ADVANCING SURGICAL PRACTICE

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From innovative and less invasive surgical approaches treating some of the most complicated and life-threatening medical conditions to developing and perfecting models of futuristic operating theaters, NewYork-Presbyterian Hospital continues to play a leading role in advancing surgical practice.

In Search of Scarless Surgery
In March 2007, NewYork-Presbyterian Hospital surgeons and a medical interventional endoscopist performed the first transvaginal gallbladder removal operation in the United States. Known as Natural Orifice Translumenal Endoscopic Surgery, or NOTES, the procedure is part of an ongoing clinical research trial to determine whether patients have less pain, a faster recovery, and absence of visible scarring if abdominal surgery is performed through a natural orifice, such as the mouth, anus, or vagina, rather than through incisions in the belly.

NewYork-Presbyterian surgeons have been at the forefront of an ongoing evolution—from performing traditional surgery through long incisions to laparoscopy through a one-half inch incision. “But nonetheless,” says Marc Bessler, MD, Director of Laparoscopic Surgery at NewYork-Presbyterian/Columbia, “there are still incisions and recovery time. The hope is that we can do these procedures with no external incisions, no pain, and minimal recovery time, with patients returning to work in a day or two.”

While NOTES is approved for intra-abdominal operations, it is used primarily for elective gallbladder procedures and biopsies. The approach is being further explored in the laboratory to develop the technique for nephrectomy, pancreatectomy, splenectomy, gastrojejunostomy, and colon resection. “If these technologies work well in development, it may be that almost any operation can be performed through natural orifices,” says Dr. Bessler.
“NOTES is performed through flexible instruments that are inserted through a scope with two channels millimeters apart,” explains Dennis L. Fowler, MD, Director, Minimal Access Surgery Center at NewYork-Presbyterian/Columbia. “The scope not only allows us visualization inside the abdomen, but it also provides the vehicle for the instrumentation. With two channels, we can have two instruments coming out of the end of the scope. The instruments come out parallel to each other but cannot yet move side to side or up and down independently. Surgical manipulation requires triangulation and the ability to retract instruments, as well as move them in different directions. We are on the verge of being able to do that right now. Rather than working parallel to each other, we want the instruments to work at angles to each other. Sometimes it requires two or three surgeons performing the procedure together.”

“The techniques and tools needed to broaden the application are still rudimentary, using instrumentation off-the-shelf that was not designed for this newer purpose,” says Dr. Bessler. Predicting that technology will develop rapidly in the next few years, the Hospital’s surgeons are working with companies to design tools that will facilitate a broader application of NOTES. “We have developed the skill set to perform the procedure, and it will become a lot easier with the right technology.”

Jeffrey W. Milsom, MD, Chief of the Colon and Rectal Surgery Section at NewYork-Presbyterian/Weill Cornell, believes that NOTES offers exciting possibilities for lowering the risk of surgery and improving the outcome for patients with colorectal disease. “In our specialty, we’re interested in treating diseases without doing major resections,” says Dr. Milsom. “We have now begun to treat benign intestinal polyps that can’t be removed by routine colonoscopy due to their large size or awkward location with a combined laparoscopic and colonoscopic approach. Laparoscopic tools are used to invaginate the wall and make the polyp more accessible for removal. This allows us to avoid a bowel resection. It’s a much safer procedure, lessens trauma to the body, and minimizes the effect of surgery on the immune system.” This is just the beginning. Dr. Milsom and his colleagues are investigating variations on these procedures that would not require punctures in the abdomen at all and avoid general anesthesia.

The OR of the Future
According to the Joint Commission, the major cause of medical errors in the OR is poor communication. To address this concern and improve patient safety overall, NewYork-Presbyterian/Columbia and NewYork-Presbyterian/Weill Cornell have created operating rooms with multiple high-definition video screens, telecommunication channels to pathology and other ORs, and advanced inputs from clinical information sources.

The various levels of information are presented on 42” plasma monitors—the Wall of Knowledge—that is easily viewable by everyone in the OR. In addition to containing patient information and allowing OR personnel to view Web-based or CD-rom-based information such as WebCIS, PACS, laboratory results, and patients’ radiology CD-roms, it also displays information about who is in the room, documentation of milestones occurring during surgery, and monitoring information usually only seen continuously by the anesthesia personnel.

“We are bringing technology that is already available into the operating room, as well as incorporating futuristic technology to drive improvement in patient care. This technology is not collectively commercially available. We are formulating that here and working with outside companies on software that allows us to connect things together,” says Dr. Milsom, who along with Dr. Fowler, is intimately involved in the design of the Hospital’s ORs of the Future.

“The Wall of Knowledge provides timely and appropriate delivery of information, improving communication that absolutely, we believe, will improve patient safety,” says Dr. Fowler. “The technology is based on interfaces with other information systems. At NewYork-Presbyterian/Columbia, it is also connected to central sterile processing. At NewYork-Presbyterian/Weill Cornell, surgeons have a link directly to pathology, allowing the pathologist to display a surgical specimen on the screen in the OR.

“The high-definition screens are also terrific for education,” adds Dr. Fowler. “Medical students, residents, and fellows can now have a bird’s-eye view of surgery.”
The first cross-campus clinical program to be implemented following the establishment of NewYork-Presbyterian Hospital in 1997, the Department of Rehabilitation Medicine is one of the top in the country. Its highly competitive three-year residency training program has 24 residents and, this year, the program received a record-breaking 300 applications for eight positions available in 2008.

