

ADVANCES IN GYNECOLOGY

February 2013
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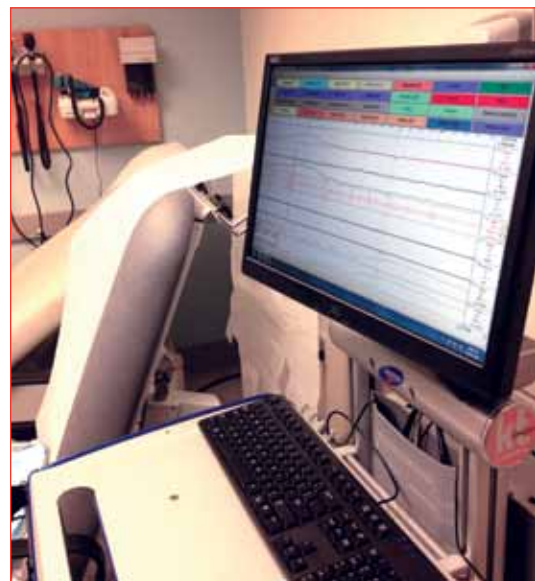
Uncommon Collaboration Within Single Institution Offers Unique Strength in Urogynecology

Recognition of Female Pelvic Medicine and Reconstructive Surgery as a subspecialty, by the American Board of Medical Specialties, occurred just recently, in 2011. Yet expertise in the subspecialty, which merges the established disciplines of Female Urology and Gynecology, is already well established within NewYork-Presbyterian Hospital, which has 3 urogynecologists, as these specialists are now known.

The presence of urogynecologists at both centers of NewYork-Presbyterian Hospital—NewYork-Presbyterian/Columbia University Medical Center and NewYork-Presbyterian/Weill Cornell Medical Center—directly benefits patients but also promises to advance collaboration and research within the subspecialty. Jody Blanco, MD, Director of Urogynecology, and Cara Grimes, MD, a member of the Division of Gynecological Surgical Services and Urogynecology, both practice at NewYork-Presbyterian/Columbia, while Tirsit S. Asfaw, MD, is a urogynecologist at NewYork-Presbyterian/Weill Cornell. Drs. Blanco and Grimes are both Assistant Clinical Professors of Obstetrics and Gynecology at Columbia University College of Physicians and Surgeons, and Dr. Asfaw is Assistant Professor of Obstetrics and Gynecology at Weill Cornell Medical College.

“We have great collaboration with other subspecialties, such as colorectal surgeons, here at NewYork-Presbyterian, and myself and the other urogynecologists here plan on collaborating more on research projects as well as patient care in the future,” said Dr. Asfaw. “In an area like New York City, you would think that there is a saturation of physicians in almost every specialty, but there are not that many of us urogynecologists in the city. That’s why it’s great to have that camaraderie.”

This uncommon collaboration influences the management for the treatment of various conditions, including urinary and fecal incontinence, overactive or painful bladder, urinary tract infections, urethral diverticulum and fistulas, and pelvic floor disorders such as prolapse, according to Dr. Asfaw. “If necessary, the urogynecologists can combine cases



Urodynamics monitoring system

with colorectal surgeons or urologists at the Hospital where we have a very robust group in both areas. Many of our patients tend to have similar problems, so we may present difficult cases to each other and together figure out the best approach to treat our patients in order to make sure that we optimize patient care,” Dr. Asfaw said.

Dr. Blanco, who was one of the first fellows trained in urogynecology in the United States, agreed. “The aspect of having multiple different subspecialties all with a slightly different training background working together at the Hospital leads to better evaluation and treatment options and plans,” he said.

