



SURGERY TODAY

Quarterly Newsletter of The Ohio State University Department of Surgery
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CARDIOTHORACIC SURGERY

Sun appointed chief of division

Specialist is a recognized expert in heart transplant

Dr. Benjamin Sun, associate professor of surgery in the Division of Cardiothoracic Surgery and director of heart transplantation and mechanical circulatory support, has been named chief of Cardiothoracic Surgery.

A faculty member at Ohio State since 2002, Sun is an internationally recognized expert in heart transplantation, ventricular assist devices, and off-pump coronary revascularization. He serves as director of the cardiothoracic surgery residency.

"The heart transplant and left ventricular assist device programs have grown considerably under Dr. Sun's direction," says Dr. E. Christopher Ellison, the Robert M. Zollinger

professor and chairman of surgery and associate vice president for health sciences and vice dean of clinical affairs in the College of Medicine and Public Health. "We anticipate that under his leadership, the Division of Cardiothoracic



Sun

Surgery will continue to grow and achieve outstanding results."

Dr. Fred Sanfilippo, senior vice president and executive dean for health sciences, dean of the College of Medicine and Public Health, and CEO of The Ohio State University Medical Center, says, "Ben has been a key member of our heart leadership team for three years. We are pleased that he has accepted this leadership position. We look forward to supporting him as he continues to help us advance all areas of patient care, research, and education in cardiothoracic surgery."

Before coming to Ohio State, Sun was director of the heart transplant program at Penn State Hershey Medical Center,

where he helped to develop and transplant the first wireless heart device to reach clinical trials in the United States.

A graduate of Yale University, in New Haven, Conn., he received his medical degree at the State University of New York at Stony Brook, and completed a

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general surgery residency at the University of North Carolina Hospitals, in Chapel Hill. He was a resident and later a staff surgeon at Columbia-Presbyterian Medical Center, in New York City.

Sun replaces Dr. Robert E. Michler, who accepted an appointment as director of the heart center and department of cardiothoracic surgery at the Montefiore Medical Center and Albert Einstein College of Medicine, in New York City.

"Under Dr. Michler's leadership, the Division of Cardiothoracic Surgery matured into a strong academic program," Ellison says. "There is a good foundation for Dr. Sun to continue to develop the program for our medical center." ♦



CARDIOTHORACIC SURGERY

Surgeons perform Central Ohio's first heart-lung transplant

Procedure is available at fewer than 50 U.S. centers

A team of surgeons from the Comprehensive Transplant Center at The Ohio State University in February performed Central Ohio's first heart-lung transplant, a procedure available to patients at fewer than 50 medical centers in the United States.

The patient, from Ironton, Ohio, was doing "very well" after the surgery, says Dr. Benjamin Sun, associate professor, chief of the Division of Cardiothoracic Surgery, and the lead surgeon during the operation. He was joined by Dr. Patrick Ross Jr., associate professor of clinical surgery and surgical director of lung transplantation in the Division of Cardiothoracic Surgery.



Sun

The operation involved transplantation of a heart and two lungs. The patient had a complex congenital heart defect known as double outlet right ventricle, and had developed severe pulmonary hypertension and congestive heart failure.

"She was ill her entire life," says Dr. Curt J. Daniels, who has treated the patient for several years. "By her mid-20's she was terribly sick, but intravenous treatments of a medication called Flolan helped stabilize her enough to get her to the point where she could be listed

for the transplant." Daniels is assistant professor of clinical cardiology and director of the adolescent and young adult heart disease clinic in the division of cardiovascular medicine.

The patient had been on the heart-lung waiting list with the United Network for Organ Sharing for at least two years, and spent nearly a year at University Medical Center during her wait.

"It's very common for people to wait a long time for this surgery," Sun says. Heart-lung transplants are rare because organ donations fall well below the demand, and conditions requiring replacement of the heart and both lungs are rare, he says.



Ross

The procedure established a new milestone in University Medical Center's transplantation program, which in February was approved by University trustees as a new comprehensive center.

In 2004, 71 heart-lung transplants were performed worldwide, 35 in the United States. The procedure at OSU was the 12th such operation in Ohio.

The procedure established a new milestone for University Medical Center's transplantation program, which in February was approved by University trustees as a new comprehensive center.

The new center is expected to bolster an already successful program and speed development of scientific discoveries to improve the outcomes of transplant patients.

"Ohio State's transplant programs have a stellar reputation around the country, and our clinicians and researchers are respected contributors to the world's transplant research," says Dr. Ronald M. Ferguson, professor of surgery and director of the new center.

