



NEONATAL PROGRAM OVERVIEW

Children’s Minnesota neonatology program encompasses the largest high-risk neonatal care program in the Upper Midwest. Our fetal intervention and ECMO programs are also nationally recognized for exceptional clinical outcomes. We are committed to consistent care across the community, limiting unnecessary variation, identifying and spreading best practices, and rapidly addressing opportunities for improvement.

- **1,900+ newborns** cared for annually by Children’s Minnesota neonatal program.
- **A comprehensive care team** including neonatologists, neonatal nurse practitioners, nurses, respiratory therapists, physical therapists, occupational therapists, pharmacists, social workers and music therapists.
- **500+ babies transported** annually by the Neonatal Transport Team. Babies are transported by helicopters, fixed-wing aircraft and specialized critical care ground transportation with in-route capability for full ventilatory and hemodynamic support, body cooling and ECMO.
- **Three Mother Baby Centers** that combine Allina Health’s fetal and maternal services with Children’s Minnesota neonatal and pediatric specialty care.
- **24/7 NICU coverage** by neonatologists and neonatal nurse practitioners.
- **24/7 Neonatal Virtual Care for regional community hospitals**, a technology that allows critical audio/video consultations during stabilization of newborns.

NEONATAL INTENSIVE CARE SETTINGS

Minneapolis	Level IV Neonatal Intensive Care Unit (NICU)	44 beds
	Level II Special Care Nursery (SCN)	33 beds
	Infant Care Center (ICC)	41 beds
St. Paul	Level III NICU	50 beds
	Level II SCN	12 beds
Coon Rapids	Level III NICU (Mercy Hospital)	16 beds

The largest high-risk neonatal care program in the upper Midwest

Diagnostic, medical and surgical services provided:

- Cardiovascular evaluation and treatment
- Cardiac surgery for complex cardiac anomalies and ECMO
- Developmental assessment and therapy
- Diagnostic testing
 - Apnea testing
 - At-home apnea monitoring
 - Hearing screenings
 - Infant pulmonary function testing
 - Ophthalmologic and retinal services, including retinopathy screening
- Extra Corporeal Membrane Oxygenation (ECMO)
- Fetal program support
- Dedicated pediatric surgical specialties
- High-risk delivery attendance
- Infant massage and music therapy
- Therapeutic hypothermia for babies with hypoxic-ischemic encephalopathy (HIE)
- Consultative support for high-risk perinatal patients
- Neonatal follow-up clinic
- Neurologic monitoring and care
- Neuro-intensive care program
- Nutritional consultation and care
- Pediatric anesthesia
- Respiratory support
 - Inhaled nitric oxide therapy
 - Noninvasive, conventional and high-frequency ventilation
- Specialized care and follow up of newborns with neonatal abstinence syndrome (NAS)

NEONATOLOGY MEET THE TEAM

We think of our team as a family, caring for other families. That means we work closely with referring physicians as well as parents to deliver the best care for babies in need. As one of the largest neonatal teams in the region, we're able to care for the most acutely ill newborns. Our Level IV NICU in Minneapolis and Level III NICUs in St. Paul and Coon Rapids help us provide the best care for fragile babies. We offer 24/7 access to a neonatologist so physicians can consult with our team on urgent needs. And to support families on their journey, we provide child life specialists, dietitians, music therapists, neonatal nurse practitioners, respiratory therapists, social workers, spiritual counselors and more.

Our team partners with the childbirth experts at The Mother Baby Center, a collaboration between Allina Health and Children's Minnesota. The partnership helps us deliver consistent, high-quality care while limiting unnecessary variation and making swift improvements in best practices.



Thomas George, MD, FAAP, is the system medical director of neonatology at Children's Minnesota. Dr. George joined Children's in October 2018. Previously, Dr. George held the position of director of clinical services for the division of neonatology at the University of Minnesota, medical director of the NICU at the University of Minnesota Masonic Children's Hospital, Fairview Southdale and Ridges Hospitals, and associate director of the Pediatric Residency Program. He earned his MD degree at Indiana University and completed his pediatric residency and neonatal-perinatal fellowship at the University of Iowa Children's Hospital. Dr. George has been in practice for more than 20 years and has extensive experience in caring for patients with cardiac and congenital anomalies. His clinical research interests have included the role of inhaled nitric oxide in premature infants; he also has interests in educational research, faculty development and determining trainee competency.



