CLINICAL CARE

Department enrolling in ACS quality improvement program

Participating centers have improved health outcomes, increased patient satisfaction

The Ohio State University Department of Surgery is becoming a participant in a national surgical quality improvement program with a record of substantially reducing morbidity and mortality and increasing patient satisfaction.

A program of the American College of Surgeons, the National Surgical Quality Improvement Program (NSQIP) is designed to help clinical surgery departments collect and analyze risk-adjusted surgical outcomes data in order to develop clinical performance improvement initiatives.

“The NSQIP has been recognized as the best program in the nation for measuring and reporting surgical quality and outcomes,” says Dr. E. Christopher Ellison, the Robert M. Zollinger professor and chairman of surgery, associate vice president for health sciences, and vice dean of clinical affairs in the College of Medicine and Public Health. “No surgery department will establish or maintain itself as a top performer without participating in this program.”

Medical centers participating in the NSQIP have improved health outcomes, reduced postoperative lengths of stay and hospital costs, and increased patient satisfaction.

The Ohio State University Medical Center’s participation in the NSQIP is expected to be completely under way in December.

“Through participating in the NSQIP, the reviewer will collect data on a host of variables, including demographic, preoperative, intraoperative, and postoperative data.

Data will then be reported daily online, and in ad-hoc, semiannual, and annual reports.

Findings from the reports will provide the foundation for quality improvement action plans.

From 1991 to 2001, the Veterans Administration experienced a 27 percent decline in postoperative mortality and a 45 percent drop in postoperative morbidity through participation in the NSQIP.

“Through participating in the NSQIP, we intend to enhance our performance and bring the department into the top quartile of U.S. academic surgery departments,” Ellison says.

Once the program is under way, a surgical clinical nurse reviewer trained by NSQIP personnel will collect and report 30-day morbidity and mortality outcomes for all major inpatient and outpatient surgical procedures in general and vascular surgery. For each surgical case,
Physicians at The Ohio State University recently were among the first in the United States to implant a ventricular support device designed to reduce heart wall stress in patients with congestive heart failure.

The implantation procedure, which was performed at Ohio State’s Richard M. Ross Heart Hospital, was the first implantation of the ventricular support device in Ohio and only the 10th in the United States.

The investigational device, a metal alloy mesh harness surrounded by silicone, wraps around and conforms to the shape of the heart and applies just enough pressure to reduce heart wall stress in patients with congestive heart failure, says Dr. William T. Abraham, professor of internal medicine, director of cardiovascular medicine, and principal investigator at Ohio State for a study of the device.

“We believe it will make the heart smaller and stronger,” Abraham says.

In congestive heart failure, which is associated with weakness of the heart, the heart’s inability to keep up with the body’s demands can cause the heart to enlarge, eventually destroying its ability to function.

Dr. Benjamin Sun, associate professor of surgery, chief of the Division of Cardiothoracic Surgery, and co-investigator at Ohio State for the study, implanted the device May 19 during a one-hour procedure.

The device’s innovative deployment system made possible a minimally invasive surgical approach. The procedure required only a small chest incision and was guided by a fluoroscope, or X-ray camera, Sun says.

“By using the X-ray camera, we can be sure the device is in place to hold the shape of the heart, provide a gentle squeeze, and remove the impetus of the heart to continue to stretch,” he says.

The patient, a 68-year-old Columbus, Ohio man, did well after the procedure.

The experimental device is made of a nickel-titanium shape memory alloy. Because the material can assume the heart’s shape and size, no suturing to the heart is required, and the device is permanent.

“Though more research is needed to ensure its efficacy, we have high hopes that this device will be able to delay, if not prevent, the need for a heart transplant in some patients,” Abraham says.

Both physicians say the research demonstrates the importance of academic medicine.

“In many cases, we’re able to partner with industry to work on, develop, and try out the newest techniques with the idea of pushing the envelope,” Sun says. “And patients are the ones who benefit most from these collaborative efforts.”

The procedure at Ohio State was the final implantation of the device in an initial round of trials to determine the system’s safety. University Medical Center and four other U.S. academic medical centers participated in the safety study.

