Gynecologic Surgery at Yale: The Robotic Advantage

Three Yale surgeons discuss their experience using the da Vinci® Surgical System

Robotic surgery continues to offer patients and surgeons advantages that could not have been imagined 20 years ago. Interviews with three gynecologic surgeons affiliated with Yale-New Haven Hospital make the benefits of this minimally invasive approach evident.

But first the basics: Robotic surgery is currently performed with the use of the da Vinci robot, which consists of a console and the robot itself. The surgeon sits at the console, using hand controls and foot pedals to maneuver several robotic arms. The arms in turn control a scalpel, a pair of scissors, a Bovie and other electrocautery instruments, and an endoscopic camera with two lenses, which provide a three-dimensional view.

Dr. Sean Flaherty, an Assistant Clinical Professor at Yale, was one of the first gynecologists in New England to use the da Vinci robot. He has used the device for hysterectomies, ovarian cystectomies and treatment of endometriosis. In his experience, tissue handling is more precise, blood loss less and patient recovery faster. Compared to traditional open surgery, the length of stay is shorter, but not compared to the standard laparoscopic approach.

Dr. Flaherty has found that there is less tissue trauma and pain, probably because the surgery is done more rapidly. And while the literature has not shown that long-term outcomes with robotic surgery are any better than with open or standard laparoscopic surgery, short-term benefits have been well documented, including the ability of patients to return to normal activities of daily living more quickly.

Dr. Richard Bercik, a faculty member of the Urogynecology Section at Yale, who specializes in reconstructive pelvic surgery, is using robotic surgery for two procedures: hysterectomy and sacral colpopexy, which is done to manage pelvic organ prolapse.

Faster recovery time, less bleeding and the same success rates are what have drawn Dr. Bercik to the robotic approach. He also mentioned better visualization of the operative site compared to traditional laparoscopy. "Sacral colpopexy is a

(Continued on page 7)
August 19, 2011 marked a day of transition for the Department of Obstetrics, Gynecology and Reproductive Sciences at Yale. On that date, Dr. Charles Lockwood stepped down as Chair of the Department to accept the position as Dean and Vice President for Health Sciences at the Ohio State University College of Medicine; Dr. Peter Schwartz, Vice Chair for Gynecology, has assumed the Interim Chair role.

I’ve had the privilege to work with Charly during the last 10 years and, in that time, some remarkable things have happened in the Department, all of which are a testament to the man’s intellect, leadership skills and compassionate concern for patients.

That artful combination of intellect and compassion is best illustrated in the Department’s accomplishments in patient safety. Always quick to remind observers that this was very much a team effort, Dr. Lockwood explained in a recent interview that several specific interventions have produced a dramatic drop in hospital liability payouts. From 1998 through 2002, for instance, nearly $50 million was paid out for malpractice suits. That figure dropped to about $2 million between 2002 and 2007 and has since reached zero.

Those impressive numbers were the result of extensive staff re-education, protocol standardization, the formation of a patient safety committee, establishment of a patient safety nurse position, 24-hour coverage of Labor & Birth (L&B) by Maternal-Fetal Medicine (MFM) specialists, team skills training and implementation of crew resource management practices similar to ones in place at the airlines. Those initiatives in turn culminated in a significant drop in the obstetric service’s adverse outcomes index, a composite score that measures parameters like maternal death and ICU admission, fetal traumatic birth injuries, uterine ruptures and blood transfusions.

Making customer satisfaction a priority

Of course, patient safety is only part of Dr. Lockwood’s contribution to the Department. He’s also rightly proud of improvements in patient satisfaction during his tenure. Upon his arrival at Yale-New Haven Hospital in 2002, the Department faced increasing competition for a shrinking obstetrical market. Virtually all the larger community hospitals in the area were marketing their friendly staff, remodeled obstetrical facilities and amenities. By contrast, the Department’s Press-Ganey scores were the lowest in the state, the L&B and postpartum units were often in disrepair, and amenities were minimal. Worse yet, there was a less than optimal spirit of cooperation among nurses and physicians, community midwives and residents, and full-time and community physicians. The Department also had earned a less than stellar reputation among referring physicians and was receiving only a minority of the state’s maternal transports.

