

Department of Surgery

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and Surgery  
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Department of Surgery

2008 Annual Report

The Ohio State University Medical Center



# 2008 Annual Report

Department of Surgery  
The Ohio State University Medical Center  
Columbus, Ohio





# Department of Surgery 2008 Annual Report



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July 1, 2007 – June 30, 2008

Department of Surgery  
The Ohio State University Medical Center  
Columbus, Ohio

**Department of Surgery**

395 West 12th Avenue

Columbus, OH 43210-1267

Cover photograph by Jim Brown



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# Overview



**E. Christopher Ellison, M.D.**  
Chairman, Department of Surgery

**T**he missions of the Department of Surgery are consistent with those of The Ohio State University College of Medicine. The department's missions are the delivery of high-quality patient care, the contribution to innovations in medicine through basic, translational research and clinical outcomes studies, and the education of medical students and postgraduate trainees. This report summarizes the changes and accomplishments in the department from July 1, 2007 through June 30, 2008.

## Organization

The Department of Surgery comprises eight specialty divisions: Cardiothoracic Surgery; Critical Care, Trauma, and Burn; General and Gastrointestinal Surgery; Pediatric Surgery; Plastic Surgery; Surgical Oncology; Transplantation; and Vascular Diseases and Surgery. In addition, the Center for Minimally Invasive Surgery, a multidisciplinary organization within the department, is dedicated to developing and implementing minimally invasive technologies and procedures.

## Faculty

Recruitment efforts brought nine new faculty members to the department this year. The Center for Minimally Invasive Surgery made three one-year clinical faculty appointments. The Division of Plastic Surgery added three new faculty members. The Division of Critical Care, Trauma, and Burn; the Division of General and Gastrointestinal Surgery; and the Division of Transplantation each added one new faculty member. A complete list of this year's faculty appointments begins on page 7 of this report.

## Clinical Care

The Department of Surgery provides all aspects of major surgical care. This year, the department performed 27,523 surgical procedures and received 86,039 outpatient visits. Outpatient services are available at numerous sites, including:

- Cramblett Medical Clinic, 456 West 10th Avenue.
- OSU Medical Center Services, 770 Kinnear Road.
- General Surgery at Knightsbridge, 4830 Knightsbridge Boulevard, Suite J.
- Plastic Surgery at Knightsbridge, 4830 Knightsbridge Boulevard, Suite G.
- Aesthetic Surgery at Easton Town Center, 2 Easton Oval, Suite 545.
- The Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, 300 West 10th Avenue.
- JamesCare Dublin, 4019 Dublin-Granville Road.
- The Richard M. Ross Heart Hospital, 452 West 10th Avenue.
- University Hospital East, 1492 East Broad Street.
- Nationwide Children's Hospital, 700 Children's Drive.

### **Research**

Research efforts continue to focus on three major areas: wound healing; vascular biology and transplantation; and tumor biology.

This year, new research funding awarded through The Ohio State University Research Foundation to principal investigators in the Department of Surgery totaled more than \$4.9 million. Federal funding was more than \$2.7 million, or 56 percent of total funding. Non-federal funding was more than \$2.2 million, or 44 percent of the total.

### **Education**

Nineteen residents and fellows completed their training programs in June 2008. Nine went on to further training, five to community practice, and five to academic posts.

### **Change of Location**

This year, the chairman's office and department administrative staff prepared to move from the third floor of Means Hall to a new location, at 395 West 12th Avenue, Suite 670.

## Department Statistics

Full-Time Faculty	75
Residents and Fellows	73
ACGME-Accredited Surgical Residencies	3
ACGME-Approved Specialty Certification Programs	4
Approved Specialty Fellowships	5
OR Procedures	27,523
Outpatient Visits	86,039
Admissions	25,087
Patient Days	83,709
Average Length of Stay (Days)	6.36

## Department Administration

**E. Christopher Ellison, M.D.**

Chairman

**Robert L. Ruberg, M.D.**

Senior Vice Chairman for Academic and Administrative Affairs

**Mark W. Arnold, M.D.**

Vice Chairman for Surgical Education

**Chandan K. Sen, Ph.D.**

Vice Chairman for Research

**Steven M. Steinberg, M.D.**

Vice Chairman for Clinical Affairs

**Jerome A. Johnson, Ph.D.**

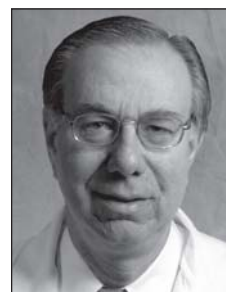
Administrator

**Raymond M. Manley**

Executive Director, OSU Surgery, LLC



*Ellison*



*Ruberg*



*Arnold*



*Sen*



*Steinberg*



*Johnson*



*Manley*

## Administrative Staff

**Mark Dickman**

Director, Surgery Information Systems

**Elizabeth Hanson**

Resident Coordinator

**Megan Hesson**

Systems Analyst, Surgery Information Systems

**K. Christopher Kaiser**

Budget Analyst

**Anna Patterson**

Student Coordinator

**Darrell Peters**

Publications Editor

**Heidi Pieper**

Program Assistant in Surgical Education

**Connie Roberson**

Fiscal Manager

**Donna Sampsill**

Administrative Assistant to the Chairman

**Matthew Scherer**

PC/Web Specialist, Surgery Information Systems

**Roxanne Shull**

Research Coordinator

**Renee Troyer**

Executive Assistant to the Vice Dean

**Maxine Vargas**

Human Resources Administrator

## Division Chiefs

**Donna A. Caniano, M.D.**

Pediatric Surgery

**William B. Farrar, M.D.**

Surgical Oncology

**Mitchell L. Henry, M.D.**

Transplantation

**W. Scott Melvin, M.D.**

General and Gastrointestinal Surgery

**Michael J. Miller, M.D.**

Plastic Surgery

**Steven M. Steinberg, M.D.**

Critical Care, Trauma, and Burn

**Benjamin C. Sun, M.D.**

Cardiothoracic Surgery

**Patrick S. Vaccaro, M.D.**

Vascular Diseases and Surgery

## Faculty Appointments

### **Kenneth A. Andreoni, M.D.**

Associate Professor of Surgery; Chief, Liver Transplantation, Division of Transplantation

**B.S.:** Georgetown University, Washington D.C., 1984

**M.D.:** Yale University, New Haven, Conn., 1988

**Specialty Training:** Residency in surgery and fellowship in gastrointestinal surgery, Johns Hopkins University Hospital, Baltimore, Md.; fellowship in clinical transplantation, The Ohio State University Medical Center, Columbus, Ohio

**Appointment:** 2008

**Specialty Interests:** Liver transplantation

**Research Interests:** New anti-rejection drugs, antibody-mediated injury to liver, kidney grafts

**Previous Appointment:** Associate professor of surgery; director, kidney and pancreas transplantation, University of North Carolina, Chapel Hill, N.C.



*Andreoni*



*Bergman*

### **Simon Bergman, M.D.**

Clinical Assistant Professor of Surgery, Center for Minimally Invasive Surgery

**M.D.:** McGill University, Montreal, Quebec, Canada, 2001

**Specialty Training:** McGill University, Montreal, Quebec, Canada

**Appointment:** 2007

**Specialty Interests:** Minimally invasive surgery, endolumenal therapies, foregut surgery

**Research Interests:** Natural orifice transluminal endoscopic surgery (NOTES), Barrett's esophagus

**Previous Appointment:** Resident in general surgery, McGill University, Montreal, Quebec, Canada



*Happel*

### **Lynn C. Happel, M.D.**

Clinical Assistant Professor of Surgery, Center for Minimally Invasive Surgery

**B.A.:** University of Missouri-Kansas City, Kansas City, Mo., 2001

**M.D.:** University of Missouri-Kansas City, Kansas City, Mo., 2002

**Specialty Training:** University of California-San Francisco, Fresno, Calif.

**Appointment:** 2007

**Specialty Interests:** Endoscopic surgery, minimally invasive surgery

**Research Interests:** Natural orifice transluminal endoscopic surgery (NOTES)

**Previous Appointment:** Resident in general surgery, University of California-San Francisco, Fresno, Calif.

**Alan E. Harzman, M.D.**

Assistant Professor of Clinical Surgery, Division of General and Gastrointestinal Surgery

**B.S.:** Vanderbilt University, Nashville, Tenn., 1997

**M.D.:** Washington University, St. Louis, Mo., 2001

**Specialty Training:** Residency in general surgery, University of Texas Southwestern Medical Center, Dallas, Texas; fellowship in colon and rectal surgery, Baylor University Medical Center, Dallas, Texas

**Appointment:** 2007

**Specialty Interests:** General surgery, colon and rectal surgery

**Research Interests:** General surgery, colon and rectal surgery

**Previous Appointment:** Fellow in colon and rectal surgery, Baylor University Medical Center, Dallas, Texas



*Harzman*

**David E. Lindsey, M.D.**

Assistant Professor of Clinical Surgery, Division of Critical Care, Trauma, and Burn

**B.S.:** The Ohio State University, Columbus, Ohio, 1972

**M.D.:** The Ohio State University, Columbus, Ohio, 1976

**Specialty Training:** Stanford University Hospital, Stanford, Calif.; University of California-Davis, Sacramento, Calif.

**Appointment:** 2007

**Specialty Interests:** Critical care, cardiovascular critical care, trauma

**Previous Appointment:** Fellow in surgical critical care, University of California-Davis, Sacramento, Calif.



*Lindsey*

**Jason C. Roland, M.D.**

Clinical Assistant Professor of Surgery, Center for Minimally Invasive Surgery

**B.S.:** University of Maryland, Baltimore, Md., 1997

**M.D.:** University of Maryland, Baltimore, Md., 2001

**Specialty Training:** George Washington University, Washington, D.C.

**Appointment:** 2007

**Specialty Interests:** Minimally invasive surgery, bariatric surgery, GI surgery

**Research Interests:** Bariatric surgery

**Previous Appointment:** Resident in general surgery, George Washington University, Washington, D.C.



*Roland*



**Anne Taylor, M.D.**

Clinical Assistant Professor of Surgery, Division of Plastic Surgery

**B.S.:** Denison University, Granville, Ohio, 1986

**M.D.:** The Ohio State University, Columbus, Ohio, 1990

**Specialty Training:** Plastic surgery, The Ohio State University Medical Center, Columbus, Ohio, 1996

**Appointment:** 2007

**Specialty Interests:** Aesthetic surgery

**Previous Appointment:** Private plastic surgery practice, Columbus, Ohio



*Taylor*

**Pankaj Tiwari, M.D.**

Assistant Professor of Surgery, Division of Plastic Surgery

**B.A.:** Harvard University, Boston, Mass., 1995

**M.D.:** New York University, New York, N.Y., 2000

**Specialty Training:** Plastic surgery, Baylor College of Medicine, Houston, Texas, 2006; fellowship in reconstructive microsurgery, M. D. Anderson Cancer Center, Houston, Texas, 2007

**Appointment:** 2007

**Specialty Interests:** Aesthetics and reconstructive microsurgery

**Previous Appointment:** Fellow in reconstructive microsurgery, M. D. Anderson Cancer Center, Houston, Texas



*Tiwari*

**William A. Wallace, Jr., M.D.**

Assistant Professor of Clinical Surgery, Division of Plastic Surgery

**B.S.:** Oklahoma State University, Oklahoma City, Okla., 1995

**M.D.:** University of Oklahoma, Norman, Okla., 1999

**Specialty Training:** Plastic surgery, The Ohio State University Medical Center, Columbus, Ohio, 2007

**Appointment:** 2007

**Specialty Interests:** Body contouring

**Previous Appointment:** Resident in plastic surgery, The Ohio State University Medical Center, Columbus, Ohio



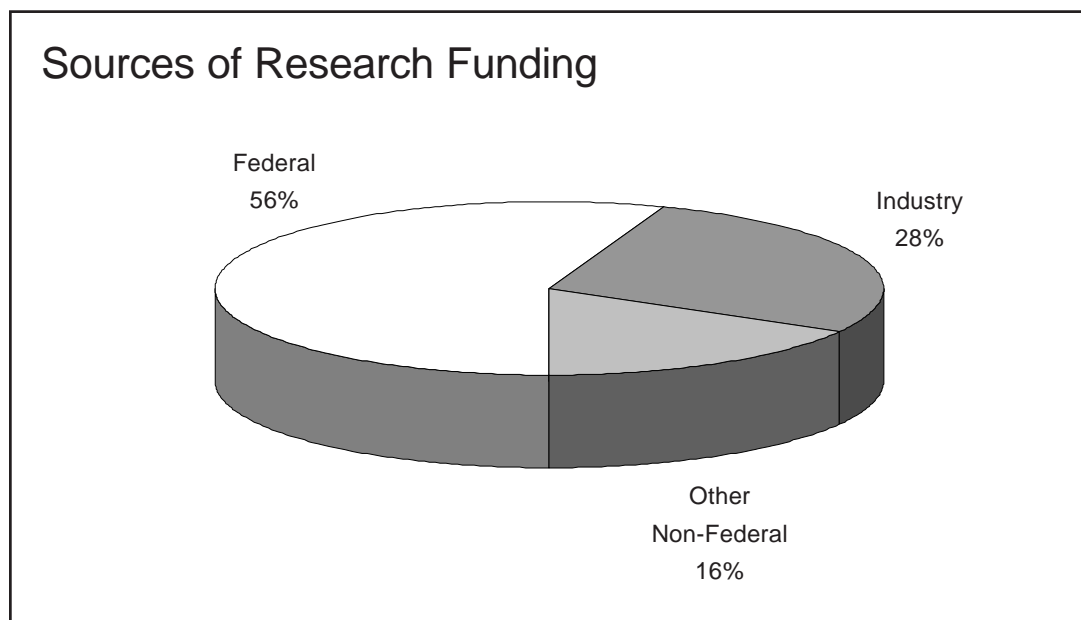
*Wallace*

## Research Funding

**D**uring fiscal year 2007–2008, new funding awarded through The Ohio State University Research Foundation to principal investigators in the Department of Surgery totaled more than \$4.9 million.

Federal funding was more than \$2.7 million, or 56 percent of total funding. Non-federal funding was more than \$2.2 million, or 44 percent of the total.

Sources	Amounts
Federal	\$2,767,926
Industry	\$1,368,909
Other Non-Federal	\$833,290
<b>GRAND TOTAL</b>	<b>\$4,970,125</b>



## Graduate Programs in Surgery

**T**he surgical residency programs at The Ohio State University Medical Center share a common goal: to provide an environment conducive to learning, in which physicians prepare to function as well-qualified, independent specialists in surgery.

This year, 73 residents and fellows participated in the department's 12 residency programs, which consist of three residencies accredited by the Accreditation Council for Graduate Medical Education (ACGME), four ACGME-approved specialty certification programs, and five approved specialty fellowships. These programs provide training in cardiothoracic surgery, general surgery, general vascular surgery, minimally invasive surgery, pediatric surgery, plastic surgery, surgical critical care, surgical oncology, and transplantation.

Surgical residents at Ohio State are dedicated to learning and teaching advanced surgical techniques and procedures, and assume a major responsibility for the clinical education of medical students. The integrated and affiliated institutions of the program provide clinical resources for graduate and undergraduate surgical education. Ohio State's Medical Center and the Department of Surgery host a variety of forums and seminars, where clinicians and researchers share their expertise and advance the profession.

Research is a vital component of the Department of Surgery's mission and an integral element of its training programs. Research efforts are focused on key areas of interest that promise to yield significant results in the understanding of disease and in the improvement of clinical care. The Department of Surgery's Office of Surgical Research promotes interdisciplinary research activity and the integration of clinical and basic science research. The department's stature and the reputation of its researchers and clinicians enable it to garner significant funding from private industry and from federal sources, such as the National Institutes of Health.

## Residency and Fellowship Program Graduates

Nineteen Department of Surgery residents and fellows completed their training programs in June 2008. Nine went on to further training, five to community practice, and five to academic posts. The graduating residents and fellows were:

**Simon Bergman, M.D.**

Dr. Bergman completed a fellowship in advanced therapeutic endoscopy and gastrointestinal surgery and began a practice focusing on minimally invasive surgery in Quebec, Canada.

**H. Tracy Davido, M.D.**

Dr. Davido completed a fellowship in surgical critical care and is continuing in the general surgery residency at Ohio State.

**Meghan R. Forster, M.D.**

Dr. Forster completed the master of medical science program and is continuing in the general surgery residency at Ohio State.

**Jordana L. Gaumond, M.D.**

Dr. Gaumond completed the fellowship in transplantation and began an appointment as assistant professor of surgery at the Oregon Health and Science University, in Portland, Ore.

**Jeffrey M. Halter, M.D.**

Dr. Halter completed the residency in pediatric surgery and began an appointment as assistant professor of surgery at Maine Medical Center, in Portland, Maine.

**Lynn Happel, M.D.**

Dr. Happel completed the fellowship in advanced therapeutic endoscopy and gastrointestinal surgery and joined a surgical practice at a University of Missouri-Kansas City affiliate in Kansas City, Mo.

**Natalie Beckman Jones, M.D.**

Dr. Jones completed the master of medical science program and is continuing in the general surgery residency at Ohio State.

**Liza S. Kim, M.D.**

Dr. Kim completed the residency in plastic surgery and began a fellowship in reconstructive microsurgery at Massachusetts General Hospital, in Boston, Mass.

**Ergun Kocak, M.D.**

Dr. Kocak completed the residency in plastic surgery and began a fellowship in reconstructive microsurgery at the University of Texas M. D. Anderson Cancer, in Houston, Texas.

**Ziad N. Kutayli, M.D.**

Dr. Kutayli completed the residency in general surgery and began a fellowship in colon and rectal surgery at the Cleveland Clinic, in Cleveland, Ohio.

**Ryan L. Neff, M.D.**

Dr. Neff completed the fellowship in surgical oncology and began an appointment as clinical assistant professor of surgery at Washington University, in St. Louis, Mo.

**Chandrabhas B. Patel, M.D.**

Dr. Patel completed the fellowship in cardiothoracic surgery and began a fellowship in advanced cardiothoracic and endovascular surgery at the Cleveland Clinic.

**Jason C. Roland, M.D.**

Dr. Roland completed a fellowship in advanced therapeutic endoscopy and gastrointestinal surgery and is now in private practice in Baltimore, Md.

**Patricia H. Sandholm, M.D.**

Dr. Sandholm completed the residency in plastic surgery and joined a multi-specialty practice in Portland, Ore.

**Jason W. Smith, M.D.**

Dr. Smith completed the residency in general surgery and began an appointment as assistant professor of general surgery, trauma, and critical care at the University of Louisville, in Louisville, Ky.

**Paul A. Vesco, M.D.**

Dr. Vesco completed the fellowship in cardiothoracic surgery and began an appointment as assistant professor of surgery at Ohio State.

**Gregory W. Walker, D.O.**

Dr. Walker completed the fellowship in general vascular surgery and began private practice in Toledo, Ohio.

**JoAnn E. Warrick-Gable, M.D.**

Dr. Warrick-Gable completed the residency in general surgery and began a fellowship in colon and rectal surgery at Louisiana State University, in New Orleans, La.

**Brian J. Winkleman, M.D.**

Dr. Winkleman completed the residency in general surgery and began a fellowship in minimally invasive surgery at Ohio State.

## Annual Surgery Awards Banquet

Outstanding teachers and the 2007–2008 graduates of the Department of Surgery’s training programs were honored June 14, 2008, at the department’s annual awards banquet.

### Special Awards

**Dr. Jason W. Smith** and **Dr. Brian J. Winkleman**, general surgery chief residents, were chosen by the Surgery faculty to share the Resident of the Year Award.

**Dr. JoAnn E. Warrick-Gable**, general surgery chief resident, received the Chairman’s Award.

**Dr. Ioannis S. Hatzaras** was named Pediatric Surgery Resident of the Year.

**Dr. Michelle Kincaid** was named Intern of the Year by the Surgery faculty.

**Ruth E. Grant** was named Surgical Nurse of the Year by the chief residents in general surgery.

### Teaching Awards

**Dr. Jordana L. Gaumond**, fellow in transplantation, was selected by the general surgery residents to receive a Fellow Teaching Award.

**Dr. Alan E. Harzman**, assistant professor of surgery in the Division of General and Gastrointestinal Surgery, was chosen by Department residents and fellows to receive a Faculty Teaching Award.

**Dr. Ziad N. Kutayli**, chief resident in general surgery, was selected by the medical students to receive a Resident Teaching Award.

**Dr. Laura S. Phieffer**, assistant professor of orthopedics, was chosen by the chief residents in general surgery to receive the John L. Robinson Award, for outstanding teaching by faculty or staff from another department.

**Dr. Jean E. Starr**, assistant professor of clinical surgery in the Division of Vascular Diseases and Surgery, was selected by the medical students to receive a Faculty Teaching Award.

### Research Awards

Five awards were given for outstanding research presentations made at the Department of Surgery’s 13th Annual Research Conference, held May 23.

**Dr. Irina S. Pleister**, resident in general surgery, received the first place award for her presentation, “Spinal Cord Ischemic Injury after Transient Thoracoabdominal Aortic Occlusion: Mouse Model.”

**Dr. Meghan R. Forster**, resident in general surgery, received the second place award for her presentation, “Induction of IFN- $\alpha$  by MCMV as a Possible Mechanism of Cardiac Allograft Tolerance Disruption.”

**Dr. Mary E. Dillhoff**, resident in general surgery, received the third place award for her presentation, “MiRNA Expression Profile of Esophageal Adenocarcinoma and Barrett’s Esophagus.”

**Han-A Park**, graduate research associate in surgery, presented a poster titled, “GSSG: A Novel Cell Death Signal,” and received the award for best poster.

**Cameron L. Rink**, graduate fellow in surgery, presented “Novel Pre-Clinical Model of Acute Ischemic Stroke in Canines: A Minimally Invasive Neuroradiological Approach of MCA Occlusion and Reperfusion,” and received the award for best presentation as voted by interns.

### **Medical Student Awards**

Department of Surgery faculty honored four senior medical students for exceptional performance and dedication to surgery.

**John R. Crow** received the Carey Award in Surgery.

**Lindsey C. Menchen** received the Ferguson Award in Surgery.

**Aerik A. Williams** received the Jonasson Award in Surgery.

**Robert B. Yates** received the Zollinger Award in Surgery.

## Recognitions

**Dr. Gail E. Besner**, professor of surgery in the Division of Pediatric Surgery, was appointed member-at-large of the American College of Surgeons surgical research committee for 2007–2010. Also, she received the Business First Health-Care Heroes Award for 2007.

**Dr. Donna A. Caniano**, the H. William Clatworthy, Jr., professor of surgery and chief of the Division of Pediatric Surgery, received a Nationwide Children's Hospital Career Contribution Award for 2007. The recognition is awarded to physicians who have demonstrated a lifetime commitment to the highest quality of health-care and service and helped Children's Hospital build a reputation as a local, regional, and national leader in pediatrics.

**Rebecca Coffey**, a patient care resource manager in the Division of Critical Care, Trauma, and Burn, was appointed to the prevention committee of the American Burn Association.

**Dr. Charles H. Cook**, a faculty member in the Division of Critical Care, Trauma, and Burn and medical director of surgical critical care at The Ohio State University Medical Center, in October 2007 was promoted to the rank of associate professor of surgery. Also, the Surgical Critical Care Program in October 2007 received continued accreditation from the Residency Review Committee (RRC) for an additional five years. The RRC also approved an increase in the complement of fellows from two to four.

**Dr. Juan A. Crestanello**, assistant professor of surgery in the Division of Cardiothoracic Surgery, **Dr. Bradley J. Needleman**, assistant professor of surgery in the Division of General and Gastrointestinal Surgery, **Sashwati Roy, Ph.D.**, assistant professor of surgery in the Division of General and Gastrointestinal Surgery, and **Dr. Patrick S. Vaccaro**, professor of clinical surgery and chief of the Division of Vascular Diseases and Surgery, presented papers at The Ohio State University Medical Center's Global Diabetes Summit, held Nov. 29–30, 2007. **Dr. Charles H. Cook**, associate professor of surgery in the Division of Critical Care, Trauma, and Burn, and **Dr. W. Scott Melvin**, professor of surgery, chief of Division of General and Gastrointestinal Surgery, and director of the Center for Minimally Invasive Surgery, served as moderators at the event.

**Nick DiPaola, Ph.D.**, transplant technologist and HOA director-in-training in the Division of Transplantation, received the award for best case presentation at the Solid Organ Case Studies Workshop for the 33rd Annual Meeting of the American Society of Histocompatibility and Immunogenetics, held Oct. 8–12, 2007, in Minneapolis, Minn. DiPaola's presentation was titled "Acute Humoral Rejection Mediated by Donor Reactive Anti-Endothelial Antibodies Identified Using X-mone."

**Dr. Elmahdi A. Elkhammas**, associate professor of clinical surgery and chief of liver transplantation in the Division of Transplantation, has developed a visiting scholars program that provides international medical graduates with surgical education and career guidance during observerships of one to two months. Since Jan. 2007, when the program began, seven visiting scholars from Libya, Syria, Tunisia, and Kuwait have participated. Dr. Elkhammas developed the program with the assistance of the Office of International Medicine at Ohio State.



**Dr. Bryan Fisher**, resident in general surgery, and his wife, Latita, raised \$8,500 to assist children with congenital heart disease and their families, through their Golfing for Hearts golf tournament. Founded by the Fishers to support the pediatric cardiac surgery program at Nationwide Children's Hospital, the event was held in August 2007, at the Columbus Zoo and Aquarium's Safari Golf Club. The event drew more than 40 golfers and 60 participants.

**Dr. Mitchell L. Henry**, professor of surgery, chief of the Division of Transplantation, and deputy director of surgical services of the Comprehensive Transplant Center, was elected to a two-year term as secretary of the United Network for Organ Sharing. Also, he served as associate examiner of the American Board of Surgery.

**Dr. Sidney F. Miller**, professor of surgery in the Division of Critical Care, Trauma, and Burn and director of the Burn Center at The Ohio State University Medical Center, was elected to the government affairs committee of the American Burn Association (ABA). Miller also serves as secretary of the ABA.

**Dr. Peter Muscarella, II**, a faculty member in the Division of General and Gastrointestinal Surgery, in October 2007 was promoted to the rank of associate professor of surgery.

**Dr. Benedict C. Nwomeh**, assistant professor of clinical surgery in the Division of Pediatric Surgery, completed the Association for Surgical Education's surgical education research fellowship, a one-year program designed to equip investigators with the skills and knowledge needed to plan, implement, and report research studies in the field of surgical education.

**Dr. Stephen P. Povoski**, associate professor of surgery in the Division of Surgical Oncology, in October 2007 was awarded tenure.

**Dr. Patrick Ross, Jr.**, associate professor of clinical surgery in the Division of Cardiothoracic Surgery, on July 1, 2007 began an appointment as chief of staff-elect at the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute. In the position, Dr. Ross, who was elected by the James medical staff, chairs the bylaws committee and is a voting member of the medical staff administrative committee.

**Dr. Chittoor B. Sai-Sudhakar**, previously clinical assistant professor of surgery in the Division of Cardiothoracic Surgery, began an appointment July 1, 2007 as assistant professor of surgery.

**Chandan K. Sen, Ph.D.**, professor of surgery and vice chairman for research in the Department of Surgery, was elected to the board of directors of the Wound Healing Society. Also, in April 2008, Sen served as a delegate on Mayor Michael B. Coleman's business mission to Israel. The mission was made to generate business relationships between innovative Israeli and Central Ohio life sciences companies.

**Dr. Patrick S. Vaccaro**, professor of clinical surgery and chief of the Division of Vascular Diseases and Surgery, was elected a trustee of the Columbus Medical Association.

## In the News

**Dr. Doreen M. Agnese**, assistant professor of surgery in the Division of Surgical Oncology, discussed the value of genetic testing during an interview aired May 9, 2008, by WBNS-TV/10.

**Dr. Mark Bloomston**, assistant professor of surgery in the Division of Surgical Oncology, discussed targeted therapy and surgery for some colorectal cancer patients with metastases only to the liver, in an interview aired Oct. 15, 2007, by Ohio News Network. On March 6, 2008, Dr. Bloomston discussed the severity of a pancreatic cancer diagnosis, in interviews aired by WBNS-TV/10 and WCMH-TV/4.

**Dr. William E. Carson, III**, associate professor of surgery in the Division of Surgical Oncology, was quoted Sept. 4, 2007, by United Press International, in a story about results of his research on interferon alpha in the treatment of malignant melanoma.