Jennifer Berger, DO
Staff neonatologist

Neonatal training: University of Iowa

Clinical interests: Management of extremely premature infants, necrotizing enterocolitis, global health



Mark Bergeron, MD, MPH

Medical Director, Coon Rapids Level III NICU; Director, Virtual Care and Outreach

Neonatal training: University of Minnesota

Clinical interests: Public health policy and advocacy for newborn infants and hospital-based quality improvement initiatives to drive excellent outcomes for preterm infants



Katherine Braski, MD
Staff neonatologist

Neonatal training: University of Utah

Clinical interests: Prevention and treatment of feeding difficulties, necrotizing enterocolitis in premature infants; research in Near-Infrared Spectroscopy



Eric Culp, DO
Staff neonatologist

Neonatal training: Loyola University

Clinical interests: Less-invasive ventilation strategies, antibiotic stewardship



Ann Downey, MD, MSc
Director, NICU quality improvement

Neonatal training: University of Colorado, School of Med.; Northwestern Univ., Feinberg School of Medicine

Clinical interests: Health care quality and safety, neonatal resuscitation



Kiran Dwarakanath, MD
Staff neonatologist

Neonatal training: Westchester Medical Center

Clinical interests: Quality improvement and education



Abigail Faulman, MD
Staff neonatologist

Neonatal training: University of Colorado

Clinical interests: Ethics and neonatal quality of life issues inside and after the NICU



David Gonzalez, MD
Staff neonatologist

Neonatal training: University of Minnesota

Clinical interests: Neonatal nutrition and growth, impact of hyperglycemia on brain development, care of underserved and non-English speaking families.



Evangelia (Lia) Gravari, MD

Director, Neonatal ECMO
Neonatal training: University of Louisville

Clinical interests: ECMO and neonatal transport



Donna Hamburg, MD
Staff neonatologist

Neonatal training: Baylor College of Medicine

**Heidi Kamrath, DO**

Director, Neonatal Transport

Neonatal training: University of Minnesota

Clinical interests: Management of extreme prematurity, NICU follow-up, quality improvement

**Stacy Kern, MD**

Staff neonatologist

Neonatal training: University of Iowa

Clinical interests: Care of premature infants at the borderlines of viability

**Andrea Lampland, MD**

Neonatal Medical Director, Regions Hospital Level II NICU and Lakeview Hospital Level II NICU; Neonatal Director, Midwest Fetal Care Center; Medical Director, Neonatal Research department and Translational Research lab; Site Director, University of Minnesota Neonatal Perinatal Medicine Fellowship Program

Neonatal training: University of Minnesota

Clinical interests: Clinical and laboratory research of neonatal ventilation strategies, the care of extremely preterm infants, neonatal transport and resident/fellow education

**Tamika Lasege, MD**
Medical Director, Children's Health Network and staff neonatologist

Neonatal training: University of Louisville

Clinical interests: Neonatal Abstinence Syndrome, discharge planning, preventative care, quality improvement, health equity and social determinants of health

**Christopher Lust, MD**

Staff neonatologist

Neonatal training: Washington University in St. Louis

Clinical interest: Neonatal Abstinence Syndrome

**Ryan Meinen, DO**

Staff neonatologist

Neonatal training: University of Wisconsin-Madison

Clinical interests: Point of care ultrasound (POCUS) use in the NICU, PDA management strategies, ventilation of the neonate and quality improvement

**Cristina Miller, MD**

Director, NICU Follow-up Program

Neonatal training: Wake Forest University

Clinical interests: Premature and critically ill infant care, clinical research of long-term neurodevelopmental outcomes of preterm infants

