

- :: A review of the common symptoms
- :: Testing procedures
- :: Non-surgical and surgical treatment options



About The Heart Center

The Heart Center at Nationwide Children's Hospital has earned an international reputation for innovation and forward thinking. From the creation of the world's first Hybrid Cardiac Catheterization Suites and the first Hybrid Congenital Cardiac Operating Room in the nation, to the development of a comprehensive adolescent and adult congenital heart disease program, The Heart Center team is constantly looking to improve care options. Recently ranked as one of America's best for Heart and Heart Surgery by *U.S.News & World Report*, you can be assured that your patients have access to expertise and resources that can handle any level of care necessary.

Our world-class team, comprised of cardiologists, surgeons, intensivists, nurses and technicians, have in place all the comprehensive services and resources such as electrophysiology, interventional cardiology, cardiothoracic surgery and echocardiology, just to name a few, readily available for you and your patients. We offer convenient outpatient cardiology services at our main campus and *Close To Home*SM Center locations throughout Columbus and throughout the Ohio region.

About Cardiothoracic Surgery

The cardiothoracic surgical program at Nationwide Children's Hospital is dedicated to the treatment of patients with congenital disorders of the thorax which includes heart, lungs, mediastinum and chest wall. Non-cardiac thoracic diseases that the surgeons in the cardiothoracic program treat include chest wall deformities, such as Jeune's Syndrome and pectus deformaties, in addition to Benign Thoracic Disorders and Primary or Secondary Malignant Thoracic Diseases. Successful diagnosis and treatment is accomplished by a multidisciplinary team of specialists from Hematology/Oncology/BMT, Pulmonary Medicine, Physical Therapy, Plastic Surgery and Cardiothoracic specialists, who tailor the treatment to meet individual patient needs.

In addition to the premier team of experts, Nationwide Children's continues to be a pioneer in the development of new strategies for treating patients, including being one of the first children's hospitals in the nation to utilize 3D Video Assisted Thorascopy. This technology provides improved clarity to perform the most delicate maneuvers within the thoracic cavity and allows us to expand the use of minimally invasive techniques to the treatment of our patients.

PHYSICIAN TEAM



Mark Galantowicz, MD, FACS Chief, Cardiothoracic Surgery Co-Director, The Heart Center



Alistair Phillips, MD Attending Surgeon, Cardiothoracic Surgery



FACC, FSCAI
Director, Catheterization and
Interventional Therapy
Co-Director, The Heart Center

John P. Cheatham, MD, FAAP,



Timothy Feltes, MD, FACC Chief, Cardiology Co-Director, The Heart Center



Timothy M. Hoffman, MDMedical Director, Heart Transplant and Heart Failure Program





- :: ICAEL Accredited Echocardiography Laboratory
- :: OptumHealth Center of Excellence for Congenital Heart Disease (CHD), one of 14 centers in the U.S.
- :: Ranked as one of America's best for Heart and Heart Surgery by U.S.News and World Report
- :: Ranked third in the nation by Parents magazine

The Heart Center at Nationwide Children's Hospital wants to help serve the health needs of infants, children and adults with congenital heart disease by delivering the highest quality, timely and convenient patient care possible. The Heart Center offers comprehensive cardiac services and resources including 11 regional outreach clinics supporting Columbus and contiguous counties that provide you and your patients ease of access with an entire hospital and expert team behind every clinic.

REGIONAL SERVICES AVAILABLE

The Heart Center offers patient evaluation for infants, children and adolescents, as well as the following services:

- :: ECG, Echocardiography
- :: Evaluation of murmurs
- :: Evaluation of chest pain and syncope with possible cardiovascular causes
- :: Cardiology clearance for school sports participation
- :: Follow-up visits for cardiac patients



Visit us at www.NationwideChildrens.org/HeartCenter for more information, including:

- :: custom driving directions for your patients
- :: downloadable fact sheets
- :: physician information

REFERRAL PROCESS FOR CARDIAC SERVICES

Nationwide Children's Hospital has been improving the referral process through better access by implementing an easier process for physicians. Physicians will have the ability to schedule referrals by utilizing any of the new centralized options:

Scheduling phone number

(614) 722-6200

Fax referrals

FAX (614) 722-4000

Schedule a referral online using the online referral form available at www.NationwideChildrens.org

Physician Direct Connect Line

A physician consult/transfer center (614) 355-0221 or toll-free 877-355-0221

PRACTICE TOOL

Heart Failure

The Heart Center at Nationwide Children's Hospital provides comprehensive care to infants, children and even adults with heart failure. The program is recognized by United Network for Organ Sharing (UNOS) as a nationally accredited center. The first heart transplant at Nationwide Children's Hospital was performed in April 2003. Since this time, our program continues to grow and gain national and international recognition. Our center received international recognition for performing a domino transplant involving the youngest living donor.

WHAT IS HEART FAILURE?

Heart failure, also called congestive heart failure, is a life-threatening condition in which the heart's ability to squeeze is weaker than normal. As a result, the heart works less efficiently and cannot pump enough oxygen and nutrients to meet the body's needs.

REASONS FOR HEART FAILURE MAY INCLUDE:

- :: Complex congenital heart disease with no option of surgical repair
- :: Complex congenital heart disease where surgical repair has failed
- :: Cardiomyopathy or weakness of the heart muscle

WHAT ARE COMMON SYMPTOMS?

- :: Difficulty breathing
- :: Sweating with bottle feedings
- :: Decreased appetite and/or bottle feedings
- :: Poor weight gain
- :: Fast breathing
- :: Decreased activity
- :: Swelling of lower legs
- :: Swelling of the abdomen
- :: Nausea
- :: Vomiting
- :: Diarrhea
- :: Irritability
- :: Cough
- :: Dizziness
- :: Fluid retention
- :: Pronounced neck veins
- :: Irregular or rapid pulse
- :: Inability to sleep laying flat

PRACTICE TOOL

TESTING

A physical examination may reveal either an irregular or a rapid heartbeat. In infants, there may be failure to thrive, tachypnea, retractions, enlarged liver, peri-orbital edema and cool extremities. In children and adolescents, one may find peripheral edema, resting increased heart rate, and signs of excessive fluid within the lungs (pulmonary edema). Testing could include the following:

:: Blood tests

:: ECG

:: Echocardiogram

:: Heart catheterization

:: Chest X-ray / CT scan

:: Cardiac MRI

NON-SURGICAL AND SURGICAL TREATMENT OPTIONS

What to expect? Most patients can be treated with medications including diuretic therapy, afterload reduction using ACE inhibitors and other agents like Coreg (Carvedilol). These patients need to be followed regularly and monitored for changes in their symptoms.

Non-surgical: Patients are treated with diuretic therapy to maintain a balance of water in the body and reduce the signs of heart failure like peripheral edema. ACE inhibitors, like Enlapril, are used as an afterload reduction and also to help the heart remodel to better function as a pump.

Surgical: With progression of symptoms, patients may require heart transplantation. Before heart transplant is considered, children and adults with heart failure may be managed with many medications. These medications work together to optimize heart function. It is important to take these medications as ordered and to watch for signs and symptoms of heart failure. For patients with rapidly progressive deterioration patients may benefit from mechanical support. Depending on the age of the patients several different devices are available and have to be matched to the patient's age and size.



The Heart Center

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