**Dr. Charles H. Cook**, associate professor of surgery in the Division of Critical Care, Trauma, and Burn and medical director of surgical critical care, discussed the spike in trauma cases seen in the emergency department, in an interview broadcast June 10, 2008, by WCMH-TV/4.

**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, was quoted Jan. 16, 2008, by the Columbus Dispatch, in a story about the death of Dr. Judah Folkman.

**Dr. Jonathan I. Groner**, associate professor of clinical surgery in the Division of Pediatric Surgery, was quoted Dec. 29, 2007, by the Associated Press, in a story about about Ohio execution procedures.

**Dr. Jeffrey W. Hazey**, assistant professor of surgery in the Division of General and Gastrointestinal Surgery, was quoted Sept. 20, 2007 and March 19, 2008, by ABC News.com, in stories about incisionless surgery.

**Dr. Mitchell L. Henry**, professor of surgery and chief of the Division of Transplantation, was quoted March 1, 2008, by the Columbus Dispatch, in a story about people who donate organs to strangers needing transplants.

**Dr. W. Scott Melvin**, professor of surgery, chief of the Division of General and Gastrointestinal Surgery, and director of the Center for Minimally Invasive Surgery, discussed the use of incisionless surgery to treat acid reflux disease, in an interview aired Jan. 16, 2008, by Ohio News Network. On March 11, 2008, Dr. Melvin was interviewed by Ivanhoe Productions, for a report on incisionless surgery for gastroesophageal reflux disease.

**Dr. Dean J. Mikami**, assistant professor of surgery in the Division of General and Gastrointestinal Surgery, discussed performing the first incisionless procedure in the United States to treat weight gain following gastric bypass, in an interview aired Sept. 7, 2007, by Ohio News Network. On Sept. 26, 2007, Dr. Mikami was quoted by Reuters Health, in a story about the use of incisionless surgery to

revise gastric bypass. On Feb. 29, 2008, he was featured in footage of an incisionless stomach revision procedure, which was aired by WSYX-TV/6 and WTTE-TV/28.

**Dr. Michael J. Miller**, professor of surgery and chief of the Division of Plastic Surgery, was the subject of a story in the August 16, 2007 issue of Upper Arlington ThisWeek and in the August 2007 issue of Central Ohio Health. On Sept. 26, 2007, Dr. Miller was quoted by the Upper Arlington News, in a story about reconstructive surgery as an integral part of breast cancer treatment. On Oct. 12, 2007, he was interviewed by Ohio News Network, about the importance of integrating reconstructive surgery into the treatment plan for breast cancer patients. On Nov. 19, 2007, Dr. Miller was quoted by the Columbus Dispatch, in a story about the risks associated with plastic surgery.

**Dr. Sidney F. Miller**, professor of surgery in the Division of Critical Care, Trauma, and Burn and director of the Burn Center at The Ohio State University Medical Center, discussed burn prevention in an April 21, 2008 interview on “Good Day Columbus,” on WTTE-TV/28. On May 25, 2008, he was quoted by the Columbus Dispatch, in a story about Ohio’s trauma law. On May 27, 2008, Dr. Miller was quoted by the Columbus Dispatch, in a story about a program called Survivors Offering Assistance in Recovery. On May 30, 2008, his appointment as first vice president of the American Burn Association was noted by Business First.

**Dr. Ronald P. Pelletier**, associate professor of surgery in the Division of Transplantation, was quoted Sept. 15, 2007, by the Columbus Dispatch, in a story about a string of kidney transplant procedures in which relatives of kidney recipients donated their kidneys to strangers.

**Chandan K. Sen, Ph.D.**, professor of surgery, vice chairman for research in surgery, and associate dean for translational and applied research in the College of Medicine, discussed cell processes that will open up new therapeutic approaches to wound healing, in an interview broadcast June 18, 2008, by WSYX-TV/6 and WTTE-TV/28.

**Dr. John H. Sirak**, assistant professor of clinical surgery in the Division of Cardiothoracic Surgery, was quoted Nov. 4, 2007, by the Cincinnati Enquirer, in a story about AtriCure, Inc., a medical device firm located in Cincinnati.

**Dr. Wiley W. “Chip” Souba, Jr.**, professor of surgery in the Division of Surgical Oncology and dean of The Ohio State University College of Medicine, was quoted Sept. 27, 2007, by the Zanesville Times Recorder, and Oct. 24, 2007, by the Fremont News-Messenger, in stories about a gift from the Ohio Fraternal Order of Eagles to The Ohio State University Medical Center. On Oct. 12, 2007, Dr. Souba was one of the leaders mentioned by the Columbus Dispatch, in a story about leadership changes made by Ohio State University President E. Gordon Gee. In the December issue of Columbus Monthly, Dr. Souba was quoted in a story about Gee’s plans for Ohio State’s Medical Center. On Dec. 5, 2007, Dr. Souba was quoted by the Columbus Dispatch, in a story about the expansion project at the Medical Center. On Dec. 7, 2007, he was quoted by Columbus Business First, in a story about expansion plans for the Medical Center. On Dec. 15, 2007, Dr. Souba was quoted by the Columbus Dispatch, in a story about a developer’s planned cancer center in Dublin, Ohio. On Dec. 26, 2007, he was quoted by the

Columbus Dispatch, in a story about the Medical Center's goal to rank among the nation's top 20 by 2015. On Jan. 11, 2008, Dr. Souba was mentioned in the Cancer Letter, in a story about changes in leadership in the cancer program at the Medical Center. In the January issue of SmartBusiness Columbus, he was named to the magazine's annual list of the 100 most powerful leaders in Central Ohio. On Jan. 25, 2008, Dr. Souba was mentioned by Oncology Times, in a story about the restructuring of cancer center leadership at the Medical Center. In the January issue of Columbus C.E.O., his appointment as interim senior vice president and executive dean for health sciences and CEO of the Medical Center was noted. On Feb. 4, 2008, WOSU-AM aired an interview with Dr. Souba about a major donation to the Medical Center from Abercrombie & Fitch. On March 7 and 9, 2008, he was quoted by the Columbus Dispatch, in stories about a report that the Medical Center was the fastest-growing employer in Central Ohio from 2001 to 2007. On March 28, 2008, he was quoted by Business First, in a Q&A discussion with the publication. On April 7, 2008, Dr. Souba was mentioned by Business First (online) and the Nashville Business Journal, and on April 8, 2008, by the Tennessean, in stories about his selection as senior vice president for health sciences at the Medical Center four years from now. On April 11, 2008, he was quoted by Business First, in a story about the recruitment of Dr. Steven Gabbe and Dr. Pat Temple Gabbe to the Medical Center. On June 8, 2008, Dr. Souba was quoted by the Columbus Dispatch, in a story about Ohio State President E. Gordon Gee.

**Dr. Jean E. Starr**, assistant professor of clinical surgery and director of endovascular services in the Division of Vascular Diseases and Surgery, discussed a clinical trial of a pacemaker-like device to control hypertension, in an interview aired Feb. 8, 2008, by Ohio News Network, WCMH-TV/4 in Columbus, KDFW-TV in Dallas, and WTHR-TV in Indianapolis.

**Dr. Steven M. Steinberg**, professor of surgery and chief of the Division of Critical Care, Trauma, and Burn, was quoted March 3, 2008, by the Columbus Dispatch, in a story about a shortage of physicians that will make it difficult to maintain four adult trauma centers in Central Ohio. On March 15, 2008, Dr. Steinberg was quoted by the Columbus Dispatch, in a story about hospitals that court emergency medical service agencies.

**Dr. Benjamin C. Sun**, associate professor of surgery and chief of the Division of Cardiothoracic Surgery, was quoted Feb. 28, 2008, by the Columbus Dispatch, in a story about a study by researchers at Johns Hopkins University of heart-transplant survival. On April 30, 2008, Dr. Sun discussed ventricular assist devices and several clinical trials under way at Ohio State's Medical Center, in an interview aired by WBNS-TV/10.

## Distinguished Guests

### **John D. Banja, Ph.D.**

John D. Banja, Ph.D., is associate professor of clinical ethics, assistant director of programs in health sciences and clinical ethics, and associate professor of rehabilitation medicine at Emory University, in Atlanta, Ga. He presented the Surgery/Medical Center Grand Rounds lecture, “The Empathic Disclosure of Medical Error,” on November 1, 2007.

### **Jay A. Fishman, M.D.**

Jay A. Fishman, M.D., is associate professor of medicine at Harvard Medical School and director of the transplant infectious disease and compromised host program at Massachusetts General Hospital, in Boston, Mass. He presented “New Challenges in Transplant Infectious Diseases,” on October 10, 2007.

### **Donald E. Fry, M.D.**

Donald E. Fry, M.D., is executive vice president for clinical outcomes management at Michael Pine and Associates, in Chicago, Ill., and professor emeritus of surgery at the University of New Mexico, in Albuquerque, N.M. He presented the Surgery Grand Rounds lecture, “Pay for Performance,” on April 17, 2008.

### **Michael R. Go, M.D.**

Michael R. Go, M.D., is a fellow in vascular and endovascular surgery at the University of Pittsburgh Medical Center, in Pittsburgh, Pa. He presented the Surgery Grand Rounds lecture, “Endovascular Surgery for Limb Salvage,” on September 27, 2007.

### **Philip F. Halloran, M.D., Ph.D., F.R.C.P.(C)**

Philip F. Halloran, M.D., Ph.D., F.R.C.P.(C), is professor of medicine and medical microbiology and immunology; the Muttart chair in clinical molecular immunology and autoimmunity; and director of the Alberta Transplant Applied Genomics Centre, at the University of Alberta, in Edmonton, Alberta, Canada. He presented the Charles G. Orosz Memorial Lecture: “Microarray Analyses of Renal Allograft Rejection,” on April 8, 2008.

### **Bernhard J. Hering, M.D.**

Bernhard J. Hering, M.D., is professor of surgery, the Eunice L. Dwan diabetes research chair, director of islet transplantation, and scientific director of the Diabetes Institute for Immunology and Transplantation at the University of Minnesota, in Minneapolis, Minn. He presented “Human and Porcine Islet Transplantation: Progress and Prospects,” on March 26, 2008.

### **Michael R. Jaff, D.O.**

Michael R. Jaff, D.O., is assistant professor of medicine at Harvard Medical School and director of vascular medicine in the division of cardiology and vascular surgery at Massachusetts General Hospital, in Boston, Mass. He presented the Surgery Grand Rounds lecture, “Clinical Utility of the Vascular Diagnostic Laboratory,” on October 11, 2007.

**Jon A. Kobashigawa, M.D.**

Jon A. Kobashigawa, M.D., is clinical professor of medicine, chief of the division of medicine, and medical director of the heart transplant program at the UCLA School of Medicine, in Los Angeles, Calif. He presented “Cardiac Transplantation at the Leading Edge and Future,” on February 13, 2008.

**Robert A. Lookstein, M.D.**

Robert A. Lookstein, M.D., is assistant professor of radiology in the division of interventional radiology at Mount Sinai Medical Center, in New York, N.Y. He presented the Surgery Grand Rounds lecture, “Indications and Techniques for the Endovascular Treatment of Deep Vein Thrombosis,” on May 15, 2008.

**Thomas A. Mustoe, M.D.**

Thomas A. Mustoe, M.D., is professor and chief of plastic and reconstructive surgery at Northwestern University, in Chicago, Ill. He presented “Conscious Sedation in Aesthetic Surgery and Its Use in Abdominoplasty”; “Lateral Approach to Neck and Facelift”; and “Clinical Implications of Research in Scarring,” on March 27–28, 2008.

**Nicholas Namias, M.D.**

Nicholas Namias, M.D., is associate professor of surgery, chief of the division of burns, and director of surgical infectious diseases at the University of Miami, in Miami, Fla. He presented the Surgery Grand Rounds lecture, “Prevention of Surgical Site Infections,” on March 13, 2008.

**Guy W. Neff, M.D., M.B.A.**

Guy W. Neff, M.D., M.B.A., is associate professor of medicine and medical director of liver transplantation at the University of Cincinnati, in Cincinnati, Ohio. He presented “Update for the Management of Cirrhosis,” on May 14, 2008.

**Arie Orenstein, M.D.**

Arie Orenstein, M.D., is professor and chief of plastic surgery at Chaim Sheba Medical Center, in Tel-Aviv, Israel. He presented “The Future Operating Room and Medical Technologies: Where Are They Targeting?”; and “The Application of Macrophages: A New Modality for Wound Healing Enhancement,” on May 22–23, 2008.

**Albert C. Perrino, Jr., M.D.**

Albert C. Perrino, Jr., M.D., is professor of anesthesiology at Yale University, in New Haven, Conn. He presented the Surgery Grand Rounds lecture, “Hemodynamic Instability: Fluids vs. Phenylephrine,” on November 8, 2007.

**Russell G. Postier, M.D.**

Russell G. Postier, M.D., is the John A. Schilling professor and chairman of surgery at the University of Oklahoma, in Oklahoma City, Okla. He presented the Annual Robert M. Zollinger Lecture, “Surgical Aspects of Acute Pancreatitis,” on May 22, 2008.

**Rod J. Rohrich, M.D.**

Rod J. Rohrich, M.D., is the Betty and Warren Woodward professor and chair of plastic and reconstructive surgery at the University of Texas Southwestern Medical Center, in Dallas, Texas. He presented “Facial Rejuvenation: More Than a Facelift”; “The Making of a Plastic Surgeon: What They Didn’t Teach You in Residency”; and “Refinements in Nasal Reconstruction,” on February 21–22, 2008.

**W. Michael Scheld, M.D.**

W. Michael Scheld, M.D., is the Bayer-Gerald L. Mandell professor of internal medicine and clinical professor of neurosurgery at the University of Virginia, in Charlottesville, Va. He presented the Internal Medicine/Surgery Grand Rounds lecture, “Sepsis: Translational and Clinical Studies and Options for the Future,” on June 5, 2008.

**Ronald P. Silverman, M.D.**

Ronald P. Silverman, M.D., is associate professor of surgery and chief of the division of plastic surgery at the University of Maryland, in Baltimore, Md. He presented the Surgery Grand Rounds lecture, “Complex Ventral Hernia Repair,” on February 28, 2008.

**Ronald K. Tompkins, M.D.**

Ronald K. Tompkins, M.D., is professor emeritus of surgery at the UCLA School of Medicine, in Los Angeles, Calif. He presented a special Surgery Grand Rounds lecture, “The Surgeon as Teacher and Researcher,” on April 22, 2008.

**Marcel R. van den Brink, M.D., Ph.D.**

Marcel R. van den Brink, M.D., Ph.D., is chief of the adult allogeneic BMT service at Memorial Sloan-Kettering Cancer Center, in New York, N.Y. He presented “Strategies to Enhance T-Cell Reconstitution,” on November 7, 2007.

**David S. Wilkes, M.D.**

David S. Wilkes, M.D., is the Calvin H. English professor of medicine, professor of microbiology and immunology, and director of the center for immunobiology at Indiana University, in Indianapolis, Ind. He presented “The Autoimmune Basis of Chronic Lung Allograft Rejection,” on December 5, 2007.

**S. Anthony Wolfe, M.D.**

S. Anthony Wolfe, M.D., is voluntary clinical professor of plastic and reconstructive surgery at the University of Miami and chief of plastic surgery at Miami Children’s Hospital, in Miami, Fla. He presented “Osseous Procedures”; “Complications of Craniomaxillofacial Surgery and Facial Aesthetic Surgery”; “The Lining Problem in Forehead Flap Nasal Reconstructions”; “Full Thickness Cranial Defects”; and “Secondary Correction of Deformities of Cleft Lip and Palate,” on April 24–25, 2008.

**James R. Wright, Jr., M.D., Ph.D.**

James R. Wright, Jr., M.D., Ph.D., is professor and head of pathology and laboratory medicine at the University of Calgary, in Calgary, Alberta, Canada. He presented “Pancreatic Islet Xenotransplantation: Fishing for a Cure for Diabetes,” on January 16, 2008.

**Martin S. Zand, M.D., Ph.D.**

Martin S. Zand, M.D., Ph.D., is associate professor of medicine, microbiology, and immunology; medical director of the kidney and pancreas transplant programs; and co-director of the center for biodefense immune modeling at the University of Rochester, in Rochester, N.Y. He presented “Computer Models of B Cell Differentiation and What They Can Tell Us about the Alloantibody Response,” on June 11, 2008.

**Adriana Zeevi, Ph.D.**

Adriana Zeevi, Ph.D., is professor of pathology, surgery, and immunology and director of the tissue typing lab at the University of Pittsburgh, in Pittsburgh, Pa. She presented “Monitoring Global Immune Competence: Clinical Significance in Solid Organ Transplantation,” on September 26, 2007.

**Emmanuel E. Zervos, M.D.**

Emmanuel E. Zervos, M.D., is professor and chief of surgical oncology in the department of surgery at East Carolina University, in Greenville, N.C. He presented the Surgery Grand Rounds lecture, “Discover, Translate, Deliver: Bench to Bedside in Pancreatic Cancer,” on October 25, 2007.



## Integrated and Affiliated Hospitals

### **The Ohio State University Medical Center**

Consistently recognized as one of America's best hospitals, The Ohio State University Medical Center is dedicated to patient care, research, and medical education. An institution with advanced diagnostic and therapeutic capabilities and more than 900 licensed beds, the medical center is a major tertiary referral center and a Level I trauma center with a helicopter transport service. A network of primary care centers refers patients to the medical center's comprehensive patient management system.

### **The Arthur G. James Cancer Hospital and Richard J. Solove Research Institute**

Dedicated to care of the cancer patient and to cancer research, the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute is the only freestanding cancer hospital in the Midwest and is one of only 41 National Cancer Institute-designated Comprehensive Cancer Centers in the United States. The James is adjacent to University Medical Center.

### **The Richard M. Ross Heart Hospital**

One of the nation's first freestanding, full-service academic heart hospitals, the 150-bed Richard M. Ross Heart Hospital is home to Ohio State's nationally-ranked heart program and is dedicated exclusively to the care of patients with cardiovascular disease. The hospital adjoins University Medical Center.

### **University Hospital East**

A full-service hospital with an emphasis on orthopedic care, family medicine, and emergency medicine, University Hospital East is located on the near east side of Columbus, six miles from Ohio State.



*University Medical Center*



*James Cancer Hospital*



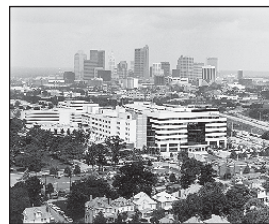
*Ross Heart Hospital*



*University Hospital East*

**Nationwide Children's Hospital**

The fifth-largest freestanding children's hospital in the United States, Nationwide Children's Hospital provides a broad spectrum of services, from advanced neonatal intensive care and surgery to primary and secondary medical care. Children's Hospital is fully integrated with the training programs of the College of Medicine and University Medical Center. A Level I trauma center, Children's is located just east of downtown Columbus, five miles from Ohio State.

*Children's Hospital***Mount Carmel West**

An active and respected health-care provider, Mount Carmel West is located just west of downtown Columbus, five miles from Ohio State.

*Mount Carmel West***Riverside Methodist Hospital**

Known for high-quality care, Riverside Methodist Hospital is located on the north side of Columbus, four miles from Ohio State.

*Riverside Hospital*

## Chairmen of the Department of Surgery

1914–1916	Dr. William J. Means
1916–1922	Dr. Verne A. Dodd (Head of Clinical Surgery)
1922–1926	Dr. Charles S. Hamilton
1927–1946	Dr. Verne A. Dodd (Head of Clinical Surgery)
1936–1952	Dr. George M. Curtis (Chairman of Surgical Research)
1946–1974	Dr. Robert M. Zollinger
1975–1986	Dr. Larry C. Carey
1987–1992	Dr. Olga Jonasson
1993–1998	Dr. Ronald M. Ferguson
1999 – present	Dr. E. Christopher Ellison

## A Legacy of Leadership

A bronze bust of Dr. Edwin H. Ellison was placed on exhibit this year in the Department of Surgery's display case on the third floor of Means Hall, in recognition of the former faculty member's contributions to The Ohio State University Medical Center.

Dr. Ellison joined the faculty of the department in 1946, after completing his residency in general surgery at Ohio State, under the mentorship of Dr. Robert M. Zollinger, then chairman of the department.

Dr. Ellison and Dr. Zollinger went on to perform the landmark studies that resulted in their identification of the disorder now known as Zollinger-Ellison syndrome, a condition characterized by intractable peptic ulcers, gastric hypersecretion and hyperacidity, and the occurrence of gastrinomas of the pancreatic cells of the islets of Langerhans. Their findings were published in *Annals of Surgery* in 1955.

Dr. Ellison served on the surgical faculty at Ohio State for 12 years. During this time, his achievements as a gifted clinical physician and technical surgeon, inspiring educator, and accomplished surgical investigator were important influences in the department's rapid development and success after World War II.

In 1958, Dr. Ellison accepted an appointment as professor and chairman of surgery at Marquette University School of Medicine, now the Medical College of Wisconsin, in Milwaukee.

At Marquette, Dr. Ellison trained Dr. Larry C. Carey, who later, from 1975 to 1985, would serve as professor and chairman of surgery at Ohio State.

While at Ohio State, Dr. Carey trained Ellison's son, Dr. E. Christopher Ellison, now the Robert M. Zollinger professor and chairman of surgery, associate vice president for health sciences, and vice dean of clinical affairs at The Ohio State University Medical Center.

"Dr. [Edwin] Ellison was unique," Dr. Carey said during a 1994 interview. "He had a remarkable ability to get more out of people than was in them. He convinced all of us that we were a lot better than we were, and having done so, he helped us achieve more than we might have."

Under Dr. Ellison's leadership, the surgical faculty at Marquette made important contributions to the field of gastrointestinal surgery, and the department and its academic reputation grew and flourished.



*Bust of Dr. Edwin H. Ellison*

Dr. Ellison died in 1970. He is remembered as a successful leader in academic surgery who made significant contributions to the profession of surgery, both at The Ohio State University Medical Center and at the Medical College of Wisconsin.

The bust of Dr. Ellison was sculpted by artist Anna D. Christoforidis, who also created the bust of Dr. Zollinger exhibited in the department's display case.

#### **Also Placed on Exhibit**

Also placed on exhibit this year was a set of surgical instruments that

belonged to Dr. Robert M. Zollinger, chairman of the Department of Surgery from 1946 to 1974.

The instruments, a pair of Metzenbaum surgical scissors, were presented to Dr. Zollinger in 1970 by the then chief residents in general surgery: Dr. Michael F. Kaplan, Dr. Avram R. Kraft, Dr. Paul C. Redmond, Dr. Gary M. Richardson, and Dr. Thomas T. Vogel.

The instruments were donated to the Department of Surgery by Dr. Zollinger's son, Dr. Robert M. Zollinger, emeritus professor of surgery at Case Western Reserve University, in Cleveland, Ohio.



*Instruments presented to Dr. Robert M. Zollinger*



# Cardiothoracic Surgery



**Benjamin C. Sun, M.D.**  
Chief, Division of Cardiothoracic Surgery

Innovation and program development — the answer to the posed question, “How is it that you are growing?” This is the path we in academia must continue to follow. Our field is returning to another phase of innovation and development, and our team is actively participating in this change. This is why I am excited to be here.

Cardiothoracic surgery had some of its greatest innovations from the 1950’s through the 1970’s. Here we saw the birth of the specialties of congenital heart surgery, major vascular surgery, valvular surgery, coronary revascularization, and major thoracic surgery. These techniques and therapies were refined and disseminated by revered physician-scientists who had the vision to develop their techniques in the laboratory and the fortitude to successfully translate them into the clinical arena.

Our field exploded with the demand for these great clinical services, and the therapies were provided. A lucrative, high-profile field burgeoned, and many cardiothoracic surgeons became household names. The best and brightest students fought to become part of this field.

The era of innovation then turned into an era of production, with refinement of the therapies. There were technical improvements, yes — but revolutionary changes, no. Other disciplines continued their innovations and created therapeutic options that were less invasive. These encroached on therapies we traditionally provided.

The pressure has again been placed on us to innovate and develop new programs. This is where our team is thriving.

Robotically-assisted cardiac surgery was first performed in the United States in 1999, here at The Ohio State University Medical Center. Though there were theoretical advantages to this approach, the realization of actual benefit by cardiothoracic surgery patients was limited. Today, with newer techniques being developed by our team, led by Dr. Juan Crestanello and Dr. Paul Vesco, we are excited at the potential improved therapies we will be able to offer our patients.

Surgery for atrial fibrillation is a growing field. Dr. John Sirak is one of only a handful of surgeons in the country who developed the techniques and is able to perform a thoracoscopic, extended lesion set, radio frequency MAZE procedure that also targets the autonomic ganglion.

Surgery for congestive heart failure continues to grow at Ohio State. These therapies include the Dor procedure, complex mitral and aortic valve repairs, cardiac transplantation, and mechanical circulatory support. We have quietly become one of the largest and most successful mechanical support programs in the country, and we are participating in many trials for the newest and smallest devices available.

The Congenital Program at Nationwide Children's Hospital maintains its innovative position, developing new hybrid therapies to address complex congenital cardiac and thoracic diseases. Under the direction of Dr. Mark Galantowicz, partnered with Dr. Alistair Phillips, the program is increasing its regional and national reputation. The program was one of six congenital fellowships in the United States to be granted accreditation this year.

Photodynamic therapy is emerging as an important palliative as well as curative treatment for solid tumors. Dr. Patrick Ross has become one of the international experts in this field because of the innovative ways he has successfully employed this therapy.

Our research laboratory, led by Dr. Sampath Parthasarathy, received another R01 grant this year. In addition, we are developing a novel ovine model of ischemic cardiomyopathy that will have major implications in the study of heart failure and myocardial reverse remodeling.

"Innovation and program development" will continue to be the answer. It's what gets us up in the morning.



## Faculty

**Benjamin C. Sun, M.D.**

Associate Professor of Surgery; Chief, Division of Cardiothoracic Surgery; Director, Cardiac Transplantation and Mechanical Support

**B.S.:** Yale University, New Haven, Conn., 1984

**M.D.:** State University of New York, Stony Brook, N.Y., 1989

**Specialty Training:** University of North Carolina Hospitals, Chapel Hill, N.C.; Columbia-Presbyterian Medical Center, New York, N.Y.

**Appointment:** 2002

**Specialty Interests:** Heart transplantation

**Research Interests:** Direct mechanical ventricular actuation



*Sun*

**Juan A. Crestanello, M.D.**

Assistant Professor of Surgery

**M.D.:** University of the Republic of Uruguay Medical School, Montevideo, Uruguay

**Specialty Training:** General surgery residency, University of Maryland Medical System, Baltimore, Md.; cardiothoracic surgery research, Hahnemann University, Philadelphia, Pa., and University of Maryland, Baltimore, Md.

**Appointment:** 2004

**Specialty Interests:** Cardiac surgery

**Research Interests:** Ischemic preconditioning, mitochondrial function during ischemic preconditioning, myocardial ischemia reperfusion injury, cell transplantation, the effect of myocardial oxygen content on survival of transplanted cells



*Crestanello*

**Michael S. Firstenberg, M.D.**

Assistant Professor of Surgery

**A.B.:** University of Chicago, Chicago, Ill., 1990

**M.D.:** Case Western Reserve University, Cleveland, Ohio, 1996

**Specialty Training:** Ohio State University Medical Center, Columbus, Ohio; Cleveland Clinic, Cleveland, Ohio; National Heart, Lung, and Blood Institute, Bethesda, Md.; University Hospitals, Cleveland, Ohio

**Appointment:** 2007

**Specialty Interests:** Adult acquired and congenital cardiac surgery, cardiothoracic critical care, mechanical assist, heart failure

**Research Interests:** Cardiac imaging and physiology, mechanical assist



*Firstenberg*

**Mark Galantowicz, M.D.**

Associate Professor of Clinical Surgery

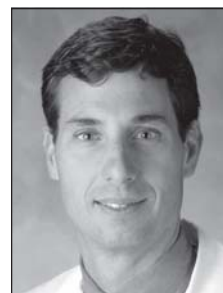
**B.A.:** University of Pennsylvania, Philadelphia, Pa., 1982

**M.D.:** Cornell University Medical College, New York, N.Y., 1987

**Specialty Training:** Columbia-Presbyterian Medical Center, New York, N.Y.

**Appointment:** 2002

**Specialty Interests:** Pediatric transplantation and surgery



*Galantowicz*

**Pawel Kwiatkowski, M.D.**

Assistant Professor of Surgery

**B.A.:** ILO Swietochlowice, Poland, 1982

**M.D.:** Silesian Academy of Medicine, Katowice, Poland, 1988

**Specialty Training:** Silesian Academy Medical Center, Zabrze, Poland; Columbia University, New York, N.Y.

**Appointment:** 1998

**Research Interests:** Transplant immunology, including xenotransplantation and allotransplantation of heart and lung



*Kwiatkowski*

**Susan D. Moffatt-Bruce, M.D., Ph.D.**

Assistant Professor of Surgery

**B.A.:** McGill University, Montreal, Quebec, Canada, 1990

**M.D.:** Dalhousie University, Halifax, Nova Scotia, Canada, 1994

**Ph.D.:** University of Cambridge, Cambridge, United Kingdom, 1999

**Specialty Training:** Residency in general surgery, Dalhousie University, Halifax, Nova Scotia, Canada; fellowship in cardiothoracic surgery, Stanford University, Palo Alto, Calif.