**Emilee Parsons, DO**

Staff neonatologist

Neonatal training: University of Chicago

Clinical interests: Patient safety, simulation and global health

**Erin Plummer, MD**

Staff neonatologist

Neonatal training: University of Minnesota

Clinical interests: Growth, body composition, neurodevelopmental outcomes in neonates requiring surgery

**Thomas Pokora, MD**

Medical Director, Infant Care Center

Neonatal training: University of Minnesota

Clinical interests: Neonatal abstinence syndrome, multiples and education

**Jill Marie Therien, MD**

Medical Director, St. Paul Level III NICU

Neonatal training: University of Minnesota

Clinical interests: Quality improvement and clinical research, particularly in extremely low birth weight infants during the first month of life

**Tara Zamora, MD**

Medical Director, Minneapolis Level IV NICU

Neonatal training: University of Minnesota

Clinical interests: Extremely preterm infant, blood transfusion practices and neonatal nutrition

**Elizabeth Petri Zorn, MD**

Staff neonatologist

Neonatal training: University of Minnesota

Clinical interests: Neurodevelopmental outcomes, hypoxic ischemic encephalopathy, NICU follow-up

MIDWEST FETAL CARE CENTER

The region's leader in the diagnosis and treatment of congenital conditions and abnormalities in unborn infants.



Children's
MINNESOTA

Allina Health 

midwestfetalcarecenter.org

OVERVIEW

Midwest Fetal Care Center offers mothers with high-risk pregnancies and babies with complex conditions a continuum of care that is among the best in the nation. As the only advanced fetal care center in the Upper Midwest — and one of only a few in United States — Midwest Fetal Care Center brings together maternal fetal experts and the latest technology and treatments in a coordinated setting. From prenatal diagnosis and fetal treatment, to delivery, postnatal care and long-term follow-up, we are with our patients every step of the way. Our mission is to provide patients and families with an exceptional experience with the best possible outcome.

Located at The Mother Baby Center in Minneapolis, Minnesota, the Midwest Fetal Care Center is a collaboration between Children’s Minnesota and Allina Health, bringing together a comprehensive team of maternal, fetal, neonatal and pediatric experts.

Services

From evaluation and diagnosis to fetal surgery and follow-up care, Midwest Fetal Care Center offers mothers and babies the highly trained experts and cutting-edge technology they need in one convenient location. Through our concierge care model, we communicate every step of our care plan to both patients and referring physicians, ensuring everyone is apprised of progress.

Diagnostic services

Ultrasound

- 1st trimester ultrasound
- Comprehensive/targeted ultrasound
- 3-D and 4-D ultrasound for specific abnormalities
- Nuchal translucency–1st trimester screening

Fetal MRI

Fetal echocardiography

Invasive diagnostics

- Chorionic villus sampling (CVS)
- Fetoscopy
- Fetal blood sampling (PUBS)
- Amniocentesis

Fetal interventions

Our care for babies who have potentially life-threatening conditions includes these fetal therapies:

- Fetoscopic laser ablation therapy for twin-to-twin transfusion syndrome (TTTS)
- Fetal shunt placement
- Amnioreduction
- Fetal transfusion
- Ex-utero intrapartum treatment (EXIT)
- Open fetal surgery (OFS)
- Fetoscopic myelomeningocele repair

Concierge care model

Our care team helps each step of the way:

- Fetal care coordinators provide initial contact and planning of multi-specialist consultations
- Patient-dedicated perinatal social workers are a continual point of contact to support families from pregnancy through neonatal care
- Same day and ongoing communication with referring physicians



PROVEN EXPERTISE

At a glance

We offer one of the **most comprehensive approaches** to fetal care. The fetal care program is a collaboration between Children’s Minnesota and Allina Health. Top-tier physicians and surgeons develop comprehensive care plans to treat patients from the surrounding five-state region and beyond.

We have the **highest-trained experts** at hand. Our fetal surgeons acquired training from world-renowned experts in fetal surgery. This advanced training makes the Midwest Fetal Care Center one of only a small number of centers in the U.S. to offer diagnosis and treatment options like in-utero fetoscopy and fetal myelomeningocele repair (in-utero repair of spina bifida).