Paracor Medical, Inc., of Sunnyvale, Calif., developed the ventricular support system. The firm and researchers hope to expand the trial to a larger number of patients and to eventually gain Food and Drug Administration approval of the device.
Surgeons in the Division of General Vascular Surgery in June began using a new device to open blockages in the carotid artery, the main blood vessel that supplies blood and oxygen to the brain, in order to reduce the risk of stroke.

About 25 percent of strokes are caused by carotid artery disease from atherosclerosis, a build-up of fatty substances, or plaque, in the arteries that carry blood to the brain.

Atherosclerosis can lead to stroke in two ways: (1) plaque narrows the artery and blocks the flow of blood to the brain, and (2) the plaque or blood clots formed on the plaque break off, or embolize, and travel to a smaller artery in the brain, blocking that artery.

Ultimately, a stroke occurs when brain cells are deprived of the oxygen and glucose delivered by the blood.

The new device, a small metal mesh tube, or stent, is inserted into the carotid artery during an angioplasty procedure. In the procedure, the stent is guided to the artery via a catheter inserted into a small puncture in the patient’s groin.

The stent holds the artery open, which improves blood flow. The device also holds plaque against the artery wall, preventing it from breaking off, traveling to the brain, and causing a stroke.

An embolic protection system, a tiny filter that opens like an umbrella, is used to catch and remove any pieces of plaque released during the stent procedure before they can trigger a stroke.

Patients usually need only local anesthesia, and remain conscious during the stent procedure.

Previously, surgeons treated blockages in the carotid artery using a more invasive surgical procedure called carotid endarterectomy, in which the physician makes an incision in the patient’s neck and carotid artery to remove plaque from inside the vessel wall.

Many patients are not good candidates for the more invasive procedure, which requires general anesthesia. Patients considered at high risk for the procedure are those with significant heart, lung, or kidney disease; recurrence of a blockage following a previous carotid surgery; or difficult-to-access neck anatomy.

“This new carotid stent system is the only FDA-approved system currently available for the prevention of stroke for patients who are at high risk for carotid endarterectomy.”

“This new carotid stent system is the only FDA-approved system currently available for the prevention of stroke for patients who are at high risk for carotid endarterectomy,” says Dr. Jean E. Starr, assistant professor of clinical surgery in the Division of General Vascular Surgery.

The stent system is manufactured by Guidant Corporation, of Santa Clara, Calif.

In the firm’s study of the stent system in 581 patients at 45 medical centers, the system successfully opened blockages in 92 percent of patients. Risk of complications was five percent lower than for carotid endarterectomy.

Experts say that more than 700,000 Americans suffer a stroke each year. According to the American Heart Association, stroke is the third leading cause of death in the United States and the number one cause of disability in adults. ✉
Dr. Peter Muscarella II, assistant professor of surgery in the Division of General Surgery, recently performed Ohio State’s first implantation of a gastric neurostimulator for the treatment of gastroparesis.

A condition in which the stomach is paralyzed and fails to empty its contents into the intestines, gastroparesis can result in nausea, vomiting, abdominal bloating, epigastric pain, and nutritional deficiencies. The condition is thought to be caused by nerve damage, and occurs in diabetics and people who have had a viral gastrointestinal illness.

Muscarella, the only surgeon at Ohio State credentialed to implant the neurostimulator, performed the procedure July 29 at The Ohio State University Medical Center.

The patient had an open procedure because of a previous operation, and left the hospital on the third day after the implantation.

“Ohio State is one of only two institutions in the state of Ohio currently performing the procedure,” Muscarella says.

The gastric electrical stimulation system consists of a neurostimulator, which is surgically placed in the abdomen; two leads with electrodes, which are implanted in the muscle wall of the stomach; and a programmer, which the surgeon uses to control and adjust the settings of the neurostimulator. The system delivers programmed electrical pulses to the stomach, causing it to contract and empty.

Clinical studies have demonstrated a decreased frequency of vomiting, and improvements in other gastrointestinal symptoms, in patients who have had the device implanted.

“A number of patients have been shown to benefit from this procedure,” Muscarella says. “We perform regular follow-ups, and if they’re not having improvement in symptoms, we can adjust the neurostimulator.”

He says clinical trials have demonstrated objective, but not statistically significant, improvement in symptoms. For this reason, the Food and Drug Administration has classified the gastric neurostimulator as a Humanitarian Use Device, and physicians must obtain approval of its use from their hospital’s internal review board.