**Appointment:** 2006

**Specialty Interests:** Lung transplant, heart transplant, transplant outcomes, thoracic oncology

**Research Interests:** Transplant immunology



*Moffatt-Bruce*

**Sampath Parthasarathy, Ph.D., M.B.A.**

The Karl P. Klassen Professor of Surgery; Director of Research, Division of Cardiothoracic Surgery

**Ph.D.:** Indian Institute of Science, Bangalore, India, 1975

**M.B.A.:** University of Phoenix, 2004

**Specialty Training:** Kyoto University, Kyoto, Japan; Duke University, Durham, N.C.; the Hormel Institute, University of Minnesota, Austin, Minn.

**Appointment:** 2006

**Research Interests:** Vascular biology and medicine



*Parthasarathy*

**Alistair B. M. Phillips, M.D.**

Assistant Professor of Surgery

**B.S.:** Johns Hopkins University, Baltimore, Md., 1990

**M.D.:** Columbia University, New York, N.Y., 1994

**Specialty Training:** Residency in general and cardiothoracic surgery, New York-Presbyterian Hospital and Weill Cornell Medical Center, New York, N.Y.; fellowship in pediatric cardiac surgery, Columbia University Medical Center, New York, N.Y.

**Appointment:** 2006

**Specialty Interests:** Pediatric cardiothoracic surgery



Phillips

**Patrick Ross, Jr., M.D., Ph.D.**

Associate Professor of Clinical Surgery

**A.B.:** Harvard University, Cambridge, Mass., 1977

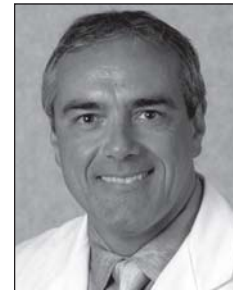
**M.D., Ph.D.:** St. Louis University, St. Louis, Mo., 1983

**Specialty Training:** University of Pennsylvania, Philadelphia, Pa.

**Appointment:** 1991

**Specialty Interests:** Lung volume reduction, thoracic surgical oncology, benign noncardiac thoracic disease, lung transplantation

**Research Interests:** New modality lung cancer therapy



Ross

**Chittoor B. Sai-Sudhakar, M.B.B.S., F.A.C.S., F.R.C.S.**

Assistant Professor of Surgery

**B.A.:** Loyola College, Madras, India, 1975

**B.Sc.:** Presidency College, Madras, India, 1976

**M.B.B.S.:** Stanley Medical College, Madras, India, 1982

**Specialty Training:** Yale-affiliated residency, St. Mary's Hospital, Waterbury, Conn.

**Appointment:** 2003

**Specialty Interests:** Aortic surgery, heart failure



Sai-Sudhakar

**John H. Sirak, M.D.**

Assistant Professor of Clinical Surgery

**B.A.:** Amherst College, Amherst, Mass., 1985

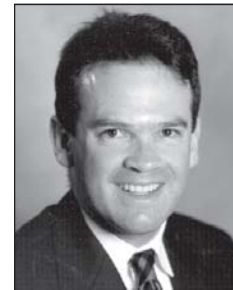
**M.D.:** Case Western Reserve University, Cleveland, Ohio, 1991

**Specialty Training:** General surgery residency, minimally invasive cardiothoracic surgery fellowship, The Ohio State University, Columbus, Ohio; arrhythmia surgery fellowship, Cleveland Clinic, Cleveland, Ohio

**Appointment:** 2004

**Specialty Interests:** Surgery for atrial fibrillation

**Research Interests:** Transplant immunology



Sirak

**Alexandru M. Vaida, M.D.**

Assistant Professor of Surgery

**B.A.:** St. Sava National College, Bucharest, Romania

**M.D.:** University of Medicine and Pharmacy, Targu-Mures, Romania, 1995

**Specialty Training:** Ohio State University Medical Center, Columbus, Ohio; Targu-Mures General Hospital, Targu-Mures, Romania; Veterans Affairs Medical Center, Richmond, Va.; Medical College of Virginia Hospitals, Richmond, Va.

**Appointment:** 2006

**Specialty Interests:** Thoracic oncology, lung transplant, esophageal surgery



Vaida

## Emeritus Faculty

**J. Terrance Davis, M.D.**

Professor Emeritus of Clinical Surgery

**B.A.:** Williams College, Williamstown, Mass., 1963

**M.D.:** University of Pennsylvania, Philadelphia, Pa., 1967

**Gerard S. Kakos, M.D.**

Clinical Associate Professor Emeritus of Surgery

**B.A.:** The Ohio State University, Columbus, Ohio, 1964

**M.D.:** The Ohio State University, Columbus, Ohio, 1967

**James W. Kilman, M.D.**

Professor Emeritus of Surgery

**B.S.:** Indiana State University, Terre Haute, Ind., 1956

**M.D.:** Indiana State University, Indianapolis, Ind., 1960

**Charles V. Meckstroth, M.D.**

Professor Emeritus of Surgery

**B.A.:** The Ohio State University, Columbus, Ohio, 1944

**M.D.:** The Ohio State University, Columbus, Ohio, 1947

**M.M.Sc. (Surgery):** The Ohio State University, Columbus, Ohio, 1950

**Howard D. Sirak, M.D.**

Professor Emeritus of Surgery

**A.B.:** University of Pennsylvania, Philadelphia, Pa., 1943

**M.D.:** The Ohio State University, Columbus, Ohio, 1947

**M.M.Sc. (Surgery):** The Ohio State University, Columbus, Ohio, 1953

## Clinical Faculty

**Thomas E. Williams, Jr., M.D., Ph.D.**

Clinical Associate Professor of Surgery

**B.A.:** Princeton University, Princeton, N.J., 1957

**M.S., M.D.:** The Ohio State University, Columbus, Ohio, 1963

**Ph.D.:** Northwestern University, Evanston, Ill., 1969

## Resident Staff

**Louis B. Louis, M.D.**

PGY-8

**B.A.:** Virginia Military Institute, Lexington, Va., 1994

**M.D.:** University of Miami, Miami, Fla., 1998

**Patrick McConnell, M.D.**

PGY-6

**B.S.:** Creighton University, Omaha, Neb., 1994

**M.D.:** University of Nebraska, Omaha, Neb., 1999

**Syed Mehmood, M.D.**

PGY-6

**B.S.:** University of Michigan, Ann Arbor, Mich., 1997

**M.D.:** Rosalind Franklin University of Medicine and Science/Chicago Medical School, Chicago, Ill., 2002

**Chandrabhas Patel, M.D.**

PGY-7

**B.A.:** La Sierra University, Riverside, Calif., 1996

**M.D.:** University of Silesia, Katowice, Poland, 2001

**Paul Vesco, M.D.**

PGY-7

**B.A.:** Washington and Jefferson College, Washington, Pa., 1993

**M.D.:** University of Kentucky, Lexington, Ky., 1997

## Mission

The Division of Cardiothoracic Surgery is dedicated to preserving and improving life for patients with heart and lung disease.

## Research Programs

- Antiphospholipid antibody syndrome and heparin-induced thrombocytopenia after cardiac surgery.
- BNP levels in pediatric cardiac surgery.
- Beta-blockade in chronic mitral regurgitation: moving from laboratory experiment to clinical investigation.
- Biomedical research and technology transfer: cardiovascular bioengineering enterprise center for cell therapy.
- Biomedical research and technology transfer: cardiovascular bioengineering enterprise mouse model of congestive heart failure.
- Biophan-Myotech Myo-Vad cardiac assist device.
- Blood conservation in CV surgery using epogen.
- Blood conservation in pediatric cardiac surgery.
- Blood transfusion retrospective.
- Chronic unloading therapy with Heartmate II VAD in an ovine ischemic cardiomyopathy model.
- Circulating endothelial cells and thrombosis.
- Collaborative study of mitochondrial function in ischemia.
- Complement blockade therapy for reperfusion ischemia in rodent lung transplant model.
- Congestive heart failure model in sheep.
- Development of animal models for a workshop for the International Symposium on the Hybrid Approach to Congenital Heart Disease: (1) mid-muscular VSD model to teach periventricular VSD closure, and (2) hybrid model to teach hybrid stage.

- Development of a novel approach to perivalvular leak after valve replacement.
- Diabetic hypertriglyceridemia and mitochondrial dysfunction.
- Diacrin myocyte transplantation trial.
- Evaluation of glycemic control in cardiac surgery patients.
- Heartmate II VAD bridge to transplant trial.
- Heartmate II VAD destination therapy.
- Heartmate II VAD imaging study.
- Hypoplastic left heart syndrome case review in pediatric cardiac surgery.
- Humoral rejection in lung transplantation.
- Immune profiles in atherosclerosis.
- Inflammation and oxidation in hypoplastic left heart syndrome.
- Inflammatory and oxidative mediators in bronchiolitis obliterans syndrome.
- Inflammatory mediators in cardiac surgery.
- Islet isolation and allotransplantation in nonhuman primates.
- Levitronix VAD cardiogenic shock trial.
- Macrophage adherence and function.
- Macrophage function in early ischemic changes in a sheep model of heart failure.
- Mechanical, cellular, and pharmacological therapy for congestive heart failure.
- Mechanism of injury in development of ischemic heart failure.
- Mechanism-based nutritional influences in heart failure.
- MicroMed VAD bridge to transplant trial.
- MicroMed VAD destination therapy.

- Neurological outcomes in hypoplastic left heart syndrome.
- Non-pharmacological dietary modulation of atherosclerosis by sesame oil.
- Novel mechanisms by which aspirin might inhibit atherosclerosis.
- Novel surgical approaches for hypoplastic left heart syndrome.
- Oxidized fatty acid-derived long chain dicarboxylic acid in aortic calcification and the development of vulnerable plaque.
- Paracor cardiac restraint device.
- Pulmonary valve replacement effects on arrhythmias.
- Regulatory transplantation tolerance.
- Retrospective study of the effect of mitral valve annuloplasty on left ventricular geometry and function in patients with cardiomyopathy.
- Right heart bypass model to study cerebral protection and myocardial function.
- Right heart failure mechanism in congenital heart disease.
- Role of BNP in heart failure.
- Role of dietary oxidized lipids in atherosclerosis.
- Simultaneous carotid endarterectomy and cardiac surgery.
- Supravalvar aortic stenosis.
- Systemic and tumor response to photodynamic therapy for bronchogenic carcinoma.
- Thoratec left ventricular assist device congestive heart failure sheep.
- Thrombosis model of heart failure in sheep.
- Tissue bank for cardiothoracic surgery.



## Accomplishments in Research

- **Klassen Research Day.** Klassen lecturer Salvador Moncada, M.D., Ph.D., director of the Wolfson Institute for Biomedical Research at University College, London, England; guest speaker Gautam Chaudhuri, M.D., Ph.D., professor and chair of obstetrics and gynecology at UCLA Medical Center; and guest speaker Daniel Burkhoff, M.D., Ph.D., medical director of Impulse Dynamics, spoke May 6, 2008, for the division's Klassen Research Day.
- **Davis/Bremer Grant.** Dr. Susan Moffatt-Bruce and Dr. Chittoor Sai-Sudhakar obtained Davis/Bremer Medical Research Endowment grants from The Ohio State University Medical Center for their innovative research proposals.
- **National Institutes of Health Grant.** Dr. Sampath Parthasarathy was awarded a National Institutes of Health grant to study a new role for aspirin in the prevention of cardiovascular disease.

## Active Research Grants

**Crestanello J.** DESTINY trial: effects of mitral valve annuloplasty with the GeoForm Ring on left ventricular geometry and function in patients with cardiomyopathy. Edwards Lifesciences, LLC, November 3, 2006 – November 3, 2009, \$14,000.

**Crestanello J, Zweier JL.** Are mitochondria-generated free oxygen radicals mediators of preconditioning? American College of Surgeons, July 1, 2007 – June 30, 2008, \$40,000.

**Crestanello JA, Zweier JL.** Measurement of free radical generation in the heart (minority supplement). National Heart, Lung, and Blood Institute, March 1, 2006 – November 30, 2007, \$261,645.

**Diaz PT, Ross P.** Clinical center for lung volume reduction surgery for emphysema: a multicenter assessment and prospective patient registry. National Institutes of Health, December 20, 1996 – December 31, 2007, \$573,871.

**Diaz PT, Ross P Jr.** Clinical center for the National Emphysema Treatment Trial (NETT). National Heart, Lung, and Blood Institute, December 20, 1996 – December 31, 2008, \$573,871.

**Kissel JT, Ross P Jr.** Thymectomy in non-thymomatous MG patients on prednisone. University of Alabama at Birmingham, April 1, 2006 – August 31, 2008, \$1,500.

**Kuppusamy P, Kniss DA, Kwiatkowski P, Zweier JL.** Non-invasive monitoring of in situ oxygenation and cell therapy in infarct heart. National Institute of Biomedical Imaging and Bioengineering, July 1, 2007 – May 31, 2009, \$673,415.

**Parthasarathy S.** Oxidation hypothesis: paradoxes and pitfalls. National Heart, Lung, and Blood Institute, March 1, 2006 – July 31, 2008, \$701,656.

**Parthasarathy S, Parinandi NL.** Dietary oxidized lipids and atherosclerosis. National Institute of Diabetes and Digestive and Kidney Diseases, March 1, 2006 – August 31, 2008, \$619,245.

**Sai-Sudhakar CB.** Anticoagulation strategy with bioprosthetic valves postoperative event registry (ANSWER). Duke University, August 10, 2007 – August 9, 2008, \$8,150.

**Sai-Sudhakar CB.** Clinical trial of the On-X valve using low dose anticoagulation. Medical Carbon Research Institute, LLC, December 1, 2006 – November 30, 2013, \$3,600.

**Sai-Sudhakar CB.** A randomized, controlled, phase 3 study of gentamicin-collagen sponge (Collatamp G) in cardiac surgical subjects at higher risk for sternal wound infection. Duke University, February 11, 2008 – December 31, 2009, \$14,520.

**Sirak JH.** Stentless porcine bioprostheses for aortic valve replacement model NR-200 Plus and model NR-200C Plus No React treated porcine bioprostheses for aortic valve replacement. Shelhigh, Inc., March 10, 2006 – March 10, 2010, \$96,000.

**Sun B.** AB5000 circulatory support system data registry. Abiomed, Inc., April 26, 2005 – December 31, 2008, \$12,398.

**Sun B.** Clinical evaluation of the HeartMate II LVAS study. Thoratec Corp., April 26, 2005 – December 31, 2008, \$200,444.

**Sun B.** Mechanical therapy for congestive heart failure. Myotech, LLC, October 5, 2006 – July 31, 2007, \$15,058.

**Sun B.** Preclinical cardiac device study. BioVentrix, February 29, 2008 – February 27, 2009, \$33,415.

**Sun B.** The SynCardia CardioWest Temporary Total Artificial Heart (TAH-t) post-market surveillance study. SynCardia Systems, Inc., October 27, 2006 – July 24, 2009, \$3,300.

**Sun B, Binkley PF.** Surgical treatment for ischemic heart failure (STICH). Duke University, June 17, 2002 – May 31, 2009, \$255,888.

**Sun B, Crestanello JA.** CentriMag VAS: use as an RVAS following implantation of a commercially-approved LVAS. Levitronix, LLC, September 2, 2005 – September 1, 2008, \$10,000.

**Sun B, Feldman DS, Sai-Sudhakar C.** Levitronix CentriMag short-term ventricular assist system. Levitronix, LLC, April 26, 2005 – December 31, 2008, \$6,000.

## Clinical Programs

- Adult cardiothoracic surgery.
- Aortic surgery.
- Arrhythmia surgery.
- Heart failure surgery.
- Heart transplantation.
- Heart-lung transplantation.
- Lung transplantation.
- Lung volume reduction surgery.
- Mechanical circulatory support.
- Minimally invasive heart surgery.
- Photodynamic therapy.
- Robotic surgery.
- Thoracic oncology.
- Total artificial heart transplantation.

## Accomplishments in Clinical Care

- Clinical cases in Cardiothoracic Surgery increased 13 percent this year, while fewer than five percent of U.S. cardiothoracic surgery programs experienced growth.
- The division's robotic surgery program, which is focusing on coronary revascularizations and mitral valve surgery, has grown from zero to 20 cases during the past six months.
- The division experienced substantial growth in every section.

## Clinical Statistics

OR Procedures	2,590
Outpatient Visits	7,446
Admissions	1,780
Patient Days	19,937
Average Length of Stay (Days)	9.93

## Educational Programs

- Two-year cardiothoracic surgery fellowship accredited by the Accreditation Council for Graduate Medical Education.
- One-year fellowship in mechanical circulatory support.
- Comprehensive rotation in cardiothoracic surgery for first- and third-year residents in general surgery.

## Accomplishments in Education

- Completion of the cardiothoracic surgery fellowship by Dr. Chandrahas Patel and Dr. Paul Vesco in June 2008.
- Completion of the cardiothoracic surgery mechanical support fellowship by Dr. Louis Louis in June 2008.
- Accreditation of the Congenital Fellowship Program at Nationwide Children's Hospital. The program is one of six certified congenital fellowship programs in cardiothoracic surgery in the United States.
- Awarding of Samuel J. Roessler Memorial Medical Research Scholarships to medical students Erin Schumer and Marty Tam, under the direction of their research advisor, Dr. Susan Moffatt-Bruce.

## Publications

**Armen T, Vandse R, Crestanello J, Raman S, Bickle K, Nathan N.** Mechanisms of valve competency after mitral valve annuloplasty for ischemic mitral regurgitation using the GeoForm Ring: insights from three-dimensional echocardiography. *Eur J Echocardiogr* 2008; 165:1–8.

**Astor TL, Galantowicz M, Phillips A, Davis JT, Hoffman TM.** Domino heart transplantation involving infants. *Am J Transplant* 2007; 7(11):2626–2629.

**Crestanello JA.** Diez años de experiencia en el tratamiento quirúrgico de la fibrilación auricular con el procedimiento Cox-Maze. *Ann Thorac Surg* 2007; 83:1319–1325.

**Firstenberg MS, Crestanello JA, Sai-Sudhakar CB, Sirak JH, Sun B.** Ascending aortic dissection: look again before you leap. *Ann Thorac Surg* 2008; 85:1782–1784.

**Firstenberg MS, Greenberg NL, Garcia MJ, Thomas JD.** Relationship between ventricular contractility and early diastolic intraventricular pressure gradients: a diastolic link to systolic function. *J Am Soc Echocardiogr* 2008; 21(5):501–506.

**Firstenberg MS, Sai-Sudhakar CB, Sirak JH, Crestanello JA, Sun B.** Intestinal ischemia complicating ascending aortic dissection: first things first. *Ann Thorac Surg* 2007; 84(2):e8–9.

**Galantowicz M, Cheatham JP, Phillips A, Cua CL, Hoffman TM, Hill SL, Rodeman R.** Hybrid approach for hypoplastic left heart syndrome: intermediate results after the learning curve. *Ann Thorac Surg* 2008; 85(6):2063–2070.

**Khan M, Kutala VK, Vikram DS, Wisel S, Chacko SM, Kuppusamy ML, Mohan IK, Zweier JL, Kwiatkowski P, Kuppusamy P.** Skeletal myoblasts transplanted in the ischemic myocardium enhance in situ oxygenation and recovery of contractile function. *Am J Physiol Heart Circ Physiol* 2007; 293(4):H2129–H2139.

**Khan M, Kutala VK, Wisel S, Chacko SM, Kuppusamy ML, Kwiatkowski P, Kuppusamy P.** Measurement of oxygenation at the site of stem cell therapy in a murine model of myocardial infarction. *Adv Exp Med Biol* 2008; 614:45–52.

**Mehta R, Doshi AA, Hasan AK, Love CJ, Pizzuto M, Sai-Sudhakar C, Chan DP.** Device interactions in patients with advanced cardiomyopathy. *J Am Coll Cardiol* 2008; 51(16):1613–1614.

**Raman SV, Ahmed A, Simonetti OP, Crestanello J.** Tissue diagnosis with magnetic resonance imaging. *Circulation* 2007; 116(10):e338.

**Ross P.** National Emphysema Treatment Trial Research Group: The effect of lung volume reduction surgery on chronic obstructive pulmonary disease exacerbations. *Am J Respir Crit Care Med* 2008; 177:164–169.

**Ross P.** National Emphysema Treatment Trial Research Group: Estimating pulmonary artery pressure by echocardiography in patients with emphysema. *Eur Respir J* 2007; 30:914–921.

**Ross P.** National Emphysema Treatment Trial Research Group: Sex, depression, and risk of hospitalization and mortality in chronic obstructive pulmonary disease. *Arch Intern Med* 2007; 167(21):2345–2353.

**Sabik JF 3rd, Blackstone EH, Firstenberg M, Lytle BW.** A benchmark for evaluating innovative treatment of left main coronary disease. *Circulation* 2007; 116(11 Suppl):I232–I239.

**Urs L, Galantowicz M, Phillips A, Cheatham J, Hughes A, Baker P.** Complications following stages I and II hybrid repair for hypoplastic left heart syndrome (HLHS). *Mod Pathol* 2008; 21:208.

**Yeen W, Panza A, Cook S, Warrell C, Sun B, Crestanello JA.** Mycotic coronary artery aneurysm from fungal prosthetic valve endocarditis. *Ann Thorac Surg* 2007; 84(1):280–282.

## Abstracts

**Firstenberg MS, Louis LB, Vesco P, Sai-Sudhakar CB, Mangino J, Martin S, Wellington L, Blais D, Sun B.** Fungemia in patients with long-term left ventricular assist devices: a chronic problem, but not the kiss of death. *J Heart Lung Transplant* 2008; 27(2S):341.

**Firstenberg MS, Louis LB, Vesco P, Sai-Sudhakar CB, Sun B.** Outcomes following device replacement in patients requiring long-term mechanical cardiac support. *J Heart Lung Transplant* 2008; 27(2S):268.

## International Presentations

**Crestanello JA.** Ablación quirúrgica de la fibrilación auricular. 5tas Jornadas Internacionales de Cardiología del Sanatorio Americano, Montevideo, Uruguay, July 28, 2007.

**Crestanello JA.** Endocarditis. 5tas Jornadas Internacionales de Cardiología del Sanatorio Americano, Montevideo, Uruguay, July 27, 2007.

**Crestanello JA.** Situaciones especiales en el manejo de los antitromboticos en cardiología. 5tas Jornadas Internacionales de Cardiología del Sanatorio Americano, Montevideo, Uruguay, July 27, 2007.

**Louis LB, Sai-Sudhakar C, Vesco PA, Firstenberg MS, Sun B.** Early experience with implantable mechanical circulatory support devices (MCSD) in severely and morbidly obese patients. World Congress of Cardiothoracic Surgeons, Heart Surgery Forum, Kos, Greece, April 30, 2008.

**Moffatt-Bruce SD, Ferguson R, Sun B, Williams T.** Outcomes of kidney and kidney/pancreas allograft recipients after cardiac surgery. British Transplantation Society, Glasgow, Scotland, April 18, 2008.

**Parthasarathy S.** Dietary oxidized lipids in atherosclerosis. Polish Atherothrombosis Conference, Krag, Poland, October 12, 2007.

**Parthasarathy S.** HDL therapies. HDL Symposium, Shanghai, China, June 23, 2008.

**Parthasarathy S.** Molecular biology of atherosclerosis. HDL Symposium, Shanghai, China, June 23, 2008.

**Parthasarathy S.** Paraoxonase 1 and aspirin. Istitut National de la Sante et de la Recherche Medicale, Paris, France, October 9, 2007.

**Parthasarathy S.** Sesame oil and atherosclerosis. Central Food Technological Research Institute, Mysore, India, January 1, 2008.

**Ross P.** Photodynamic therapy: a spectrum of applications. Buenos Aries Oncology Meeting, Buenos Aries, Argentina, June 11, 2008.

**Ross P.** Pulmonary applications of photodynamic therapy. Maria Ferrer Hospital, Buenos Aries, Argentina, June 10, 2008.

**Ross P.** Thoracic oncology: photodynamic therapy and autofluorescence bronchoscopy. National Academy of Medicine, Buenos Aries, Argentina, June 11, 2008.

**Sai-Sudhakar CB, Louis LB IV, Vesco P, Crestanello J, Firstenberg M, Sun B.** Bridge to candidacy for transplantation in destination therapy patients. World Congress of Cardiothoracic Surgeons, Heart Surgery Forum, Kos, Greece, April 30, 2008.

**Sun BC.** Improving donor heart allocation and utilization: mechanical device strategies for acute recovery. New Frontiers in Heart Failure Management, Naples, Italy, June 10–12, 2008.

## National Presentations

**Crestanello JA.** Surgical interventions for thromboembolic disease. Chest 2007, Plenary Session: Optimizing the Management of Thromboembolic Disease, Chicago, Ill., October 24, 2007.

**Crestanello JA, Cronin S, Lee DS, Scheier B, Hillier K, Steinbaugh G, Pfeiffer DR, Zweier JL.** Ischemic preconditioning protects mitochondria function by preserving cytochrome C. National Heart, Lung, and Blood Institute, 15th Annual Cardiovascular Diversity Research Supplement Awardee Session, Orlando, Fla., November 3, 2007.

**Crestanello JA, Lee DS, Steinbaugh G, Cronin S, Scheier B, Pfeiffer DR, Zweier JL.** Preconditioning preserves I interfibrillar and subsarcolemmal mitochondria respiration, ultrastructure, and cytochrome C levels. Experimental Biology 2008, San Diego, Calif., April 8, 2008.

**Cronin S, Lee D, Scheier B, Steinbaugh G, Hillier K, Pfeiffer DR, Zweier JL, Crestanello JA.** Ischemic preconditioning protects mitochondria function by preserving cytochrome C. Third Annual Academic Surgical Congress, Huntington Beach, Calif., February 15, 2008.

**Firstenberg MS, Louis LB IV, Vesco P, Sai-Sudhakar CB, Mangino J, Martin S, Wellington L, Blais D, Sun B.** Fungemia in patients with long-term left ventricular assist devices: a chronic problem, but not the kiss of death. International Society of Heart and Lung Transplantation, Boston, Mass., April 10, 2008.

**Firstenberg MS, Louis LB, Vesco P, Sai-Sudhakar CB, Sun B.** Outcomes following device replacement in patients requiring long-term mechanical cardiac support. International Society of Heart and Lung Transplantation, Boston, Mass., April 10, 2008.

**Garelnabi M, Ross P, Nunley D, Wood K, Pope-Harman A, Moffatt-Bruce SD.** Onset of bronchiolitis obliterans syndrome predicted by elevated plasma IL-6 and IFN $\gamma$  levels. International Society for Heart and Lung Transplantation, Annual Meeting, Boston, Mass., April 9–12, 2008.

**Green M, Emery CF, Ross P, Moffatt-Bruce SD.** Coping and health among lung transplant candidates and their primary caregivers. Society of Behavioral Medicine, Annual Meeting, San Diego, Calif., March 26–29, 2008.

**Parthasarathy S.** Advances in cardiovascular drug discovery. American Tamil Medical Association, Third Annual Medical Expo and Symposium, Las Vegas, Nev., August 10, 2007.

**Parthasarathy S.** Molecular mechanisms of atherosclerosis. Florida International University, Miami, Fla., April 9, 2008.



**Phillips A, Cook A, Bauer J, Yu ENZ, Green J, Bergdall V, Holtzer R, Cheatham J, Galantowicz M.** Technique for creating muscular VSD in swine: beneficial for developing and teaching periventricular closure techniques (poster). Pediatric Interventional Cardiac Symposium 2007 and Adult Interventional Cardiac Symposium 2007, Structural Heart Disease Symposium, Las Vegas, Nev., July 22–25, 2007.