University Medical Center performed its first heart transplant in 1986, its first lung transplant in 1998, and its first double-lung transplant in 1999.

Fewer than 50 U.S. medical centers are designated as heart-lung transplant centers by the Centers for Medicare and Medicaid Services. University Medical Center received the designation in September 2002. In Ohio, the Cleveland Clinic and University Hospitals in Cleveland are the only other centers able to perform the surgery. ❖



GENERAL SURGERY

Laparoscopic colectomy judged safe with malignant disease

Previously offered only to patients with benign conditions, the technique results in less trauma

Surgeons in the Division of General Surgery at Ohio State have been making laparoscopic surgery available to patients with malignant colorectal disease, following a National Cancer Institute study indicating that the procedure is a safe alternative to conventional open surgery.

Previously offered only to colorectal patients with benign disease, the minimally invasive procedure requires smaller incisions, and results in less pain and faster recovery for the patient.

“Ohio State clearly is one of the leaders in laparoscopic colectomy,” says Dr. John H. Winston III, assistant professor of surgery in the Division of General Surgery. “But we had not been using the operation for cancer, because there was some concern that laparoscopic surgery might be inferior to an open operation.”

Surgeons in the United States first considered laparoscopic colectomy for patients with malignant disease in 1990, but were concerned that survival would be compromised by tumor recurrence and oncologic risk, Winston says.

However, the results of the seven-



Winston

year, multi-institutional study, which were published last year in *The New England Journal of Medicine*, indicate that laparoscopic colectomy is safe and benefits the patient during the early postoperative recovery period. Nearly 900 patients at nearly 50 medical centers took part in the clinical trial.

“As a result of the study, a lot of surgeons and patients are interested in the procedure,” he says.

A conventional open colectomy requires a seven-inch midline abdominal incision, while the laparoscopic procedure requires only three small incisions, or ports, for instruments and a miniature camera, with which surgeons observe their work.

Depending on the needs of the patient, surgeons at Ohio State perform a complete laparoscopic resection, a laparoscopic-assisted colectomy, or a hand-assisted laparoscopic procedure, Winston says.

The advantages of laparoscopic colectomy result from reduced surgical trauma. These include reduced pain and need for narcotic medication, earlier return to an oral diet, earlier postopera-

tive recovery and discharge from the hospital, faster return to normal activities, and cosmetically superior incisions.

According to one study, elderly patients were more likely to resume an independent life and less likely to require admission to an assisted-living facility after laparoscopic colectomy, he says.

Although laparoscopic surgery is not appropriate for patients who have had previous major abdominal surgery, or

“Ohio State clearly is one of the leaders in laparoscopic colectomy.”

those with a locally advanced cancer, the minimally invasive procedure is indicated for many, regardless of the patient’s age or weight, or the location of the primary tumor.

He says that studies have documented longer operative times with laparoscopic colectomy, but operative times are now decreasing and approaching those for open colectomy, because the procedure is becoming standardized, technology is improving, and surgeons are becoming more experienced and skilled with the procedure.

Winston estimates that he and his colleagues in general surgery at Ohio State currently perform from 30 to 50 of the laparoscopic colectomy procedures annually. They have used the technique routinely for more than 10 years for benign processes, such as inflammatory bowel disease, rectal prolapse, benign polyps, and diverticular disease.

Experts say that more than 100,000 new colon cancer cases and more than 40,000 new rectal cancer cases are diagnosed in the United States each year. ❖



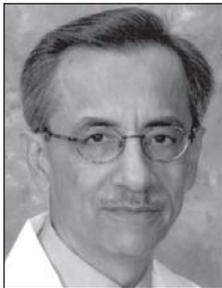
GENERAL VASCULAR SURGERY

Varicose veins can indicate absence of deep vein clots, study finds

Presence of varicose veins can actually be a good sign

When blood clots form in veins close to the skin surface in the legs, the presence of varicose veins can actually be a good sign, despite their typically unattractive appearance, according to a recent study.

Any blood clots in the legs should be examined by a physician, but if they accompany varicose veins, this is a strong indication that valves in the veins are malfunctioning, rather than a suggestion of the presence of a more dangerous clotting disorder, says Dr. Bhagwan Satiani, professor of clinical surgery in the Division of General Vascular Surgery.



Satiani

In a recent observational study of patients with superficial venous thrombosis, or surface blood clots, in the legs, about 80 percent of patients had varicose veins. Among these patients, more serious deep vein clots were uncommon. However, in the 20 percent of patients who had no varicose veins, the incidence of deep vein clots was 33 percent, Satiani says.