Muscarella says gastroparesis is a difficult problem to manage. “There are a number of people who fail medical therapy,” he says. Medical therapy first involves special diets of frequent, small, low-fiber meals. For patients who fail to benefit from dietary modifications, doctors prescribe medications, such as anti-emetics and motility agents. However, experts say that as many as 75 percent of patients fail to tolerate or respond to medications.

Moreover, traditional surgical treatments for gastroparesis have not been successful, Muscarella says. “In the past, gastrojejunostomy or pyloroplasty have been employed, but they really have not demonstrated any particular benefit for the patient.”

Also involved in the neurostimulator project were Dr. W. Scott Melvin, associate professor of surgery, chief of the Division of General Surgery, and director of the Center for Minimally Invasive Surgery; Dr. Jeffrey W. Hazey, assistant professor of surgery in the Division of General Surgery; Dr. Michael A. Baird, clinical assistant professor of digestive health; and representatives from Medtronic, the manufacturer of the gastric electrical stimulation system.
Four clinical specialists join Department of Surgery faculty

Physicians bring skills in minimally invasive surgery, plastic surgery, urology to Ohio State

Four surgical specialists — with interests in minimally invasive surgery, plastic surgery, and urology — have joined the attending faculty of The Ohio State University Department of Surgery.

Dr. Jason P. Gilleran, previously assistant instructor in urology at the University of Texas Southwestern Medical School, in Dallas, in September was appointed assistant professor of surgery in the Division of Urology.

Gilleran received his medical degree at Wayne State University, in Detroit, and was a resident in general surgery and urology at the University of Illinois at Chicago.

He received his undergraduate degree at Albion College, in Albion, Mich.

Dr. Vimal K. Narula, previously a resident in general surgery at Marshall University School of Medicine, in Huntington, W. Va., in July received a one-year appointment as clinical assistant professor of surgery in the Center for Minimally Invasive Surgery.

Narula received his undergraduate and medical degrees at Marshall University.

Dr. Gregory D. Pearson, an Ohio State alumnus and recently a fellow in craniofacial surgery at Riley Hospital for Children, in Indianapolis, in July was appointed assistant professor of clinical surgery in the Division of Plastic Surgery.

Before his fellowship in Indianapolis, Pearson completed a residency in plastic surgery at Ohio State, where he also received his medical degree.

Pearson has specialty interests in craniofacial surgery and pediatric plastic surgery, and is dividing his time between University Medical Center and Columbus Children’s Hospital.

Dr. William C. Watson, previously a resident in general surgery at Indiana University Medical Center, in Indianapolis, in July received a one-year appointment as clinical assistant professor of surgery in the Center for Minimally Invasive Surgery.

Watson was born in Gary, Ind., and received his undergraduate degree at Texas A&M University, in College Station, Texas. He received his medical degree at Loyola University Stritch School of Medicine, in Maywood, Ill.

RECOGNITIONS

Ellison elected director of prestigious organization

Dr. E. Christopher Ellison, the Robert M. Zollinger professor and chairman of surgery, associate vice president for health sciences, and vice dean of clinical affairs in the College of Medicine and Public Health, was unanimously elected to a three-year term as director of the prestigious James IV Association of Surgeons, Inc., at the organization’s annual meeting, on June 28, in Edinburgh, Scotland.

An active member of many professional organizations, Ellison also serves as secretary of the Central Surgical Association and as a director of the American Board of Surgery.
IN MEMORIAM

Charles G. Orosz, Ph.D.

Professor of surgery was preeminent researcher

Charles G. Orosz, Ph.D., 56, a longtime faculty member and an outstanding researcher in the Division of Transplantation of The Ohio State University Department of Surgery, died Aug. 7 at University Medical Center. He had been ill for eight months.

Orosz, professor of surgery, pathology, and molecular virology, immunology and medical genetics, was a preeminent researcher. He joined the Division of Transplantation in 1983, after earning his Ph.D. in immunology at Cleveland State University and serving a postdoctoral research appointment at the University of Wisconsin, in Madison.

