The New Look of Open-Heart Surgery at Good Samaritan Hospital
FOR YEARS, PATIENTS needing cardiac surgery have sought treatment from St. Francis Hospital’s cardiac surgeons because of their experience — in the last 10 years, more than 16,000 open-heart procedures have been performed there. But for Suffolk County residents, the travel requirement involved in receiving care at the Roslyn hospital can make a difficult situation even more trying.

“There’s nothing worse for family members than having a loved one in the hospital for open-heart surgery and needing to arrange visits between work and trying to bring children to any of their countless activities,” says Christopher La Mendola, MD, FACS, FACC, Chair of the Department of Cardiothoracic Surgery and Director of the St. Francis Open Heart Surgery Program at Good Samaritan Hospital.

“Good Samaritan Hospital realized this and forged a relationship with St. Francis Hospital to bring world-class cardiac surgical care to Suffolk County.” Approximately five years ago, the process to bring the open-heart surgery program to Good Samaritan Hospital began. Dr. La Mendola notes that both institutions were committed to meticulously and deliberately constructing an open-heart surgery program in Suffolk County that brought every component of the expertise and spirit of St. Francis Hospital’s program to Good Samaritan Hospital.

“In this day and age, many mergers or acquisitions change little but the name of the institution,” Dr. La Mendola explains. “That’s something we were adamantly opposed to. We didn’t want this to be a marketing ploy — we wanted to make this St. Francis Hospital-caliber cardiac surgery at Good Samaritan Hospital.”

So, an extensive renovation process began to outfit operating rooms with the most leading-edge technology available for open-heart surgery. The plan also included new ICU and telemetry.
units — located proximally for optimal management and convenience — as well as improvements to Central Supply and the facility’s elevators.

Maksim Rovensky, DO, cardiothoracic surgeon at the St. Francis Open Heart Surgery Program at Good Samaritan Hospital, explains that the initiative facilitates a streamlined patient experience, from the point of entry — typically a physical examination and diagnostic workup from one of Good Samaritan Hospital’s cardiologists — through surgery and postsurgical care in the brand new ICU and cardiac surgery floor.

“The ICU is one of the most beautiful, state-of-the-art facilities I’ve ever seen, and I’ve worked at some of the best hospitals in the world,” Dr. Rovensky says. “After completing their ICU courses, patients move to the cardiac surgery floor, which is situated next to the ICU for optimal management.”

**It Takes Experience**

Once the facilities had been tailored for efficiency, seasoned St. Francis personnel joined the team at Good Samaritan Hospital.

“It’s the people who make the team, and we brought people from St. Francis who have abundant experience working together to treat cardiac surgical cases,” Dr. La Mendola says. “We brought cardiac perfusionists and anesthesiologists, as well as circulating, ICU and telemetry nurses with us. Everyone involved in cardiac surgical care is someone who’s had many years of experience. This is the most important aspect of the program at Good Samaritan Hospital — we’re not just creating a de novo program, we’re bringing an established department.”

Dr. La Mendola notes that St. Francis’ patient volume has been among the highest in the country for years, and at its peak, he estimates that 2,600 open-heart procedures were performed annually. According to Dr. La Mendola, the immersive volumes sharpened his and the entire team’s abilities.

In addition to those charged with caring for patients during their hospitalization and treatment, which also includes respiratory therapists, the program has a complete staff of ancillary service providers, including social workers and nutritionists. Both hospitals are Magnet-designated and recognized for nursing excellence.

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**THE LABYRINTHINE HEART PROCEDURE**

**ATRIAL FIBRILLATION** is an arrhythmia that occurs when the heart’s normal sinus rhythm is disrupted by abnormal electric impulses, causing it to beat irregularly. This type of arrhythmia can be benign, but if left untreated, the risk for stroke can increase.

Christopher La Mendola, MD, and Maksim Rovensky, DO, cardiothoracic surgeons at the St. Francis Hospital Open Surgery Program at Good Samaritan Hospital, perform the MAZE procedure, in which they use a special cryoprobe to deliberately freeze areas of the heart. This builds a “maze” of scar tissue.