Those treatment options for incontinence, overactive bladder, and pelvic organ prolapse, among other conditions, include nonsurgical approaches such as biofeedback exercises taught by pelvic floor physical therapists, bladder botulinum toxin injections, or the use of a pessary, to surgical interventions such as innovative laparoscopic sacrocervicopexy, colpo-plexis, and vaginal hysterectomy with a sacrospinous or uterosacral ligament suspension. Diagnosis is multifaceted as well, with physicians reviewing

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Robotic Applications and Operating Room Technology Are Transforming the Post-Op Surgical Experience

Building on the concept of minimally invasive procedures, robotic surgical approaches performed at NewYork-Presbyterian Hospital are vastly improving the patient experience. Real-time imaging in the operating suite combined with continually advancing robotic systems offer the potential for greater precision with less trauma, less scarring, less blood loss, and quicker healing. Surgeons are driving the advances, and there are programs at both NewYork-Presbyterian/Columbia University Medical Center and NewYork-Presbyterian/Weill Cornell Medical Center that create an environment that encourages their rapid implementation.

“Our surgeons are the ones driving robotic applications. My goal is simply to ensure we are setting up our operating rooms [ORs] to facilitate these innovations,” said John C. Evanko, MD, MBA, who is Medical Director of Perioperative Services at NewYork-Presbyterian/Columbia and a gynecologic surgeon. Dr. Evanko—whose expertise with the da Vinci Surgical System includes a minimally invasive approach to treat uterine fibroids, as well as other gynecologic surgeries—reported that real-time imaging has been fundamental to creating the modern OR, which is capable of offering



NewYork-Presbyterian Hospital is improving their patient care by implementing new, advanced robotic systems that help to improve the patient experience.

minimally invasive endovascular procedures, as well as radiologic-guided interventional, cardiothoracic hybrid, and robotic procedures.

“ORs for minimally invasive endovascular procedures provided a head start because they were set up for real-time imaging and had the structure and size to accommodate the equipment and connectivity that we need for robotic procedures,” explained Dr. Evanko, who works to facilitate OR innovation at NewYork-Presbyterian/Columbia. “Minimally invasive surgery overall and robotics in particular are now being used effectively across specialties, including gynecology, urology, otolaryngology, and thoracic and general surgery.”

Urology

In urology, Ashutosh K. Tewari, MD, led much of the pioneering work in robotics at NewYork-Presbyterian/Weill Cornell. Dr. Tewari, who is Director of the Prostate Cancer Institute and the LeFrak Center for Robotic Surgery, has performed more than 5,000 robotic-assisted urologic procedures, and is widely recognized for this work. Data from a recently published meta-analysis of 79 studies suggested robotic-assisted prostatectomies are at least as effective by essentially any measure, particularly in regard to the proportion of patients who achieve cancer-free margins, but generate fewer complications.¹

“Robotic surgery was initially attractive because of the visualization,” Dr. Tewari explained. “While the precision of robotic excisions is an important advantage, the ability to visualize the anatomy in the structural context that can be lost in an open approach has been the most important attribute. There is also significantly less bleeding, which can also obscure the anatomy when performing a reconstruction.” However, other advantages, such as reduced blood loss, have followed.

The work by Dr. Tewari has greatly advanced the use of robotic procedures

for a broad array of urologic surgical procedures, including resection of benign hypertrophy, and he has now assembled one of the most important facilities in the world for this approach. NewYork-Presbyterian/Weill Cornell’s LeFrak Center for Robotic Surgery has several unique features. In addition to a large endowment that has permitted the Center to upgrade imaging capabilities and to employ multiple robotic systems, a comprehensive therapeutic program includes a multidisciplinary team to focus on recovery with emphasis on sustaining a good quality of life.

“There are several exciting developments that will generate further evolution in the field,” Dr. Tewari said. “For example, I think there will be synergy between the technological advances made in robotics and genomic advances, which will allow us to provide individualized care to the characteristics of the malignancy. However, robotic-assisted surgery in urology is a mature platform at our Center. Our outcomes validate that this approach provides advantages over an open approach.”

