Riding the Winds of Change

In medicine, the winds of change always propel us to improve patient care based on two inalienable processes—evidenced-based medicine and advancing technology. We can no longer say, “This is the way I was trained, so I will continue to do it this way.” Procedures that were always done one way change over time, and the results of the procedures are either propelled by their evidenced-based results or are lost in the vast world of medical literature. After having been trained extensively in open, laparoscopic and robotic technology, I know where the advantage is in each, but also know that robotic technology has changed my practice.

In this issue of the Robotic Surgery Advantage, two procedures are highlighted that are well on their way to becoming the standard of care, based on current evidence and advancing technology. Both procedures have seen wide acceptance in the appropriate patient for many medical reasons.

Nephrectomy for renal tumors is an important tool for urologists; however, many patients present with smaller, slow-growing tumors that can be amenable to partial nephrectomy. This procedure has been shown to preserve renal function on the affected kidney and possibly improve cardiovascular health in the long term because both kidneys are preserved. In an attempt to improve the morbidity of an open procedure and to decrease the warm ischemia times of the laparoscopic procedure, the robotic approach might just be the ideal tool for this procedure. Two of our urologists tackle this complicated procedure and give us their experience.

In the second portion of this issue of Robotic Surgery Advantage, two of our gynecologists discuss one of the most common problems seen in women—fibroids. Thirty percent of all women have fibroids. They are even more common in African-Americans. Myomectomy is a very bloody procedure done in the open technique and a very complicated procedure done laparoscopically. A single fibroid or several small fibroids can be targeted through laparoscopic procedures, but most patients who truly need surgery have larger or more numerous fibroids. Many conservative measures, such as fibroid embolization, Lupron and hormonal treatment, have been used to manage fibroids, but for patients desiring future fertility, the preferred choice is myomectomy. The robotic platform has added significant benefits for these patients.

Robotic surgery allows us to do our jobs more efficiently and effectively, so we must continuously look at how others are using technology to learn from and improve our surgical practice.

Ricardo Estape, M.D.
Medical Director
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The history of medicine is defined by the use of the latest technology to care for patients.
Uterine fibroids aren’t malignant or life-threatening. But these tumors can cause pain, urinary problems and difficulty with fertility—and women with large, symptomatic fibroids are often told they must have open, instead of laparoscopic, surgery to remove them.

The surgeons at South Miami Hospital’s Center for Robotic Surgery are able to help women avoid the large incision, extensive scarring, and lengthy recovery of an open procedure—even if the patient’s fibroids are large or located high or deep in the abdomen. Surgeons here are experts at robotic myomectomy, a minimally invasive procedure that removes them while preserving or restoring fertility.

“All the limitations that were previously placed on laparoscopic myomectomy—including the site, size and number of fibroids—have been overcome by the ability to use a robotic platform,” says Rafael Perez, M.D., OB/GYN, medical director of South Miami Hospital’s Fibroid Center.

A VITAL TOOL IN FIBROID MANAGEMENT

Robotic myomectomy is the cornerstone of treatment at the Fibroid Center because myomectomy allows patients to keep their uterus and their fertility. The center also offers robotic hysterectomy.

Although it’s less radical than hysterectomy, myomectomy is a more complex procedure because it involves cutting into the uterus. “This is where robotic surgery has offered real advantages. Because of the wristed movement, we can more easily manipulate the tissue, take out the fibroids and put in sutures to reconstruct the uterus,” says gynecologic oncologist Nicholas Lambrou, M.D.

Other technologies used during the robotic procedure also improve the treatment’s accuracy and effectiveness. Magnetic resonance and ultrasound imaging help surgeons locate fibroids precisely and remove them completely. Another tool, bipolar cautery, seals off blood vessels with electrical currents to reduce bleeding, Dr. Perez says.

COMPREHENSIVE CARE

In the hands of South Miami Hospital’s experienced surgeons—Drs. Lambrou and Perez have each done hundreds of robotic myomectomies—patients have few complications and typically recover in two to four weeks. “The clinical outcomes are just unmatched when you compare it to open surgery. Plus, patients are in less pain and happier with the cosmetic results,” Dr. Lambrou says.