We are recognized for our **national leadership**. Midwest Fetal Care Center is part of the North American Fetal Therapy Network (NAFTNet), an association of medical centers with proven expertise in fetal surgery and other fetal services. Our fetal specialists are active in national fetal therapy associations and have been published in peer-reviewed medical journals.

Our specialists **collaborate**. All of the caregivers with specialized training and experience in treating mothers and babies with fetal conditions meet regularly to discuss and review patient cases. Our team approach helps drive exceptional outcomes and an unparalleled care experience.

Our facilities are second-to-none in one location. We perform our fetal interventions and surgeries at The Mother Baby Center, which combines Abbott Northwestern Hospital’s fetal, labor and delivery services with the Children’s Minnesota neonatal program. No matter what level of care is needed, we have the best mother and baby experts in one spot, available 24/7.

CONDITIONS

Experts at Midwest Fetal Care Center are trained to treat any and all types of conditions that affect high-risk moms and their unborn babies.

- Abdominal wall defects
 - Amniotic band syndrome
 - Cleft lip and cleft palate
 - Cloacal exstrophy
 - Club foot
 - Congenital diaphragmatic hernia (CDH)
 - Congenital heart disease
 - Congenital lung malformations
 - Congenital high airway obstruction (CHAOS)
- Craniosynostosis
 - Fetal tumors
 - Gastrointestinal disorders
 - Genetic conditions
 - Genitourinary problems
 - Hydrops fetalis
 - Immune and non-immune hydrops fetalis
 - Multiple pregnancy
 - Micrognathia and agnathia
- Neck masses
 - Neurologic disorders
 - Oligohydramnios
 - Polyhydramnios
 - Skeletal dysplasia
 - Twin-to-twin-transfusion syndrome (TTTS)
 - Other twin-related conditions

RESEARCH AND OUTCOMES

We are committed to improving outcomes for mothers and babies facing high-risk pregnancy. Research, combined with our high volume experience and utilization of evidence-based practices, is a large factor in our success.

Stats

- For babies who need fetal surgery, Midwest Fetal Care Center has among the highest survival rates and the lowest rates of post-operative complications.
- For premature babies requiring surgery, we have among the lowest rate of surgical complications in the nation.
- We have performed operative fetoscopy since 2008. From that time, our outcomes for twin-to-twin-transfusion syndrome TTTS are among the best in the nation.

Associations

- International Fetal Medicine and Surgery Society (IFMSS)
- North American Fetal Therapy Network (NAFTNet)
- Fetal Heart Society

Research

Midwest Fetal Care Center team is committed to advancing fetal care. Our fetal specialists are active in national fetal therapy associations and have been published in peer-reviewed medical journals. Members of our multidisciplinary care team regularly generate national research abstracts related to the clinical protocols/algorithms that we create.

We are advancing research and knowledge in the following areas, which correlate with our top diagnoses:

- Congenital lung lesions
- Congenital diaphragmatic hernia (CDH)
- Gastroschisis
- Single ventricle cardiac disease
- Twin-to-twin transfusion syndrome (TTTS)

CLARA’S STORY

Baby Clara hasn’t let spina bifida slow down her amazing development

In the fall of 2015, Nicole Carlin and her husband were overjoyed to learn they were pregnant with their second child. During the first few months of her pregnancy, Nicole felt good and things were progressing as expected. However, after her 16-week appointment, which included an ultrasound, Nicole knew something was wrong when the doctor called with results. Her doctor explained it appeared **her baby had spina bifida, which occurs in about one of 3,000 pregnancies in the United States each year.** Nicole and her husband were instructed to undergo additional tests at Midwest Fetal Care Center, a collaboration between Children’s Minnesota and Allina Health, to confirm the findings and develop a treatment plan.



Nicole arrived at Midwest Fetal Care Center the day before Christmas Eve and doctors confirmed her unborn baby had myelomeningocele, a severe form of spina bifida. Over the next several weeks, Nicole talked to her care team and researched treatment options. Nicole’s care team determined that she was an excellent candidate for a surgery to decrease and reverse some of the impact of spina bifida symptoms while the baby was still in-utero — a surgery that doctors perform routinely at only a few centers in North America.