The study results were published in a recent issue of *Vascular Medicine*.

Clots in the deeper veins of the leg can be important indicators of a clotting disorder that requires treatment beyond a vascular repair. Clotting disorders can be dangerous because of the elevated risk

leg is unlikely to move or involve deeper veins, physicians routinely perform an ultrasound scan to rule out involvement of deeper veins and to monitor the status of the clot, Satiani says.

He describes varicose veins themselves as a mechanical problem. "Within the veins, the valves that act as gates don't work properly, and blood heading

"Most superficial clots are not associated with deep vein clots, which means the surface clots are not going to move. They're not as scary as people may think."

of a blood clot traveling to, or lodging in, blood vessels in the lungs. Such disorders, and any deep vein clots associated with them, are typically treated with blood-thinning agents, delivered via injections or pills.

"Most superficial clots are not associated with deep vein clots, which means the surface clots are not going to move," Satiani says. "They're not as scary as people may think."

Symptoms of surface blood clots in the legs include isolated redness, pain, and swelling, which indicate that the body is reacting to the clot, Satiani says. Most patients with surface blood clots can be safely treated with applications of heat, compression stockings or elastic bandages, nonsteroidal anti-inflammatory drugs, frequent walking, and elevation of the affected leg. Many such clotting problems are resolved within two to three weeks.

Even when varicose veins are a good indicator that a surface blood clot in the

upward toward the heart reverses direction," he says. "Most clots in varicose veins are not dangerous, as long as they are not close to the junction of the leg and the abdomen. There's a cause for concern when these clots seem to move upward, because they may involve the femoral vein, the main vein in the leg."

However, larger varicose veins, even without clots, can cause aching, swelling, and fatigue of the lower legs, and may require treatment to close off or remove the vein. The malfunctioning valves cannot be repaired, so physicians use heat, injected agents, or surgery to close or remove the veins with the most severe mechanical problems, Satiani says.

Because 80 to 90 percent of varicose vein cases are inherited, people can do little to prevent the problem, he says. Pregnancy or injury to the deep vein system also can cause varicose veins to form. ❖



RESIDENCY PROGRAM

Department presenting seminars on practice management

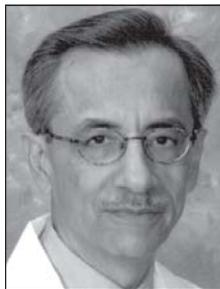
A new series of seminars for surgical residents and fellows is presenting material not included in the traditional training program.

In January, Dr. Bhagwan Satiani, professor of clinical surgery in the Division of General Vascular Surgery, and Raymond M. Manley, clinical assistant professor of surgery and chief operating officer of OSU Surgery LLC, began presenting a series of 10 monthly seminars on surgical practice management to chief residents and fellows throughout the department.

"I hope to educate them so they will not make the same mistakes I made in my practice," Satiani says. "The practice of medicine has changed. From a business perspective, the margins for staying in business are smaller, and physicians

need to be more cognizant of the efficiencies they can incorporate into their practices. Part of the solution is to make them more knowledgeable about the business side of medicine."

The seminars address balancing work and life, health-care economics, documentation and coding, managed care and contracting, health-care legal regulations, finance, basic accounting, and corporate matters. They also discuss looking for a job after residency, and starting and managing a practice.



Satiani



Manley

"The seminars will not make the residents experts, but will help them ask the right questions and give them resources to make better decisions," Satiani says.

Dr. Andrew Weinfeld, chief resident in the Division of General Surgery, says, "The seminar series is very beneficial to us. Business is in every aspect of medicine, and the seminar series gives us an edge. We'll have a background in how to deal with issues, and how to avoid getting into situations we're not knowledgeable about."

Dr. E. Christopher Ellison, the Robert M. Zollinger professor and chairman of surgery and associate vice president for health sciences and vice dean of clinical affairs, says, "The series is a big hit." ❖

TRANSPLANTATION

Research of M.D./Ph.D. student featured in ADA publication

The research of Keri Lunsford, an M.D./Ph.D. student working in the laboratory of Dr. Ginny L. Bumgardner, was featured in the Winter/Spring 2005 issue of *Forefront*, a publication of the American Diabetes Association (ADA).

Lunsford is studying immune responses to transplanted pancreatic islet cells through a \$30,000 award she received from the ADA in 2002.

Bumgardner is associate professor of surgery in the Division of Transplantation.

Although transplanted islet cells have the potential to cure Type 1 diabetes mellitus, they are subject to rejection by the recipient's immune system. The laboratory's research is addressing how to control immune responses to the cells.

