The Ventricular Assist Device (VAD) Program at the Heart Institute at Cincinnati Children’s Hospital Medical Center is a nationally recognized leader in mechanical circulatory support. We offer a broad range of circulatory support devices for pediatric and young adult patients, regardless of their size or disease state. Our multidisciplinary team is committed to innovation and takes an individualized approach to care that is unique in the field of pediatric mechanical circulatory support.

FULL SPECTRUM OF CONDITIONS SUPPORTED

Patients travel from throughout the United States to receive care from our VAD team. We offer mechanical support options for patients with end-stage heart diseases such as:

- Chemotherapy-induced cardiomyopathy
- Chronic and acute transplant rejection
- Congenital heart disease, such as Fontan failure
- Dilated cardiomyopathy
- Duchenne muscular dystrophy (DMD)-associated cardiomyopathy
- Hypertrophic cardiomyopathy
- Left ventricular noncompaction cardiomyopathy
- Myocarditis
- Restrictive cardiomyopathy

Our team uses devices to stabilize and support patients as they wait for donor hearts (bridge-to-transplant therapy) and to support patients with VADs who are not eligible for transplant (chronic therapy). Chronic therapy may be an alternative to heart transplant for some patients.

ACTION LEARNING NETWORK

The Advanced Cardiac Therapies Improving Outcomes Network (ACTION) includes more than 45 pediatric hospitals across North America. ACTION's mission is to improve critical outcomes for congenital heart disease patients with heart failure by developing an international collaborative learning health system. It unites key stakeholders, including patients, families, clinicians, researchers and industries. Cincinnati Children's Heart Institute houses the operations team and data coordinating center, and many faculty and staff are active leaders.

ACTION's collaborative efforts have reduced stroke rates for pediatric VAD patients by 60%, as of January 2020. The Berlin Heart EXCOR is the most-used VAD in children, and for this patient population, stroke rates have decreased from 30% to 12%, due to ACTION's efforts. The stroke rate for children with implantable VADs, such as the HeartMate 3 and the HeartWare HVAD, have decreased from 10% to less than 5% in this same time period.
VENTRICULAR ASSIST DEVICE CORE TEAM

Angela Lorts, MD, MBA  
Medical Director, Ventricular Assist Device Program

David L. S. Morales, MD  
Director, Congenital Heart Surgery; Surgical Director, Ventricular Assist Device Program

Lauren Smyth, MHA  
Specialist-Program Management, Ventricular Assist Device Program

Katrina Fields, BSN, RN  
Coordinator, Ventricular Assist Device Program

Amy Donnellan, DNP, CPNP-AC ARPN, Ventricular Assist Device Program

Chet Villa, MD  
Physician, Ventricular Assist Device Program

CARDIOMYOPATHY, HEART TRANSPLANT, VENTRICULAR DEVICE TEAM

Clifford Chin, MD

Thomas D. Ryan, MD, PhD

Ivan Wilmot, MD

Sam Wittekind, MD

CONTACT US

For patient referrals and non-urgent consultation during business hours, contact the program directly at:

Phone: 513-803-0283  
vads@cchmc.org

DEVICES AVAILABLE

Short-term/transport support devices

• Extracorporeal Membrane Oxygenation
• Rotaflow

Long-term support devices

• 50cc and 70cc Total Artificial Hearts
• Berlin Heart

Lung assist devices

• Quadrox

SPECIALTY CARE COORDINATION AND EDUCATION

A multidisciplinary team, led by VAD-trained physicians, reviews all referrals and assists in coordinating transport to our facility. Each patient we care for receives a thorough evaluation, comprehensive treatment plan and ongoing medical care. Specialists in hematology, pain management, neurology, infectious disease and psychology collaborate with our team to ensure the highest level of care.

Our team provides intensive support for caregivers and patients during the hospital stay and after discharge. Children with a device who qualify for discharge are followed closely in our VAD clinic. Our VAD educators train staff, caregivers, and patients with a variety of modalities including simulation learning. Teachers and local EMS personnel are also trained to respond appropriately in an emergency. A VAD team member is available through our hotline 24 hours a day to answer questions from referring physicians, patients and parents. We also offer a national and international training program.

VAD INNOVATIONS AT CINCINNATI CHILDREN'S

Our commitment is to innovation and this is reflected by the following examples:

• We recently performed the first VAD to heart and liver transplant in a patient who had Fontan Circulatory failure. The patient received a HeartMate 3 device and was discharged home to wait for suitable organs for him. He received his heart and liver transplant in June 2020 and has been discharged home.

• We were the first in the United States to implant a VAD in a patient with Duchenne muscular dystrophy (DMD). Now we have implanted VADs in five DMD patients and discharged them to home.

• We implanted and supported a child with a Berlin Heart through a full course of chemotherapy to transplant and discharge home.

• We transported a teenage boy on ECMO and transferred him to the Total Artificial Heart. He was successfully transplanted after three months of support. We have now implanted six total artificial hearts.

• We have implanted durable VADs in four Fontan patients, and we were the first worldwide to implant a Fontan patient using the HeartMate 3 device.

• Our program includes Lung Assist Devices that support patients until lung transplant.

• We use high fidelity simulation training to enhance education. We use simulation to keep our clinicians and families proficient.

• We have also used simulation to train multiple VAD programs from around the world.

• We are the Co-Sponsor of the Action learning network (Advanced Cardiac Therapies Improving Outcomes Network — www.actionlearningnetwork.org).

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link at 1-888-987-7997.