“Scar tissue doesn’t conduct electricity, so creating a maze of scar tissue traps the abnormal signal causing arrhythmia,” Dr. Rovensky says. “The rhythm doesn’t propagate outside the maze, and the rest of the heart continues to beat normally because it doesn’t feel it.”

For optimal treatment, patients with suspected atrial fibrillation should be referred to cardiologists who can evaluate the necessity of intervention with a full diagnostic workup. Dr. Rovensky explains that the MAZE procedure is best for new arrhythmias that haven’t significantly changed the structure of the heart.

The MAZE procedure can be performed alone or in conjunction with valve replacement operations. When combining the MAZE with a valve procedure, Dr. Rovensky uses a conventional sternotomy approach, but electrophysiologists use minimally invasive methods to perform the MAZE on its own.

“Essentially, the way it was set up was that the entire team from St. Francis Hospital — surgeons, anesthesiologists, operating room technicians, physician assistants, ICU nurses — was transplanted here,” Dr. Rovensky says. “We’re a St. Francis Hospital program at Good Samaritan Hospital and look to serve the population of its catchment area.”

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Maksim Rovensky, DO, cardiothoracic surgeon at Good Samaritan, reviews treatment options with a patient in his West Islip office.
The newly expanded operating rooms feature advanced monitoring equipment in spaces large enough for a complete cardiac surgery team to comfortably maneuver.

“I've been at other facilities where operating rooms were built prior to the introduction of open-heart surgery programs,” Dr. La Mendola explains. “We'd have to squeeze equipment in and have to work really hard to maintain sterility. The renovated operating rooms at Good Samaritan Hospital are big and have been specifically designed for heart surgery and nothing else.”

The size of the rooms is such that, often, two anesthesiologists vigilantly monitor patients while two technicians perform laboratory work within. During bypass operations, two perfusionists monitor the heart/lung machine.

Perhaps the most unique aspect of the cardiac surgery team is the experienced first assistant.

“We have a specially trained fellow who has specifically performed first assistant duties for many years,” Dr. La Mendola explains. “This is a tradition that harkens back to the way we do things at St. Francis Hospital. In many hospitals, first assistants are physician assistants or nurses, but we prefer to operate in a manner that reflects the days when two physicians performed operations.”

Additionally, a physician assistant in the operating room acts as the second assistant. During bypass procedures, the second assistant’s training is particularly important. While the team busily performs its tasks, the second assistant endovascularly harvests pieces of vein — either from the greater or lesser saphenous vein or radial artery — for bypass grafts.

After Bypass

In the operating rooms, Drs. La Mendola and Rovensky use innovative techniques to reduce postoperative complications. Nearly two decades ago, physicians identified several side effects caused by the heart-lung machine. Dr. La Mendola helped pioneer a new method of performing the procedure.

“The heart-lung machine causes an inflammatory response in the body,” he explains. “As the blood circulates out of the body, through the machine and back to the body, it’s heated, cooled and beaten up. This causes the release of inflammatory mediators — the response that causes a fever if you catch a cold. These mediators also play a role in some of the potential complications associated with bypass surgery, which include everything from cognitive dysfunction to kidney or respiratory failure.”

In 1999, Dr. La Mendola began performing off-pump coronary artery bypass surgery to assuage such morbidities.

“We thought that if we could take the heart-lung machine out of the game and perform the operation without it, we could improve the procedure,” he says. “Since then, about 2,000 of approximately 5,000 procedures I have performed have been off-pump procedures, which involves stabilizing the part of the heart we’re sewing the bypass graft onto while the rest of the heart beats around it.”

Using an octopus retractor, Dr. La Mendola manipulates the heart into position, places the retractor’s fingers on either side of the blocked artery, and then locks the flexible arm in place. In this fixed, typically 2-cm-long area, Dr. La Mendola sews the graft in place.

“It’s an excellent operation for younger patients who only need one or two bypasses,” Dr. La Mendola says. “It’s also valuable when significant comorbidities, such as vascular or lung disease, are present. The key is finding a surgeon who is comfortable with both techniques and can recommend the best option for each patient. Right now, most open-heart surgeons aren’t comfortable performing the procedure off-pump.”