**Phillips A, Holzer R, Bauer J, Green J, Bergdall V, Hill S, Galantowicz M, Cheatham J.** Animal model of perivalvular leak for the development of novel devices to eliminate the leak. Pediatric Interventional Cardiac Symposium 2007 and Adult Interventional Cardiac Symposium 2007, Structural Heart Disease Symposium, Las Vegas, Nev., July 22–25, 2007.

**Ross P.** Autofluorescence bronchoscopy and photodynamic therapy: a thoracic surgeon's perspective. Society of Thoracic Surgeons, Med Tech Convergence, Fort Lauderdale, Fla., January 26, 2008.

**Ross P.** Overview of photodynamic therapy. Erlanger Hospital, Tumor Board, Chattanooga, Tenn., February 29, 2008.

**Ross P.** Overview of photodynamic therapy. Memorial Hospital, Tumor Board, Chattanooga, Tenn., February 29, 2008.

**Ross P.** Photodynamic therapy and non-small cell lung cancer. University of Florida, Gainesville, Fla., April 29, 2008.

**Ross P.** Photodynamic therapy and non-small cell lung cancer. University of Pennsylvania, Philadelphia, Pa., April 28, 2008.

**Ross P.** Surgical aspects of non-small cell lung cancer. Chattanooga Regional Oncology Association, Chattanooga, Tenn., February 28, 2008.

**Ross P.** Thoracic surgeon's practice: photodynamic therapy and autofluorescence. Duke University School of Medicine, Tumor Board, Durham, N.C., February 21, 2008.

**Sun BC.** Case study: RV assist device surgical implant. American Society of Echocardiography, Chicago, Ill., March 29, 2008.

**Sun BC.** Mechanical circulatory support for cardiogenic shock. Society of Thoracic Surgeons and American Association for Thoracic Surgery, 44th Annual Meeting, Fort Lauderdale, Fla., January 25–30, 2008.

**Sun BC.** Reloading the ventricle: is this the missing link? Gordon Research Conference on Assisted Circulation, Big Sky, Mont., August 23, 2007.

## Miscellaneous Presentations

**Crestanello JA.** Aortic dissection. The Ohio State University Medical Center, Columbus, Ohio, March 7, 2008.

**Crestanello JA.** Hemodynamic management in cardiac surgery. The Ohio State University Medical Center, Richard M. Ross Heart Hospital Nurse Lecture Series, Columbus, Ohio, February 12, 2008.

**Crestanello JA.** Mediastinal masses. The Ohio State University Medical Center, Columbus, Ohio, August 23, 2007.

**Crestanello JA.** Minimally invasive and robotic cardiac surgery: applications in diabetic patients. The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, November 30, 2007.

**Crestanello JA.** Mitral and aortic surgery. The Ohio State University Medical Center, Columbus, Ohio, November 1, 2007.

**Crestanello JA.** Pulmonary embolectomies for massive pulmonary embolism. Genesis HealthCare System, CME Conference, Zanesville, Ohio, September 26, 2007.

**Crestanello JA.** Pulmonary embolectomies for massive pulmonary embolism. Midwest Chest Club Meeting, Columbus, Ohio, October 18, 2007.

**Crestanello JA.** Robotic and minimally invasive cardiac surgery. The Ohio State University Medical Center, Columbus, Ohio, December 20, 2007.

**Crestanello JA.** Surgery for massive pulmonary embolism: an algorithm-based approach. The Ohio State University Medical Center, Columbus, Ohio, December 13, 2007.

**Crestanello JA, Cronin S, Steinbaugh G, Lee DS, Scheier B, Velayutham M, Zweier JL.** Ischemic preconditioning does not decrease oxygen free radical generation during reperfusion. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Crestanello JA, Scheier B, Cronin S, Lee DS, Steinbaugh G, Zweier JL.** Ischemic preconditioning protects myocardial mitochondria by preserving respiratory function during ischemia reperfusion. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Crestanello JA, Steinbaugh GE, Lee DS, Cronin S, Scheier B, Pfeiffer DR, Zweier JL.** Ischemic preconditioning of rat myocardium preserves mitochondria morphology. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Firstenberg MS.** Introduction to mechanical cardiac circulatory support: management of the balloon pump patient and beyond. Genesis HealthCare System, Zanesville, Ohio, October 31, 2007.

**Moffatt-Bruce SD.** Aortic disease. The Ohio State University Medical Center, Sixth Annual Heart Failure Update, Columbus, Ohio, November 9, 2007.

**Moffatt-Bruce SD.** Lung transplantation: an update on research initiatives. The Ohio State University Medical Center, Davis Heart and Lung Research Institute, Research Lecture Series, Columbus, Ohio, April 3, 2008.

**Moffatt-Bruce SD.** Pulmonary resection for the respiratory therapist: preoperative evaluation, intra-operative management, and postoperative care. The Ohio State University Medical Center, Current Concepts in Respiratory Care Conference, Columbus, Ohio, March 6, 2008.

**Parthasarathy S.** Progress in Parthasarathy laboratory research. The Ohio State University Medical Center, Research in Progress, Columbus, Ohio, July 13, 2007.

**Ross P.** Autofluorescence bronchoscopy and photodynamic therapy in management of non-small cell lung cancer. MedCentral Health System, Mansfield, Ohio, July 17, 2007.

**Ross P.** Autofluorescence bronchoscopy and photodynamic therapy for the management of lung cancer. Midwest Chest Club Meeting, Columbus, Ohio, October 20, 2007.

**Ross P.** Autofluorescence bronchoscopy and photodynamic therapy for the management of non-small cell lung cancer. The Ohio State University Medical Center, Wisconsin Surgical Society, Columbus, Ohio, May 6, 2008.

**Ross P.** Chest wall/thoracic tumors. The Ohio State University Medical Center, First Comprehensive Spine and Bone Tumor Symposium, Columbus, Ohio, May 3, 2008.

**Ross P.** Innovative approaches to managing bronchogenic carcinoma. Blanchard Valley Hospital, Findlay, Ohio, August 17, 2007.

**Ross P.** Lung cancer staging. Springfield Regional Cancer Center, Tumor Board, Springfield, Ohio, March 24, 2008.

**Ross P.** Non-small cell lung cancer and esophageal cancer. Mount Carmel West, Columbus, Ohio, August 1, 2007.

**Ross P.** Photodynamic therapy. Southeastern Ohio Medical Center, Grand Rounds, Cambridge, Ohio, September 13, 2007.

**Ross P.** Photodynamic therapy and autofluorescence bronchoscopy. Good Samaritan Medical Center, Zanesville, Ohio, September 20, 2007.

**Sirak J.** Advances in treatment of atrial fibrillation: new surgical techniques. Ohio Thoracic and Cardiovascular Data Management Group, Columbus, Ohio, October 24, 2007.

**Sirak J.** Atrial fibrillation ablation: burn or cut? The Ohio State University Medical Center, Heart Failure at the Shoe, Columbus, Ohio, November 9, 2007.

**Sun BC.** Advances in ventricular assist devices. Scioto County Medical Society, 38th Annual Current Therapy Seminar, Portsmouth, Ohio, October 27, 2007.

**Sun BC.** Cardiac transplantation. Kettering Medical Center, Cardiology Conference, Kettering, Ohio, July 24, 2007.

**Sun BC.** Cardiothoracic surgery: where are we going? The Ohio State University Medical Center, Columbus, Ohio, February 7, 2008.

**Sun BC.** Recovering the heart. The Ohio State University Medical Center, Sixth Annual Heart Failure Update, Columbus, Ohio, November 9, 2007.

**Sun BC.** Reloading the ventricle: is this the missing link? The Ohio State University Medical Center, Midwest Chest Club, Columbus, Ohio, October 19, 2007.

**Sun BC.** Update on mechanical assist devices. The Ohio State University Medical Center, The Heart of it All: Cardiac and Vascular Nursing Conference, Circulatory Support, Columbus, Ohio, June 23, 2008.

**Sun BC.** Ventricular assist devices. Holzer Medical Center, Second Annual Cardiovascular Symposium, Gallipolis, Ohio, February 16, 2008.

**Sun BC.** Ventricular assist devices. Ohio Thoracic and Cardiovascular Data Management Group, Columbus, Ohio, October 24, 2007.

**Sun BC.** Ventricular assist device presentation. National Medical Association, Columbus, Ohio, June 24, 2008.

**Sun BC.** Ventricular assist device presentation. The Ohio State University, College of Veterinary Medicine, Columbus, Ohio, April 16, 2008.

**Vaida AM.** Trauma of the chest wall, tracheobroncheal and pulmonary trauma, esophageal trauma. The Ohio State University Medical Center, Columbus, Ohio, July 12, 2007.

**Williams TE, Ellison EC.** Population analysis predicts a future critical shortage of general surgeons. Central Surgical Association, Cincinnati, Ohio, March 6, 2008.

# Critical Care, Trauma, and Burn



**Steven M. Steinberg, M.D.**

Chief, Division of Critical Care, Trauma, and Burn

**T**he Division of Critical Care, Trauma, and Burn was formed in March 2006, with the charge of enhancing the Department of Surgery's programs in surgical critical care, trauma, and burns, and developing an acute-care surgery program. While the first year of existence involved sweeping changes, our second year focused on solidifying those changes and growing.

This year, the division recruited one new faculty member, Dr. David Lindsey, who began an appointment as assistant professor of clinical surgery, following a successful career in California as a cardiothoracic surgeon. Dr. Lindsey graduated from The Ohio State University College of Medicine in 1976. He trained in general surgery at Stanford University and in cardiothoracic surgery at the University of Southern California. In 2007, Dr. Lindsey completed a surgical critical care fellowship at the University of California-Davis, in Sacramento, Calif. His primary focus is on critical care, particularly cardiovascular critical care, and trauma.

We succeeded in recruiting two new faculty members for the 2008–2009 academic year. Dr. Stanislaw Stawicki and Dr. Melissa Whitmill will join us after completing their trauma and surgical critical care training. Dr. Stawicki is completing a fellowship at the University of Pennsylvania, in Philadelphia, and Dr. Whitmill is completing her training at the Henry Ford Hospital, in Detroit.

Two nurse practitioners, Susan Yeager and Heather Ratliff, joined our trauma service this year. Both have been engaged in improving the care of patients on the Surgery 6 Service. They have helped to develop a tertiary trauma survey form to avoid missed injuries, and they have improved communication with patients and between the Surgery 6 Service and other services. Other changes on the Surgery 6 Service include the implementation of a new daily progress note system and a new skills lab for residents and nurse practitioners.

In the SICU, the service was split into two: the Scarlet and Gray services. Most importantly, we received notice from the ACGME that our surgical critical care program was accredited for a full five years, and our resident complement was increased from two to four. Dr. Charles Cook implemented a new curriculum that includes a rotation in pediatric surgical critical care at the Nationwide Children's Hospital.

The division's other main clinical program, the Burn Service, spent much of the year preparing for a verification visit by the American Burn Association, which is scheduled for autumn 2008.

The Critical Care Signature Program, of which our division is a key member, continues to progress. A new system-wide critical care quality committee, with Dr. Steven Steinberg as co-chair, meets monthly. A community advisory board has been established and meets regularly. The two groups have provided the signature program leadership with excellent advice and direction.

The Trauma Program, under the leadership of Dr. Steinberg, continues to show an increase in activity. The program had more than 2,139 trauma admissions in 2007, reflecting a 7 percent increase over the previous year. Over the past five years, there has been a 31 percent increase in the growth of the program. Of the patients admitted, 26 percent had a moderate to severe Injury Severity Score, and 41 percent required at least one operative procedure. Of patients arriving by emergency medical service, 49 percent transferred in from outside hospitals, and 51 percent came directly from the scene of injury.

Dr. Charles Cook, assistant professor of surgery, continues his National Institutes of Health-funded research in cytomegalovirus (CMV) infections and bacterial sepsis during critical illness. In addition to his CMV work in critical care, Dr. Cook is principal investigator of an R01 grant studying the immunobiology of murine allograft acceptance. The focus of the study is to determine which events lead to allograft acceptance and the role CMV may play in disrupting acceptance. In addition to his research pursuits, Dr. Cook remains active in the care of the critical care patient, and he continues to serve as medical director of the Surgical Intensive Care Unit.

Dr. Sidney Miller, professor of surgery and director of the Burn Center at The Ohio State University Medical Center, is an authority on burn care and serves in many local and national leadership roles. He is a member of the board of trustees of the American Burn Association, which he currently serves as its first vice president. Dr. Miller serves on the editorial boards of the *Journal of Burns* and the *Journal of Burn Care and Rehabilitation*. A past governor of the American College of Surgeons (ACS) and a past president of the Ohio Chapter of the ACS, he is currently a member of the ACS Committee on Trauma. Dr. Miller serves on the trauma committees of the Ohio Department of Public Safety Emergency Medical Services Board and the Ohio Department of Homeland Security Interagency Response Group. Under his direction, the Medical Center's first Burn Survivor Family Camp was held August 17–19, 2008, at Camp Joy, in Clarksville, Ohio. The Burn Program implemented the Survivors Offering Assistance in Recovery (SOAR) program, which provides peer support to patients in the Burn Center at Ohio State.

Dr. Steven Steinberg, professor of surgery, is chief of the Division of Critical Care, Trauma, and Burn and a member of the board of Central Ohio Trauma Systems. He serves as chair of the Quality Manage-

ment Policy Group and Physicians Executive Council for Ohio State's Medical Center, while maintaining his role as chair of the University Hospital Operating Room Committee. Dr. Steinberg continues to be active in surgical education and critical care.

Dr. Yalaunda Thomas, assistant professor of surgery, is now in her second year at Ohio State. In addition to delivering excellent clinical care, Dr. Thomas participates in a number of national organizations, including the Eastern Association for the Surgery of Trauma, for which she sits on the Mild Traumatic Brain Injury Management Guidelines Committee, and the Society of Black Academic Surgeons. This year, she participated in the Third Annual Society of Black Surgeons 2008 Leadership Institute.

In February 2008, Dr. Scott Armen resigned his appointment as assistant professor of surgery.

Dr. Tracy Davido completed the surgical critical care fellowship in June 2008. She is continuing residency training in general surgery at Ohio State.

## Faculty

### Steven M. Steinberg, M.D.

Professor of Surgery; Chief, Division of Critical Care, Trauma, and Burn;  
Vice Chairman for Clinical Affairs, Department of Surgery

**B.Sc.:** The Ohio State University, Columbus, Ohio, 1975

**M.D.:** The Ohio State University, Columbus, Ohio, 1978

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1999

**Specialty Interests:** General surgery

**Research Interests:** Alterations in splanchnic microcirculation in shock;  
hemodynamic assessment in critical illness; adequacy of hemodynamic  
resuscitation in shock; sepsis and organ failure; trauma



Steinberg

### Scott B. Armen, M.D.

Assistant Professor of Surgery

**B.A.:** Pennsylvania State University, University Park, Pa., 1996

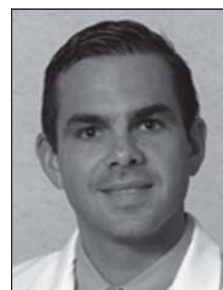
**M.D.:** The Ohio State University, Columbus, Ohio, 2000

**Specialty Training:** Mount Carmel Health System, Columbus, Ohio

**Appointment:** 2006

**Specialty Interests:** Trauma, critical care, emergency surgery

**Research Interests:** Acute care surgery, shock, trauma, critical care



Armen

### Charles H. Cook, M.D.

Associate Professor of Surgery; Medical Director, Surgical Critical Care

**B.S.:** Pennsylvania State University, University Park, Pa., 1987

**M.D.:** The Ohio State University, Columbus, Ohio, 1991

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1997

**Specialty Interests:** Critical care, laparoscopy

**Research Interests:** Surgical outcomes, surgical infectious disease



Cook

### David E. Lindsey, M.D.

Assistant Professor of Clinical Surgery

**B.S.:** The Ohio State University, Columbus, Ohio, 1972

**M.D.:** The Ohio State University, Columbus, Ohio, 1976

**Specialty Training:** Stanford University Hospital, Stanford, Calif.;  
University of California-Davis, Sacramento, Calif.

**Appointment:** 2007

**Specialty Interests:** Critical care, cardiovascular critical care, trauma



Lindsey



**Sidney F. Miller, M.D.**

Professor of Surgery; Director, Burn Center, The Ohio State University Medical Center

**B.A.:** Indiana University, Bloomington, Ind., 1965

**M.D.:** Indiana University School of Medicine, Indianapolis, Ind., 1968

**Specialty Training:** Miami Valley Hospital, Dayton, Ohio

**Appointment:** 2006

**Specialty Interests:** Burns

**Research Interests:** Wound healing



Miller

**Yalaunda M. Thomas, M.D.**

Assistant Professor of Surgery

**B.S.:** Wake Forest University, Winston-Salem, N.C., 1995

**M.D.:** University of North Carolina, Chapel Hill, N.C., 2000

**Specialty Training:** University of Illinois at Chicago, Chicago, Ill.;  
University of Maryland Medical System, Baltimore, Md.

**Appointment:** 2006

**Specialty Interests:** Critical care, trauma, general surgery

**Research Interests:** Trauma, critical care



Thomas

## Resident Staff

**H. Tracy Davido, M.D.**

Surgical Critical Care Fellow

**B.A.:** Cleveland State University, Cleveland, Ohio, 1993

**M.D.:** University of Pittsburgh, Pittsburgh, Pa., 2002

## Mission

The mission of the Division of Critical Care, Trauma, and Burn is to improve people's lives through innovations in research, education, and patient care in the areas of surgical critical care, trauma, burns, and emergency surgery.

## Research Programs

- Cytomegalovirus infections and bacterial sepsis.
- Missed billing opportunities in the surgical intensive care unit.
- Splenic and pancreaticoduodenal trauma.
- Screening for lower extremity deep venous thrombosis in trauma patients.
- Management of new onset atrial fibrillation in non-cardiac surgery ICU patients.
- Glycemic control in ICU patients.
- A review of hunting accidents.
- A survey of the use of digital rectal examination in trauma evaluation.
- Evaluation of blind bronchoalveolar lavage in the diagnosis of ventilator-associated pneumonia.
- Assessment of renal function by equation.
- Impact of RAS scoring on use of sedation in the SICU.

## Accomplishments in Research

- Publication of 14 scholarly articles and abstracts by division faculty.
- Presentation of 14 podium lectures and one poster presentation at national meetings by division faculty and staff.
- Dr. Charles Cook continued to receive funding from the National Institutes of Health.

## Active Research Grants

**Cook CH, Nadasdy T.** The immunobiology of murine allograft acceptance. National Institute of Allergy and Infectious Diseases, December 1, 2002 – November 30, 2008, \$1,452,781.

**Cook CH, Sedmak DD.** Bacterial sepsis and reactivation of latent cytomegalovirus. National Institute of General Medical Sciences, May 8, 2003 – April 30, 2009, \$1,438,254.

## Clinical Programs

- Surgical critical care, trauma, burn, and emergency surgery services.

## Accomplishments in Clinical Care

- Division of the SICU Service into two services: the Scarlet Service and the Gray Service.
- Implementation of a tertiary trauma survey, new discharge instruction sets, and a family-centered end-of-life project.
- Implementation of several clinical protocols and guidelines on the trauma and SICU services.

## Clinical Statistics

OR Procedures	2,887
Outpatient Visits	1,839
Admissions	13,241
Patient Days	36,488*
Average Length of Stay (Days)	6.40*

\*These are combined figures for both the Division of Critical Care, Trauma, and Burn and the Division of General and Gastrointestinal Surgery.

## Educational Programs

- Fully-accredited fellowship in surgical critical care.

## Accomplishments in Education

- Completion of the surgical critical care fellowship by Dr. Tracy Davido.
- Re-accreditation in August 2007 of the surgical critical care fellowship program and increase of the resident complement from two to four positions.
- Institution of a monthly skills lab.
- Hosting of the annual meeting of the Great Lakes Burn Association, September 27–28, 2007, by The Ohio State University Burn Center, under the direction of Dr. Sidney Miller.

## Community Outreach Programs

- Trauma injury prevention program.

## Accomplishments in Community Outreach

- Dr. Sidney Miller gave burn outreach presentations to the emergency medical services of Worthington, Ohio and Delaware County.
- Dr. Sidney Miller discussed burn prevention in an April 21, 2008 interview on “Good Day Columbus,” on WTTE-TV/28.
- Dr. Yalaunda Thomas made several outreach visits and presentations this year.
- The division sponsored a retreat to develop strategies for program development and outreach for the trauma and burn programs.

## Publications

**Cook CH.** Cytomegalovirus reactivation in “immunocompetent” patients: a call for scientific prophylaxis. *J Infect Dis* 2007; 196(9):1273–1275.

**Cook CH, Bickerstaff AA, Wang JJ, Nasasdy T, Colvin RM, Della Pelle P, Orosz CG.** Spontaneous renal allograft acceptance associated with “regulatory” dendritic cells and IDO. *J Immunol* 2008; 180(5):3103–3112.

**Fang X, Liu S, Wang X-Y, Gao N, Hu H-Z, Wang G-D, Cook CH, Needleman BJ, Mikami DJ, Xia Y, Fei G-J, Hicks GA, Wood JD.** Neurogastroenterology of tegaserod (HTF 919) in the submucosal division of the guinea-pig and human enteric nervous system. *Neurogastroenterol Motil* 2008; 20(1):80–93.

**Gerlach AT, Kane-Gill SL, Dasta JF, Steinberg SM, Martin LC, Cook CH.** Diltiazem versus amiodarone for new onset atrial arrhythmias in non-cardiac post-surgical patients: a cohort study. *Crit Care Shock* 2008; 11:1–13.

**Guagliardo MF, Jeng JC, Browning S, Bilodeau M-E, Dimick A, Hickerson W, Miller S, Peck M.** Admissions across state lines: harnessing the insight of the National Burn Repository for the healthcare accessibility, fiscal, and legislative concerns facing the American Burn Association. *J Burn Care Res* 2008; 29(1):151–157.

**Howard PA, Jeng JC, Miller SF.** Is the glass really half empty? A closer look at the TBSA data in the National Burn Repository. *J Burn Care Res* 2007; 28(4):542–543.

**Konstantakos EK, Miller SF, Dalstrom DJ, Shapiro ML, Laughlin RT.** Uniplanar external fixation for care of circumferential extremity burn wounds in adults. *J Burn Care Res* 2007; 28(6):892–896.

**Latenser BA, Miller SF, Bessey PQ, Browning SM, Caruso DM, Gomez M, Jeng JC, Krichbaum JA, Lentz CW, Saffle JR, Schurr MJ, Greenhalgh DG, Kagan RJ.** National Burn Repository 2006: a ten-year review. *J Burn Care Res* 2007; 28(5):635–658.

**Smith J, Armen S, Cook CH, Martin LC.** Blunt splenic injuries: have we watched long enough? *J Trauma* 2008; 64(3):656–663; discussion 663–665.

**Sparks J, Bolte J, Jones K, Steinberg S, Herriott R, Stammen J, Donnelly B.** Using fluid pressure to estimate blunt liver injury. *Stapp Car Crash J* 2007; 51:401–432.

**Yeager S.** Ventriculostomy for treatment of persistent cervical cerebral spinal fluid leak after excision of cervical schwannoma: a case study. *J Neurosci Nurs* 2008; 40(2):116–118.

**Zhang G, Raghavan B, Kotur M, Cheatham J, Sedmak D, Cook C, Waldman J, Trgovcich J.** Antisense transcription in the human cytomegalovirus transcriptome. *J Virol* 2007; 81(20):11267–11281.

## Abstracts

**Cook CH.** Pulmonary cytomegalovirus reactivation pathologic in immunocompetent hosts. *Inflammation Research* 2007; 56(S2):S328.

**Gerlach AT, Thomas S, Dasta J, Steinberg S, Cook C, Benson J.** Comparison of estimated creatinine clearance using modified diet in renal disease, Cockcroft-Gault or 24-urine equations in critically ill surgical patients. *Crit Care Med* 2007; 35(12 Suppl):A271.

## Visiting Professorships

**Cook CH.** Pulmonary reactivation of cytomegalovirus during critical illness. University of Virginia, Department of Surgery Grand Rounds, Charlottesville, Va., November 14, 2007.

**Steinberg SM.** Trauma system consultations. Buddhist Tzu Chi Medical Center, Hualien, Taiwan, March 26–31, 2008.

**Steinberg SM.** Trauma system consultations. Taichung Medical College, Taichung, Taiwan, March 26–31, 2008.

## International Presentations

**Steinberg SM.** The current management of hemorrhage in trauma patients. Formosan Association for the Surgery of Trauma, Kaohsiung, Taiwan, March 26–31, 2008.

## National Presentations

**Chaudhry Z, Coffey R, Crockett A, Sammet S, Miller SF, Yuh W.** Assessing the safety of silver-based wound dressings in a magnetic resonance environment. American Burn Association, 40th Annual Meeting, Chicago, Ill., April 29 – May 2, 2008.

**Cook CH** (Invited Lecturer). Clostridium difficile colitis guidelines. Surgical Infection Society, 28th Annual Meeting, Surgical Infections Symposium, Hilton Head, S.C., May 7, 2008.

**Cook CH.** Regulatory dendritic cells and spontaneous renal allograft acceptance. Keystone Symposium, Tolerance in Transplantation and Autoimmunity, Keystone, Colo., January 29, 2008.

**Lehman KJ, Miller SF.** Delayed application autografts storage solution. American Burn Association, 40th Annual Meeting, Chicago, Ill., April 29 – May 2, 2008.

**Miller SF.** Mass casualty triage. American College of Surgeons, Committee on Trauma Disaster Management and Emergency Preparedness Course, Mid-States Committee on Trauma, Advances in Trauma Meeting, Kansas City, Mo., December 6, 2007.

**Miller SF.** NBR and research: what it is, what it isn't. American Burn Association, 40th Annual Meeting, Chicago, Ill., April 29 – May 2, 2008.

**Miller SF.** Pathophysiology/patterns: burns. American College of Surgeons, Committee on Trauma Disaster Management and Emergency Preparedness Course, Mid-States Committee on Trauma, Advances in Trauma Meeting, Kansas City, Mo., December 6, 2007.

**Miller SF.** Pediatric considerations. American College of Surgeons, Committee on Trauma Disaster Management and Emergency Preparedness Course, Mid-States Committee on Trauma, Advances in Trauma Meeting, Kansas City, Mo., December 6, 2007.

**Miller SF.** Porcine xenograft (Mediskin) used as temporary coverage for partial thickness burns with ancillary debriding. American Burn Association, 40th Annual Meeting, Chicago, Ill., April 29 – May 2, 2008.

**Steinberg SM, Popa MR, Michalek JA, Bethel MJ, Ellison EC.** Comparison of risk adjustment in surgical quality improvement: apples to apples or apples to oranges? Central Surgical Association, Annual Meeting, Cincinnati, Ohio, March 6–8, 2008.

**Yeager S.** Evaluation of a structured program for providing end-of-life care in a neurologic critical care unit: practitioner perspective. Society of Critical Care, Annual Meeting, Honolulu, Hawaii, February 4–8, 2008.

**Yeager S.** Evaluation of a structured program for providing end-of-life care in a neurologic critical care unit: surrogate perspective. Society of Critical Care, Annual Meeting, Honolulu, Hawaii, February 4–8, 2008.

**Yeager S.** Evaluation of a structured program for providing end-of-life care in a neurologic critical care unit: surrogate perspective (poster presentation). American Association of Critical Care Nurses, National Teaching Institute, Chicago, Ill., May 6, 2008.

**Yeager S.** Introduction to spine care for non-physician providers: perioperative care and floor emergencies. North American Spine Society, 22nd Annual Meeting, Austin, Texas, October 23, 2007.

**Yeager S** (Moderator). Nursing round table. Neurologic Critical Care Society, Las Vegas, Nev., November 2, 2007.

## Miscellaneous Presentations

**Brandeberry A, Miller SF, Coffey R.** C reactive protein as an early indicator of septicemia. Great Lakes Burn Association, Annual Meeting, Columbus, Ohio, September 27–28, 2007.

**Chaudhry Z, Coffey R, Crockett A, Miller SF, Sammett S, Yuh W.** Assessing the safety of silver-based wound dressings in a magnetic resonance environment. Great Lakes Burn Association, Annual Meeting, Columbus, Ohio, September 27–28, 2007.

**Cook CH** (Invited Lecturer). Blood transfusions in critically ill patients. Current Issues in Critical Care Symposium, Columbus, Ohio, November 2, 2007.

**Cook CH** (Invited Lecturer). Pulmonary detraining during critical care illness: are AC modes the enemy? Current Concepts in Respiratory Critical Care 2008, Columbus, Ohio, March 6, 2008.

