The Continued Expansion of Robotic Surgery

General surgeons are beginning to see what gynecologists and urologists have known for several years—robotic surgery is easier and allows you to do more than laparoscopic surgery. Only surgeons who have done open, laparoscopic and robotic surgery can understand this fact.

There are many surgeons who have not adopted robotic surgery and downplay the benefits, but surgeons who have performed at least 20 cases can see the difference. There is a place for each type of surgery, but until you try it, you may not fully understand how useful a technique can be. All robotic surgeons have started with smaller, easier cases and have seen the benefits and slowly challenged themselves to do more complex cases with incredible success and great outcomes.

Some general surgeons, for example, started with cholecystectomy and now are adapting their approach to colon, bariatric, liver, Whipple and more. This is the same process all other robotic surgeons have taken. I encourage all surgeons who have not adopted robotics to start small and you will see and feel the difference. We have.

In this issue, our expert robotic surgeons tackle three distinct advanced topics that robotics has allowed us to undertake. Esophageal surgery for benign conditions once required open-chest surgery and long, painful recoveries, but no longer. In addition, colorectal surgeons take on the progression of general surgery to include colon resections and reanastamosis for benign and malignant conditions. Finally, we bring robotic surgery to the adolescent gynecologic community. A small number of girls are born with uterine or vaginal anomalies that have required open surgery in the past. But, after having mastered adult gynecologic robotic surgery, we have brought our expertise to this population and it has truly benefited from a minimally invasive approach to very complex surgery.

We invite you to read and participate in this progress.

Ricardo Estape, M.D.
Medical Director
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inside this issue

PAGE 2:
ROBOTIC SYSTEM IMPROVES SPEED AND PRECISION OF THORACIC SURGERIES

PAGE 3:
UNCOMMON EXPERTISE IN TREATING RARE GYNECOLOGIC BIRTH DEFECTS

BACK COVER:
NEXT-GENERATION SURGERY FOR COLORECTAL CANCER AND COLON DISEASE

Not all surgical approaches are equal.
In recent years, open surgeries for benign esophageal disease, such as hiatal hernia and gastroesophageal reflux, have given way to minimally invasive laparoscopic techniques. Conventional laparoscopic surgeries allow patients to recover faster and with fewer complications but can pose challenges for thoracic surgeons.

“I’m a big advocate of minimally invasive surgery, but in laparoscopic surgery, the reliance on a two-dimensional view and fixed, rigid, nonwristed instruments means that dissection may not be as precise,” said John DeRosimo, M.D., thoracic surgeon with Baptist Health South Florida’s Center for Robotic Surgery. “While laparoscopic approaches represent a huge step forward compared with open procedures, they still have a long way to go from the standpoint of the surgeon performing the operation.”

Now, physicians at the Center for Robotic Surgery are combining the advantages of laparoscopy with the greater freedom of motion and visualization afforded by robotic surgery, benefiting both patients and surgeons.

TREATING ESOPHAGEAL DISEASE

Baptist Health surgeons treat several benign esophageal conditions robotically, including giant paraesophageal hernias, reflux and achalasia.

“Using the robot makes achalasia cases in particular much easier,” said Dr. DeRosimo. “The magnification and three-dimensional view make performing Heller myotomy much more precise. You can see the individual circular muscle fibers that need to be cut as you are performing the procedure. And you have seven degrees of freedom with the robotic arms, simplifying manipulation and dissection.”

These advantages benefit surgeons performing dissections for paraesophageal hernias and reflux cases as well. But robotic surgery has proven particularly valuable for revisional cases, where open surgery has historically been the only option.

“In revisional antireflux cases, scarring at the gastroesophageal junction would normally make laparoscopic surgery impossible,” said Dr. DeRosimo. “The higher-resolution view and greater range of motion of the robotic system allow us to use a minimally invasive approach even for these patients.”

EXPANDING ACCESS

Dr. DeRosimo, along with his colleague Mark Dylewski, M.D., medical director of general thoracic surgery for Baptist Health Medical Group, is working to extend the benefits of robotic surgery to more patients with benign esophageal disease.

“It’s still fairly rare to have the option of robotic surgery for these conditions,” said Dr. DeRosimo. “Outside of areas with established robotic centers, these cases are still done using traditional laparoscopy. We’re very pleased to be able to bring this state-of-the-art minimally invasive approach to patients in South Florida.”

TO REACH DR. DERO SIMO, CALL THE BAPTIST HEALTH CENTER FOR ROBOTIC SURGERY AT 786-662-8877.
UNCOMMON EXPERTISE IN TREATING RARE GYNECOLOGIC BIRTH DEFECTS

Congenital gynecologic malformations such as an absent vagina or double uterus are rare. A typical pediatrician or gynecologist might encounter no more than a case or two over the course of a career. In contrast, five to 10 cases are referred to Baptist Health South Florida’s Center for Robotic Surgery annually. Young patients and their parents come from across Florida as well as from other states and countries to find a safe, minimally invasive alternative to open surgery for such conditions.