Dr. Lockwood’s team began by addressing all these issues. New physician and nursing leadership was put in place,
including a dedicated L&B Physician Director who focused on team building and placing the patient and her family first. A new state-of-the-art triage unit was constructed and the L&B and postpartum units renovated and refurbished. As noted, the Department implemented 24-hour coverage of L&B with perinatologists who were heavily coached in customer relations. The team training exercises and implementation of crew resource management not only improved patient safety but quickly began to defuse conflicts among nurses, midwives, residents and attending physicians. These steps soon brought results that drove up patient satisfaction scores.

To codify their new spirit of collaboration, a novel governance structure was created – the Obstetrical Practice Council, which Dr. Lockwood chaired with the hospital’s Vice President for Patient Services. Representatives of all major stakeholders were appointed or elected to the Council, which has broad administrative, financial and operational authority. Subcommittees were formed for patient safety, service and resident training. The Council developed a range of new amenities and service offerings including an award-winning “room service” initiative where patients choose from a menu of dietary offerings and have their meals brought up fresh, hot and individually served.

Ultimately, the entire L&B unit was renovated. Within four years, Ob/Gyn units had four of the top five Press Ganey scores in the hospital. Raw scores on L&B increased from 82.4 in 2002 to 92.7 in 2008, and they recently ranked at the 86th percentile among state competitors and at the 89th percentile for academic competitors. Staff satisfaction scores have tripled in most categories.

Creating a premier academic department

When Dr. Lockwood arrived at Yale, Dean David Kessler said he was committed to creating a premier academic department and allocated sufficient funds for recruitment of faculty and construction of 30,000 square feet of modern lab and administrative space, as well as 25,000 square feet of new clinical space. They have since recruited an additional 12 basic research (PhD) faculty and 22 clinical (MD) faculty, of whom nine are physician-scientists and 61% are women.

Dynamic chiefs were named in the sections of Maternal-Fetal Medicine (MFM), Reproductive Endocrinology and Infertility (REI), Gynecologic Oncology and Urogynecology. To cope with inadequate on-campus facilities, the Department also relocated half of all clinical activities (MFM and REI) to renovated off-campus facilities a short distance away.

Over the next eight years, despite a challenging funding environment, annual NIH grant support nearly tripled to over $9 million, placing us among the top five medical school departments in the nation, while total research funding exceeded $15.5 million in 2010. In 2011, NIH grant revenue will reach $10.7 million. Income from clinical practice and hospital contracts has also nearly tripled and exceeded $29 million in FY 10. The Department is consistently ranked in the top 20 and top 10 on U.S. News hospital and academic medical school department surveys, respectively.

Creating a world-class educational environment

Adding to these accomplishments were several pedagogic innovations over the past eight years. Dr. Lockwood appointed Dr. Jessica Illuzzi as Director of Medical Student Education, and she and her colleagues formed the Reproductive Curriculum Committee that includes student representatives from each year to identify educational areas in need of innovation. It has resulted in the creation of many novel programs, including the Female Health History Taking course that utilizes standardized patients and is now part of the pre-clinical clerkship for all Yale second-year medical students. Another innovation is the Options Counseling Curriculum nested within the third-year clerkship. This program, supported by the Cavanagh Endowment, is designed to teach the optimal means to communicate with patients about important reproductive health options and decisions.

A series of realistic clinical scenarios has been developed, covering a broad range of topics related to contraceptive counseling, unplanned pregnancy, postmenopausal hormone therapy and conservative versus radical treatment for malignancies. Professional actors, trained in these scenarios, serve as standardized patients so medical students can learn and practice options counseling. Every session is observed, and faculty preceptors and peers provide immediate feedback to students. Students also meet with gynecologic cancer patients who share their personal experiences about being diagnosed with and treated for ovarian cancer. Students are able to ask questions and talk with these women about what types of patient-doctor interactions were helpful and which ones were not. Students have been extremely enthusiastic about this rare opportunity to hear firsthand the experiences of these extraordinary women.

While the Department has had many more accomplishments, even this short summary makes it obvious that the medical community had found a passionate, insightful leader. It’s not hard to imagine the outstanding accomplishments that Ohio State is about to witness once Charly digs in.

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Looking Back, Looking Ahead

Dr. Lawrence K. Wartel reviews his tenure as Associate Chief of Ob/Gyn at YNHH; Dr. Steven J. Fleischman steps in with a view toward the future

Lawrence Wartel, MD, has seen some major changes in Ob/Gyn care from the time he came to Yale-New Haven Hospital in the early 1970s until his retirement as Associate Chief this year. He recalls that back then, there was no distinct maternal-fetal medicine service, so he and his generalist colleagues would often cover high-risk pregnancies. He also remembers that very little benign gynecologic surgery was done on an outpatient basis, residents were not limited to an 80-hour work week, and the cesarean delivery rate was less than 10%.