**Strength in Numbers**
“The Department of Rehabilitation Medicine is certainly unique,” says Nancy E. Strauss, MD, Interim Chair of the Department and Residency Program Director. “It is the only Rehabilitation Medicine department in the country affiliated with two Ivy League medical schools in a hospital where physiatrists collaborate with world-renowned colleagues in almost every medical specialty. Residents have access to the faculty and resources of both NewYork-Presbyterian/ Columbia and NewYork-Presbyterian/Weill Cornell, and in addition, they rotate through Hospital for Special Surgery, Memorial Sloan-Kettering Cancer Center, Blythedale Children’s Hospital, and Burke Rehabilitation Hospital.

“Following some trepidation and challenges during the early days of unifying the two departments,” says Dr. Strauss, “the differences in the two sites became an advantage in creating synergy, offering a diversity of clinical programs, and in sharing best practices.” Today the merged Department has approximately 240 therapists who are involved in nearly all clinical departments because Rehabilitation interfaces with many other specialties and is multidisciplinary in nature.

“Whether we are treating a healthy and physically fit athlete with a shoulder injury, someone who is chronically disabled, or a patient with multiple organ system dysfunction, we see a huge range of cases from newborns to the elderly,” notes Dr. Strauss. “To make sure our residents train in the breadth of services we offer, we have a structured program so that each of them trains at every site and with each faculty member.”

**Disability: An Emerging Public Health Crisis**
“This is a challenging time in the field because there is a shortage of physiatrists and yet a growing need,” continues Dr. Strauss. “Most medical schools do not have a required rotation in Physical Medicine and Rehabilitation. The majority of medical students don’t consider the field of physiatry since they’re not familiar with it. We need to get the word out about our specialty.”

In fact, addressing disability in this country has become a significant public health issue. A recent report released by the Institute of Medicine, “The Nature of Disability in America,” analyzed a number of shortcomings in the country’s disability policies and programs and raised serious questions about how individuals and society will cope in the future. The report concluded that “immediate action is essential for the nation to help people with disabilities lead independent and productive lives.”

“This report reinforced that our field has a critical need to fill,” says Dr. Strauss. “There is no better place to meet that need than at NewYork-Presbyterian Hospital.”
Neil H. Stein, MD 1984  Residence, Internal Medicine, Columbia-Presbyterian Medical Center “I am part of a cardiology practice in Great Neck, New York (with alumnus Robert Dresdale) working out of North Shore Hospital and St. Francis Hospital. I have been married for 29 years to Dr. Marcie (Evans) Stein, and we have three married children (two who live in Israel), one single 18-year-old, and two grandchildren. No budding doctors yet (unfortunately), but two budding rabbis (three if you count my son-in-law). I would love to hear about others who went through residency around that time.”

Lory David Wiviott, MD 1985  Residence, Internal Medicine, Columbia-Presbyterian Medical Center Dr. Wiviott is Chairman of Medicine and Associate Medical Director at California Pacific Medical Center in San Francisco.

Matthew Sadof, MD 1986  Residence, Pediatrics, New York Hospital-Cornell Medical Center Dr. Sadof is Assistant Professor of Pediatrics in the Division of Academic General Pediatrics and Adolescent Medicine, and Director of the Medical Home and Asthma Intervention Program at Baystate Children’s Hospital in Springfield, Massachusetts. Dr. Sadof’s particular interests are in academic pediatrics and adolescent medicine and caring for medically and socially fragile children in vulnerable populations.

Nicholas D.A. Suite, MD, 1991  Residencies, Internal Medicine and Neurology, New York Hospital-Cornell Medical Center In practice since 1992, Dr. Suite’s appointments have included serving as senior staff neurologist at Henry Ford Hospital in Detroit. He has also enjoyed teaching at the peer physician level, residents, medical students, nurses, and high school students. In July 2007, he and his family returned to Florida, where he provides specialized consultative services to the public and private sectors.

Edward Chen, MD 1994  Residency, Anesthesiology, New York Hospital-Cornell Medical Center Following residency, Dr. Chen completed a pain fellowship at Memorial Sloan-Kettering Cancer Center in 1995. Practicing in Clearwater, Florida, he is married with four children.

Ricarchito Manera, MD 1996  Fellowship, Pediatric Hematology/Oncology, Columbia-Presbyterian Medical Center “I am currently affiliated with Loyola University Chicago Stritch School of Medicine as Associate Professor of Pediatrics in the Division of Pediatric Hematology/Oncology. I am also principal investigator at Loyola for the Children’s Oncology Group. I enjoy living in downtown Chicago, which is rich in cultural and social events, pretty much like a mini-New York with a friendly Midwest charm.”

Glen B. Gechlik MD 1998  Residence, Internal Medicine, NewYork-Presbyterian/Weill Cornell “I was recently deployed as a reservist in the United States Air Force for Operation Iraqi Freedom until last month. I spent six months in Kuwait co-managing a medical unit. Then I was re-deployed to Willow Grove Air Reserve Station, Pennsylvania, taking care of our troops.” Dr. Gechlik is now seeking a position in healthcare management.

Luis Ricardo Zuniga-Montes, MD, FACR 1999 Fellowship, Rheumatology, NewYork-Presbyterian/ Weill Cornell Dr. Zuniga-Montes is assistant professor of Medicine/Rheumatology and Associate Director of the Rheumatology Fellowship Program at the University of Texas Health Sciences Center at San Antonio. He is also Director of the University of Texas Rheumatology Clinic and Co-Director of the Infusion Center in the Division of Clinical Immunology and Rheumatology.
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