**Lehman KJ, Miller SF.** Delayed application autograft storage solution. Great Lakes Burn Association, Annual Meeting, Columbus, Ohio, September 27–28, 2007.

**Thomas A, Coffey R, Faleka T, Johnson A, Miller SF, Casavant C.** Comparison of the Lund-Browder and SAGE IIc computer diagrams. Great Lakes Burn Association, Annual Meeting, Columbus, Ohio, September 27–28, 2007.

**Thomas YM.** Introduction to medicine. What is a trauma surgeon? How do you become a surgeon? The Ohio State University, M.D. Camp, Columbus, Ohio, June 25 – July 13, 2007.

**Thomas YM.** The pregnant trauma patient. The Ohio Association of Emergency Medical Services Conference, Mansfield, Ohio, April 4–6, 2008.

**Thomas YM.** Trauma injury: how should I call it? Alliance of Ohio Trauma Registrars, Department of Transportation, Columbus, Ohio, June 6, 2008.

**White LM, Beers E, Coffey R, Miller SF.** Nutritional goal delivery in acute burn patients. Great Lakes Burn Association, Annual Meeting, Columbus, Ohio, September 27–28, 2007.



# General and Gastrointestinal Surgery



**W. Scott Melvin, M.D.**

Chief, Division of General and Gastrointestinal Surgery  
Director, Center for Minimally Invasive Surgery

**T**he Division of General and Gastrointestinal Surgery had a strong year as it continued to emphasize excellence in clinical care, as well as research contributions in the fields of minimally invasive surgery, gastroesophageal reflux disease, endolumenal and minimally invasive surgery, bariatric surgery, surgical endoscopy, and treatment of malignant disease of the gastrointestinal tract, including pancreatic and esophageal cancer. The Center for Minimally Invasive Surgery has pioneered innovative endolumenal and incisionless surgery as a treatment modality for gastroesophageal reflux disease and revisional bariatric surgery. The Ohio State University Comprehensive Weight Management Program continued to grow under the leadership of our physicians, offering a variety of weight loss options tailored to the individual. The division's program in surgical endoscopy has been strong, leading to continued growth and expansion in the treatment modalities available to our patients. This year, we added new faculty in the field of colorectal surgery, further expanding the reach of minimally invasive surgery in the treatment of colorectal cancer and benign conditions of the colon. Our physicians have been active in the research of hepatobiliary malignancies and have instituted trials to manage pancreatic cancer. Wound healing is an emphasis in the division, incorporating both the clinical aspects at the Comprehensive Wound Care Center and making great strides in understanding the basic physiology in molecular genetics of wound healing and wound healing in diabetics. In the coming year, we will show further differentiation and sub-specialization within the division, as we continue to grow and expand.

This year, we again secured significant external research funding. Division faculty published 32 scholarly articles, abstracts, and book chapters, and presented 39 national and 12 international lectures. Attending faculty in the division performed 12,970 operating room procedures and received 16,596

outpatient visits.

The division continues to emphasize excellence in resident and medical student education, offering research opportunities in surgical techniques and basic science, including a master of medical science degree program. The honors curriculum in general surgery prepares a select group of the best fourth-year medical students for a career in surgery.

In basic and translational science research, Chandan Sen, Ph.D., professor of surgery, director of the Comprehensive Wound Center, and vice chairman for research in the Department of Surgery, is principal investigator for several active National Institutes of Health (NIH) research projects. Dr. Sen also serves as associate dean for translational and applied research in the College of Medicine. Recently he was appointed by the College to lead the Medical Center's technology commercialization and industry partnership programs. The primary focus of Dr. Sen's laboratory is the study of tissue injury, repair, remodeling, and survival. He is the primary mentor on an NIH K08 award for the training of physician-scientist Dr. Gayle Gordillo, assistant professor of surgery in the Division of Plastic Surgery. Dr. Sen has established a clinical wound healing program with Dr. Gordillo and Dr. Richard Schlanger. The clinical studies are based in the wound clinic at University Hospital East, where Dr. Schlanger collaborates with the Sen team to execute the clinical work. Dr. Sen serves on the board of directors of the Wound Healing Society. He is editor-in-chief of the international peer-reviewed journal *Antioxidants & Redox Signaling*, which has an impact factor of 5.5 and ranks number one in its field. Dr. Sen serves as associate editor of *Physiological Genomics*, a journal of the American Physiological Society. In addition, he serves on the editorial boards of six other journals and as a peer reviewer for more than 25 major journals. Dr. Sen is program director of the Novel Clinical and Translational Methodologies Program of the Ohio State Center for Clinical and Translational Science (CCTS). The CCTS was recently awarded an NIH Clinical and Translational Science Award (CTSA) grant of \$34.1 million. Dr. Sen also serves as a voting member of the NIH's CTSA Public-Private Partnerships Steering Committee.

Dr. Sashwati Roy, assistant professor of surgery, is building a new program on diabetic wound healing in partnership with the teams of Dr. Sen and Dr. Scott Melvin. In particular, Dr. Roy's program focuses on dead cell recognition and clearance from the chronic wound of the diabetic. She is an expert in microarray analyses, data mining in functional genomics, and laser capture microdissection. Dr. Roy is principal investigator for three projects on wound healing, one on the use of human autologous platelet gels in wound healing, and the other two on nutrition in wound healing. In total, Dr. Roy has published more than 100 papers. This year, she published 16 papers in scholarly journals, and one of which was published in the prestigious *Proceedings of the National Academy of Sciences*. Dr. Roy also presented invited lectures at major national and international conferences. This year, she received R01 funding from the NIH as a principal investigator on diabetic wound healing and macrophage function. In addition, she received a number of industry-sponsored research grants. Dr. Roy serves on the education committee of the Davis Heart and Lung Research Institute.

Dr. Christopher Ellison, the Robert M. Zollinger professor and chairman of surgery, continues to serve as associate vice president for health sciences and vice dean of clinical affairs in the College of Medi-

cine and as a director of the American Board of Surgery. Repeatedly recognized as one of the nation's top physicians, Dr. Ellison was listed again this year by Best Doctors in America. He continues an active clinical practice focusing on pancreatic and esophageal diseases, and he continues to serve as an outstanding teacher of medical students and residents.

Dr. Scott Melvin, professor of surgery, chief of the division, and director of the Center for Minimally Invasive Surgery, serves as secretary and as a member of the executive council of the Society of American Gastrointestinal and Endoscopic Surgeons. He also serves on the editorial board of *Annals of Surgery* and as associate editor of the *Journal of Robotic Surgery*, and he holds many other editorial board and review program positions. Dr. Melvin continues his leadership as vice president and a member of the executive council of the Fellowship Council, the authorizing and accrediting organization for advanced gastrointestinal surgery fellowships. This year, he presented at a variety of national and international meetings. Dr. Melvin has ongoing research funding for studies focusing on minimally invasive surgical techniques and maintains a busy clinical surgery practice.

Dr. Mark Arnold, professor of clinical surgery and vice chairman for education in the Department of Surgery, continues to supervise and manage the general surgery residency program, and he serves as faculty for the colorectal surgery fellowship program. He has participated in the results of our educational initiatives at the annual meeting of the Society of American Gastrointestinal and Endoscopic Surgeons, and his work has been discussed at a national educators meeting. Dr. Arnold maintains a busy specialty practice in colorectal disease and rectal cancers.

Dr. Alan Harzman, previously a fellow in colon and rectal surgery at Baylor University Medical Center, in Dallas, Texas, in July 2007 began an appointment as assistant professor of clinical surgery in the division. He serves as faculty for the colorectal surgery fellowship program, and this year was chosen by department residents and fellows to receive a Department of Surgery Faculty Teaching Award, for excellence in teaching and dedication to surgical education.

Dr. Jeffrey Hazey, assistant professor of surgery, is an active clinical surgeon specializing in advanced therapeutic endoscopic techniques, including ERCP and minimally invasive surgery. He serves an invaluable role as an educator for surgeons and gastroenterologists learning advanced endoscopic therapy and as program director of the fellowship in therapeutic endoscopy, one of the few advanced endoscopic fellowship programs in the nation. He was selected to attend the Natural Orifice Surgery Consortium for Assessment and Research (NOSCAR) and performed the first human trial in the United States using natural orifice transluminal endoscopic surgery (NOTES) techniques. He has received research funding from industry and NOSCAR to continue this line of investigation and plans to expand his clinical training program in therapeutic endoscopy. He serves on national committees of the Society of American Gastrointestinal and Endoscopic Surgeons and a number of clinical and economic advisory boards.

Dr. Robert Kloos, assistant professor of clinical surgery and director of the peripheral vascular access team at University Hospital East, continues to participate in resident education and clinical practice.

Dr. Andrei Manilchuk, assistant professor of clinical surgery, continues to expand a busy clinical practice at University Hospital East. He has been active in clinical care of complex gastrointestinal disease and has augmented his practice to include more gastrointestinal disease and endoscopy.

Dr. Peter Muscarella, associate professor of surgery, continues to focus clinically on non-colorectal gastrointestinal malignancies, and he participates in the multidisciplinary GI cancer clinic through the James Cancer Hospital. His group has published several basic science and clinical manuscripts related to pancreatic cancer biology and therapy. Dr. Muscarella is a co-investigator on a National Cancer Institute-funded research grant studying mechanisms of pancreatic cancer cachexia. An active member of a number of national and local surgical organizations, he serves on the committee on research and optimal patient care and on the executive committee of the American College of Surgeons. Dr. Muscarella continues to participate in educational activities and was recently appointed director of the surgical clerkship.

Dr. Vimal Narula, clinical assistant professor of surgery, is building his clinical practice, specializing in advanced laparoscopy, endoscopy, and ERCP. An integral member of the surgical service, he participates as faculty of the advanced therapeutic endoscopy fellowship program. Dr. Narula also participates in minimally invasive surgery and natural orifice transluminal endoscopic surgery (NOTES) research. He presented at several national and international meetings this year.

Dr. Richard Schlanger, assistant professor of clinical surgery, authored the first board specialty exam for wound care. He is a wound care consultant to the U.S. subcommittee on prevention and recognition of decubitus ulcers and a national lecturer on necrotizing fasciitis and advanced wound care. In conjunction with Dr. Sen and Dr. Gordillo, Dr. Schlanger has an active clinical research program in wound healing. He continues to serve as director of wound care at University Hospital and University Hospital East and as clinical director of the Comprehensive Wound Center.

The bariatric surgery program, led by Dr. Bradley Needleman and Dr. Dean Mikami, is a recipient of Center of Excellence status through the American Society for Metabolic Bariatric Surgery. This designation confirms the program's success in delivering bariatric surgical care of the highest efficacy, efficiency, and safety. The Center of Excellence designation also makes Ohio State's Medical Center a Medicare-approved facility, one of the first bariatric programs in the state to achieve this status. The Medical Center is also a Blue Distinction Center for Bariatric Surgery and has been awarded University HealthSystem Consortium (UHC) Best Performer Status, in recognition of excellence in all aspects of care. Research has been an important aspect of the program in applying all aspects of innovative care and the latest technology to bariatric surgery. Dr. Needleman is a sought-after national expert on bariatric surgery, quality of care, and innovation in surgical techniques. Dr. Mikami continues his research in novel therapeutic ventures and has worked extensively on advanced endoscopic procedures for the bariatric surgical population. StomaphyX was added to the program this year and is showing success in resolving post-gastric bypass reflux, late dumping, and weight gain. Dr. Needleman and Dr. Mikami are recognized as outstanding surgical educators and routinely help other surgeons to improve their skills.

Education remains an important mission of the division. This year, Dr. Ziad Kutayli, Dr. Jason Smith, Dr. JoAnn Warrick, and Dr. Brian Winkleman completed the residency training program in general surgery. Dr. Peter Kaye and Dr. Jerad Miller completed the fellowship program in colon and rectal surgery.

### **Minimally Invasive Surgery**

The Center for Minimally Invasive Surgery (CMIS) is a multidisciplinary center dedicated to the achievement of excellence in patient care, clinical training, research, and outcomes studies examining the techniques and technology of minimally invasive surgery. The center strives to expand the ever-changing field of surgery, and this year we saw further expansion of our educational and research endeavors.

At the Center for Minimally Invasive Surgery, surgeons and researchers are continuously pushing the boundaries of current surgical techniques. Over the past few years, a completely new minimally invasive surgical technique has emerged, pioneered by efforts at The Ohio State University Medical Center. Natural orifice transluminal endoscopic surgery (NOTES) is the process of performing surgery through naturally existing orifices, thus eliminating the need for external incisions. It is a trend that is gaining interest in the surgical community. We are focused on continued development of technology and techniques for NOTES, in the hope that someday common surgical procedures can be totally incisionless.

The Center for Minimally Invasive Surgery remains in the forefront of NOTES-related research. This year, CMIS investigators completed a study of transgastric bacterial contamination in 50 subjects (Narula, et al., 2008). In all 50 subjects, a gastrotomy was created that was open to the peritoneal cavity for an average of 18 minutes. Gastric content samples were obtained, as were peritoneal fluid samples before and after the gastrotomy. All subjects underwent laparoscopic Roux-en-Y gastric bypass surgery. While bacterial contamination of the abdominal cavity was noted based on colony-forming unit (CFU) counts, no infectious complications or leaks occurred. Two additional NOTES studies continue to recruit subjects: "Transgastric Peritoneoscopy for Evaluation of the Abdominal Wall to Direct Laparoscopic Trocar Placement" and "Diagnostic Transluminal Endoscopic Peritoneoscopy" (Hazey, et al., 2008). Both studies continue to investigate the significance of abdominal bacterial contamination resulting from gastrotomy, but no infectious complications have been noted in either study ( $n = 28$  and  $n = 20$ ). In addition, transluminal endoscopic peritoneoscopy has proven to be comparable to laparoscopic visualization in both study groups. Dr. Hazey, the principal investigator, has obtained industry support and Institutional Review Board (IRB) approval to investigate closure of the gastrotomy endoscopically with sutures in the next 10 subjects enrolled in the diagnostic transluminal endoscopic peritoneoscopy study. Dr. Hazey has also been granted funds from the Natural Orifice Surgery Consortium for Assessment and Research (NOSCAR) to continue investigation of diagnostic transluminal endoscopic peritoneoscopy as a stand-alone diagnostic technique in patients with pancreatic head tumors.

The field of obesity surgery and related disease processes continues to be a focus for our research group. Metabolic disorders, such as diabetes, are some of the fastest-growing complications that arise from obesity. Treatment of obesity with surgical intervention often leads to resolution of such metabolic disorders. Our bariatric surgeons, in collaboration with Dr. Dara Schuster, associate professor of

endocrinology, diabetes, and metabolism in the College of Medicine, have submitted an NIH R-21 to investigate gut hormone and outcome differences in African-Americans and Caucasian Americans who undergo Roux-en-Y gastric bypass (RNYGB) surgery. Dr. Schuster, Dr. Needleman, and Dr. Mikami are particularly interested in why diabetes resolves in some but not all patients who undergo RNYGB.

This year, CMIS offered several new courses focusing on emerging technologies and techniques recently introduced to surgeons in the United States. In November 2007, Ohio State hosted its First International Natural Orifice Translumenal Endoscopic Surgery (NOTES) Symposium, which attracted more than 60 attendees from the United States and abroad. The format for the course included a didactic series with a live NOTES surgical case broadcast, and a hands-on application in a laboratory setting. In February 2008, CMIS continued the NOTES-related course offerings by holding the Advances in Transoral Foregut Surgery Symposium. This course featured lectures on NOTES, transoral incisionless fundoplication (TIF) using the EsophyX device for gastroesophageal reflux disease, and endolumenal tissue fusion using the StomaphyX device. Live case broadcast of procedures using EsophyX and StomaphyX devices were also performed during this one-day course. The program was held on Ohio State's campus and attracted more than 35 attendees from the United States and throughout the world.

The Robotic Surgery Training Center continued to be successful this year. More than 130 da Vinci training programs were held, with a total of 164 participants, including surgeons, nurses, and physician assistants from 20 states. The center also trained 25 international surgeons from Canada, Mexico, Korea, Venezuela, Puerto Rico, Chile, Australia, and Japan. Programs held here include training in techniques for general, gynecologic, urologic, and cardiothoracic robotic surgery.

Our minimally invasive surgery training program, a one-year, dedicated experience in advanced laparoscopic surgery, remains a well-sought-after position. This year we welcomed two new clinical assistant professors, Dr. Simon Bergman and Dr. Jason Roland. Dr. Bergman had a very busy clinical year, completing more than 400 advanced laparoscopic and endoscopic procedures. He participated in a number of research projects that led to several publications and national and international presentations. Dr. Bergman has returned to Quebec, Canada, where his practice focuses on minimally invasive surgery. Dr. Roland was also a very active member of our team this year, completing more than 400 advanced laparoscopic and endoscopic procedures. In addition to his clinical responsibilities, he participated in ongoing research projects. Dr. Roland has taken a position with a practice in Baltimore, Md., where he provides bariatric and other advanced minimally invasive procedures to his patients. This year, CMIS also welcomed Dr. Lynn Happel, who completed a one-year clinical assistant professorship in advanced therapeutic endoscopy and gastrointestinal surgery. Dr. Happel had an extremely busy clinical year, completing more than 150 advanced laparoscopic surgeries and more than 300 therapeutic and diagnostic endoscopies, including ERCP's. She participated in a number of research projects. Dr. Happel has joined a surgical practice at a University of Missouri-Kansas City affiliate location, in Kansas City, Mo.

## Faculty

**W. Scott Melvin, M.D.**

Professor of Surgery; Chief, Division of General and Gastrointestinal Surgery; Director, Center for Minimally Invasive Surgery

**B.S.:** Ohio Northern University, Ada, Ohio, 1983

**M.D.:** Medical College of Ohio, Toledo, Ohio, 1987

**Specialty Training:** University of Maryland, College Park, Md.; Ohio Digestive Disease Institute, Columbus, Ohio

**Appointment:** 1993

**Specialty Interests:** Gastrointestinal, hepatobiliary, and pancreatic surgery; advanced laparoscopic techniques; trauma

**Research Interests:** Laparoscopic surgery education and training, molecular biology of pancreatic cancer, experimental therapies for pancreatic cancer



*Melvin*

**Mark W. Arnold, M.D.**

Professor of Clinical Surgery; Vice Chairman for Surgical Education, Department of Surgery

**B.A.:** University of Virginia, Charlottesville, Va., 1979

**M.D.:** New York University, New York, N.Y., 1983

**Specialty Training:** Jackson Memorial Hospital, University of Miami Medical Center, Miami, Fla.; Grant Medical Center, Columbus, Ohio

**Appointment:** 1990

**Specialty Interests:** Colon and rectal surgery

**Research Interests:** Radioimmunoguided antibodies for diagnosis and treatment of colon and rectal cancers



*Arnold*

**Simon Bergman, M.D.**

Clinical Assistant Professor of Surgery

**M.D.:** McGill University, Montreal, Quebec, Canada, 2001

**Specialty Training:** McGill University, Montreal, Quebec, Canada

**Appointment:** 2007

**Specialty Interests:** Minimally invasive surgery, endolumenal therapies, foregut surgery

**Research Interests:** Natural orifice transluminal endoscopic surgery (NOTES), Barrett's esophagus



*Bergman*



**E. Christopher Ellison, M.D.**

The Robert M. Zollinger Professor of Surgery; Chairman, Department of Surgery; Associate Vice President for Health Sciences and Vice Dean of Clinical Affairs, College of Medicine

**B.S.:** University of Wisconsin, Madison, Wis., 1972

**M.D.:** Medical College of Wisconsin, Milwaukee, Wis., 1976

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1993

**Specialty Interests:** Surgery of the liver, biliary tree, and pancreas

**Research Interests:** Gastrinoma and Zollinger-Ellison syndrome, pancreatic and hepatic cancer



*Ellison*

**Lynn C. Happel, M.D.**

Clinical Assistant Professor of Surgery

**B.A.:** University of Missouri-Kansas City, Kansas City, Mo., 2001

**M.D.:** University of Missouri-Kansas City, Kansas City, Mo., 2002

**Specialty Training:** University of California-San Francisco, Fresno, Calif.

**Appointment:** 2007

**Specialty Interests:** Endoscopic surgery, minimally invasive surgery

**Research Interests:** Natural orifice transluminal endoscopic surgery (NOTES)



*Happel*

**Alan E. Harzman, M.D.**

Assistant Professor of Clinical Surgery

**B.S.:** Vanderbilt University, Nashville, Tenn., 1997

**M.D.:** Washington University, St. Louis, Mo., 2001

**Specialty Training:** Residency in general surgery, University of Texas Southwestern Medical Center, Dallas, Texas; fellowship in colon and rectal surgery, Baylor University Medical Center, Dallas, Texas

**Appointment:** 2007

**Specialty Interests:** General surgery, colon and rectal surgery

**Research Interests:** General surgery, colon and rectal surgery



*Harzman*



**Jeffrey W. Hazey, M.D.**

Assistant Professor of Surgery

**B.A.:** Miami University, Oxford, Ohio, 1987

**M.D.:** Case Western Reserve University, Cleveland, Ohio, 1992

**Specialty Training:** General surgery residency, University Hospitals of Cleveland; nutrition and surgery research fellowship, Case Western Reserve University/Mount Sinai Medical Center; advanced laparoscopic and endoscopic surgery fellowship, Cleveland Clinic, Cleveland, Ohio

**Appointment:** 2003

**Specialty Interests:** Minimally invasive surgery, advanced endoscopy, endoscopic retrograde cholangiopancreatography



*Hazey*

**Robert G. Kloos, D.O.**

Assistant Professor of Clinical Surgery

**B.S.:** University of Cincinnati, Cincinnati, Ohio, 1979

**M.Ed.:** Cleveland State University, Cleveland, Ohio, 1983

**D.O.:** Ohio University College of Osteopathic Medicine, Athens, Ohio, 1991

**Specialty Training:** Meridia South Pointe Hospital, Cleveland, Ohio

**Appointment:** 2002

**Specialty Interests:** Gastrointestinal surgery, thyroid disease, carotid occlusive disease, endovascular techniques, hemodialysis access



*Kloos*

**Andrei V. Manilchuk, M.D.**

Assistant Professor of Clinical Surgery

**M.D.:** Gorky State Medical Institute, Nizhny Novgorod, Russia, 1984

**Specialty Training:** General surgery and surgical oncology, Nizhny Novgorod Medical Academy and Regional Cancer Center, Nizhny Novgorod, Russia; general surgery, The Ohio State University, Columbus, Ohio

**Appointment:** 2003

**Specialty Interests:** Gastrointestinal and pancreatobiliary surgery



*Manilchuk*

**Dean J. Mikami, M.D.**

Assistant Professor of Surgery

**B.A.:** University of Hawaii, Manoa, Hawaii, 1991

**M.D.:** University of Kansas, Kansas City, Kan., 1997

**Specialty Training:** General surgery residency, The Ohio State University, Columbus, Ohio

**Appointment:** 2003

**Specialty Interests:** Minimally invasive surgery, bariatric surgery, robotic surgery

**Research Interests:** Minimally invasive surgery



*Mikami*

**Peter Muscarella, II, M.D.**

Associate Professor of Surgery; Director, Surgical Clerkship

**B.S.:** University of Rochester, Rochester, N.Y., 1989

**M.D.:** New York Medical College, Valhalla, N.Y., 1993

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 2000

**Specialty Interests:** General surgery, endocrine gastrointestinal disease, liver, pancreas

**Research Interests:** Pancreatic cancer, pancreatic neuroendocrine tumors



*Muscarella*

**Vimal K. Narula, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** Marshall University, Huntington, W.Va., 1995

**M.D.:** Marshall University, Huntington, W.Va., 1999

**Specialty Training:** Residency in general surgery, Marshall University, Huntington, W.Va.

**Appointment:** 2006

**Specialty Interests:** Laparoscopic, foregut, and hepatobiliary surgery

**Research Interests:** Minimally invasive techniques, robotic surgery



*Narula*

**Bradley J. Needleman, M.D.**

Assistant Professor of Surgery; Director, Bariatric Surgery Program

**B.A.:** Vassar College, Poughkeepsie, N.Y., 1990

**M.D.:** Mount Sinai School of Medicine, New York, N.Y., 1994

**Specialty Training:** Washington Hospital Center, Washington, D.C.;  
The Ohio State University, Columbus, Ohio

**Appointment:** 2000

**Specialty Interests:** Advanced laparoscopic surgery, obesity

**Research Interests:** Minimally invasive surgery, surgical education



*Needleman*

**Jason C. Roland, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Maryland, Baltimore, Md., 1997

**M.D.:** University of Maryland, Baltimore, Md., 2001

**Specialty Training:** George Washington University, Washington, D.C.

**Appointment:** 2007

**Specialty Interests:** Minimally invasive surgery, bariatric surgery, GI surgery

**Research Interests:** Bariatric surgery



*Roland*

**Sashwati Roy, Ph.D.**

Assistant Professor of Surgery

**B.S.:** Meerut University, Meerut, India, 1984

**M.S.:** Meerut University, Meerut, India, 1986

**Ph.D.:** University of Kuopio, Kuopio, Finland, 1994

**Appointment:** 2000

**Research Interests:** Antioxidant and redox biology focusing on signal transduction and gene expression



Roy

**Richard E. Schlanger, M.D., Ph.D.**

Assistant Professor of Clinical Surgery; Director, Center for Wound Management, University Hospital East

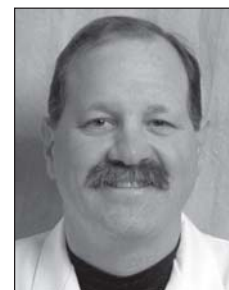
**M.D.:** Faculté de Médecine, Toulouse, France, 1980

**Ph.D.:** Faculté de Médecine, Toulouse, France, 1982

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 2000

**Specialty Interests:** General surgery, wound healing



Schlanger

**Chandan K. Sen, Ph.D.**

Professor of Surgery; Vice Chairman for Research, Department of Surgery; Associate Dean for Translational and Applied Research, College of Medicine; Deputy Director, Davis Heart and Lung Research Institute; Director, DNA Microarray and Genetics Facility, Davis Heart and Lung Research Institute; Professor, Department of Molecular and Cellular Biochemistry

**B.S.:** Calcutta University, Calcutta, India, 1987

**M.S.:** Calcutta University, Calcutta, India, 1990

**Ph.D.:** University of Kuopio, Kuopio, Finland, 1994

**Appointment:** 2000

**Research Interests:** Wound healing, redox control of biological events, role of oxygen- and nitrogen-derived species in signal transduction and gene expression



Sen

## Clinical Faculty

**Robert E. Falcone, M.D.**

Clinical Professor of Surgery

**B.A.:** Kent State University, Kent, Ohio, 1973

**M.D.:** The Ohio State University, Columbus, Ohio, 1976

**Jeffrey T. Innes, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of California, Davis, Calif., 1976

**M.D.:** University of California, Davis, Calif., 1980

**Bruce A. Kerner, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Tampa, Tampa, Fla., 1980

**M.D.:** Chicago Medical School, Chicago, Ill., 1984

**Richard C. Rooney, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Cincinnati, Cincinnati, Ohio, 1964

**M.D.:** University of Cincinnati, Cincinnati, Ohio, 1967

**Thomas T. Vogel, M.D., Ph.D.**

Clinical Assistant Professor of Surgery

**B.A.:** Holy Cross College, 1955

**Ph.D.:** The Ohio State University, Columbus, Ohio, 1962

**M.D.:** Georgetown University, Washington, D.C., 1965

## Resident Staff

**Myla N. Bennett, M.D.**

PGY-2

**B.S.:** University of Michigan, Ann Arbor, Mich., 2001

**M.D.:** The Ohio State University, Columbus, Ohio, 2006

**Lloyd G. Brown, M.D.**

PGY-4

**B.A.:** University of Rochester, Rochester, N.Y., 1996

**M.D.:** University of Rochester, Rochester, N.Y., 2002

**Amy L. Collins, M.D.**

PGY-1

**B.S.:** Florida Atlantic University, Boca Raton, Fla., 2001

**M.D.:** University of South Florida, Tampa, Fla., 2007

**Andrew O. Crockett, M.D.**

PGY-3

**B.S.:** University of Utah, Salt Lake City, Utah, 2001**M.D.:** University of Utah, Salt Lake City, Utah, 2005**Mary E. Dillhoff, M.D.**

Master of Medical Science Program

**B.S.:** University of Cincinnati, Cincinnati, Ohio, 2001**M.D.:** University of Wisconsin, Madison, Wis., 2005**David C. Evans, M.D.**