Dr. Wartel became Associate Chief of Obstetrics and Gynecology at Yale-New Haven Hospital in 1987. During his tenure, he witnessed important innovations in patient care and certainly helped shape the Department’s direction in the ensuing 23 years. He served on search committees for the dean of the medical school, chair of Ob/Gyn and section heads for MFM and REI. He was also a Clinical Professor of Ob/Gyn, teaching at many levels, and he won the Outstanding Community Physician Award in Ob/Gyn.

Along the way, Dr. Wartel has helped strengthen the community physician’s presence at the hospital, at the same time developing criteria for credentialing physicians in accordance with the Joint Commission requirements. He put in many hours of work each week, serving on numerous hospital committees. He will be sorely missed.

Dr. Wartel’s replacement, Dr. Steven Fleischman, has had a well-rounded background as well. He is Assistant Clinical Professor of Obstetrics and Gynecology at Yale School of Medicine, received his undergraduate degree from Washington University in St. Louis and his MD from Albany Medical College, and served his Ob/Gyn residency at YNHH. A former member of the executive board of the American College of Obstetricians and Gynecologists (ACOG), Dr. Fleischman is actively involved in organized medicine; one of his areas of interest is new technology in obstetrics and gynecology. He lectures extensively on alternatives to hysterectomy, including endometrial ablation procedures, and the management and treatment of urinary incontinence.

As he takes on his new role, Dr. Fleischman’s initial goal is to meet with as many community physicians as possible to get a sense of their needs and concerns as they relate to hospital practice. He too will be heavily involved in the credentialing and recredentialing process at the hospital, working to ensure that community doctors meet the ever-evolving standards set forth by the Joint Commission.
Dr. Nancy Stanwood and Dr. Aileen Gariepy are honored to join the faculty and launch a new chapter in Family Planning at Yale.

Dr. Lee Buxton (Chair of the Department, 1954 -1967) was arrested in 1961 for providing birth control advice and prescriptions for married women in New Haven. The legal challenge made by Dr. Buxton and Estelle Griswold of the Planned Parenthood League of Connecticut became the legal foundation for the *Roe v. Wade* decision.

Continuing Dr. Buxton’s legacy, Drs. Stanwood and Gariepy will make Yale a leader in 21st century family planning, with compassionate patient care, comprehensive medical education and patient-centered research.

Nancy L. Stanwood, MD, MPH, joins Yale as an Associate Professor and Section Chief of Family Planning. This appointment is a homecoming for Dr. Stanwood. Born and raised in Connecticut, she graduated *magna cum laude* from Brown University and graduated from the University of Pennsylvania School of Medicine. She completed her Obstetrics and Gynecology residency at the University of Michigan and the Robert Wood Johnson Clinical Scholars Program fellowship at the University of North Carolina, where she also earned her MPH.

Before coming to Yale, Dr. Stanwood was at the University of Rochester School of Medicine & Dentistry. During her 10 years there, she successfully built and directed the Family Planning Service, including securing the Kenneth J. Ryan Residency Training Program grant. She is an enthusiastic teacher, and among her awards is the prestigious National Faculty Award from the American College of Obstetricians and Gynecologists, Council on Resident Education in Obstetrics and Gynecology.

Dr. Stanwood’s research interests include the underuse of intrauterine devices and prevention of teen pregnancies. She is a dedicated advocate for her patients and serves as the Secretary of the Executive Committee of Physicians for Reproductive Choice and Health. She is excited to bring her expertise and energy to the Yale and New Haven communities, as she finally comes home to her family in Connecticut.

Aileen M. Gariepy, MD, MPH, joins Yale as Assistant Professor in the sections of Family Planning and Comparative Effectiveness Research. Most recently, she comes from the University of Pittsburgh and Magee Women’s Hospital, where she completed her fellowship in Family Planning. During the fellowship, Dr. Gariepy also earned an MPH and completed the Physicians for Reproductive Choice and Health’s Leadership Training Academy.

She is a magna cum laude graduate of Cornell University and earned her MD from MCP Hahnemann School of Medicine. Dr. Gariepy completed her residency in Obstetrics and Gynecology at Thomas Jefferson University Hospital where she served as Chief Resident. She then joined the faculty at Jefferson, earning a Berlex Foundation Junior Faculty Development Award and numerous teaching awards.