The excellent outcomes have included successful pregnancies. No uterine ruptures have occurred during labor—a risk of traditional laparoscopic procedures if the stitches aren’t done well. “In our Fibroid Center and in our practice, I’ve already delivered babies of patients who have had robotic myomectomies,” Dr. Perez says. “Because of our volume and the different specialties we offer, we truly offer women state-of-the-art treatment at each stage of the treatment process.”
TREATING CANCER,
SPARING HEALTHY KIDNEY TISSUE

Typically, surgeons don’t operate to remove healthy tissue. But that’s the way renal cancer has historically been treated—excising the entire kidney to take out the tumors inside.

“When someone loses a kidney, especially when they still have 20 to 30 more years of life, it negatively affects their overall health status,” says Darren Bruck, M.D., urologist. If the other kidney becomes diseased later in life, patients may soon find themselves on dialysis or awaiting a transplant.

Surgeons at South Miami Hospital’s Center for Robotic Surgery, however, do things differently. “We decided it was a better idea just to remove the cancer and leave the majority of the kidney behind,” says Robert Santa-Cruz, M.D., urologist. With the help of the robot, this surgery—partial nephrectomy—is available to more patients than ever before.

ELEGANT RECONSTRUCTION
Partial nephrectomy is a complicated procedure, because surgeons must cut into the highly vascular kidney and then repair it after removing the tumors. With its three-dimensional visualization, 10x magnification, and wristed instruments that provide superior range of motion, the robot allows for much greater accuracy at each step.

“It’s really an ideal tool for doing a laparoscopic nephrectomy, because it allows you to more easily stitch up the blood vessels and urine collecting systems, reconstructing the kidney in an elegant manner,” Dr. Bruck says. “Using traditional laparoscopic instruments, that’s very difficult to do.”

Any patient with a renal mass can be considered for a robotic partial nephrectomy, although the ideal candidate has tumors that are smaller than 8 centimeters and located closer to the bottom or edges of the kidney. Obesity is not a disqualifying factor—in fact, the robot makes it easier to operate on larger abdomens.

RAISING THE STANDARDS
Robotic partial nephrectomy offers patients all the benefits of traditional laparoscopic surgery, including a faster recovery, less blood loss and minimal scarring. Most patients are able to leave the hospital within three days and return to their regular activities within a month, compared with a weeklong hospital stay and months of recovery after open surgery.

Oncologic outcomes following robotic partial nephrectomy have been equal to—if not better than—open procedures. In fact, this procedure may soon become the standard of care. “You’re going to see a complete shift into using robotics for this kind of work,” Dr. Santa-Cruz says. “The integration of this technology is allowing us to do great things in the operating room.”

HELP YOUR PATIENTS UNDERSTAND THE BENEFITS OF ROBOTIC SURGERY
Go to SouthMiamiRobotics.com and click “Benefits of Robotic Surgery.” There, patients can:
• Find a robotic surgeon for a number of specialties
• Hear from former patients
• Read brochures on different types of surgeries
Robotic Surgery Simulator Allows for Hands-On Practice

South Miami Hospital has acquired a robotic skills simulator as part of its plan for clinical expansion. “Providing training to physicians from outside the hospital and around the globe is very important to us,” says Carmen Rodríguez, R.N., assistant vice president of peri-operative services. The hospital will also use the simulator to train allied health staff such as nurse practitioners and OR technicians.

By training more medical staff, the hospital will also help increase the number of patients who can take advantage of robotic technology, says Ms. Rodríguez. Robotic surgery allows patients to have less discomfort, reduced risk for infection and a smoother recovery.

The simulator allows users to have a hands-on experience with the robotic controls, according to Carol Robles, R.N., robotic coordinator. Users can practice various surgery skills. Those tasks also include how to suture, how to operate the system’s camera and how to manipulate the robot’s tiny, wrist-like instruments. These instruments provide greater dexterity than the normal human hand. The simulator can score how well users are doing with the skills they are practicing.

Robotic surgery has a number of advantages for physician users, such as magnified three-dimensional images, reduction of the normal hand tremor and the ability of the flexible, wrist-like instruments to reach where the human hand cannot, says Ms. Robles. Using the simulator to practice manipulating the instruments reduces the learning curve, notes Ms. Robles. This is where the simulator fills a critical role. “It’s a tool that allows users to improve patient care in a safe environment,” says Ms. Rodríguez.

The 35 surgeons who use the hospital’s four robots perform approximately 100 surgeries a month with the technology, Ms. Robles says. The robotic technology can be used to perform gynecologic, urologic, thoracic, weight-loss, colorectal, otolaryngologic and general surgeries, she adds.