

Heart Disease: Taking Minimally Invasive Interventions to the Max



When it comes to heart disease, the facts are sobering. Heart disease is the leading cause of death in the United States, claiming about 700,000 lives a year. Fortunately, the heart specialists affiliated with Memorial Hermann Heart & Vascular are dedicated to discovering new ways to prevent and treat heart disease.

As affiliated interventional cardiologist Nadish Garg, MD, explains, physicians at Memorial Hermann are employing innovative, minimally invasive techniques to treat most heart conditions, including coronary artery disease, heart valve diseases and heart abnormalities, which once required open surgery. As a result, patients typically experience less pain and shorter hospitalizations and recoveries. Dr. Garg sees patients at Memorial Hermann Southeast Hospital.

What is coronary artery disease, and how can it be treated?

Coronary artery disease is the most common form of heart disease. It occurs when arteries, which bring blood to the heart muscle, become blocked due to a buildup of plaque. At Memorial Hermann Southeast, we have a comprehensive cardiovascular program which offers both minimally invasive coronary interventions, such as stenting and angioplasty, as well as coronary artery bypass graft (CABG) surgery for patients with multivessel disease or for whom minimally invasive procedures are not suitable.

When performing the minimally invasive procedures, the surgeon enters the patient's blocked artery through a small puncture, typically in the wrist or leg, and threads a small tube, called a catheter, into the artery to open the blockage. The surgeon uses either a tiny lattice-shaped metal tube, called a stent, or a tiny balloon device, to keep the blocked artery open. We employ some of the most advanced tools available to perform these procedures safely and effectively.

What treatments are available for patients with heart valve problems?

The heart contains four types of valves—aortic, mitral, tricuspid and pulmonary—which help move blood through the heart and throughout the body. At Memorial Hermann Southeast, we treat all forms of heart

valve disease, including the two most common forms, aortic and mitral valve disease.

Memorial Hermann Southeast is one of five hospitals within Memorial Hermann Health System in which heart specialists treat aortic stenosis, a narrowing of the aortic valve, with a minimally invasive procedure called transcatheter aortic valve replacement (TAVR). During the procedure, the surgeon accesses and replaces the diseased valve through a catheter inserted into the artery via a small puncture in the patient's leg or chest. Patients typically go home the next day. We recently performed our 100th TAVR procedure.



Dr. Nadish Garg
Cardiologist

What is the connection between heart care and stroke prevention?

Atrial fibrillation (AFib), a heart condition characterized by irregular heartbeat, increases an individual's risk of stroke by four to six times, on average, and the risk increases with age. In people over 80 years of age, AFib is the direct cause of one in four strokes. To mitigate the risk of stroke in patients with AFib, we typically prescribe anticoagulants, commonly known as blood thinners. But in patients who cannot take blood thinners, including those with bleeding problems or those at high risk of falling, we offer a minimally invasive procedure called left atrial appendage occlusion (LAAO). During the procedure, the cardiologist inserts a device to close off the left atrial appendage to prevent stroke when in AFib. Patients are typically discharged the following day and will no longer need to take blood thinners. To date, we have performed over 50 cases.

Another common cardiac condition that can lead to stroke is called patent foramen ovale (PFO), a hole between the upper chambers of the heart present in everyone before birth. In most of the population, the PFO naturally closes before birth. In about 25%, however, the PFO doesn't close and can lead to what we call paradoxical embolic stroke. We carefully evaluate a stroke patient to rule out other causes, such as carotid artery disease or cardiovascular disease, before we consider them a candidate for PFO closure. The procedure to close the PFO is performed through a vein in the patient's right leg and takes about 45 minutes to an hour.

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