“These rare entities require very specialized care,” said Ricardo Estape, M.D., a gynecologic surgeon and medical director of the Center for Robotic Surgery. “We are able to perform delicate, extensive reconstructions fully robotically. Many of the procedures would be next to impossible with conventional laparoscopy.”

VAGINAL AND UTERINE ANOMALIES

Dr. Estape uses robotic surgery to treat a variety of gynecologic abnormalities in preadolescent and adolescent girls and young women:

- Vaginal agenesis. “Some girls are born with no vagina,” said Dr. Estape. “If they have a uterus, surgically creating a vagina is imperative once they begin menstruating, because the blood otherwise has no place to go.” Unlike laparoscopic surgery, robotic surgery is readily applicable to procedures requiring both a vaginal and an abdominal approach. Vaginoplasty enables normal menstruation and, in the long term, vaginal intercourse and pregnancy with delivery by Cesarean section.

- Mayer-Rokitansky-Küster-Hauser syndrome. This disorder is characterized by congenital absence of the uterus, often combined with vaginal agenesis. Robotic vaginoplasty enables intercourse, and surgical preservation of the ovaries allows for later consideration of reproductive options.

- Uterus didelphys. “Girls with this condition are born with two uteri,” said Dr. Estape. “If both are functional, the problem may go undetected until a woman tries to have a baby but experiences repeated miscarriages.” Robotic surgery can join two small uteri into a single normal-sized one, improving the chance of carrying a pregnancy to term.

- Herlyn-Werner-Wunderlich syndrome. In this variant of uterus didelphys, one uterus empties normally into the vagina and one does not. Robotic excision of the obstructed uterus can relieve severe pelvic pain caused by an accumulation of menstrual blood.

- Septate uterus. In one of the more common gynecologic malformations, a single uterus is divided into two cavities by a septum, which may lead to miscarriages. Robotic excision of the septum removes this barrier to fertility.

“Compared with open surgery, robot-assisted surgery has a much faster recovery time,” said Dr. Estape. “For young girls, we can usually schedule nonemergent surgery over the winter or summer break, so they never miss a day of school.”
With numerous specialties now using robotic surgery, Baptist Health’s Continuing Medical Education program draws upon the expertise of Center surgeons to educate other physicians. To find out more about these offerings, visit BaptistHealth.net/CME. Interested in a biennial symposium about robotic surgery that will be offered in spring 2016? Visit MiamiRobotics.BaptistHealth.net.

Most colon surgeries in the United States are still performed using the open techniques of past generations. But at Baptist Health South Florida’s Center for Robotic Surgery, surgeons regularly utilize state-of-the-art robotic technology to treat colorectal cancer, colon polyps and diverticulitis.

“In the colon, the unsurpassed precision, dexterity and control of robotic surgery allow for more complete dissection of malignant or diverticular tissue,” said Rupa Seetharamaiah, M.D., a general and bariatric surgeon with the Center. “There are fewer major complications and less blood loss, compared with open surgery.”

**Benefits of the Robotic Approach**

Even compared with conventional laparoscopy, robot-assisted surgery of the colon may offer distinct advantages, including:

- **Quicker return of bowel function.** “On average, bowel function returns in 1.8 days following robotic colon surgery, versus 2.4 days following laparoscopic,” said Dr. Seetharamaiah. The difference can shorten a patient’s hospital stay by a day.

- **Minimally invasive rectal surgery.** “If you are dealing with rectal pathology, it is very difficult to operate laparoscopically within the narrow confines of the pelvis,” said Charan Donkor, M.D., also a general and bariatric surgeon with the Center. “In contrast, it is much easier to access the working space inside the pelvis using robotic instruments.”

- **Superior option for obese patients.** “When you perform laparoscopic or open colon surgery on a morbidly obese patient, you are fighting through the fat, which is fatiguing for the surgeon,” said Dr. Donkor. That factor is eliminated with robotics.

- **Reduced conversion rate.** Surgeons are less likely to convert to an open procedure during robotic colon surgery, compared with laparoscopic surgery. “In patients with a history of prior abdominal surgery, for example, the greater precision afforded by the robot makes it easier to take down adhesions,” said Dr. Seetharamaiah.

In select patients, the surgeons at Baptist Health are able to complete even complex or difficult cases using the robot. For example, robotic technology has been successfully employed to treat advanced colorectal cancer, colocutaneous fistulas and bowel perforations and obstructions.

Dr. Seetharamaiah and Dr. Donkor prepare for robotic surgery.