Transcatheter treatment of mitral regurgitation:
The MitraClip®

Mitral regurgitation is the most common form of heart valve disease. An estimated 4 million adults in the United States have significant mitral regurgitation. Currently, only a small fraction of these patients undergo mitral valve surgery. This unmet clinical need has spurred efforts to develop alternative means to treat mitral regurgitation. Beaumont has been an investigational site for the MitraClip® procedure since 2008 and recently performed the first commercial case in Michigan.

The MitraClip® is a transfemoral catheter-based procedure performed under general anesthesia. With transesophageal guidance, the MitraClip® is placed at the zone of mal-coaptation. This draws the leaflets together, improves coaptation, and reduces the degree of mitral regurgitation.

In October 2013, the MitraClip® was approved for high risk patients (STS estimated risk of operative mortality >8 percent) with 3-4+ mitral regurgitation secondary to mitral valve prolapse or a flail leaflet. Beaumont is also among a select group of sites evaluating the MitraClip® in patients with functional mitral regurgitation due to ischemic or non-ischemic cardiomyopathy. In the COAPT, trial high risk patients with 3-4+ functional mitral regurgitation on optimal medical therapy (and cardiac resynchronization therapy if indicated) are randomized to the MitraClip® versus medical therapy. Currently <10 percent of patients with significant functional mitral regurgitation are treated with surgery. The objective of the COAPT trial is to determine whether this large population of patients will benefit from treatment of mitral regurgitation.

For more information, or to refer a patient, please call 888-683-7678.

Research

Beaumont’s Heart and Vascular Research department is one of the largest in the country with many ongoing leading edge clinical research trials.

Selected Current Trials

Toray hot balloon ablation trial

Beginning in December, Beaumont Health System will be the first center in the world outside of Japan to employ the promising new technology called the “Hot Balloon” for ablation of atrial fibrillation. This catheter is inserted into the pulmonary vein antra of patients with symptomatic paroxysmal atrial fibrillation (AF), and a compliant balloon is inflated with saline to the point of antra occlusion. A radiofrequency electrode within the balloon heats the saline to 70°C, and tissue in contact with the balloon is thermally ablated, resulting in electrical isolation of pulmonary vein antra with block of triggering impulses that cause AF. Beaumont physicians are hopeful that the procedure is a safer, faster treatment option for atrial fibrillation ablation.

Principal Investigator: DAVID HAINES, M.D.
Coordinator: JIM WEGNER, 248-898-3123, jwegner@beaumont.edu

MASTER II: MGuard prime stent system in patients with acute ST elevation myocardial infarction

Distal embolization of thrombus and atherosclerotic material occurs frequently during acute infarct angioplasty, and is associated with worse angiographic and clinical outcomes. The MGuard System, a balloon-expandable stent that is wrapped with a fiber mesh, is designed to trap and exclude friable thrombotic and atheromatous material between the vessel wall and micronet mesh, thereby preventing distal embolization. Patient with acute ST-segment elevation (<12 hours from onset) will be randomized to the MGuard System or a conventional stent (bare metal or DES). The primary study endpoint is the rate of complete ST-segment resolution (a marker of myocardial perfusion) 60-90 minutes after PCI.

Principal Investigator: NISHIT CHOKSI, M.D.
Study Coordinator: ANN MCHUGH, RN, 248-898-6549, amchugh@beaumont.edu
The role of cardiac MRI imaging for heart failure

Cardiac imaging plays a central role in the diagnosis and management of patients with heart failure. Cardiac MRI has emerged as a powerful imaging tool to assess cardiac anatomy, ventricular function, and assessment of myocardial viability. Further, it allows assessment of perfusion and identification of acute and/or chronic injury patterns related to ischemic as well as non-ischemic cardiomyopathies. The information obtained from cardiac MRI imaging often identifies the etiology of heart failure, and its accurate quantification makes cardiac MRI an ideal test for monitoring disease progression. To schedule a cardiac MRI, patients can contact Beaumont’s Appointment Center at 800-328-8542.

IVC filters

The number of inferior vena cava filters placed each year continues to increase. This increase is most likely a result of a combination of factors such as, improved technology, increased diagnosis of DVT (deep vein thrombosis), and a shift from absolute indications to relative indications and prophylaxis. Absolute indications for IVC filter placement include contraindication to anticoagulation, failure on therapeutic anticoagulation, and heparin associated thrombocytopenia-thrombosis syndrome. Relative indications include old age with risks of falls, poor compliance, neoplasm with risk of bleeding, and postoperative patients with an increased risk of significant bleeding complications, free-floating clot and massive pulmonary embolism (PE) in which recurrent emboli could be fatal. Prophylactic indications have consisted of trauma patients, patients undergoing surgery for morbid obesity and prolonged immobility. Although controversy surrounds both the specific indications and the type of filter that should be utilized, IVC filters remain an integral part of the treatment of patients with DVT. For more information, read our article in the Journal of Vascular Surgery (Vol. 47, 157-165) or click here to learn more.

For more information visit: heart.beaumont.edu or to talk to a Beaumont heart and vascular specialist, call 888-877-8766.

DID YOU KNOW?

Beaumont, Royal Oak’s recently opened Rossiter Cath Lab has two very unique features. The lab has the first Trinity lead shielding system in the country for commercial use, which provides superior radiation protection for the cardiologists. In addition, the X-ray imaging equipment, Artis Q.zen, provides higher quality images with less radiation exposure to the patient. Beaumont is also first in the country to have this imaging technology.