



Today

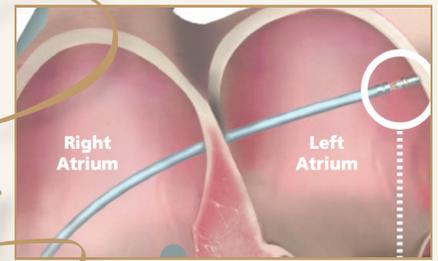


Image courtesy, Biscense Webster.

Representation of contact-measuring RF catheter advanced trans-septally to pulmonary vein.

EP Responds to Afib Needs with Advanced Catheters

With atrial fibrillation (Afib) on the rise, cardiologists are looking to keep pace through improved interventions. Emphasis on nonsurgical treatment has brought two new, improved options in ablation catheters that are making Afib treatments easier and more precise.

Afib is the most commonly occurring cardiac dysrhythmia, affecting millions in the United States. The lifetime risk over age 40 is approximately 25 percent. Incidence of Afib may double between 2010 and 2030, due partly to better surveillance, an aging population and ability to treat related cardiac conditions.

With the substantial morbidity associated with Afib, electrophysiology (EP) specialists are looking to improve their ability to ablate the source of abnormal signaling—primarily near the pulmonary veins (PV). “Pulmonary vein isolation is the cornerstone of treatment, and we have a choice of advantages from different catheters now,” said Lourdes cardiologist Devender Akula, MD.

Two Technologies Expand Options

First-line Afib treatment has almost always been medication. But long-term toxicity and relatively low success rates (peaking at 60 percent) have limited drug effectiveness. If the patient has no significant symptoms, then controlling rapidity of heartbeat may be enough; if symptoms or heart muscle weakening are present, getting the patient back into regular rhythm often becomes necessary.

Catheters using radiofrequency (RF) energy have been the primary tool, with the goal to create a ring of ablated tissue around the PV. Innovations in these and other types of catheters have improved the success rates and in many cases allow ablation to be used as first-line therapy without trying anti-arrhythmic medications:

- In **cryoablation**, the Lourdes EP team confirms the PV potentials with a loop catheter, then introduces a balloon catheter to the base of the PV and inflates the balloon to achieve full occlusion and a ring of contact where tissue will be frozen through instillation of nitrous oxide into the balloon. The procedure needs only one transseptal puncture (versus the two frequently required for RF ablation), and does not involve 3-D mapping. Cryoablation is applicable chiefly to patients diagnosed with paroxysmal Afib. It is generally faster and easier to perform than RF ablation.

The goal is to restore sinus rhythm to alleviate disabling Afib symptoms of rapid and inefficient heartbeats.

- Lourdes electrophysiologists also now use an RF catheter that provides readings on the force applied to the cardiac surface. The **contact-force measuring catheter** system also takes advantage of 3-D electromapping. (RF ablation can be used for patients with newly diagnosed or longstanding Afib. It requires multiple maneuvers and point-to-point ablation around the PV.) “A reliable measure of catheter contact with the cardiac surface is something we have not had in the past. Now, we can be sure that we are actually ablating cardiac tissue and can know when we are applying too much pressure,” said cardiologist Steven Levi, MD, of the Heart House.

A Well-Tolerated Procedure for Long-Term Relief

Until recently, ablation for Afib typically took several hours in the catheterization lab, but that time has come down. Patients are ambulatory and go home the same day or the following day, remaining on blood thinners for at least 90 days as a precaution. “About 60 to 70 percent of patients with chronic Afib, and about 70 to 80 percent with paroxysmal Afib, tend to get long-term relief with catheter ablation,” said Lourdes cardiologist Darius Sholevar, MD.

Catheter ablation has been used extensively to treat other rhythm abnormalities, including tachycardia. On the horizon as well is greater use of combined surgical- and catheter-ablation procedures conducted in the same session, primarily for patients who have been in symptomatic atrial fibrillation for a long time, have large left atria or have failed catheter ablations. ✦

For more information, visit www.lourdesnet.org or call 1-888-LOURDES (1-888-568-7337).