PGY-2

**B.S.:** Duke University, Durham, N.C., 2002**M.D.:** Duke University, Durham, N.C., 2006**Bryan T. Fisher, M.D.**

PGY-3

**B.S.:** Tennessee State University, Nashville, Tenn., 2000**M.D.:** University of Wisconsin, Madison, Wis., 2004**Mason G. Fisher, M.D.**

PGY-3

**B.A.:** Miami University, Oxford, Ohio, 1999**M.D.:** The Ohio State University, Columbus, Ohio, 2003**Meghan R. Forster, M.D.**

Master of Medical Science Program

**B.A.:** DePauw University, Greencastle, Ind., 1998**M.D.:** University of Cincinnati, Cincinnati, Ohio, 2004**Stacey R. Francis, M.D.**

PGY-3

**B.S.:** University of California, Los Angeles, Calif., 2000**M.D.:** The Ohio State University, Columbus, Ohio, 2005**K. Roxanne Grawe, M.D.**

PGY-3

**B.A.:** Southern Methodist University, Dallas, Texas, 2000**M.D.:** University of Texas, Galveston, Texas, 2005**Kristan D. Guenterberg, M.D.**

Master of Medical Science Program

**B.S.:** Walla Walla College, College Place, Wash., 2001**M.D.:** Loma Linda University, Loma Linda, Calif., 2005

**Clinton R. Hall, M.D.**

PGY-4

**B.A.:** Cumberland College, Williamsburg, Ky., 2000**M.D.:** University of South Florida, Tampa, Fla., 2004**Ioannis S. Hatzaras, M.D.**

PGY-3

**M.D.:** Aristotle University of Thessaloniki, Thessaloniki, Greece, 2002**Lisa M. Haubert, M.D.**

PGY-2

**B.S.:** University of Akron, Akron, Ohio, 2002**M.D.:** The Ohio State University, Columbus, Ohio, 2006**Natalie A. Jones, M.D.**

PGY-3

**B.A.:** University of Virginia, Charlottesville, Va., 2000**M.D.:** The Ohio State University, Columbus, Ohio, 2004**Michelle Y. Kincaid, M.D.**

PGY-1

**B.A.:** Johns Hopkins University, Baltimore, Md., 2002**M.D.:** University of Maryland, Baltimore, Md., 2007**Venkatesh P. Krishnasamy, M.D.**

PGY-1

**B.S.:** University of Akron, Akron, Ohio, 2001**M.D.:** Northeastern Ohio Universities, Rootstown, Ohio, 2007**Ziad N. Kutayli, M.D.**

PGY-5

**B.A.:** Case Western Reserve University, Cleveland, Ohio, 1995**M.D.:** University of South Dakota, Vermillion, S.D., 2001**Eric A. Luedke, M.D.**

PGY-1

**B.S.:** Marquette University, Milwaukee, Wis., 2003**M.D.:** Medical College of Wisconsin, Milwaukee, Wis., 2007**Yasdet Maldonado, M.D.**

PGY-1

**B.S.:** University of Puerto Rico, Rio Piedras, Puerto Rico, 2003**M.D.:** University of Puerto Rico, Rio Piedras, Puerto Rico, 2007

**Alison McAnneny, M.D.**

PGY-1

**B.A.:** Colby College, Waterville, Maine, 2003**M.D.:** Pennsylvania State University, Hershey, Pa., 2007**Douglas A. Murrey, M.D.**

PGY-1

**B.S.:** Hope College, Holland, Mich., 2002**M.D.:** The Ohio State University, Columbus, Ohio, 2007**Peter N. Nau, M.D.**

PGY-2

**B.S.:** St. Olaf College, Northfield, Minn., 2001**M.D.:** University of Iowa, Iowa City, Iowa, 2006**Iyore A. Otabor, M.D.**

PGY-2

**B.S.:** University of Massachusetts, Worcester, Mass., 2001**M.D.:** Tufts University, Boston, Mass., 2006**Thomas A. Pham, M.D.**

PGY-1

**B.S.:** The Ohio State University, Columbus, Ohio, 2003**M.D.:** University of Cincinnati, Cincinnati, Ohio, 2007**Maureen E. Pons, M.D.**

PGY-1

**B.A.:** Cornell University, Ithaca, N.Y., 2003**M.D.:** University of Connecticut, Farmington, Conn., 2007**David N. Prall, M.D.**

PGY-1

**B.S.:** University of Wisconsin, Eau Claire, Wis., 2003**M.D.:** University of Minnesota, Minneapolis, Minn., 2007**Ricardo O. Quarrie, M.D.**

PGY-1

**B.S.:** Florida State University, Tallahassee, Fla., 2003**M.D.:** The Ohio State University, Columbus, Ohio, 2007**Mohammadreza Rohaninejad, M.D.**

PGY-4

**M.D.:** Tehran University of Medical Sciences, Tehran, Iran, 1992

**Sumita Saha, M.D.**

PGY-2

**B.S.:** Washington College, Chestertown, Md., 2000**M.D.:** Georgetown University, Washington, D.C., 2006**Gurneet S. Sandhu, M.D.**

PGY-2

**B.S.:** Case Western Reserve University, Cleveland, Ohio, 2000**M.D.:** The Ohio State University, Columbus, Ohio, 2006**Margaret S. Sawyer, M.D.**

PGY-4

**B.S.:** University of Michigan, Ann Arbor, Mich., 1997**M.D.:** The Ohio State University, Columbus, Ohio, 2002**Ketul K. Shah, M.D.**

PGY-1

**M.D.:** Lokmanya Tilak Municipal Medical College, Mumbai, India, 1997**Irina S. Shakhnovich, M.D.**

Master of Medical Science Program

**B.A.:** Marquette University, Milwaukee, Wis., 1999**M.D.:** Medical College of Wisconsin, Milwaukee, Wis., 2004**David M. Shore, M.D.**

PGY-1

**B.S.:** University of Wisconsin, Madison, Wis., 2003**M.D.:** Northwestern University, Chicago, Ill., 2007**Jason W. Smith, M.D.**

PGY-5

**B.S.:** Wright State University, Dayton, Ohio, 1998**M.D.:** The Ohio State University, Columbus, Ohio, 2002**Vance L. Smith, M.D.**

PGY-3

**B.A.:** Cedarville University, Cedarville, Ohio, 1997**M.S.:** Kansas State University, Manhattan, Kan., 1999**M.D.:** Medical College of Ohio, Toledo, Ohio, 2003**Maakan Taghizadeh, M.D.**

PGY-2

**B.S.:** James Madison University, Harrisonburg, Va., 2000**M.D.:** University of Maryland, Baltimore, Md., 2006



**Alicia C. Thomas, M.D.**

PGY-2

**B.S.:** High Point University, High Point, N.C., 2002**M.D.:** University of North Carolina, Chapel Hill, N.C., 2006**JoAnn E. Warrick, M.D.**

PGY-5

**B.A.:** Xavier University of Louisiana, New Orleans, La., 1999**M.D.:** Indiana University, Indianapolis, Ind., 2003**Brian J. Winkleman, M.D.**

PGY-5

**B.A.:** Indiana University, Bloomington, Ind., 1999**M.D.:** Indiana University, Indianapolis, Ind., 2003**Jonathan C. Yang, M.D.**

PGY-1

**B.A.:** University of California, Berkeley, Calif., 2002**M.D.:** Drexel University, Philadelphia, Pa., 2007

## Mission

The Division of General and Gastrointestinal Surgery is dedicated to the achievement of excellence in patient care, medical education and clinical training, and basic science and clinical research.

## Research Programs

- Wound angiogenesis and healing.
- Cardiac remodeling.
- Vitamin E and neurodegeneration.
- Clinical wound healing.
- Cytomegalovirus infections and bacterial sepsis.
- Gene therapy and the effects of early genetic changes in pancreatic cancer.
- Minimally invasive surgical techniques.

## Accomplishments in Research

- Faculty members in the division published 35 scholarly articles, abstracts, and chapters.

## Active Research Grants

**Guttridge DC, Muscarella P.** Early detection of pancreatic cancer cachexia. National Cancer Institute, September 26, 2006 – August 31, 2007, \$75,000.

**Hazey J.** Development of a novel repair technique for perforation of the upper gastrointestinal tract using a bioabsorbable device. W. L. Gore and Associates, September 6, 2006 – December 31, 2008, \$40,219.

**Hazey J, Melvin WS.** Endolumenal instrumentation: trocar study. Stryker Endoscopy, June 1, 2006 – December 31, 2008, \$40,500.

**Hazey J, Melvin WS.** Endolumenal trials: peritoneoscopy study. Stryker Endoscopy, June 1, 2006 – December 31, 2008, \$56,400.

**Hazey J, Melvin WS.** Transgastric bacterial contamination of the abdomen. Stryker Endoscopy, June 1, 2006 – December 20, 2007, \$48,851.

**Lin C-LG, Sen CK.** Consequence of RNA oxidation. National Institute on Aging, June 1, 2006 – May 31, 2009, \$344,851.

**Melvin WS, Mikami DJ.** The evaluation of the Sightline ColonoSight System. Stryker Corp., November 14, 2005 – August 31, 2010, \$6,500.

**Mikami DJ.** Gore intestinal sleeve length study. W. L. Gore and Associates, July 10, 2007 – June 1, 2009, \$62,254.

**Muscarella P.** Phase 2 double-blind, placebo-controlled, multi-center adjuvant trial of the efficacy, immunogenicity, and safety of GI-4000. GlobeImmune, Inc., January 24, 2007 – December 31, 2010, \$77,845.

**Needleman BJ, Melvin WS, Mikami DJ.** Evaluation of endostapled anastomoses for laparoscopic gastric bypass: a prospective randomized comparison of the 3.5-mm vs. 4.8-mm circular stapler for creation of the gastrojejunostomy. United States Surgical Corp., March 1, 2005 – December 31, 2008, \$20,250.

**Rink C, Sen CK.** The significance of vitamin E in stroke and 12-lipoxygenase. American Heart Association, Great Rivers Affiliate, July 1, 2006 – June 30, 2008, \$42,000.

**Roy S, Cardounel AJ, Khanna S, Sen CK.** Vitamin E tocotrienol and brain health. Carotech, July 27, 2007 – September 30, 2009, \$550,000.

**Roy S, Gordillo GM, Parinandi NL, Sen CK.** Mechanisms underlying impaired diabetic wound healing. National Institute of Diabetes and Digestive and Kidney Diseases, April 1, 2008 – January 31, 2009, \$300,000.

**Roy S, Khanna S.** Porcine burn study. Carotech, January 2, 2008 – January 31, 2011, \$150,000.

**Roy S, Khanna S.** Preclinical evaluation of autologous platelet-rich fibrin membrane for wound healing. Cascade Medical Enterprises, LLC, January 1, 2007 – December 31, 2008, \$55,000.

**Roy S, Khanna S.** Regulator of diabetic wound healing. InterHealth Nutraceuticals, Inc., June 1, 2006 – May 30, 2008, \$165,000.

**Roy S, Khanna S, Sen CK.** Molecular pathways in the wound macrophage and their modulation. Glycotex, Inc., July 27, 2007 – August 31, 2009, \$250,000.

**Roy S, Sen CK.** Vitamin E tocotrienol and brain health. Carotech, October 1, 2006 – September 30, 2007, \$275,000.

**Sen CK, Askwith C, Parinandi NL, Roy S.** Vitamin E neuroprotection: novel molecular mechanisms. National Institute of Neurological Disorders and Stroke, January 1, 2008 – December 31, 2008, \$264,463.

**Sen CK, Bergdall V.** Tissue oxygenation and wound angiogenesis. National Institute of General Medical Sciences, August 1, 2007 – May 31, 2009, \$528,000.

**Sen CK, Gordillo GM.** TOPICAL II. Intercytex, May 1, 2007 – October 31, 2008, \$34,181.

**Sen CK, Gordillo GM, Roy S.** Biochemical mechanisms underlying oxygen therapy of human wounds. GWR Medical, LLP, October 1, 2001 – June 30, 2008, \$62,500.

**Sen CK, Gordillo GM, Roy S, Schlanger R.** A randomized, controlled trial examining cellular energetics and oxygenation levels related to various wound-healing therapies. KCI USA, Inc., June 22, 2007 – June 21, 2009, \$124,878.

**Sen CK, Roy S.** Oxygen-sensitive signaling in primary cardiac fibroblast. National Institutes of Health R01, July 1, 2004 – June 30, 2008, \$1,345,500.

**Sen CK, Roy S.** Redox control of wound healing. National Institutes of Health R01, July 1, 2004 – June 30, 2008, \$1,106,300.

**Sen CK, Roy S.** Vitamin E neuroprotection: novel molecular mechanisms. National Institute of Neurological Disorders and Stroke, July 1, 2002 – December 31, 2007, \$1,119,031.

**Sen CK, Roy S, Gordillo GM.** Biochemical mechanisms underlying oxygen therapy of human wounds. GWR Medical, LLP, October 1, 2001 – December 31, 2007, \$50,000.

**Sen CK, Roy S, Strauch AR III, Zweier JL.** Oxygen sensitive signaling in primary cardiac fibroblast. National Heart, Lung, and Blood Institute, July 1, 2004 – June 30, 2009, \$1,320,166.

**Sen CK, Roy S, Zweier JL.** Redox control of wound healing. National Institute of General Medical Sciences, July 1, 2004 – September 30, 2008, \$1,085,470.

## Clinical Programs

- Comprehensive general surgery service.
- Minimally invasive surgery.
- Bariatric surgery.
- Gastroesophageal reflux.
- Hepatobiliary and pancreatic cancer.
- Wound care.

## Accomplishments in Clinical Care

- Attending faculty in the division performed 12,970 operating room procedures and received 16,596 outpatient visits.

## Clinical Statistics

OR Procedures	12,970
Outpatient Visits	16,596
Admissions	5,350
Patient Days	36,488*
Average Length of Stay (Days)	6.40*

\*These are combined figures for both the Division of General and Gastrointestinal Surgery and the Division of Critical Care, Trauma, and Burn.

## Educational Programs

- Fully-accredited residency in general surgery.
- Fully-accredited fellowship in surgical critical care.
- One-year clinical assistant professorship in minimally invasive surgery.
- Honors program in surgery for fourth-year medical students.
- Four-week subinternship in general surgery.
- Six-week clerkship in general surgery.
- Master of medical science program.

## Accomplishments in Education

- Completion of the general surgery residency by Dr. Ziad Kutayli, Dr. Jason Smith, Dr. JoAnn Warrick, and Dr. Brian Winkleman.
- Completion of the clinical assistant professorship in minimally invasive surgery by Dr. Simon Bergman and Dr. Jason Roland.
- Completion of the clinical assistant professorship in advanced therapeutic endoscopic surgery by Dr. Lynn Happel.

## Accomplishments in Community Outreach

- Chandan K. Sen, Ph.D., was a member of Mayor Michael B. Coleman's business mission to Israel, to promote collaboration on business and research development between the city of Columbus, Ohio and Israel, April 2–11, 2008.
- Chandan K. Sen, Ph.D., had dinner with Governor Ted Strickland, in Columbus, Ohio, June 8, 2008.
- Eighth Annual Advances in Minimally Invasive Surgery Course, Marco Island, Fla., February 1–3, 2008.

## Publications

**Bergman S, Feldman LS, Anidjar M, Demyttenaere SV, Carli F, Metrakos P, Tchervenkov J, Paraskevas S, Fried GM.** "First, do no harm": monitoring outcomes during the transition from open to laparoscopic live donor nephrectomy in a Canadian centre. *Can J Surg* 2008; 51(2):103–110.

**Bergman S, Melvin WS.** Operative and nonoperative management of pancreatic pseudocysts. *Surg Clin North Am* 2007; 87(6):1447–1460.

**Cios TJ, Reavis KM, Renton DB, Hazey JW, Mikami DJ, Narula VK, Allemang MT, Davis SS, Melvin WS.** Gastrotomy closure using bioabsorbable plugs in a canine model. *Surg Endosc* 2008; 22(4):961–966.

**Emery CF, Fondow MDM, Schneider CM, Christofi FL, Hunt C, Busby AK, Needleman BJ, Melvin WS, Elsayed-Awad HM.** Gastric bypass surgery is associated with reduced inflammation and less depression: a preliminary investigation. *Obes Surg* 2007; 17(6):759–763.

**Ghafourifar P, Sen CK.** Mitochondrial nitric oxide synthase. *Front Biosci* 2007; 12:1072–1078.

**Gnyawali SC, Chen Y, Wu F, Bartels KE, Wicksted JP, Liu H, Sen CK, Chen WR.** Temperature measurement on tissue surface during laser irradiation. *Med Biol Eng Comput* 2007; 46(2):159–168.

**Gordillo G, Roy S, Khanna S, Schlanger R, Khandelwal S, Phillips G, Sen C.** Topical oxygen therapy induces vascular endothelial growth factor expression and improves closure of clinically presented chronic wounds. *Clin Exp Pharmacol Physiol* 2008; 35(8):957–964.

**Hazey JW, McCreary M, Guy G, Melvin WS.** Efficacy of percutaneous treatment of biliary tract calculi using the Holmium:YAG laser. *Surg Endosc* 2007; 21(7):1180–1183.

**Hazey JW, Narula VK, Renton DB, Reavis KM, Paul CM, Hinshaw KE, Muscarella P, Ellison EC, Melvin WS.** Natural-orifice transgastric endoscopic peritoneoscopy in humans: initial clinical trial. *Surg Endosc* 2008; 22(1):16–20.

**Hunt TK, Aslam RS, Beckert S, Wagner S, Ghani QP, Hussain MZ, Roy S, Sen CK.** Aerobically derived lactate stimulates revascularization and tissue repair via redox mechanisms. *Antioxid Redox Signal* 2007; 9(8):1115–1124.

**Ioshikhes I, Roy S, Sen CK.** Algorithms for mapping of mRNA targets for microRNA. *DNA Cell Biol* 2007; 26(4):265–272.

**Khanna S, Roy S, Park H-A, Sen CK.** Regulation of c-Src activity in glutamate-induced neurodegeneration. *J Biol Chem* 2007; 282(32):23482–23490.

**Narula V, Hazey JW, Renton DB, Reavis KM, Paul CM, Hinshaw K, Needleman BJ, Mikami DJ, Ellison EC, Melvin WS.** Transgastric instrumentation and bacterial contamination of the peritoneal cavity. *Surg Endosc* 2007; 22(3):605–611.

**Narula V, Watson WC, Davis SS, Hinshaw K, Needleman BJ, Mikami DJ, Hazey JW, Winston JH, Muscarella P, Rubin M, Patel V, Melvin WS.** A computerized analysis of robotic versus laparoscopic task performance. *Surg Endosc* 2007; 21(12):2258–2261.

**Nazarewicz RR, Zenebe WJ, Parihar A, Parihar MS, Vaccaro M, Rink C, Sen CK, Ghafourifar P.** 12(S)-hydroperoxyeicosatetraenoic acid (12-HETE) increases mitochondrial nitric oxide by increasing intramitochondrial calcium. *Arch Biochem Biophys* 2007; 468(1):114–120.

**Ojha N, Roy S, He G, Biswas S, Velayutham M, Khanna S, Kuppusamy P, Zweier JL, Sen CK.** Assessment of wound-site redox environment and the significance of Rac2 in cutaneous healing. *Free Radic Biol Med* 2007; 44(4):682–691.

**Ojha N, Roy S, Radtke J, Simonetti O, Gnyawali S, Zweier JL, Kuppusamy P, Sen CK.** Characterization of the structural and functional changes in the myocardium following focal ischemia-reperfusion injury. *Am J Physiol Heart Circ Physiol* 2008; 294(6):H2435–H2443.

**Oksala NK, Lappalainen J, Laaksonen DE, Khanna S, Kaarniranta K, Sen CK, Atalay M.** Alpha-lipoic acid modulates heat shock factor-1 expression in streptozotocin-induced diabetic rat kidney. *Antioxid Redox Signal* 2007; 9(4):497–506.

**Ratan RR, Siddiq A, Smirnova N, Karpisheva K, Haskew-Layton R, McConoughey S, Langley B, Estevez A, Huerta PT, Volpe B, Roy S, Sen CK, Gazaryan I, Cho S, Fink M, Lamanna J.** Harnessing hypoxic adaptation to prevent, treat, and repair stroke. *J Mol Med* 2007; 85(12):1331–1338.

**Reavis KM, Melvin WS.** Advanced endoscopic technologies. *Surg Endosc* 2008; 22(6):1533–1546.

**Roy S, Khanna S, Rink T, Radtke J, Williams WT, Biswas S, Schnitt R, Strauch AR, Sen CK.** p21waf1/cip1/sdi1 as a central regulator of inducible smooth muscle actin expression and differentiation of cardiac fibroblasts to myofibroblasts. *Mol Biol Cell* 2007; 18(12):4837–4846.

**Roy S, Khanna S, Sen CK.** Redox regulation of the VEGF signaling path and tissue vascularization: hydrogen peroxide, the common link between physical exercise and cutaneous wound healing. *Free Radic Biol Med* 2008; 44(2):180–192.

**Roy S, Patel D, Khanna S, Gordillo GM, Biswas S, Friedman A, Sen CK.** Transcriptome-wide analysis of blood vessels laser captured from human skin and chronic wound-edge tissue. *Proc Natl Acad Sci USA* 2007; 104(36):14472–14477.

**Roy S, Shah H, Rink C, Khanna S, Bagchi D, Bagchi M, Sen CK.** Transcriptome of primary adipocytes from obese women in response to a novel hydroxycitric acid-based dietary supplement. *DNA Cell Biol* 2007; 26(9):627–639.

**Schugart RC, Friedman A, Zhao R, Sen CK.** Wound angiogenesis as a function of tissue oxygen tension: a mathematical model. *Proc Natl Acad Sci USA* 2008; 105(7):2628–2633.

**Sen CK, Khanna S, Rink C, Roy S.** Tocotrienols: the emerging face of natural vitamin E. *Vitam Horm* 2007; 76:203–261.

**Sen CK, Khanna S, Roy S.** Tocotrienols in health and disease: the other half of the natural vitamin E family. *Mol Aspects Med* 2007; 28(5–6):692–728.

**Sen CK, Roy S.** miRNA: licensed to kill the messenger. *DNA Cell Biol* 2007; 26(4):193–194.

**Shilo S, Roy S, Khanna S, Sen CK.** Evidence for the involvement of miRNA in redox regulated angiogenic response of human microvascular endothelial cells. *Arterioscler Thromb Vasc Biol* 2008; 28(3):471–477.

**Shilo S, Roy S, Khanna S, Sen CK.** MicroRNA in cutaneous wound healing: a new paradigm. *DNA Cell Biol* 2007; 26(4):227–237.

**Venkatakrishnan CD, Dunsmore K, Wong H, Roy S, Sen CK, Wani A, Zweier JL, Ilangoan G.** HSP27 regulates p53 transcriptional activity in doxorubicin-treated fibroblasts and cardiac H9c2 cells: p21 upregulation and G2/M phase cell cycle arrest. *Am J Physiol Heart Circ Physiol* 2008; 294(4):H1736–H1744.

**Wunderlich JE, Needelman BJ, Chen Z, Yu JG, Wang YZ, Grants I, Mikami D, Melvin WS, Cooke HJ, Christofi FL.** Dual purinergic synaptic transmission in the human enteric nervous system. *Am J Physiol Gastrointest Liver Physiol* 2008; 294(2):G554–G566.



## Abstracts

**Bergman S, Fix DJ, Volt K, Roland JC, Happel L, Reavis KM, Cios TJ, Ho V, Evans A, Melvin WS.** Gastrotomies do not require repair following transgastric instrumentation: a controlled study. *Surg Endosc* 2008; 20(1):S242.

## Chapters

**Chatterjee S, Bagchi D, Bagchi M, Sen CK.** Angiogenesis targeted redox-based therapeutics. In: Bagchi D, Preuss HG (eds). *Obesity: Epidemiology, Pathophysiology, and Prevention*. Boca Raton: CRC Press, 2007; 155–164.

**Gordillo G, Bagchi D, Sen CK.** Redox regulation of angiogenesis: anti-angiogenic properties of edible berries and its significance in a clinical setting. In: Losso JN, Shahidi F, Bagchi D (eds). *Anti-Angiogenic Functional and Medicinal Foods*. Boca Raton: CRC Press, 2007; 549–560.

## Visiting Professorships

**Roy S.** Wound inflammation: from redox signals to loss of resolution. University of Pennsylvania, Institute for Environmental Medicine, Philadelphia, Pa., June 13, 2008.

**Sen CK.** Liver injury and fibrosis. University of Kolkata, School of Digestive and Liver Diseases, Kolkata, India, November 26, 2007.

**Sen CK.** Regenerative medicine: a translational approach. Miami School of Medicine, University of Miami, Miami, Fla., April 14, 2008.

## International Presentations

**Bergman S.** The changing face of surgery: NOTES and NOS. University Health Network, Gastroenterology and General Surgery Rounds, Toronto, Ontario, Canada, January 16, 2008.

**Melvin WS.** Differences in minimally invasive surgery in the United States and Japan. The Japan Society of Endoscopic Surgery and the Society of American Gastrointestinal and Endoscopic Surgeons, Joint Symposium, 20th Annual Meeting of the Japan Society of Endoscopic Surgery, Sendai, Japan, November 20, 2007.

**Melvin WS.** Laparoscopic techniques and endolumenal techniques for the treatment of GERD. Staten Island University Hospital Department of Surgery, Advances in Minimally Invasive Surgery, Cancun, Mexico, December 8–9, 2007.

**Melvin WS.** Transoral intragastric surgery: the American experience. Saint-Pierre University Hospital, Second Transoral Intragastric Surgery Workshop, Brussels, Belgium, November 7, 2007.

**Narula VK.** Laparoscopic robotic pancreaticoduodenectomy: a hybrid approach. Minimally Invasive Robotic Association, Third Worldwide Congress, Rome, Italy, January 25, 2008.

**Roy R.** Mechanism of resolution of inflammation in tissue repair. International Conference on Free Radicals and Natural Products in Health, Jaipur, India, February 14, 2008.

**Sen CK.** Natural vitamin E tocotrienol: a new horizon in nutritional countermeasures against neurodegeneration. International Conference on Food Factors for Health Promotion, Kyoto, Japan, November 30, 2007.

**Sen CK.** Remodeling of the post-ischemic heart: oxygen-sensitive phenotypic switch of primary adult cardiac fibroblasts. Fourth International Redox Network Meeting, Jeju, Korea, November 2, 2007.

**Sen CK.** Remodeling of the post-ischemic heart: oxygen-sensitive phenotypic switch of primary adult cardiac fibroblasts. Society for Free Radicals Satellite Meeting, All India Institute for Medical Sciences, New Delhi, India, February 11, 2008.

**Sen CK** (Session Chair and Invited Lecturer). The tocotrienol form of natural vitamin E: new promise against stroke. International Conference on Free Radicals and Natural Products in Health, Jaipur, India, February 13–16, 2008.

**Wunderlich JE, Ren T, Needleman BJ, Mikami DJ, Melvin WS, Grants I, Christofi FL.** Plurichemical and purinergic transmission in the human enteric nervous system. Purine Meeting, Copenhagen, Denmark, June 29 – July 2, 2008.

## National Presentations

**Bergman S, Fix DJ, Volt K, Roland JC, Happel L, Reavis KM, Cios TJ, Ho V, Evans A, Narula VK, Hazey J, Melvin WS.** Gastrotomies do not require repair following transgastric instrumentation: a controlled study (poster). Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 9–12, 2008.

**Bergman S, Lorenzo C, Jobe BA, Mikami DJ, Hunter JG, Melvin WS.** Endolumenal fundoplication with EsophyX: the initial North American experience. Digestive Disease Week, San Diego, Calif., May 20, 2008.

**Happel LC, Needleman BJ, Mikami DJ, Roland JC, Bergman S, Narula VK, Evans A, Volt K, Melvin WS, Hazey JW.** Transgastric peritoneoscopy for evaluation of the abdominal wall to direct laparoscopic trocar placement (poster). Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 9–12, 2008.

**Hazey JW.** Advanced laparoscopic solid organ and foregut surgery workshop. Society of American Gastrointestinal and Endoscopic Surgeons, Covidien, Norwalk, Conn., July 21–22, 2007.

**Hazey JW.** Minimally invasive surgery: update on natural orifice transluminal endoscopic surgery (NOTES). American College of Surgeons, Postgraduate Course, Chicago, Ill., October 10, 2007.

**Hazey JW.** Pancreatic pseudocysts: open, laparoscopic, or NOTES? Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Minimally Invasive Solid Organ Postgraduate Course, Philadelphia, Pa., April 10, 2008.