Nicole was introduced to Dr. Joseph Lillegard, pediatric and fetal surgeon at Midwest Fetal Care Center. Dr. Lillegard explained that he was working to keep the family in the Twin Cities for surgery, and a few weeks later, called Nicole to tell her they could do the surgery at the Midwest Fetal Care Center. An extensive group of specialists, including teams for mom and baby — approximately 20 clinicians and nurse specialists — is needed to perform open fetal surgery and care for mom afterwards.

The fetal surgery was scheduled for Feb. 10, 2016, at 25 weeks gestation. The complex procedure involves placing the mom and fetus under general anesthesia so that both can be operated on simultaneously. A lower abdominal incision was made on Nicole, much like a Cesarean-section incision, and with some dissection, the uterus was exposed. After using medications to relax the uterus, the surgical team used ultrasound imaging to make a safe incision into the uterus, exposing the unborn baby. With the baby’s spine in view the team closed the skin and special layers of her spinal cord, thereby stopping the injury to the exposed nerves. At the completion of the two-hour surgery Nicole was safely wheeled to her recovery room with her unborn baby still inside her womb recovering from the big day. The surgery was complete and all were safe.

Following the surgery, the priority was for Nicole to make it to 36 weeks gestation, when a planned C-section would be performed to deliver her baby. Immediately after the surgery Nicole spent a week in the hospital and then two weeks at home on limited activity, followed by moderate rest leading up to the due date.

After 36 weeks gestation, Clara Carlin was welcomed into the world at The Mother Baby Center. Nicole was nervous about the birth, but knew she was in good hands with her team of doctors and other clinicians from Children’s Minnesota and Allina Health. Nicole and her husband fondly recall briefly holding their new baby before she was taken to the Children’s Minnesota neonatal intensive care unit (NICU) for monitoring.

During Clara’s time in the NICU, Nicole met with the multidisciplinary team of experts that would treat Clara throughout her journey to explain the treatment plan and answer questions.

Clara’s care team includes her fetal surgeon, neurosurgeon, neonatologist, urologist, orthopedic surgeon and physical and occupational rehabilitation specialists. This well-integrated care team works with Clara and her family on physical and neurological development and will treat any remaining symptoms resulting from her spina bifida.

Today, Clara is healthy, happy and doing well. Many of the major complications related to spina bifida seem to be reduced or reversed. She has no significant hydrocephalus and has not needed a shunt. She moves her legs well with good sensation to her lower extremities and is able to empty her bladder and stool without any major problems. It is still early for Clara, but her care team hopes that she will continue to be like many children who undergo fetal surgery for spina bifida and have a chance at enjoying the great experiences of life without many of the debilitating effects of this devastating disease.

MEET THE TEAM

The Midwest Fetal Care Center (MW FCC), a collaboration between Allina Health and Children’s Minnesota, brings together a multi-disciplinary team of highly trained maternal-fetal medicine experts from Allina Health and pediatric and neonatal specialists from Children’s Minnesota.

Our comprehensive team works together to coordinate all aspects of your care from diagnosis to postoperative recovery and long-term follow-up. This collaboration allows us to create coordinated care plans that foster exceptional outcomes.

Leading the team



Saul Snowise, MD
Medical Director
Maternal-Fetal Specialist
Lead Fetal Interventionist



Lisa Howley, MD
Director of Fetal Cardiology
Pediatric and Fetal Cardiologist



Joseph Lillegard, MD, PhD
Research Director
Pediatric Surgeon
Fetal Surgeon



James Fisher, MD
Assoc. Research Director
Pediatric Surgeon
Fetal Surgeon



Joseph Petronio, MD
Neurosurgeon



Andrea Lampland, MD
Neonatologist
Neonatal Director

To view the full team, visit www.childrensmn.org/fetal

CIAN AND RORY’S STORY

Twin to twin transfusion syndrome success story

“When my husband and I went in for our first ultrasound, we saw twins,” said Kathy. “I started laughing. My husband, John, sat there in shock.”