During her fellowship, she served as co-investigator for multiple NIH-funded trials, including several for the Contraceptive Clinical Trial Network and the Microbicides Trial Network. Her research interests include decision analysis and comparative effectiveness in obstetrics and gynecology. She was recently awarded a Society of Family Planning research grant to study pregnancy rates after different sterilization methods. Dr. Gariepy looks forward to bringing her passion for patient-centered research, teaching and clinical care to Yale.

Drs. Stanwood and Gariepy embrace the challenge of advancing Dr. Buxton’s legacy as they continue Yale’s longstanding commitment to women’s reproductive rights and health.

We would like to thank Drs. Anna Katerina Sfakianaki for directing, and Dr. Eric Hodgson for helping to staff the Family Planning Section while Nancy and Aileen were being recruited. Their contributions and selflessness were amazing.
After receiving 428 applications, Dr. Julia Shaw, the Yale-New Haven Hospital Ob/Gyn Residency Program Director, and her colleagues interviewed over 100 applicants for six residency spots in the Ob/Gyn Department in 2011. All six of the chosen candidates are highly accomplished physicians.

Sudeshna Chatterjee, MD, is from Jefferson Medical College of Thomas Jefferson University. She received her BA in Genetics, Cell and Developmental Biology at Dartmouth College and is a member of AOA. She also holds membership in a number of other honorary and professional societies.

Stephen Collins, MD, PhD, is from Emory University School of Medicine. He received his BS in Biology at Pennsylvania State University and his PhD from Emory University School of Medicine. He is the recipient of numerous awards, a member of several honorary/professional societies, and volunteered for a number of organizations during medical school.

Catha Fischer, MD, is from Mount Sinai School of Medicine of New York University. She received her BA in Women’s Studies at Washington University in St. Louis. At Mount Sinai, she was in the top 10 percent of her class in the Clinical Skills Assessment Exercise, which indicates excellent integrative skills, clinical reasoning, professionalism and communication skills.

Gregory Gressel, MD, is from Tufts University School of Medicine and received his BS in Philosophy, Theology and Biology at Boston College. He was the recipient of numerous awards, including Student of the Year in the Department of Obstetrics and Gynecology, and is also a member of several honorary/professional societies.

Mathew Macer, MD, is from the University of Southern California, Keck School of Medicine. He received his BS in Brain, Behavior and Cognitive Science at the University of Michigan, Ann Arbor, is a member of AOA and was the recipient of numerous awards. He was actively involved in a number of volunteer and research projects as well as with ACOG.

Mohak Mhatre, MD, is from Albert Einstein College of Medicine of Yeshiva University. She received her BA in English from Johns Hopkins University. She is a member of AOA and was involved in numerous research projects. One of her research projects, “Role of seminal fluid in the HIV microbicide drug-delivery system,” was selected for participation in the Infectious Diseases Society of America Medical Scholars Program.

All six physicians can look forward to an exciting, challenging program that trains Ob/Gyn residents to excel. Their training will be centered on evidence-based, compassionate patient care, cutting-edge surgical training and state-of-the-art simulators.
particularly suture-intensive procedure, and the robot makes stitching much easier and delicate dissection more exact because it allows for 3-D visualization and magnification."

Patient satisfaction also seems improved in Dr. Bercik’s experience; 50%-60% of his patients are being discharged on day 1 with the robotic approach, versus day 2 or 3 with open abdominal surgery. On the downside, however, researchers have found that the robotic approach is more expensive than open surgery for sacral colpopexy.

Dr. Masoud Azodi, an Associate Professor at Yale who specializes in gynecologic oncology, has done about 800 procedures using the da Vinci device, treating a wide variety of conditions including uterine cancer, ovarian masses, stage IV endometriosis, large fibroids and radical hysterectomy. He too commented on advantages such as the ability to do fine dissection as a result of the 3-D view and magnification. It has afforded him the opportunity to perform several nerve-sparing operations.

Dr. Azodi has also noticed that there are ergonomic advantages for the surgeon. The fact that one can sit at the console rather than stand at the operating table, and the fact that the robotic arms do all the twisting and turning rather than the surgeon’s hands and arms, translate into less back pain. From the patient’s perspective, Dr. Azodi confirmed what other surgeons have reported: namely, less pain and bleeding when compared to open surgery. He also has found that he can work on more complicated cases, even when compared to the standard laparoscopic approach.

References