"We hope that our studies will lead to

developments which will permit a single islet transplant to permanently cure diabetes," Lunsford says. "Such an advance will free diabetic patients from insulin dependence and the well-known, serious, long-term complications of diabetes."

She initially became interested in diabetes research because of the effects the disease had on many of her family members, and through learning more about the long-term effects of the disease during her first two years of medical school. "These experiences motivated me to play a more direct role in the treatment of this disease," she says.

She will complete her medical degree in 2007, when she hopes to begin residency training in surgery. ❖



GRANTS

Ferguson RM (Principal Investigator), **Henry ML, Pelletier RP, Rajab A.** Prospective randomized single-center comparative trial of long-term steroid-free maintenance immunosuppression following steroid withdrawal comparing prednisone-free protocols of C2-dosed Neoral (cyclosporine) and Myfortic (mycophenolic acid) versus Rapamune. Novartis, Oct. 5, 2004 – Dec. 30, 2008, \$3,985,346. ❖

PUBLICATIONS

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Coffey C, Haley K, Hayes J, Groner JI. The risk of child abuse in infants and toddlers with lower extremity injuries. *J Pediatr Surg* 2005; 40:120–123.

Hayes JR, Groner JI. Minority status and the risk of serious childhood injury and death. *J Natl Med Assoc* 2005; 97(3):362–369.

Kinnunen S, Hyyppa S, Lappalainen J, Oksala N, Venojarvi M, Nakao C, Hanninen O, Sen CK, Atalay M. Exercise-induced oxidative stress and muscle stress protein responses in trotters. *Eur J Appl Physiol* 2005; 93:496–501.

Satiani B. The National Practitioner Data Bank: structure and function. *J Am Coll Surg* 2004; 199(6):981–986. ❖

CHAPTERS

Dietrich AM, Groner JI. Trauma in children. In: Campbell JE (ed). *Basic Trauma Life Support for Paramedics and Other Advanced Providers*. 5th ed. Upper Saddle River, N.J.: Pearson

Prentice Hall, 2005; 22–240. ❖

PRESENTATIONS

Bloomston M. TIMP-1 antisense gene transfection attenuates the invasive potential of pancreatic cancer cells *in vitro* and inhibits tumor growth *in vivo*. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Delaney K. Anorectal malformations and tethered spinal cord: evaluating US versus MRI as a screening modality. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Denny J. Steroid avoidance in simultaneous pancreas-kidney transplantation. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Domingo C. Delivery of radio-frequency energy to the lower esophageal sphincter and gastric cardia (the Stretta procedure) improves symptoms of gastroesophageal reflux. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

El-Assal O, Besner G. Endogenous HB-EGF is involved in intrinsic restitution: recombinant HB-EGF enhances intestinal restitution in a PI3K/Akt and MEK/Erk 1/2 dependent fashion. Society of University Surgeons, 66th Annual Meeting, Nashville, Tenn., February 11, 2005.

Fisher M. A structurally optimized celecoxib derivative inhibits human pancreatic cancer cell growth. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Kocak E. Combination therapy with anti-CTLA-4 and anti-4-1BB antibodies unravels the link between cancer immunity and autoimmunity. Columbus

Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Sawyer M. A retrospective review of endoscopic dilations of strictures developed after Roux-en-Y gastric bypass surgery. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005.

Sen CK. New horizons in vitamin E neuroprotection. Society for Free Radical Research, International Conference on Antioxidants and Free Radicals in Health, Nutrition and Radio Protectors, Bangalore, India, Jan. 11, 2005.

Sen CK. Revisiting oxygen: beyond oxidative metabolism into the new era of signaling and genomics. Indian Science Congress Association, Ahmedabad, India, Jan. 4, 2005.

Sen CK. There is more to vitamin E than tocopherol: the hope against stroke. The Ohio State University, Davis Heart and Lung Research Institute, Research in Progress Lecture, Columbus, Ohio, Jan. 21, 2005.

VanBuskirk AM. Immunobiology of PTLD. Chemical Abstracts, Columbus, Ohio, Oct. 17, 2004.

VanBuskirk AM. Update on post-transplant malignancies. Great Lakes Transplant Immunology Forum, Indianapolis, Ind., Nov. 5–6, 2004.

Walker G. Sentinel lymphadenectomy in multicentric primary carcinoma of the breast. Columbus Surgical Society, 17th Annual Presidential Symposium, Columbus, Ohio, Feb. 12, 2005. ❖

RECOGNITIONS

Dr. Donna A. Caniano, the H. William Clatworthy Jr. professor of surgery and chief of the Division of Pediatric Surgery, has been appointed to the editorial board of *Pediatric Surgery International*.