**Hazey JW.** Transgastric endoscopic diagnostic peritoneoscopy in humans: initial clinical trial. Natural Orifice Surgery Consortium for Assessment and Research, Boston, Mass., July 13, 2007.

**Hazey JW.** Transgastric instrumentation and bacterial contamination of the peritoneal cavity. Natural Orifice Surgery Consortium for Assessment and Research, Boston, Mass., July 13, 2007.

**Hazey JW.** Visualization and turf for natural orifice transluminal endoscopic surgery (NOTES). Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, NOTES Symposium, Philadelphia, Pa., April 9, 2008.

**Melvin WS.** Challenges for human applications of natural orifice transluminal endoscopic surgery (NOTES). American College of Surgeons, 93rd Annual Clinical Congress, General Surgery General Session, New Orleans, La., October 8, 2007.

**Melvin WS** (Program Co-Chair and Moderator). The changing face of robots. Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 11, 2008.

**Melvin WS.** Human natural orifice transluminal endoscopic surgery (NOTES). Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Best of NOTES Session, Philadelphia, Pa., April 10, 2008.

**Melvin WS** (Moderator). Minimally invasive pancreatectomy. American College of Surgeons, 93rd Annual Clinical Congress, General Surgery Video Session, New Orleans, La., October 9, 2007.

**Melvin WS** (Moderator). Reoperative bariatric surgery. American College of Surgeons, 93rd Annual Clinical Congress, General Surgery Video Session, New Orleans, La., October 9, 2007.

**Melvin WS** (Moderator). Robotic laparoscopic surgery: basics. American College of Surgeons, 93rd Annual Clinical Congress, General Surgery Video Session, New Orleans, La., October 9, 2007.

**Melvin WS** (Moderator). Robotics and advanced technology. Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 12, 2008.

**Melvin WS, Lehr A, Hill J, Davis SS, Narula VK, Bergman S, Reavis KM, Muscarella P.** Surgical management of acute appendicitis: 50 years of progress. Digestive Disease Week, San Diego, Calif., May 20, 2008.

**Mikami DJ** (Lab Instructor). Advanced laparoscopic suturing and endoscopy. University of Hawaii, Honolulu, Hawaii, February 8–9, 2008.

**Mikami DJ** (Course Director). Hernia symposium. Covidien, Norwalk, Conn., May 8–9, 2008.

**Mikami DJ.** Endolumenal pouch reduction: flexible endoscopy and endolumenal surgery for the bariatric surgeon. American College of Surgeons and American Society for Metabolic and Bariatric Surgery, New Orleans, La., October 6, 2007.

**Mikami DJ.** An endoscopic alternative for revisional bariatric surgery. American College of Surgeons, 93rd Annual Clinical Congress, Minimally Invasive Surgery: The Next Steps, New Orleans, La., October 10, 2007.

**Mikami DJ** (Course Instructor). Flexible endoscopy course. American College of Surgeons and American Society for Metabolic and Bariatric Surgery, New Orleans, La., October 6, 2007.

**Mikami DJ** (Course Director and United States Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). Baylor University, Houston, Texas, April 5, 2008.

**Mikami DJ.** Natural orifice transluminal endoscopic surgery (NOTES): the new minimally invasive surgery and endoscopy for surgeons. University of Hawaii, Minimally Invasive Surgery Symposium, Honolulu, Hawaii, February 8–9, 2008.

**Mikami DJ, Needleman BJ, Narula VK, Happel L, Roland J, Durant J, Himpens J, Melvin WS.** Natural orifice surgery: initial U.S. experience utilizing the StomaphyX device to reduce gastric pouches after Roux-en-Y gastric bypass. Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 11–12, 2008.

**Narula VK.** Advancements in laparoscopic inguinal and ventral hernia repair. Botsford Hospital, Grand Rounds, Farmington Hills, Mich., May 6, 2008.

**Narula VK** (Instructor). Laparoscopic hernia course, live cases: TEP/TAPP. Michigan State University, East Lansing, Mich., February 29, 2008.

**Narula VK, Happel LC, Volt K, Bergman S, Roland JC, Dettorre R, Renton DB, Reavis KM, Needleman BJ, Mikami DJ, Ellison EC, Melvin WS, Hazey JW.** Transgastric endoscopic peritoneoscopy does not require decontamination of the stomach in humans. Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 11, 2008.

**Needleman BJ.** Converting cost centers to profit centers: laparoscopy and bariatrics. Crossing the Line: The Business of Surgery, Pentagon City, Va., April 11, 2008.

**Needleman BJ.** Reoperative bariatric surgery: the failed Roux-en-Y gastric bypass. American College of Surgeons, 93rd Annual Clinical Congress, New Orleans, La., October 12, 2007.

**Renton DB, Narula VK, Melvin WS.** Laparoscopic epiphrenic diverticulectomy with Heller myotomy and Dor fundoplication (poster). Southeastern Surgical Congress, Annual Meeting, Birmingham, Ala., February 9–12, 2008.

**Roland JC, Bergman S, Happel LC, Melvin WS, Needleman BJ, Muscarella P, Cook CH, Narula VK, Mikami DJ.** Laparoscopic Roux-en-Y gastric bypass in patients with body mass index  $> 70\text{kg/m}^2$  (poster). Society of American Gastrointestinal and Endoscopic Surgeons, Annual Meeting, Philadelphia, Pa., April 9–12, 2008.

**Roy S.** Fra2 mediates oxygen-induced TGFbeta-1 mRNA expression in adult cardiac fibroblasts: significance in myocardial fibrosis following ischemia-reperfusion injury. American Heart Association Conference, Orlando, Fla., November 6, 2007.

**Roy S** (Invited Lecturer and Workshop Chair). Laser capture microscopy. Wound Health Society, 18th Annual Meeting, Pre-Conference Session, San Diego, Calif., April 24, 2008.

**Roy S** (Participant). miRNA session discussion. Luminex Corporation, Fifth Annual Planet xMAP USA Symposium, Boston, Mass., March 4, 2008.

**Sen CK** (Invited Lecturer). Natural vitamin E tocotrienol: a new horizon in nutritional countermeasures. Institute of Food Technologists, Foodsmarts, International Food Technology 2007 Annual Meeting and Expo, Chicago, Ill., July 30, 2007.

**Sen CK.** Oxygen sensitive switch of fibroblasts to myofibroblasts. Eighth Annual Wound Healing Science and Industry Conference, St. Thomas, U.S. Virgin Islands, December 14, 2008.

**Sen CK** (Invited Lecturer and Session Chair). Regulation of angiogenesis by microRNA. Wound Healing Society, 18th Annual Meeting, San Diego, Calif., April 26, 2008.

**Sen CK** (Invited Lecturer and Session Chair). Stroke: tocotrienol function and a novel preclinical model for translational research. Oxygen Club of California, Santa Barbara, Calif., March 13, 2008.

**Sen CK** (Invited Lecturer) Translational research in wound healing. Musculoskeletal Transplant Foundation, Edison, N.J., June 27, 2008.

**Sen CK.** Vitamin E neuroprotection: the tocotrienol advantage (plenary lecture). American Oil Chemists' Society, Seattle, Wash., May 20, 2008.

## Miscellaneous Presentations

**Bergman S** (Animal Lab Instructor). Bariatric surgery preceptorship. The Ohio State University Medical Center, Columbus, Ohio, April 28, 2008.

**Bergman S** (Animal Lab Instructor). International course on natural orifice transluminal endoscopic surgery (NOTES). The Ohio State University Medical Center, Columbus, Ohio, November 5, 2007.

**Bergman S.** Laparoscopic Nissen controversies: an evidence-based review. Training surgeons in new technologies. The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 1, 2008.

**Bergman S** (Animal Lab Instructor). Laparoscopic surgery honors animal lab. The Ohio State University Medical Center, Columbus, Ohio, February 7, 2008.

**Bergman S** (Animal Lab Instructor). Minimally invasive hernia course for residents. The Ohio State University Medical Center, Columbus, Ohio, October 2, 2007.

**Bergman S.** Minimally invasive surgery: benefits to the patient and health-care providers. The Ohio State University Medical Center, Quest for Excellence, Nursing and Staff Development Conference, Columbus, Ohio, September 20, 2007.

**Bergman S.** Natural orifice transluminal endoscopic surgery. The Ohio State University, Veterinary Medicine Surgical Lecture Series, Columbus, Ohio, February 21, 2008.

**Bergman S.** Robotic surgery. The Ohio State University Medical Center, Cleveland Clinic Innovations in Surgery Live Monthly Video Conference Series, Columbus, Ohio, September 7, 2007.

**Bergman S, Fix DJ, Volt K, Roland JC, Happel L, Reavis KM, Cios TJ, Ho V, Evans A, Melvin WS.** Gastrotomies do not require repair following transgastric instrumentation: a controlled study. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Evans A, Volt K, Melvin WS, Happel L, Bergman S, Roland JC, Ellison EC, Muscarella P, Bloomston M, Hazey JW.** Diagnostic transluminal endoscopic peritoneoscopy. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Harzman AE.** Anorectal disease. The Ohio State University Medical Center, GI Didactic Lecture Series, Columbus, Ohio, September 21, 2007.

**Harzman AE.** Gastrointestinal cancers 2007: current updates on state-of-the-art screening, prevention, and multidisciplinary treatment. The Ohio State University Medical Center, Columbus, Ohio, October 27, 2007.

**Harzman AE.** Minimally invasive procedures in colon and rectal surgery. Upper Valley Medical Center, Managing Physicians Cancer Care Conference, Troy, Ohio, November 26, 2007.

**Harzman AE.** Rectal cancer. The Ohio State University Medical Center, GI Didactic Lecture Series, Columbus, Ohio, January 18, 2008.

**Harzman AE.** Therapeutic colonoscopy: bleeding, polypectomy, stenting, post-op evaluation, “how I do it.” The Ohio State University Medical Center, Society of American Gastrointestinal and Endoscopic Surgeons Flexible Endoscopy Surgery Course for Minimally Invasive Surgery Fellows, Columbus, Ohio, January 24, 2008.

**Hazey JW.** Gastrointestinal endoscopy and laparoscopy: an introduction for surgeons. Society of American Gastrointestinal and Endoscopic Surgeons Resident Workshop, Ethicon Endo-Surgery Institute, Cincinnati, Ohio, August 9–10, 2007.

**Hazey JW (Director).** International course on natural orifice transluminal endoscopic surgery (NOTES). The Ohio State University Medical Center, Columbus, Ohio, November 5, 2007.

**Hazey JW.** Natural orifice transluminal endoscopic surgery (NOTES). The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 1–3, 2008.

**Hazey JW.** Natural orifice transluminal endoscopic surgery (NOTES): what is it and where is it going? Cleveland Surgical Society, Annual Meeting, Cleveland, Ohio, March 11, 2008.

**Hazey JW.** Flexible endoscopic surgery for minimally invasive surgery fellows. Case Western Reserve University, Society of American Gastrointestinal and Endoscopic Surgeons Course, Cleveland, Ohio, November 8–9, 2007.

**Hazey JW (Director).** Flexible endoscopic surgery for minimally invasive surgery fellows. The Ohio State University Medical Center, Society of American Gastrointestinal and Endoscopic Surgeons Course, Columbus, Ohio, December 24–25, 2007.

**Ho V, Roland JC, Bergman S, Fix DJ, Evans A, Mikami DJ.** Minimally invasive weight loss device for the treatment of obesity in a porcine model. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Melvin WS.** EsophyX: modern endolumenal treatment. The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 1–3, 2008.

**Melvin WS.** New techniques for the treatment of Barrett's esophagus. Jewish Hospital, 19th Annual Ronald H. Fegelman Memorial Lectureship, Cincinnati, Ohio, January 12, 2008.

**Melvin WS, Mikami DJ** (Course Directors). Advances in transoral foregut surgery. The Ohio State University Medical Center, Center for Minimally Invasive Surgery, Columbus, Ohio, February 29, 2008.

**Mikami DJ** (Course Director). Advanced laparoscopic training course for the second-year surgical resident: six-week hands-on course to teach the basics of laparoscopic surgery. The Ohio State University Medical Center, Columbus, Ohio, August 28, 2007.

**Mikami DJ** (Course Director). Electrosurgery training course for surgical interns. The Ohio State University Medical Center, Columbus, Ohio, August 7, 2007.

**Mikami DJ.** M.D. camp for the high school student: designed for inner city high school students interested in a medical career. The Ohio State University, Prior Health Sciences Library, Learning Center, Columbus, Ohio, July 10, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, July 25, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, August 15, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, August 29, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, September 28, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, October 26, 2007.



**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, November 30, 2007.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, January 10, 2008.

**Mikami DJ** (Course Director and U.S. Trainer). Natural orifice surgery: gastric pouch reduction after bariatric surgery (StomaphyX). The Ohio State University Medical Center, Columbus, Ohio, March 28, 2008.

**Mikami DJ**. Revisional bariatric procedures. The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 2, 2008.

**Narula VK** (Instructor). Airway management. The Ohio State University Medical Center, Advanced Trauma Life Support Course, Columbus, Ohio, July 19–20, 2007.

**Narula VK** (Course Director). Biomaterials available for hernia repair. The Ohio State University Medical Center, Center for Minimally Invasive Surgery, Laparoscopic Hernia Course, Columbus, Ohio, August 25, 2007.

**Narula VK**. Laparoscopic hernia: complications and misadventures. The Ohio State University Medical Center, Center for Minimally Invasive Surgery, Laparoscopic Hernia Course, Columbus, Ohio, August 25, 2007.

**Narula VK** (Course Director). Laparoscopic honors lab for Med IV students. The Ohio State University Medical Center, Center for Minimally Invasive Surgery, Columbus, Ohio, February 7, 2008.

**Narula VK** (Course Faculty). Sterility in human natural orifice transluminal endoscopic surgery (NOTES). The Ohio State University Medical Center, Center for Minimally Invasive Surgery, International NOTES Symposium, Columbus, Ohio, November 5, 2007.

**Narula VK** (Instructor). Thoracic trauma management. The Ohio State University Medical Center, Advanced Trauma Life Support Course, Columbus, Ohio, February 15–16, 2008.

**Needleman BJ**. Bariatric surgery: current status. Advances in the future of bariatric surgery. The Ohio State University Medical Center, Advances in Transoral Foregut Surgery, Columbus, Ohio, February 29, 2008.

**Needleman BJ**. Bariatric surgery: successes and pitfall. The Ohio State University Medical Center, Family Practice Grand Rounds, Columbus, Ohio, November 1, 2007.

**Needleman BJ.** Bariatric surgery: successes and pitfall. The Ohio State University Medical Center, Internal Medicine Grand Rounds, Columbus, Ohio, July 12, 2007.

**Needleman BJ.** Future possibilities in bariatric initiatives. The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 2, 2008.

**Needleman BJ.** The metabolic effects of bariatric surgery on type II diabetes. The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, November 30, 2007.

**Needleman BJ.** Obesity. The Ohio State University Medical Center, MedNet21, Columbus, Ohio, September 28, 2007.

**Roland J.** Review of endolumenal diagnosis and treatments. The Ohio State University Medical Center, Eighth Annual Advances in Minimally Invasive Surgery, Marco Island, Fla., February 2, 2008.

**Roy S.** Cellular debridement and wound inflammation. The Ohio State University Medical Center, Wound Care and Hyperbaric Update 2008, Columbus, Ohio, April 18–19, 2008.

**Roy S** (Invited Lecturer). Wound healing in diabetes: practical insights using new technologies. The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, November 30, 2007.

**Roy S.** Wound inflammation: from redox signals to loss of resolution. The Ohio State University Medical Center, Davis Heart and Lung Research Institute, Research in Progress Seminar, Columbus, Ohio, June 6, 2008.

**Schlanger RE.** HBO, research, and care of wound patients. WSYX-TV/6 interview, Columbus, Ohio, January 25, 2008.

**Schlanger RE.** Hyperbaric oxygenation in the diabetic foot. Ohio Podiatric Medical Association, 92nd American Podiatric Medical Association Region IV Mid-Eastern CME Seminar, Columbus, Ohio, June 5, 2008.

**Schlanger RE.** Hyperbaric therapy. Central Ohio Perianesthesia Nurses Association, Mount Carmel East Hospital, Columbus, Ohio, March 22, 2008.

**Schlanger RE.** Hyperbaric therapy. Central Ohio Perianesthesia Nurses Association, Ross Heart Hospital, Columbus, Ohio, April 10, 2008.

**Schlanger RE.** Peripheral vascular disease. The Ohio State University Medical Center; University Hospital East; Wound, Ostomy, and Continence Nurses Society, Columbus, Ohio, February 21, 2008.

**Schlanger RE** (Moderator). Preoperative and postoperative care. The Ohio State University Medical Center, PGY-4 and PGY-5 Professor Conference, Columbus, Ohio, June 5, 2008.

**Schlanger RE.** Shock, bleeding, and hemostasis. The Ohio State University Medical Center, Med III Surgery Clerkship Didactic Lecture Series, Columbus, Ohio, July 9, 2007.

**Schlanger RE.** Shock, bleeding, and hemostasis. The Ohio State University Medical Center, Med III Surgery Clerkship Didactic Lecture Series, Columbus, Ohio, November 19, 2007.

**Schlanger RE.** Shock, bleeding, and hemostasis. The Ohio State University Medical Center, Med III Surgery Clerkship Didactic Lecture Series, Columbus, Ohio, January 14, 2008.

**Schlanger RE.** Shock, bleeding, and hemostasis. The Ohio State University Medical Center, Med III Surgery Clerkship Didactic Lecture Series, Columbus, Ohio, March 10, 2008.

**Schlanger RE.** Shock, bleeding, and hemostasis. The Ohio State University Medical Center, Med III Surgery Clerkship Didactic Lecture Series, Columbus, Ohio, May 12, 2008.

**Schlanger RE.** Surgical infections and healing of surgical wounds. The Ohio State University Medical Center, Journal Club, Columbus, Ohio, October 16, 2007.

**Schlanger RE.** Surgical infections and healing of surgical wounds. The Ohio State University Medical Center, Journal Club, Columbus, Ohio, February 19, 2008.

**Schlanger RE.** Wound care. The Ohio State University Medical Center, Morehouse Medical Plaza, Internal Medicine Residents, Columbus, Ohio, April 18, 2008.

**Schlanger RE.** Wound care. The Ohio State University Medical Center, Morehouse Medical Plaza, Internal Medicine Residents, Columbus, Ohio, May 23, 2008.

**Schlanger RE.** Wound care. The Ohio State University Medical Center, University Hospital East, Internal Medicine Physicians, Columbus, Ohio, October 17, 2008.

**Schlanger RE.** Wound care and hyperbaric update. The Ohio State University Medical Center, Wound Care and Hyperbaric Update 2008, Columbus, Ohio, April 19, 2008.

**Schlanger RE.** The wound care center, the importance of diabetic foot care and nutrition, and when to seek help. NBC 4, Showcase Columbus with Gail Hogan, Columbus, Ohio, May 6, 2008.

**Sen CK** (Panel Member). Advances in health care through data analytics: promoting academic and industry collaboration for the future of medicine. The Ohio State University Medical Center, IT Innovations in Health Care, Columbus, Ohio, June 2, 2008.

**Sen CK** (Course Director). Opening remarks. The Ohio State University Medical Center, Wound Care and Hyperbaric Update 2008, Columbus, Ohio, April 19, 2008.



# Pediatric Surgery



**Donna A. Caniano, M.D.**  
Chief, Division of Pediatric Surgery

**T**he Division of Pediatric Surgery conducts its clinical, educational, research, and academic programs at the Nationwide Children's Hospital. This year *U.S. News & World Report* recognized Nationwide Children's Hospital as the 12th best children's hospital in the United States. In June 2007, the Nationwide Foundation donated a gift of \$50 million to the hospital's capital campaign, one of the largest charitable gifts to a freestanding children's hospital in the United States. This donation was honored on September 24, 2007 by an official renaming of the hospital as Nationwide Children's Hospital. A major expansion of the clinical campus continues, with the construction of a three-story building to house the Outpatient Surgery Center, the Gastroenterology/Motility Center, and clinical research. A 1,500-space parking garage was opened in January 2008, and a new and enlarged Ronald McDonald House is scheduled to be completed by October 2008. Plans are under way for a fourth-quarter 2008 groundbreaking for the replacement hospital, a 12-story, 550-bed facility, with occupancy expected by the end of 2012. This new hospital will make Nationwide Children's Hospital one of the largest freestanding children's hospitals in North America.

The Pediatric Surgical Research Laboratory, directed by Dr. Gail Besner and David Brigstock, Ph.D., enjoyed remarkable success this year in receiving five NIH-funded grants to support basic science investigation in growth factor biology. Dr. Besner and her colleagues focus their work on heparin-binding EGF-like growth factor (HB-EGF) and its protective and preventive effects on intestinal ischemia and reperfusion injury. We anticipate that by late 2008, she will lead Phase I and II national clinical trials to evaluate the safety and efficacy of HB-EGF in the prevention of necrotizing enterocolitis, a major cause of intestinal loss in premature infants. Dr. Brigstock and his colleagues study the role of connective tissue growth factor in hepatic and pancreatic fibrosis, scarring, and tissue remodeling, which has significant implications for the clinical entities of cirrhosis and pancreatitis.

The Adolescent Bariatric Surgery Program, part of the Nationwide Children's Hospital Center for Healthy Weight and Nutrition, is participating in an FDA-approved clinical trial to evaluate the safety and efficacy of the Lap-Band in adolescents with morbid obesity. Thirty-five patients underwent this procedure, and early clinical results are favorable, with sustained weight loss and reversal of comorbid conditions. Under the direction of Dr. Marc Michalsky and Dr. Steven Teich, and in collaboration with Dr. Bradley Needleman of the Division of General and Gastrointestinal Surgery, the Adolescent Bariatric Surgery Program is conducting several clinical research studies in order to define optimal management and the long-term effects of weight reduction on such comorbid conditions as Type II diabetes, hypertension, and sleep apnea.

The American College of Surgeons-accredited Level I Pediatric Trauma Program continues as one of the nation's busiest pediatric trauma facilities, with annual trauma admissions for the past three years averaging 1,260 patients. In addition, the Burn Program, verified as a Burn Center by the American Burn Association, remains active in advancing outpatient management of pediatric thermal injury through innovative wound management techniques.

A new surgical textbook, *Reoperative Pediatric Surgery*, edited by Dr. Steven Teich and Dr. Donna Caniano, was published this year by Humana Press. It is the first textbook that specifically concentrates on the challenges of reoperative surgery in infants, children, and adolescents, and it represents the expertise of 64 surgical and pediatric specialists from North America and Europe.

Dr. Gail Besner is a member of the Center for Perinatal Research of the Research Institute at Nationwide Children's Hospital. She continues her National Institutes of Health-funded research on HB-EGF and its role in the protection of the intestines from injury. She also serves as director of the Pediatric Burn Program at Nationwide Children's Hospital and associate program director of the Pediatric Surgery Residency Program. She serves as a full-time member of the Surgery, Anesthesia, and Trauma Study Section of the National Institutes of Health and is a member of the American College of Surgeons Surgical Research Committee.

Dr. David Brigstock is a principal investigator in the Center for Cell and Vascular Biology of the Research Institute at Nationwide Children's Hospital, where he continues his research on connective tissue growth factor (CTGF) and its role in the fibrotic processes within the liver and pancreas. Dr. Brigstock serves as the U.S. editor of *The Journal of Endocrinology*, and he is an elected officer in the International CCN Society.

Dr. Donna Caniano was awarded a Career Contribution Award in September 2007 by the medical staff at Nationwide Children's Hospital. In May 2008, she was awarded the 2008 Distinguished Alumnus Award by Albany Medical College, in Albany, N.Y. Dr. Caniano continues to serve on the editorial boards of *The Journal of Pediatric Surgery* and *Pediatric Surgery International*. She is a frequently-invited speaker on the topic of surgical ethics. The work of Dr. Caniano and the staff in perioperative services at Nationwide Children's Hospital in launching *Operation Takeoff*, a unique time-out procedure prior to the beginning of an operation, was highlighted in a business management textbook, *Benchmarking for Hospitals: Achieving Best-in-Class Performance without Having to Reinvent the Wheel*.

Dr. Renata Fabia was named the 2008 Physician of the Year by the employees of Nationwide Children's Hospital, at their annual banquet, in January 2008. She serves as associate director of the Pediatric Burn Program. She continues to refine the clinical pathways for the management of children with blunt abdominal injury, and to provide hospital and follow-up care for children with thermal injuries.

Dr. Jonathan Groner continues to be recognized as an international authority on the ethics of physician participation in judicial executions by lethal injection. He serves as an invited speaker and panelist at numerous national and international conferences on this topic. Dr. Groner appeared in a television documentary on lethal injection that aired in Australia, and he continues to be widely quoted in national newspaper articles and television reports about this issue. He serves as a frequent speaker on pediatric trauma, in his role as medical director of the Trauma Program at Nationwide Children's Hospital.

Dr. Brian Kenney continues as director of the Nationwide Children's Hospital-accredited fellowship in pediatric surgical critical care. He also serves as director of the Chest Wall Center at Nationwide Children's Hospital, where he has developed comprehensive management for children with pectus excavatum and carinatum deformities.

Dr. Denis King serves as medical director of Nutrition Support Services and is an appointed member of several committees at Nationwide Children's Hospital. He was given the Pediatric Surgery Teacher of the Year Award for 2008 by the residents in general surgery, in recognition of his outstanding contributions to their education.

Dr. Marc Michalsky serves as surgical director of the Center for Healthy Weight and Nutrition at Nationwide Children's Hospital. Under his leadership, the Adolescent Bariatric Surgery Program has matured into one of the busiest in the nation in clinical volume and research outcomes. He was named a co-investigator on a National Institute of Diabetes and Digestive and Kidney Diseases study to evaluate the health benefits and risks of adolescent bariatric surgery.

Dr. Benedict Nwomeh serves as surgical director of the Center for Pediatric and Adolescent Inflammatory Bowel Disease at Nationwide Children's Hospital. He is pursuing a master's degree in public health at The Ohio State University College of Public Health, and he continues his research in the area of surgical education and communication. This year he served as course director and chairman of the development committee for the inaugural Fundamentals of Surgical Research and Development Course, held February 10, 2008, in Freetown, Sierra Leone. Co-sponsored by the Association for Academic Surgery and the West African College of Surgeons, the course was attended by more than 120 physicians.

Dr. Steven Teich is surgical director of the Neonatal Intensive Care Unit at Nationwide Children's Hospital. He is vice president of the medical staff at Nationwide Children's Hospital and serves on several hospital committees. He and Dr. Donna Caniano were co-editors of a new textbook, *Reoperative Pediatric Surgery*, published in February 2008.

In our graduate education programs, Dr. Jeffrey Halter completed the residency in pediatric surgery in June 2008 and accepted an appointment as assistant professor of surgery at the University of Maine

Medical Center, in Portland, Me. Dr. Dorothy Rocourt completed the fellowship in pediatric surgical critical care, and she will begin the residency in pediatric surgery at Nationwide Children's Hospital in July 2008. Dr. Ankur Rana completed the fellowship in minimally invasive and adolescent bariatric surgery in June 2008, and he will begin a residency in pediatric surgery at the Long Island Jewish Hospital, in Hyde Park, N.Y., in July 2008.

In July 2008, Dr. Jennifer Aldrink will begin the chief residency in pediatric surgery. Dr. Angela Hana, a resident in general surgery at the Mayo Clinic, in Rochester, Minn., will begin the fellowship in pediatric surgical critical care. Dr. Johanna Askegard-Giesmann, a senior resident in general surgery at the Mayo Clinic, will begin the trauma/clinical research fellowship. Dr. David Skarda, a resident in general surgery at the University of Minnesota, has matched into the residency in pediatric surgery for July 2009.

The faculty members, residents, and fellows in the Division of Pediatric Surgery maintain essential roles in the educational, research, clinical care, and service missions of the Department of Surgery, The Ohio State University College of Medicine, Nationwide Children's Hospital, and several national professional organizations in pediatric surgery.