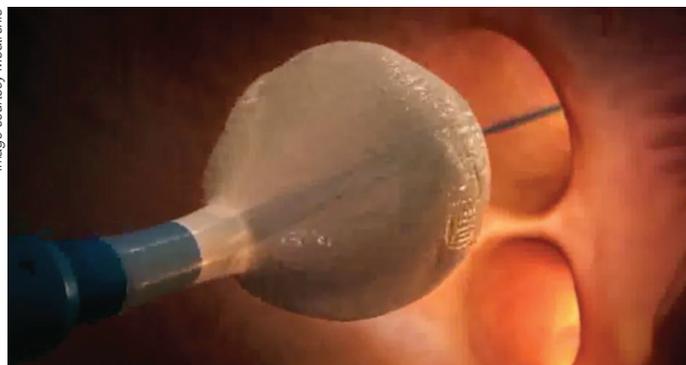


Image courtesy Medtronic

Depiction of cryoballoon entering pulmonary vein.

Remote Heart Failure Monitoring Reduces Hospitalizations

Our Lady of Lourdes Medical Center is the first facility in South Jersey to implant a new miniaturized, wireless monitoring sensor to manage heart failure (HF). The CardioMEMS HF System is the only FDA-approved heart failure monitoring device proven to significantly reduce hospital admissions when used by physicians to manage HF. CardioMEMS, made by global medical device company St. Jude Medical, Inc., can detect worsening of a patient's heart failure before symptoms become apparent.

"This important new device allows us to get ahead of care and proactively treat patients who, without intervention, likely would end up in the hospital," said cardiologist Robert Mohapatra, MD, Director of the Lourdes Heart Failure Program.

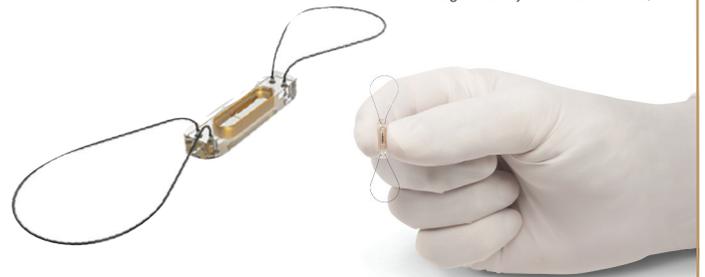
Lourdes is one of only 30 hospitals nationwide selected by St. Jude to begin implanting the device. Pressure in the pulmonary arteries increases as heart failure worsens. Increased pulmonary artery pressures appear before weight and blood-pressure changes, which are often used as indirect measures of increasing heart failure.

CardioMEMS is a 10 millimeter-long sensor that is implanted in the distal pulmonary artery, in a procedure similar to a cardiac catheterization. "Placing the device takes less than an hour and the patient leaves the hospital within a few hours," said Lourdes cardiologist Devender Akula, MD.

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Image courtesy of St. Jude Medical, Inc.



At home, the patient uses a portable unit and a special pillow containing an antenna to take daily readings. The CardioMEMS sensor is powered by radiofrequency energy from the reading unit, which then transmits the data wirelessly to a secure website.

Ambulatory monitoring with the CardioMEMS system is indicated for patients with Class III heart failure. The CHAMPION trial demonstrated a 37 percent reduction in heart failure hospitalizations at 15 months with use of the new device. Subanalysis of the data suggests a mortality benefit as well; further research on this finding is ongoing. Lourdes is participating in a registry of patients to further evaluate such outcomes with CardioMEMS. 

*See recent media coverage of CardioMEMS use at
Lourdes — <https://www.lourdesnet.org/cardioMEMS/>*

**For more information, visit www.lourdesnet.org or call
1-888-LOURDES (1-888-568-7337).**

Other new devices:

Cardiology services at Lourdes Health System are looking to make early use of the Watchman device, a fabric membrane on a small wire frame that is implanted by catheter in the opening of the left atrial appendage to prevent blood clots of harmful size from exiting this region of the heart. The device reduces risk of stroke in patients with Afib who cannot take blood thinners.