Kathy, a nurse herself, was over 40 and because she was carrying two babies, was sent to a maternal fetal medicine specialist with expertise in high-risk pregnancies, Dr. Peter Van Eerden at Sanford Health in Fargo.

Dr. Van Eerden monitored Kathy closely with an appointment every week. Because the babies shared one placenta, but had two amniotic sacs, it was possible they would develop twin to twin transfusion syndrome (TTTS) — a condition when the blood flow between the babies becomes unbalanced, and one baby donates blood to the other. This causes the donor twin to become dehydrated and experience slow growth, while the recipient baby risks heart failure due to the extra volume of blood.

Dr. Van Eerden tracked the babies’ growth, fluid and blood flow, and diagnosed TTTS as well as Twin Anemia Polycythemia Sequence (TAPS), a rare form of TTTS that occurs when there is an imbalance in red blood cells and hemoglobin between the twins in the womb, causing the donor baby to become anemic and both babies to become very sick.

A trusted partnership

Throughout Kathy’s care, Dr. Van Eerden consulted with Dr. Saul Snowise, a fetal surgeon and maternal fetal medicine specialist at the Midwest Fetal Care Center — a collaboration between Children’s Minnesota and Allina Health, and one of the few advanced fetal care centers in the Upper Midwest. The two physicians regularly partner together on high-risk pregnancies.

At 22 weeks, Kathy and John followed the advice of the doctors and drove from Fargo to Minneapolis for in utero laser surgery at the Midwest Fetal Care Center. “As a nurse, I was so impressed by the interdisciplinary approach. I felt so well taken care of,” said Kathy. “Our care coordinator walked us through everything, and Dr. Snowise and a pediatric cardiologist answered all of our questions. As Dr. Snowise discussed the procedure with us, he could see we were nervous. I remember him looking us in the eyes and saying, ‘I got this.’”

Two heartbeats

Kathy was taken to the operating theater and put under mild sedation. Dr. Snowise performed the laser surgery, sealing the blood vessels that were contributing to the abnormal flow of blood between the babies. She and John knew the first 24 hours after surgery presented the highest risk for the babies,



so when she didn’t feel one of the twins move all night, she worried. But early the next morning, Dr. Snowise returned with the ultrasound machine, confirming two heartbeats. They were all ecstatic.

“Shortly afterward I walked outside to get the car,” said John, “Dr. Snowise drove past, giving me an enthusiastic thumbs up. I knew our boys were going to be okay.”

A very special delivery

Back in Fargo, Kathy’s water broke at 29 weeks. She was admitted to Sanford Medical Center where she spent two weeks on bedrest under the care of Dr. Van Eerden. At 31 weeks, Kathy went into labor, delivering babies Cian and Rory via c-section. “We knew they would intubate Cian because of his heart,” said Kathy. “They ended up intubating Rory, too.”

Kathy and John shared their fears over Cian’s chance for survival. “We didn’t know what would happen to his heart when he was no longer connected to me,” Kathy said. “But he’s a fighter! He was on an IV heart medication for less than a week. His heart kept getting stronger.”

Six weeks after birth, the brothers were discharged from the NICU on the same day joining their sister, Zoe, at home. Today they are strong, happy boys, meeting their developmental milestones.

Reflecting on the past two years, Kathy says she’s grateful for the partnership between Dr. Van Eerden and the MW FCC. Their teamwork allowed her to receive fetal specialty care close to home in Fargo for the majority of her pregnancy, and fetal surgical care in the Twin Cities when it became necessary. “From diagnosis through delivery and beyond, Dr. Van Eerden and Dr. Snowise are why I have two healthy boys today.”



