

Heartfelt Advances

A Pioneer in the Field of Cardiovascular Medicine

Since its beginning in 1981, NMMC's heart program has grown not only in volume, but also in capabilities.

Ablation Maze Procedure

NMMC was among the first hospitals nationwide to offer the ablation maze procedure. A device placed on the outside of the heart delivers ultrasound energy across the wall of the heart to cause an electrical block in an attempt to stop atrial fibrillation permanently. This technique is used in conjunction with cardiopulmonary bypass during heart surgery or done as a minimally invasive procedure through a small incision.

Cardiac CT

NMMC is leading the nation with advancements in using multi-slice computed tomography (CT) technology to diagnose coronary artery disease.

Cardiac MRI

NMMC is among the first in the nation to offer cardiac MRI, a painless, noninvasive test used to examine the size and thickness of the heart chambers and how well the heart is pumping. The tool also allows a physician to determine the extent of damage caused by a myocardial infarction or to evaluate progressive heart disease, including congestive heart failure. MRI may be used to evaluate patients needing Surgical Anterior Ventricular Remodeling (SAVR) surgery to increase the ejection fraction or pump function of the heart.

Mini-Valve Procedure

The mini-valve procedure allows NMMC cardiothoracic surgeons to perform a mitral valve repair/replacement or aortic valve repair/ replacement through a three-inch incision. These patients have fewer complications, decreased blood loss and a quicker recovery.

Endoscopic Vein Harvest

NMMC cardiothoracic surgeons use this minimally invasive procedure to harvest the greater saphenous vein in the leg for coronary artery bypass surgery. Because this procedure uses only a 2cm incision, these patients have less pain, fewer complications and recover faster.

Drug Eluting Stents

NMMC offers drug coated stents, which reduce the incidence of reblockage by more than 90 percent compared with a traditional bare metal stent.

4-D Echocardiography

NMMC's echocardiography laboratory uses a cardiac ultrasound system providing real-time, four-dimensional images of the heart. This innovation allows cardiologists and surgeons to view the heart as if they were holding it in their hands and helps physicians better diagnose cardiac problems. The image can be manipulated by changing the angle, looking down into the heart or looking up through the bottom of the heart with amazingly detailed pictures.

Cardiac Resynchronization Therapy

NMMC cardiologists were among the first in the nation to use cardiac resynchronization therapy, a new treatment for heart failure that uses an implantable device to improve the heart's pumping capacity. The left ventricle is the most important pumping chamber of the heart and normally contracts in synchrony to move blood through the body. However, in many patients with heart failure, the electrical impulses that coordinate the heart's contractions are sluggish. The right side of the heart is pumping while the left side is still waiting for an electrical impulse. As a result of the time delay, the patient's heart does not squeeze well.

This disorganized beating can worsen symptoms of heart failure, which include shortness of breath, fatigue, and swelling of the feet and ankles. While medications and dietary and lifestyle modifications are helpful, the growing population with advanced heart failure was left with no further options until now.

Advanced Cardiac Mapping

NMMC leads the region in treatment of atrial fibrillation with state-of-the-art ablation techniques and advanced mapping systems to detect complex abnormal heart rhythms. NMMC's electrophysiologists were the first use a new computer-generated, 3-D "virtual heart" to find the spot where odd heartbeats originate. The state-of-the-art cardiac catheter system allows physicians to more quickly and accurately map electrical current inside the hearts of patients who have irregular heart rhythms, known as arrhythmias. The new system allows the physician to move the heart around on the screen in three dimensions and look at it from different sides, from above and below. The new system is a giant leap forward because it gives physicians a clear picture of the heart chamber's

electrical activity in only a few beats, which will help identify the exact location of a patient's arrhythmia.

ASD/PFO Closure

NMMC cardiologists recently pioneered using the Amplatzer to repair two common heart defects—atrial septal defect (ASD) and patent foramen ovale (PFO). The Amplatzer works much like a button to close a hole in the atrial septum. This is placed using echo and X-ray guidance in the Cardiac Catheterization Lab using small catheters inserted through the leg veins. All patients are required to take aspirin for six months after implantation. The success rate for this procedure to close the hole is the same as open heart surgery but with a much lower complication rate and no scar.

Advanced Lung Center

Launched in 2007, the NMMC Advanced Lung Center uses a multidisciplinary approach to diagnose, treat and provide rehabilitation to patients with lung disease. Pulmonologists, medical and radiation oncologists, thoracic surgeons and support personnel work together to provide a seamless approach for lung patients. NMMC also offers a variety of support services and community programs to enhance the care of lung patients.

Few decisions are more important than choosing a heart program. To learn what makes the NMMC Heart Institute tick, call 1-800-THE DESK (1-800-843-3375).