Gynecology

For most of the diseases and conditions in which robotic surgery is now an alternative to an open approach, it is not yet clear whether robotic-assisted surgery necessarily yields better outcomes. This is difficult to prove because of the challenges of performing randomized trials with appropriate controls, but Dr. Evanko said that there are clear advantages for the patient in regard to recovery when robotic-assisted surgery reduces the size of incisions. In gynecology, the da Vinci Surgical System has been part of a movement to achieve minimal scarring and speedier return to normal activities after common procedures, such as hysterectomy and myomectomy.

“The published data that claim better outcomes with robot-assisted surgery are largely anecdotal and not any more compelling than the data which suggest

that there are no outcome advantages,” Dr. Evanko said. “In my opinion, the jury is still out on whether these surgeries offer any significantly better clinical outcomes over conventional surgery, but the extent to which this approach advances a minimally invasive approach and allows patients to recover more quickly is perceived by patients as a very important advantage.”

Kevin Holcomb, MD, who is Director of Minimally Invasive Surgery of the Department of Obstetrics and Gynecology, NewYork-Presbyterian/Weill Cornell, noted that the benefit of offering advanced robotics technology is to improve patient quality of life while providing similar survival outcomes. Dr. Holcomb is also Associate Attending in Obstetrics and Gynecology at Weill Cornell Cancer Center, and Associate Professor of Clinical Obstetrics and Gynecology at Weill Cornell Medical College.

Otolaryngology

It is this patient orientation that has driven the interest of surgeons at NewYork-Presbyterian Hospital since the early days of the movement toward minimally invasive resections. This has produced a proactive approach to developing ORs that can accommodate technological advances, such as real-time imaging and high-definition monitors that display laboratory results and other information relevant to the case. Some ORs incorporate teleconferencing that permits rapid communication with pathologists or other specialists who might influence

decision-making during the course of the surgery.

At both NewYork-Presbyterian/Columbia and NewYork-Presbyterian/Weill Cornell, this type of forward thinking has allowed surgeons across specialties to move quickly into robotic-assisted surgery where appropriate. One example is otolaryngology, where robotic-assisted excision of oral pharyngeal cancer has been in place for almost 4 years.

“Robotic procedures are replacing the major surgeries, which included mandibular resection in order to reach the back of the tonsil to remove these tumors,” said David I. Kutler, MD, Associate Professor of Otolaryngology at NewYork-Presbyterian/Weill Cornell. “With the robot, we can access these tumors through the mouth, without any incisions made to the face, and still do an oncologic procedure to remove these cancers. The time in surgery has been reduced from upwards of 10 hours to about 2 hours; hospitalization has been reduced from 2 weeks to 4 days. Robotic surgery also circumvents the need for chemotherapy and high-dose radiation therapy.”

Orthopedic, Gastrointestinal, Neurologic

At NewYork-Presbyterian/Columbia, robotic-assisted surgery is now being employed for some common orthopedic diseases, for resections of a vast array of malignancies, and for gastrointestinal diseases, including resections of the bowel. The precision of robotic-assisted surgery has long made it attractive for neurologic

applications, but the expansion to such a broad array of organ systems is attributed primarily to its role in taking minimally invasive surgery to the next step. Although the laparoscope brought momentum to minimally invasive surgery, modern imaging systems allow visualization without a scope. It is a new approach that demands ORs with different capabilities.

“Imaging was once a preoperative device to plan surgery,” Dr. Evanko said. “Increasingly, imaging such as CT [computed tomography] scanning is an intraoperative tool to guide the procedure. The modern OR has to be large enough to accommodate the imaging systems, the displays, the robotic devices, as well as the monitoring equipment that would be found in a conventional OR. This requires planning and the infrastructure that allows the OR to function efficiently.” Simply running the wires to an increasingly complex and sophisticated array of devices limits the degree to which the OR can be retrofitted as needs evolve.

“We have been deeply involved in attempting to anticipate these changes and to approach the development of a modern OR with a prospective approach. This has allowed us to stay at the front of the curve in expanding robotic-assisted surgery where it has advantages for the patient,” Dr. Evanko said.