MATERNAL FETAL

For 24/7 assistance with maternal fetal consultations, referrals or admissions:

855-MWFETAL

(855-693-3825)

MWfetalCare@allina.com

midwestfetalcarecenter.org

PEDIATRIC/NEONATAL

For 24/7 assistance with pediatric or neonatal consultations, referrals, admissions and transport:

Children's Minnesota Physician Access

866-755-2121

Services provided by Abbott Northwestern Hospital



SERVICES

At Children's Minnesota, we specialize in diagnosing and treating heart and blood vessel conditions that affect kids. We offer leading-edge techniques for treating kids' heart conditions — from before birth and into adulthood with a team that has a wealth of proven experience. The cardiovascular program at Children's Minnesota:

- Provides diagnosis and treatments for all forms of congenital and acquired cardiac diseases, along with 24/7 consultation services.
- Offers diagnostic and less invasive services, including but not limited to:
 - Arrhythmia monitoring
 - Cardiac catheterization
 - Early fetal cardiac screening and diagnosis (14-16 weeks gestational age)
 - Echocardiography
 - Electrocardiography (EKG)
 - Electrophysiology studies
 - Fetal cardiac screening and diagnosis
 - Genetic testing
 - Pacemaker interrogation
 - Pediatric cardiac CT scans and CT angiography
 - Pediatric cardiac MRIs/MRA
 - Stress testing
- Provides surgical therapies, including:
 - Anomalous coronary artery
 - Aorto-pulmonary shunt repair
 - Aortic valve repair/valvotomy and replacement
 - Arterial switch operation
 - Ascending aortic augmentation (replacement)
 - Atrial septal defect repair
 - AVSD repair
 - BCPS/BDG
 - Bi-directional Glenn shunt procedure
 - Coarctation of the aorta repair
 - Diaphragm plication
 - Fontan procedure
 - Generator change
 - Heart transplant
 - Interrupted aortic arch repair
 - Intra-cardiac defibrillator
 - Mitral valve repair
 - Norwood procedure
 - Pacer placement
 - Partial anomalous pulmonary venous repair
 - Patent ductus arteriosus
 - Pericardiostomy
 - Pulmonary valve replacement
 - Ross procedure
 - RV-PA conduit (includes homografts)
 - Subaortic stenosis repair
 - Tetralogy of Fallot repair
 - Total anomalous pulmonary venous repair
 - Truncus arteriosus repair
 - Tricuspid valve repair/replacement
 - Vascular ring obstruction repair
 - Ventricular Assist Device (VAD)
 - Ventricular septal defect repair
- Offers Extracorporeal Membrane Oxygenation (ECMO) treatments, including:
 - Temporary ventricular assist device repair/valvotomy
 - Veno-arterial ECMO
 - Veno-venous ECMO
- Offers multidisciplinary clinics, such as:
 - Adult congenital clinic
 - Fetal diagnosis and treatment clinic
 - Heart failure clinic
 - Lipid clinic
 - Neurodevelopmental follow-up clinic
 - Velocardiofacial (VCF) syndrome clinic

Children's Minnesota Physician Access



ONE-CALL
24/7
RESOURCE

866-755-2121

referrals • consultations • admissions • transport

BY THE NUMBERS

WE ARE THE MARKET SHARE LEADER

in
PEDIATRIC CARDIAC SURGERIES
in the state of Minnesota

200 DEDICATED PROFESSIONALS

from Children's Minnesota and The Children's Heart Clinic — including 20+ pediatric cardiologists and intensivists and **three pediatric cardiovascular surgeons** — making us the largest pediatric cardiovascular team in the Upper Midwest.



Our outpatient clinics serve patients throughout the region and many offer same-day appointments for urgent needs.

12,000+ HEART SURGERIES

have been performed at Children's Minnesota since the inception of the cardiovascular program in 1973.

ANNUALLY

450+ PATIENTS

treated by Children's Minnesota cath lab

11,000+ EKGs

performed or interpreted

12,000+ ECHOs

performed or interpreted

400+ SURGERIES

1,400+ FETAL HEARTS SCANNED

for heart abnormalities



DAILY TEAM ROUNDS

on every inpatient in our cardiovascular care center.

The entire care team, families and referring providers can hear the care plan and ask questions.



24/7 ONSITE CARE

BY PEDIATRIC CARDIAC INTENSIVISTS BRINGING
THE HIGHEST LEVEL OF CARE TO THE BEDSIDE.

ONLY CARDIOVASCULAR CARE CENTER

in the Upper Midwest with all its pediatric services conveniently located on the same floor and in a single building.



