As demographics shift to an older age group with greater longevity, heart valve procedures are under increasing demand—the most common of which corrects mitral valve regurgitation (MR). The MitraClip®, a new, percutaneous catheter-based procedure, reduces (MR) for patients for whom open-heart surgery poses high risk.

“To date, only a fraction of patients who need mitral valve surgery can undergo it, because of age or co-morbidities,” said Atiq Rehman, MD, FACS, director of minimally invasive cardiac surgery and co-director for structural heart disease at Our Lady of Lourdes Medical Center. This summer, Dr. Rehman performed Lourdes’ first mitral clip procedures with interventional cardiologist Ibrahim Moussa, DO, FACC, FSCAI, RPVI, and clinical cardiologist Geoffrey Zarrella, DO, FACC, who provided the echocardiographic guidance. “Now, with the MitraClip, we have another option, and one that dramatically decreases the volume of mitral leakage,” he said.

Clips Leaflets for Better Closure and Double-Orifice Opening

Used successfully with tens of thousands of patients worldwide, but only more recently in the U.S., the innovative MitraClip procedure is for severe degenerative (primary/organic) MR caused by a physical defect of the valve. At Lourdes, the procedure is performed in a hybrid operating suite, which combines state-of-the-science imaging capabilities of a cardiac catheterization lab with the environment of a traditional operating room. Transesophageal echocardiography (TEE) is essential to delivering and deploying the MitraClip.

In this beating-heart procedure, the team introduces a guidewire through a vein in the groin, advances it to the right atrium and crosses the wire through the atrial septum into the left atrium via a small puncture. The clip-containing catheter that follows the guidewire is steerable through its ability to articulate. The team positions the clip, shaped like a miniature clothespin, precisely above the leak in the valve and then advances it into the left ventricle below the valve leaflets. The specialists retract the clip to capture the tips of the leaflets and hold them together. If need be, they can reopen and reapply the clip during the procedure until they find a final grasping position that achieves maximal MR reduction. The double-orifice opening achieved on each side of the clip allows blood to flow from the atrium while permitting better valve closure during systole.

Symptom Relief Nearly Immediate

Symptom relief occurs very quickly after the procedure. Lourdes has discharged its MitraClip patients after just an overnight stay in the hospital, and patient physical capacity improves markedly with the added cardiovascular capacity and efficiency. Mitral valve repair significantly reduces subsequent hospitalization for heart failure.

Prior to this recent innovation, only a fraction of patients who need valve repair for mitral regurgitation have been able to undergo surgery.

“This is great example, too, of the utility of our hybrid OR, where surgeons, interventional cardiologists, electrophysiologists, and echocardiographers can work together,” said Dr. Moussa. “We are able to easily convert to traditional open surgery, if the need arises, by simply shifting equipment at the operating table.”

Lourdes is a leading center for other minimally invasive endovascular interventions and operations, including robotic cardiovascular surgery. It provides transcatheter aortic valve replacement (TAVR), the Watchman stroke-prevention device, dissolving stents and wireless pacemakers. Lourdes seeks to add other catheter-based valve interventions as they become available.
New App Improves Cardiac Rehab Participation Through Greater Patient Engagement, Convenience

With mobile devices, especially smartphones, having a burgeoning impact on patient health and engagement, select heart centers are taking advantage of a new tool to increase enrollment in and completion of cardiac rehabilitation. Since last year, Lourdes has been offering the Movn phone app to track patient progress and encourage patients to start and finish cardiac rehab. With this inventive tool, patients need fewer onsite appointments.

The new approach seeks to break barriers to participation in an essential form of care for patients who have suffered a heart attack or undergone a surgical or interventional cardiac procedure. More than half of these patients fail to enroll in cardiac rehab, even though such programs would significantly decrease their chances of event recurrence. The new app sets goals in exercise; helps track weight, blood pressure and other vitals; and provides reminders and encouragement, as it decreases the need to come to the rehab center.

“We are excited to offer patients this new model, as a more convenient way to complete cardiac rehabilitation,” said Maryann Classick-Wallace, RN, BSN, director of noninvasive cardiology and cardiac rehab at Lourdes. “Cardiac rehab teaches healthy lifestyle changes and is proven to enhance quality of life.”

But cardiac rehab normally requires visits to an outpatient center three times a week for eight to 10 weeks. Challenges in the areas of transportation, work schedules and affordability stop many individuals. The app strategy helps hospitals to, instead, implement a more home-based cardiac rehabilitation. After a few initial education and exercise appointments, patients come to LourdesCare at Cherry Hill only once a week, if using the Movn app.

Developed by Moving Analytics, the phone app guides patients through an individualized care plan. Patients need (or can borrow) a scale, blood pressure cuff, fitness tracker and smartphone or tablet. A web-based portal enables staff to track an individual’s progress, communicate with him or her and administer care plans. The app gets patients moving if they are sedentary for too long, and patients enjoy the decrease in logistical arrangements along with the increase in continuity of contact and lower costs.

Lourdes staff members can see trends in an individual’s routine or status, and can identify at-risk patients. “We can tailor things because we have insight into patients’ behaviors at home,” said Classick-Wallace. “We are alerted if anything is out of our set parameters for a particular individual, such as weight or blood pressure, and we convert to phone-based counseling or an extra visit as needed.”

Patients seem motivated to meet exercise goals, and they appreciate being monitored in a way that lets them know if they are overdoing it or not doing enough. A handful of other leading centers have adopted the program. Lourdes is the first in the tri-state area to offer it.

For more information, visit www.lourdesnet.org