fetal Cardiology

Stacy Reynolds, DNP, RN, CPNP-PC, AC
Cardiac Transplant APRN
Coordinator

Sarah Sass, DNP, RN, CPNP-AC/PC
Inpatient Cardiology Team

Metta Siebert, MSN, RN, CPNP-AC
Cardiology Consult

Children's Mercy Kansas City

Children's Mercy Kansas City is ranked as one of "America's Best Children's Hospitals" in all 10 specialties rated by U.S. News & World Report and has received Magnet™ recognition for excellence in nursing services four consecutive times. With 366 licensed beds and a medical staff of more than 800 pediatric subspecialists, we care for children from all 50 states and from around the world. In addition, our leadership in pediatric genomic medicine and individualized pediatric therapeutics is driving research and innovation in neonatology, nephrology, endocrinology, gastroenterology, neurology, heart, cancer and other subspecialties to transform outcomes for children. Children's Mercy also is nationally recognized for innovation in psychosocial care and creating a family-centered environment focused on the unique needs of hospitalized children and their families. Our love for children powers everything we do, inspiring our research, innovations and our everyday care. Because love has no limits. And with it, neither do we.



LOVE WILL.

To learn more about how love is driving us to improve cardiology care, visit childrensmercy.org/heart

Cardiology Office: (816) 234-3880

For transport, admissions or consults, call:
1 (800) GO MERCY / 1 (800) 466-3729



_____ in academic affiliation with _____