Looking Ahead

Aortic stenosis most commonly begins after age 60, and symptoms typically present in subsequent decades. When chest pain or tightness, heart palpitations, and shortness of breath do appear, patients are often at such advanced age that open-heart surgery may not be recommended. But new alternatives to open-heart surgery enable physicians to treat aortic stenosis, even in patients at advanced ages.

“Elderly patients, whose mobility and physical function are often already limited, may not be candidates for any procedure,” Dr. Rovensky says. “At the
same time, as the population ages, there are plenty of patients in their 80s who are functional, but they have aortic stenosis — and the natural process of the disease will destroy the valve over time. Aortic stenosis can limit their lifestyle and reduce their lifespan. If we can fix the problem, we can extend their life expectancy and help them maintain their functionality.”

Transcatheter aortic valve replacement (TAVR) is a minimally invasive method for replacing stenotic aortic valves without removing them. Through a small incision in the groin, surgeons thread a catheter to the hardened valve. Once inside the valve, they inflate a balloon to open it and then place the new valve.

Drs. La Mendola and Rovensky were early adopters of minimally invasive valve procedures, and after establishing the program’s presence, they plan to expand the St. Francis Hospital Open Heart Surgery Program at Good Samaritan Hospital’s surgical repertoire to include such quality-of-life-enhancing operations — but that doesn’t mean patients who could benefit from the procedure shouldn’t be referred for evaluation or treatment.

“As many as 70 percent of patients who should be treated for aortic valve problems never see cardiologists or surgeons because their primary care provider has deemed them too sick for surgery,” Dr. Rovensky says. “Now, we can improve these patients’ lives with different treatment options.”

Minimally Invasive Heart Surgery

While TAVR procedures are a coming attraction, other minimally invasive valve replacement and repair techniques currently headline the marquee at the St. Francis Hospital Open Heart Surgery Program at Good Samaritan Hospital. In addition to producing better cosmetic results, such modalities minimize the chance of complications associated
with sternotomy and reduce postoperative pain and discomfort.

Minimally invasive mitral valve repair addresses functional deficits caused by calcification, laxity or leakage. Mitral valve dysfunction results in inefficient circulation from the lungs to the heart.

Dr. La Mendola says that over the last two decades, the standard for mitral valve leakage has become repair. Because the mitral valve lies in an area in the back of the heart, surgeons can repair the dysfunctional valve via sternotomy or minimally invasive methods. Surgeons determine the approach on a patient-to-patient basis.

“Unless the situation requires open surgery, we perform most valve operations minimally invasively,” Dr. Rovensky says. “The literature supports this approach to operating.”

**Continuum of Care**

Even though the St. Francis Hospital Open Heart Surgery Program at Good Samaritan Hospital is in its early stages, the experienced cardiac surgery team and ancillary staff allow it to already offer impeccable standards of care from the time patients arrive at the hospital for initial evaluation through postoperative follow-up.

Part of the program’s success in this regard comes from careful attention to the patient experience. After each discharge, Drs. La Mendola and Rovensky and the staff discuss every aspect of the patient’s stay to identify possible ways to improve the patient experience. Even after patients leave, Dr. La Mendola personally calls them to help ensure their well-being. The program also emphasizes communication with referring physicians. The lines of communication are always open.

Additionally, an atmosphere of ultimate respect extends from cardiac surgeons to the entire staff.

“We not only encourage everybody to speak up, we consider it a responsibility. If anyone perceives something that bothers them about a patient — perhaps a housekeeper notices something when changing the sheets in a patient’s room — he or she should bring it to a physician’s attention,” Dr. La Mendola says. “We’ve had that policy in the St. Francis Hospital operating rooms for years, and at Good Samaritan Hospital, I’m bringing that idea out of the operating rooms and into every aspect of patient care. We’re encouraging an atmosphere of collaboration throughout the program to ensure the best care for our patients.”

For more information about the St. Francis Hospital Open Heart Surgery Program at Good Samaritan Hospital, please visit www.goodsamaritan.chsi.org.