He founded and directed the Therapeutic Immunology Laboratories and served as director of the Histocompatibility Laboratories at The Ohio State University Medical Center, and at Allegheny General Hospital, in Pittsburgh. At Ohio State, he was a member of the Comprehensive Cancer Center and the executive board of the Davis Heart and Lung Research Institute.

Orosz was serving as president of the American Society for Histocompatibility and Immunogenetics (ASHI) at the time of his death. A member of numerous transplant and research societies and committees, Dr. Orosz was associate editor for the Journal of Immunology, and served on the editorial boards of seven international journals.

His research on the immunobiology of graft acceptance was supported for many years by the National Institutes of Health. He authored more than 200 peer-reviewed publications and received many honors and awards, most recently the 2005 ASHI Distinguished Scientist Award.

Beyond his professional pursuits, Orosz strongly influenced those with whom he worked. He helped develop the scientific and leadership skills of many students, technicians, and colleagues, who now enjoy local, national, and international influence in transplantation immunobiology, nanotechnology, and complexity theory, and in basic and applied research.

GRANTS


VanBuskirk AM, Ali S. Research on Research Grant. The Ohio State University, Technology-Enhanced Learning and Research, $5,000.

PUBLICATIONS


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**PRESENTATIONS**

Caniano DA. The acute abdomen in infants and children. Pediatric Grand Rounds, Children’s Hospital, Columbus, Ohio, July 7, 2005.

Caniano DA. Neonatal surgery: quest for quality; Surgical ethics: progress and challenge. Frank G. DeLuca Lectureship, Department of Surgery, Brown Medical School and Hasbro Children’s Hospital, Providence, R.I., May 17–18, 2005.


**RECOGNITIONS**

Dr. Brentley A. Buchele, associate professor of clinical surgery and chief of the Division of Plastic Surgery, in May completed a 21-month M.B.A. degree program for physicians, from Auburn University, in Auburn, Ala.

Dr. William B. Farrar, professor of surgery and chief of the Division of Surgical Oncology, has been named holder of the Dr. Arthur G. and Mildred C. James Professorship in Surgical Oncology in the College of Medicine and Public Health, for July 1, 2005 through June 30, 2009.

**Dr. W. Scott Melvin**, professor of surgery, chief of the Division of General Surgery, and director of the Center for Minimally Invasive Surgery, has been appointed to the editorial board of *Annals of Surgery*.

Anne M. VanBuskirk, Ph.D., assistant professor of surgery in the Division of Surgical Oncology, has been appointed to the newsletter editorial board and the awards and grants committee of the American Society of Transplantation.

**PRESENTATIONS**

Dr. Doreen M. Agnese, assistant professor of surgery in the Division of Surgical Oncology, was interviewed Aug. 8 by WCMH-TV/4, about the importance of tumor size in breast cancer survival.

Dr. William B. Farrar, the Dr. Arthur G. and Mildred C. James professor of surgery and chief of the Division of Surgical Oncology, was one of several staff members featured July 30 in a program on WBNS-TV/10 recognizing the 15th anniversary of the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute.

Also, Dr. Farrar was pictured in the July issue of *Columbus Monthly*, in a story about the Celebration for Life Gala, a benefit for the James Cancer Hospital and Solove Research Institute.

Dr. W. Scott Melvin, professor of surgery, chief of the Division of General Surgery, and director of the Center for Minimally Invasive Surgery, was quoted May 14 in the *Columbus Dispatch*, in a story about rotator cuff injuries.

Dr. Vipul R. Patel, clinical assistant professor of surgery and director of minimally invasive and robotic surgery in the Division of Urology, was featured Aug. 9 in the *Columbus Dispatch*, in a story about robotic prostate surgery. The story was accompanied by a photo of Dr. Michael C. Gong, assistant professor of surgery in the Division of Urology.

Dr. Amer Rajab, assistant professor of surgery and director of pancreas and islet transplantation in the Division of Transplantation, was quoted Aug. 2 and Aug. 5 in the *Coshocton Tribune*, in stories about a transplant patient whose wife donated a kidney to him.

**CORRECTION**

A story in the August issue of *Surgery Today* that listed new surgical trainees for the 2005–2006 academic year incorrectly cited Dr. Lindsay Grier as fellow and assistant administrative chief in the Division of Pediatric Surgery. The story should have listed Dr. L. Grier Arthur III in the position.
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