Dr. Carole A. Miller, clinical profes-



sor emeritus of neurological surgery and formerly interim chief of neurological surgery in the Department of Surgery, has been named a “Local Legend” by the American Medical Women’s Association. ❖

IN THE NEWS

Dr. Mark W. Arnold, professor of clinical surgery in the Division of General Surgery, and **Dr. Michael C. Gong**, assistant professor of surgery in the Division of Urology, gave advice on how people can best protect themselves against cancer, on Feb. 3, on WBNS-TV/10.

Dr. Brentley A. Buchele, associate professor of clinical surgery and chief of the Division of Plastic Surgery, was interviewed on Nov. 24, 2004, by WCMH-TV/4, in a story about the risks of receiving botox treatments at a very young age.

Dr. J. Terrance Davis, professor of clinical surgery in the Division of Cardiothoracic Surgery, was profiled on March 2, in the *Upper Arlington News*, after receiving a “Making a Difference while Making a Living Award” from the Forum for Faith in the Workplace.

Dr. William B. Farrar, professor of surgery and chief of the Division of Surgical Oncology, **Dr. Peter Muscarella II**, assistant professor of surgery in the Division of General Surgery, and **Dr. Richard E. Schlanger**, assistant professor of clinical surgery in the Division of General Surgery and director of wound healing at University Hospital East, were quoted and pictured on Dec. 19, 2004, in the *Columbus Dispatch*, in a story titled “Songs to Suture By,” about the music surgeons choose to play in the operating room.

Dr. Ronald M. Ferguson, professor of surgery and director of the Comprehensive Transplantation Center at The Ohio

State University Medical Center, was mentioned on Feb. 7, by *Business First* (online), in a story announcing approval of the center by the University Board of Trustees.

Dr. Jonathan I. Groner, associate professor of clinical surgery in the Division of Pediatric Surgery, was quoted on Jan. 17, in an Associated Press story about the execution process, which was published in New York by *Newsday*, and in Connecticut by the *Record-Journal* and the *Stamford Advocate*.

Groner was also quoted on Jan. 31, by *American Medical News*, in a story about ethics and executions.

Joanne Lester, a nurse practitioner in the Division of Surgical Oncology, was quoted on Feb. 5, by WCMH-TV/4, WBNS-TV/10, and WSYX-TV/6, in stories about a 12-hour quilting bee she organized to create a lap quilt for every chemotherapy patient at the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute.

Chittoor B. Sai-Sudhakar, clinical assistant professor of surgery in the Division of Cardiothoracic Surgery, and **Patrick S. Vaccaro**, professor of clinical surgery and chief of the Division of General Vascular Surgery, were interviewed about heart care at The Ohio State University, on Jan. 29, on WBNS-TV/10.

Chandan K. Sen, Ph.D., professor of surgery and the head of wound-healing research at The Ohio State University, was mentioned on Jan. 14, in *Business First*, in a story about a \$1 million gift from National Healing Corporation to the wound-healing program at The Ohio State University Medical Center.

Dr. Benjamin Sun, associate professor of surgery and chief of the Division of Cardiothoracic Surgery, participated in an annual Valentine’s Day reunion of heart transplant patients at The Ohio State University Medical Center, which was covered on Feb. 14, by

WCMH-TV/4.

Sun was mentioned on Jan. 15, in the *Columbus Dispatch*, in a story about Dr. Robert E. Michler, the former chief of Cardiothoracic Surgery.

Sun and **Dr. Patrick Ross Jr.**, associate professor of clinical surgery in the Division of Cardiothoracic Surgery, participated in a Feb. 9 news conference after performing University Medical Center’s first heart-lung transplant, which was covered by the *Columbus Dispatch*, the *Akron Beacon Journal*, the *Chillicothe Gazette*, WBNS-TV/10, WCMH-TV/4, WSYX-TV/6, WTTE-TV/28, WOSU-AM, WTVN-AM, and WMNI-AM.

Sun and Ross were quoted on Feb. 25, in The Ohio State University *Lantern*, in a story about the operation. ❖

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The research of Keri Lunsford, an M.D./Ph.D. student working in the laboratory of Dr. Ginny L. Bumgardner, was featured in the Winter/Spring 2005 issue of Forefront, a publication of the American Diabetes Association. Above, Lunsford (left) and Bumgardner, associate professor of surgery in the Division of Transplantation, pose in the laboratory. See page 5.