TEAM

Children's Minnesota collaborates with a team of doctors, nurse practitioners, nurses and more to provide expert care to babies, children, teens and adults born with heart defects. Children's Minnesota has cardiovascular specialists with years of experience and outcomes among the best in the country. See profiles for the doctors and nurse practitioners in the cardiovascular program by visiting childrensmn.org/CVTeam.

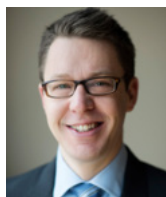
CARDIOLOGY



Daniel Beissel, MD
Pediatric Cardiology



David Burton, MD
Adult Congenital Heart
Disease



Christopher
Carter, MD
Medical Director,
Electrophysiology



Bradford Chu, MD
Pediatric Cardiology,
Fetal Cardiology



Erik Edens,
MD, PhD
Medical Director, Heart
Failure and Transplant



David Gremmels, MD
Chief, Cardiology; Medical
Director, Echocardiography
and Fetal Cardiology



B. Kelly Han, MD
Medical Director,
Advanced Cardiac
Imaging



Christine Hills, MD
Medical Director,
Outreach



Lisa Howley, MD
Medical Director,
Fetal Cardiology



Joanna Lowisz, DO
Pediatric Cardiology,
Fetal Cardiology



Rodrigo Rios, MD
Pediatric Cardiology,
Fetal Cardiology



Rodrigo Rios IV, MD
Interventional Cardiology



Andrew
Schneider, MD
Electrophysiology



Charles
Shepard, MD
Pediatric Cardiology,
Advanced Cardiac Imaging



Ian Thomas, MD
Pediatric Cardiology



Marko Vezmar, MD
Medical Director,
Catheterization

SURGERY



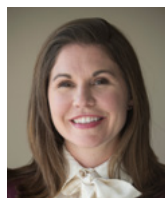
Robroy MacIver, MD
Director, Heart Failure
and Transplant



Francis Moga, MD
Associate Chief,
Cardiovascular Surgery



David
Overman, MD
Chief, Cardiovascular
Surgery



Jennifer Frost,
PA-C



Leah Zupancich,
PA-C

ANESTHESIOLOGY



David
Dassenko, MD
Medical Director,
Pediatric Cardiac
Intensive Care Unit

INTENSIVISTS



Kendra Gram, MD
Medical Director, ECMO



Kristine
Hendrickson, MD



Robert Horvath-
Csongradi, MD



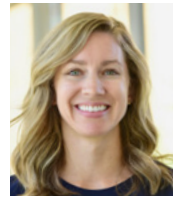
Marnie Huntley,
MD



Niyati Patel, MD



Kelly Rood, MD



Kimberly
Watkins, MD

ADVANCED PRACTITIONERS



Jocelyn Berbee,
MS, RN, CNP



Brittany Jackson,
APRN



Beth Johnson,
PNP



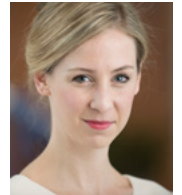
Stephanie
Karides, APRN



Amy Lund,
APRN, CPNP



Steven McDonald,
APRN, CNP



Gretchen
McGuire, APRN,
CNP



Nathan Neis,
DNP, RN, ACNP



Heidi Shafland,
APRN, CNP



Elizabeth Wagner,
APRN, CPNP



Amy Weiler,
APRN, CNP

Not pictured:
Holly Thompson, NP

LOCATIONS

The pediatric cardiovascular specialists are available at our cardiovascular care center, the only one in the Upper Midwest with all its pediatric services conveniently located on the same floor and in a single building, and at our outpatient locations throughout the region.



INPATIENT Hospital



Edward J. Phillips
Cardiovascular Care Center
2525 Chicago Avenue South
Minneapolis, MN 55404

OUTPATIENT Clinics

The Children's Heart Clinic, in partnership with Children's Minnesota, delivers an expansive outpatient clinic experience to support same-day appointments for urgent needs.

Children's Minnesota Physician Access



ONE-CALL
24/7
RESOURCE

866-755-2121

referrals • consultations • admissions • transport

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