Reference

1. Novara G, Ficarra V, Mocellin S, et al. Systemic review and meta-analysis of studies reporting oncologic outcome after robot-assisted radical prostatectomy. *Eur Urol*. 2012;62:382-404.

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neurologic and physiologic exams, such as testing reflexes and nerve stimulation responses, as standard procedure, according to Dr. Grimes.

Although many of the conditions urogynecologists treat are not life-threatening, their symptoms can reduce quality of life significantly for patients, who in turn may visit multiple physicians and centers in an effort to have their conditions effectively treated. “I see many

patients who have been seen by 3 or 4 different physicians and, together, these physicians probably can offer everything I can offer, but it happens in a piecemeal fashion and patients are often very confused by the time they present at my office,” Dr. Grimes said.

“At my office, we can evaluate each patient completely and present each patient with a wide range of treatment options tailored to her specific problem, whether it is conservative, medical,

or surgical management. That kind of personalization would be different if a patient went to a general OB/GYN or general urologist,” Dr. Grimes said. “Because as urogynecologists, we have this expertise, I won’t focus only on a patient’s incontinence: I understand that incontinence often occurs with prolapse and difficult defecation. I address the global picture of the woman instead of just one problem.”

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Physicians at both NewYork-Presbyterian/Weill Cornell and NewYork-Presbyterian/Columbia are furthering research efforts initiated at other institutions as well as launching new investigations at the Hospital into how to treat their patients to further improve clinical care. Studies examining pelvic floor changes in women following childbirth or other pelvic trauma and the prediction of long-term sequelae to the pelvic floor and use of vaginal hormone replacement therapy for the treatment of bladder disorders are beginning, according to Dr. Asfaw. “We are working to continue to establish improved research protocols in order to follow our patients longitudinally, both to know their outcomes and to learn more about the effect of our interventions,” Dr. Asfaw said. Dr. Grimes’ past research has centered on the best surgical approach for obstructive defecation, and recent studies of the treatment of pelvic floor disorders are ongoing.

Surgical techniques also are being refined to reduce postoperative complications and improve outcomes. The Center for Women’s Minimal Access Surgery at NewYork-Presbyterian’s Sloane Hospital for Women reviews advanced surgical techniques and the effect of surgery on patients’ quality of life, and Dr. Grimes added that

her division is committed to offering minimally invasive surgical techniques, including sacral neuromodulation, and vaginal, laparoscopic, cystoscopic, and robotic approaches.

“Women need to be screened for urogynecologic conditions just like general physicians screen for high blood pressure and diabetes.”

—Tirsit S. Asfaw, MD

“Recently, sacral neuromodulation for fecal incontinence was FDA-approved, and it is very effective. We have been using it for many years for urge incontinence, urgency frequency, and urinary retention,” Dr. Grimes said. “That is a very exciting option to offer our patients because in the past we would have to perform fairly invasive surgery that showed less than optimal success rates. Now, we can offer an outpatient procedure with very high success.” At NewYork-Presbyterian/Weill Cornell, Dr. Asfaw also incorporates advanced

surgical techniques into her practice, including all modes of vaginal and standard abdominal reconstructive repair as well as robotic-assisted surgery “in the effort to provide the most durable repair with the fastest recovery,” Dr. Asfaw said.

The physicians agreed that the increasing profile of urogynecology as a critical medical field in women’s health is important as the population ages and women increasingly are diagnosed with the conditions that urogynecologists specialize in treating. “Part of the benefit of this subspecialty becoming recognized is that women are learning that these issues that they are having—incontinence and prolapse—are not naturally associated with aging and that they do not have to live with the symptoms, but that they can go to a physician and receive treatment,” Dr. Grimes said.

Dr. Asfaw agreed and noted that she hopes evaluation for urogynecologic conditions becomes a standard part of a woman’s health assessment. “Women need to be screened for urogynecologic conditions just like general physicians screen for high blood pressure and diabetes,” she said. “We need to recognize that these may be debilitating problems, and as urogynecologists, we need to inform our patients of the treatment options we can provide.”