## Faculty

### **Donna A. Caniano, M.D.**

Professor of Surgery; Chief, Division of Pediatric Surgery; the H. William Clatworthy, Jr., Professor in Pediatric Surgery

**B.A.:** Vassar College, Poughkeepsie, N.Y., 1972

**M.D.:** Albany Medical College, Albany, N.Y., 1976

**Specialty Training:** Albany Medical Center Hospital, Albany, N.Y.; Johns Hopkins University Hospital, Baltimore, Md.; Columbus Children's Hospital, Columbus, Ohio

**Appointment:** 1985

**Specialty Interests:** Neonatal gastrointestinal disorders, Hirschsprung's disease

**Research Interests:** Biomedical ethics



*Caniano*

### **Gail E. Besner, M.D.**

Professor of Surgery

**B.A.:** Cornell University, Ithaca, N.Y., 1978

**M.D.:** University of Cincinnati, Cincinnati, Ohio, 1982

**Specialty Training:** Brigham and Women's Hospital, Boston, Mass.; Children's Hospital of Buffalo, Buffalo, N.Y.

**Appointment:** 1991

**Specialty Interests:** Burns, pediatric laparoscopic surgery

**Research Interests:** Growth factor involvement in wound healing



*Besner*

### **David R. Brigstock, Ph.D.**

Associate Professor of Surgery

**B.S.:** Brunel University, West London, United Kingdom, 1984

**Ph.D.:** Cambridge University, Cambridge, United Kingdom, 1988

**Specialty Training:** Harvard University, Cambridge, Mass.

**Appointment:** 1991

**Research Interests:** Biology of connective tissue growth factor



*Brigstock*

### **Renata B. Fabia, M.D., Ph.D.**

Clinical Assistant Professor of Surgery

**M.D.:** Silesian University School of Medicine, Katowice, Poland, 1985

**Ph.D.:** Lund University, Lund, Sweden, 1993

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 2003

**Specialty Interests:** General surgery in children and adolescents; burn and trauma management

**Research Interests:** Inflammatory bowel disease, trauma



*Fabia*

**Jonathan I. Groner, M.D.**

Associate Professor of Clinical Surgery

**B.S.:** Northwestern University, Evanston, Ill., 1982

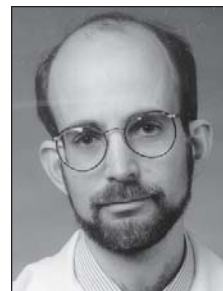
**M.D.:** Northwestern University, Evanston, Ill., 1984

**Specialty Training:** Medical College of Wisconsin, Milwaukee, Wis.; Children's Hospital, Columbus, Ohio

**Appointment:** 1999

**Specialty Interests:** Trauma, child advocacy

**Research Interests:** Trauma prevention



*Groner*

**Brian D. Kenney, M.D., M.P.H.**

Assistant Professor of Clinical Surgery

**B.A.:** University of Notre Dame, South Bend, Ind., 1979

**M.D.:** Medical College of Ohio, Toledo, Ohio, 1983

**M.P.H.:** Harvard University School of Public Health, Boston, Mass., 1990

**Specialty Training:** University of Montreal, Montreal, Quebec, Canada

**Appointment:** 2003

**Specialty Interests:** Laparoscopy, thoracoscopy, critical care, and thoracic surgery

**Research Interests:** Clinical epidemiology and outcomes research



*Kenney*

**Marc P. Michalsky, M.D.**

Assistant Professor of Clinical Surgery

**B.A.:** Brandeis University, Waltham, Mass., 1988

**M.D.:** University of Medicine and Dentistry of New Jersey, Newark, N.J., 1992

**Specialty Training:** University of Medicine and Dentistry of New Jersey, Newark, N.J.; Columbus Children's Hospital, Columbus, Ohio

**Appointment:** 2004

**Specialty Interests:** Minimally invasive surgery, childhood obesity

**Research Interests:** Childhood obesity, quality performance, surgical outcomes



*Michalsky*

**Benedict C. Nwomeh, M.D.**

Assistant Professor of Clinical Surgery

**Undergraduate Degree:** Faculty of Science, University of Lagos, Lagos, Nigeria, 1981

**M.D.:** College of Medicine, University of Lagos, Lagos, Nigeria, 1986

**Specialty Training:** Medical College of Virginia, Virginia Commonwealth University, Richmond, Va.; Children's Hospital of Pittsburgh, Pittsburgh, Pa.

**Appointment:** 2003

**Specialty Interests:** Pediatric general surgery, neonatal surgery, pediatric minimally invasive surgery, pediatric thoracic surgery

**Research Interests:** Surgical education, clinical outcomes



*Nwomeh*

## Emeritus Faculty

**E. Thomas Boles, Jr., M.D.**

Professor Emeritus of Surgery

**B.S.:** College of William and Mary, Williamsburg, Va., 1942

**M.D.:** Harvard University, Cambridge, Mass., 1945

## Clinical Faculty

**Denis R. King, M.D.**

Clinical Associate Professor of Surgery

**B.S.:** University of Notre Dame, South Bend, Ind., 1965

**M.D.:** Hahnemann Medical College, Philadelphia, Pa., 1969

**Specialty Training:** The Ohio State University Hospital; Children's Hospital, Columbus, Ohio

**Specialty Interests:** Cancer, nutrition

**Research Interests:** Pediatric oncology

**Steven Teich, M.D.**

Clinical Assistant Professor of Surgery

**B.S., M.S.:** Rensselaer Polytechnic Institute, Troy, N.Y., 1976

**M.D.:** State University of New York at Buffalo, N.Y., 1981

**Specialty Training:** George Washington University Medical Center, Washington, D.C.; Children's Hospital of Pittsburgh, Pa.

**Specialty Interests:** Epidermolysis bullosa, burns, laparoscopic surgery

**Research Interests:** Quality improvement and surgical clinical pathways

## Resident Staff

**Jennifer H. Aldrink, M.D.**

Clinical Instructor and Assistant Chief Resident

**B.S.:** Wake Forest University, Winston-Salem, N.C., 1995

**M.D.:** East Carolina University School of Medicine, Greenville, N.C., 2000

**Jeffrey M. Halter, M.D.**

Clinical Instructor and Chief Resident

**B.S.:** Florida State University, Tallahassee, Fla., 1994

**M.D.:** University of Miami, Miami, Fla., 1999

**Dorothy V. Rocourt, M.D.**

Surgical Critical Care Fellow

**B.A.:** Dartmouth College, Hanover, N.H., 1995

**M.D.:** University of Medicine and Dentistry of New Jersey, Newark, N.J., 1999

**Ankur R. Rana, M.D.**

Minimally Invasive and Adolescent Bariatric Surgery Fellow

**B.S.:** University of Akron, Akron, Ohio, 1997

**M.D.:** Northeastern Ohio Universities College of Medicine, Rootstown, Ohio, 2001

## Mission

The Division of Pediatric Surgery, in alignment with Nationwide Children's Hospital, is dedicated to fulfilling the CARES mission: providing the highest quality of care, advocacy for children, child health research, education, and outstanding service.

## Research Programs

The Pediatric Surgery Research Laboratory focuses on two major areas of clinical interest. Dr. Besner's laboratory studies heparin-binding EGF-like growth factor (HB-EGF) and its ability to protect the intestines from various forms of injury. These research projects continue to be funded by the National Institutes of Health, as well as by industry, and include:

- Elucidation of the mechanisms by which HB-EGF exerts its protective effects against intestinal injury, including its effects on the vasculature.

- Studies of susceptibility to intestinal injury in HB-EGF transgenic and knockout mice.
- Determination of the signal pathways used by HB-EGF in intestinal cytoprotection.
- Studies of the effects of HB-EGF in established animal models of neonatal necrotizing enterocolitis, hemorrhagic shock and resuscitation, and intestinal ischemia/reperfusion injury.
- Design of HB-EGF clinical trials in the prevention of necrotizing enterocolitis in preterm infants.

The second area of interest is the role played by connective tissue growth factor (CTGF) in scarring and fibrosis. These studies are led by Dr. Brigstock and focus on the fibrotic properties of CTGF, including novel strategies for antagonizing CTGF action *in vivo*. Current areas of emphasis include:

- Characterization of CTGF receptors and signaling pathways in hepatic or pancreatic stellate cells.
- Production of transgenic mice that overexpress CTGF in the liver.
- Anti-CTGF targeting strategies in the liver and pancreas.

## Accomplishments in Research

### **Gail E. Besner, M.D.**

The Besner laboratory has had several significant accomplishments this year. In addition to funding from a private biotechnology company, Dr. Besner currently holds three R01 grants from the NIH to continue her basic science research on HB-EGF. In conjunction with biotechnology, Dr. Besner and her colleagues will be starting Phase I and II clinical trials of HB-EGF in the prevention of necrotizing enterocolitis in very low birth weight premature babies. Dr. Besner's research was presented at multiple national meetings this year, and resulted in many publications. Dr. Besner's research fellows won several awards for their research presentations this year.

### **David R. Brigstock, Ph.D.**

Dr. Brigstock continues his NIH-funded studies of the role of connective tissue growth factor (CTGF) in organ fibrosis. A major accomplishment this year is his receipt of two NIH R01 grants to support work on CTGF-mediated fibrogenic pathways in the liver and pancreas. He was an invited speaker at the Gordon Research Conference on Small Integrin-Binding Proteins, at the University of New England, in Biddeford, N.H., and his work was selected for special presentation at the Minisymposium on RNA Silencing, at the 47th Annual Meeting of the American Society for Cell Biology, in Washington, D.C.

## Active Research Grants

**Besner GE.** HB-EGF and intestinal ischemia/reperfusion. National Institutes of Health, July 1, 2007 – May 31, 2011, \$1,000,000.

**Besner GE.** HB-EGF and protection of the intestines from injury. Trillium Therapeutics, Inc., March 1, 2006 – February 28, 2008, \$400,000.

**Besner GE.** HB-EGF therapy for necrotizing enterocolitis. National Institutes of Health, July 1, 2007– May 31, 2012, \$1,250,000.

**Besner GE.** Role of NO and endothelin in human NEC. National Institutes of Health, July 1, 2003 – June 30, 2008, \$1,250,000.

**Brigstock DR.** CTGF in hepatic fibrosis. Columbus Children's Research Institute, January 1, 2007 – December 31, 2007, \$160,000.

**Brigstock DR.** CTGF in pancreatic stellate cell-mediated fibrogenesis. National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, September 30, 2007 – August 31, 2012, \$1,125,000.

**Brigstock DR.** Mechanisms of CTGF-induced liver disease. National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, April 15, 2007 – March 31, 2012, \$1,125,000.

**Brigstock DR.** Targeting CTGF in fibrotic liver disease. Ben F. Bryer Trust, January 1, 2007 – December 31, 2008, \$110,000.

**Brigstock DR** (D. Keith Bishop, Principal Investigator; subcontract to Dr. Brigstock). Therapeutic targets for chronic allograft rejection. National Institutes of Health R01, June 1, 2006 – May 31, 2010, \$100,000.

**Michalsky MP.** Adolescent bariatrics: assessing health benefits and risks, or the Teen-Longitudinal Assessment of Bariatric Surgery (TEEN-LABS). National Institute of Diabetes and Digestive and Kidney Diseases, April 1, 2008 – March 31, 2012, \$219,738.

**Michalsky MP.** Laparoscopic adjustable gastric banding (Lap-Band) as a treatment for morbid obesity in adolescents. Inamed Health, July 1, 2006 – June 30, 2011, \$1,203,532.

**Nwomeh BC.** Development of a communication skills training intervention for elective pediatric surgery. Thomas Boles Endowment Fund, August 1, 2007 – August 1, 2008, \$15,000.

**Nwomeh BC.** Pilot testing of parent communication skills training in elective pediatric surgery. Nationwide Children's Research Institute, October 1, 2008 – January 1, 2009, \$18,000.

**Paddock HN, Besner GE.** HB-EGF expression and function in human NEC. Nationwide Children's Research Institute, July 1, 2006 – June 30, 2008, \$50,000.

## Clinical Programs

- Level I pediatric trauma program with American College of Surgeons verification.
- American Burn Association-verified multidisciplinary pediatric burn center.
- Perinatal care center in collaboration with The Ohio State University Medical Center.
- Pediatric and adolescent bariatric surgery program.
- Multidisciplinary ECMO neonatal and pediatric program.
- Minimally invasive pediatric surgery program.
- Chest wall center for comprehensive care of chest wall anomalies.

## Accomplishments in Clinical Care

- Maturation of outpatient care for children with thermal injuries.
- Maturation of the bariatric surgery program for the treatment of morbidly obese adolescents and participation in a funded clinical trial using the Lap-Band.
- Development of advanced minimally invasive procedures for thorascopic and laparoscopic management of congenital and acquired lung and intestinal disorders.
- Listing of Dr. Gail E. Besner, Dr. Donna A. Caniano, Dr. Denis R. King, and Dr. Steven Teich by Best Doctors in America.

## Clinical Statistics

OR Procedures	3,685
Outpatient Visits	10,824
Admissions	1,793
Patient Days	9,593
Average Length of Stay (Days)	5.35

## Educational Programs

- Fully-accredited, two-year residency in pediatric surgery, which accepts one resident per year through the National Residency Match Program. The residency qualifies a candidate for the Certificate of Special Competence in Pediatric Surgery, upon successful completion of the Qualifying and Certifying Examinations in Pediatric Surgery, as given by the American Board of Surgery.
- Fully-accredited fellowship in pediatric surgical critical care, which annually accepts one resident at the PGY-4 level or higher in general surgery. Completion of the fellowship makes a candidate eligible for the Examination in Surgical Critical Care administered by the American Board of Surgery.
- Clinical fellowships in trauma and clinical research and in minimally invasive and adolescent bariatric surgery for senior level residents in general surgery.
- Basic science research fellowships in the Pediatric Surgical Laboratory for residents in accredited programs in general surgery.
- Comprehensive pediatric surgery rotation in the care of infants, children, and adolescents with surgical disease, for junior and senior residents in general surgery from The Ohio State University Medical Center, OhioHealth, and the Mount Carmel Health System.
- Comprehensive pediatric surgery rotation in the care of pediatric patients for interns in the combined Nationwide Children's Hospital-Doctor's Hospital pediatrics residency and for fellows in the pediatric critical care medicine fellowship at Children's Hospital.
- Clinical clerkship in pediatric surgery.
- Subinternship in pediatric surgery.



## Accomplishments in Education

- Ongoing clinical research in surgical education by Dr. Benedict Nwomeh.
- Presentation at the Association for Academic Surgery of collaborative education research on third-year medical student clerkships by the Division of Pediatric Surgery and the Department of Surgery.

## Community Outreach Programs

- Injury passenger safety program, part of the Nationwide Children's Hospital trauma program, which concentrates on child safety seats and bicycle helmets.
- Quarterly publication of *Surgical Scene* for pediatricians and primary care physicians in the Central Ohio and referral area. *Surgical Scene* highlights common surgical conditions, their diagnosis, and treatment.
- Regular lectures about pediatric trauma and thermal injury, by physician and nursing members of the Nationwide Children's Hospital Trauma Program, presented to emergency services personnel in the Central Ohio and referral area.

## Accomplishments in Community Outreach

- Distribution of 1,619 bicycle helmets to children in Central Ohio, in cooperation with the Columbus Blue Jackets Foundation.
- Sponsorship of education and information programs on child safety seats throughout the Columbus community.
- Inspection of 405 child safety seats and distribution of 1,049 child safety seats through the Trauma Program of Nationwide Children's Hospital.
- Development of a non-powder gun safety program.

## Publications

**Baran CP, Opalek JM, McMaken S, Newland CA, O'Brien Jr JM, Hunter MG, Bringardner BD, Monick MM, Brigstock DR, Stromberg PC, Hunninghake GW, Marsh CB.** Important roles for macrophage colony-stimulating factor, CC chemokine ligand 2, and mononuclear phagocytes in the pathogenesis of pulmonary fibrosis. *Am J Respir Crit Care Med* 2007; 176(1):78–89.

**Binkovitz I, Henwood M, Caniano D, Ruymann F, Binkovitz L.** Early detection of recurrent pediatric adrenal cortical carcinoma using FDG-PET. *Clin Nucl Med* 2008; 33(3):186–188.

**Boag JM, Beesley AH, Firth MJ, Freitas JR, Ford J, Brigstock DR, de Klerk NH, Kees UR.** High expression of connective tissue growth factor in pre-B acute lymphoblastic leukaemia. *Br J Haematol* 2007; 138(6):740–748.

**Cooker LA, Peterson D, Rambow J, Riser ML, Riser RE, Najmabadi F, Brigstock D, Riser BL.** TNF-alpha, but not IFN-gamma, regulates CCN2 (CTGF), collagen type I, and proliferation in mesangial cells: possible roles in the progression of renal fibrosis. *Am J Physiol Renal Physiol* 2007; 293(1):F157–F165.

**Dean RA, Butler GS, Hamma-Kourbali Y, Delbe J, Brigstock DR, Courty J, Overall CM.** Identification of candidate angiogenic inhibitors processed by matrix metalloproteinase 2 (MMP-2) in cell-based proteomic screens: disruption of vascular endothelial growth factor (VEGF)/heparin affinity regulatory peptide (pleiotrophin) and VEGF/Connective tissue growth factor angiogenic inhibitory complexes by MMP-2 proteolysis. *Mol Biol Cell* 2007; 27(24):8454–8465.

**El-Assal ON, Radulescu A, Besner GE.** Heparin-binding EGF-like growth factor preserves mesenteric microcirculatory blood flow and protects against intestinal injury in rats subjected to hemorrhagic shock and resuscitation. *Surgery* 2007; 142(2):234–242.

**Kane TD, Nwomeh BC, Nadler EP.** Thoracoscopic-assisted esophagectomy and laparoscopic gastric pull-up for lye injury. *JSLS* 2007; 11(4):474–480.

**Lambert DK, Christensen RD, Henry E, Besner GE, Baer VL, Wiedmeier SE, Stoddard RA, Miner CA, Burnett J.** Necrotizing enterocolitis in term neonates: data from a multihospital health-care system. *J Perinatol* 2007; 27(7):437–443.

**Mehta VB, Besner GE.** HB-EGF promotes angiogenesis in endothelial cells via PI3-kinase and MAPK signaling pathways. *Growth Factors* 2007; 25(4):253–263.

**Nwomeh BC, Caniano DA, Hogan M.** Definitive exclusion of biliary atresia in infants with cholestatic jaundice: the role of percutaneous cholecysto-cholangiography. *Pediatr Surg Int* 2007; 23(9):845–849.

**Rocourt DV, Mehta VB, Besner GE.** Heparin-binding EGF-like growth factor decreases neutrophil-endothelial cell interactions. *J Surg Res* 2007; 141(2):262–266.

**Shiels WE 2nd, Kenney BD, Caniano DA, Besner GE.** Definitive percutaneous treatment of lymphatic malformations of the trunk and extremities. *J Pediatr Surg* 2007; 43(1):136–139.

**Tataria M, Nance ML, Holmes JH 4th, Miller CC 3rd, Mattix KD, Brown RL, Mooney DP, Scherer LR 3rd, Groner JI, Scaife ER, Spain DA, Brundage SI.** Pediatric blunt abdominal injury: age is irrelevant and delayed operation is not detrimental. *J Trauma* 2007; 63(3):608–614.

## Abstracts

**Boag JM, Beesley AH, Firth MJ, Freitas JR, Ford J, Brigstock DR, de Klerk NH, Kees UR.** High expression of connective tissue growth factor in pediatric pre-B acute lymphoblastic leukaemia. *J Cell Comm Signal* 2007; 1(1):75.

**Chen R, Tong Z, Kemper S, Rachfal A, Ball D, Perbal B, Brigstock DR.** Hepatic over-expression of connective tissue growth factor abrogates fibrosis-resistance in the liver. *Mol Biol Cell* 2007; 18(Suppl):A2194.

**Lawrencia C, Brigstock DR.** Anti-fibrotic property of CTGF siRNA in the liver via targeted delivery to hepatic stellate cells. *Mol Biol Cell* 2007; 18(Suppl):A2444.

## Books

**Teich S, Caniano DA** (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008.

## Chapters

**Abdessalam S, Caniano DA.** Reoperation for recurrent anal and perianal conditions. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 327–335.

**Dietrich AM, Groner JI.** Trauma in children. In: Campbell JE (ed). *International Trauma Life Support for Prehospital Care Providers*. 6th ed. Upper Saddle River, N.J.: Pearson Prentice Hall, 2008; 258–277.

**Fabia R, Teich S.** Interventions for appendiceal complications. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 241–255.

**Groner JL.** Reoperation after duodenal atresia repair and management of duodenal fistulas. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 219–224.

**Kenney BD.** Reoperation after esophageal atresia repair and other esophageal conditions. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 191–205.

**Michalsky MP, Teich S, Needleman B.** Revisional bariatric surgery in adolescents. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 525–538.

**Nwomeh BC.** Reoperation for stoma complications. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 279–286.

**Nwomeh BC, Crandall W.** Radiologic evaluation of pediatric inflammatory bowel disease. In: Mamula P, Markowitz JE, Baldassano RN (eds). *Pediatric Inflammatory Bowel Disease*. New York: Springer, 2008; 193–209.

**Nwomeh BC, Elton S.** Abdominal complications of ventricular-peritoneal shunts. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 515–524.

**Teich S, Caniano DA.** Abdominal wall disruption. In: Teich S, Caniano D (eds). *Reoperative Pediatric Surgery*. Totowa, N.J.: Humana Press, 2008; 175–190.

## Visiting Professorships

**Besner GE.** Yale Children's Hospital, New Haven, Conn., May 7, 2008.

**Caniano DA.** Albany Medical Center, Albany, N.Y., May 2, 2008.

**Caniano DA.** Children's Hospital of Orange County, Irvine, Calif., January 20, 2008.

**Caniano DA.** Irvine Medical Center, University of California, Irvine, Calif., January 31, 2008.

**Caniano DA.** Miller Children's Hospital, Huntington Beach, Calif., February 1, 2008.

**Kenney BD.** University of Montreal, Montreal, Quebec, Canada, August 21–23, 2007.

## International Presentations

**Hamner C, Groner J, Caniano D, Hayes J, Kenney B.** Blunt intra-abdominal arterial injury in pediatric trauma patients: injury distribution and markers of outcome. Canadian Association of Paediatric Surgeons, 40th Annual Meeting, St. Johns, Newfoundland and Labrador, Canada, August 25, 2007.

**Hayes JR, Groner JJ.** The increasing incidence of snowboard-related trauma. Canadian Association of Paediatric Surgeons, 40th Annual Meeting, St. Johns, Newfoundland and Labrador, Canada, August 26, 2007.

**Hayes JR, Groner JJ.** Using multiple imputation and propensity scores to test the effect of car seats and seat belt usage on injury severity from trauma registry data. Canadian Association of Paediatric Surgeons, 40th Annual Meeting, St. Johns, Newfoundland and Labrador, Canada, August 26, 2007.

## National Presentations

**Arthur LG, Caniano DA, Hogan M, Smead W, Teich S.** Pediatric thoracic outlet syndrome: a disorder with serious vascular complications. American Academy of Pediatrics, Section on Surgery, San Francisco, Calif., October 28, 2007.

**Chen R, Tong Z, Kemper S, Rachfal A, Ball D, Perbal B, Brigstock DR.** Hepatic over-expression of connective tissue growth factor abrogates fibrosis-resistance in the liver. American Society for Cell Biology, 47th Annual Meeting, Washington, D.C., December 1–5, 2007.

**El-Assal O, Besner G.** HB-EGF knockout mice have decreased angiogenesis. American Academy of Pediatrics, 2007 National Conference and Exhibition, San Francisco, Calif., October 27–30, 2007.

**Groner JJ.** Botched lethal injections. Memorial Regional Trauma Center and University of Miami Miller School of Medicine, 15th Annual Trauma Symposium, Hollywood, Fla., February 8, 2008.

**Groner JJ.** Challenging decisions in pediatric surgery: the child with an open abdomen. Memorial Regional Trauma Center and University of Miami Miller School of Medicine, 15th Annual Trauma Symposium, Hollywood, Fla., February 7, 2008.

**Groner JJ.** The Hippocratic paradox: the role of the medical profession in capital punishment in the United States. Fordham Law School, The Lethal Injection Debate: Law and Science, New York, N.Y., March 8, 2008.

**Groner JJ.** Injury prevention in pediatric trauma. Memorial Regional Trauma Center and University of Miami Miller School of Medicine, 15th Annual Trauma Symposium, Hollywood, Fla., February 9, 2008.

**Lawrencia C, Brigstock DR.** Anti-fibrotic property of CTGF siRNA in the liver via targeted delivery to hepatic stellate cells. American Society for Cell Biology, 47th Annual Meeting, Washington, D.C., December 1–5, 2007.

**Lawrencia C, Brigstock DR.** CTGF siRNA delivered to fibrosing liver with a cyclic RGD peptide is anti-fibrotic. Gordon Research Conference on Small Integrin-Binding Proteins, University of New England, Biddeford, N.H., August 5–10, 2007.

**Lawrencia C, Brigstock DR.** Selective targeting of CTGF siRNA to activated stellate cells reduces CCl<sub>4</sub>-induced hepatic fibrosis *in vivo*. Digestive Disease Week, San Diego, Calif., May 17–22, 2008.

**Paddock H, Besner G.** Expression of EGF receptors in healthy and NEC-afflicted intestine. Society of University Surgeons, 69th Annual Meeting, Huntington Beach, Calif., February 13, 2008.

**Sandquist MK, Way DP, Patterson AF, Caniano DA, Arnold MW, Nwomeh BC.** General surgery versus specialty rotations: a new paradigm in surgery clerkships. Association for Academic Surgery, Annual Academic Surgical Congress, Huntington Beach, Calif., February 14, 2008.

**Zhou Y, Besner G.** Heparin-binding EGF-like growth factor dilates terminal mesenteric arterioles via upregulation of ETB receptors. American Pediatric Surgical Association, 39th Annual Meeting, Phoenix, Ariz., May 29–31, 2008.

**Zhou Y, Besner G.** Heparin-binding EGF-like growth factor is a potent vasodilator of terminal mesenteric arterioles. Society of University Surgeons, 69th Annual Meeting, Huntington Beach, Calif., February 13, 2008.

**Zorko N, Radulescu A, Besner G.** Production of a murine model of necrotizing enterocolitis. American Medical Association, Medical Student Section Research Poster Symposium, Honolulu, Hawaii, November 8–10, 2007.

## Miscellaneous Presentations

**Besner G.** Airway management and smoke inhalation. Advanced Burn Life Support Course, Columbus, Ohio, January 11, 2008.

**Besner G.** Initial assessment and management. Advanced Burn Life Support Course, Columbus, Ohio, July 25, 2007.

**Besner G.** Pediatric burn management. Nationwide Children's Hospital, Critical Care Lecture Series, Columbus, Ohio, December 6, 2007.

**Besner G.** Pediatric burn management. Nationwide Children's Hospital, Pediatrics Grand Rounds, Columbus, Ohio, August 9, 2007.

**Besner G.** Protection of the intestines from necrotizing enterocolitis with heparin-binding EGF-like growth factor (HB-EGF). Nationwide Children's Hospital, Gastroenterology Lecture Series, Columbus, Ohio, January 17, 2008.

**Besner G.** Protection of the intestines from necrotizing enterocolitis with heparin-binding EGF-like growth factor (HB-EGF). Nationwide Children's Hospital, Neonatology Lecture Series, Columbus, Ohio, February 20, 2008.

**Brigstock DR.** Connective tissue growth factor: a new therapeutic target in liver fibrosis. The Wisconsin Surgical Society, The Ohio State University Medical Center, Columbus, Ohio, May 6, 2008.

**Caniano DA.** The acute abdomen in infants and children. Nationwide Children's Hospital, Pediatrics Grand Rounds, Columbus, Ohio, July 12, 2007.

**Caniano DA.** Gastroschisis: status of prenatal and postnatal management in 2007. The Ohio State University Medical Center, Neonatal-Maternal Fetal Medicine Collaboration Meeting, Columbus, Ohio, July 18, 2007.

**Caniano DA.** Leadership ethics. Nationwide Children's Hospital, Fellows Leadership Program, Columbus, Ohio, May 7, 2008.

**Caniano DA.** Leadership ethics. Nationwide Children's Hospital, Medical Leadership Program, Columbus, Ohio, March 11–12, 2008.

**Caniano DA.** The power of health and wellness. YWCA Women's Luncheon Series, Columbus, Ohio, May 8, 2008.

**Kenney BD.** Pediatric chest and chest wall surgery. Genesis-Bethesda Hospital, Zanesville, Ohio, April 2, 2008.

**Kenney BD.** Pediatric trauma: a case-based approach to proper treatment. St. Rita's Medical Center, Trauma Rounds, Lima, Ohio, April 22, 2008.

**Mehta V, Besner G.** HB-EGF promotes eNOS-dependent angiogenesis in endothelial cells. Nationwide Children's Hospital, Research Retreat, Columbus, Ohio, March 13, 2008.

**Nwomeh BC.** Surgical options in pediatric ulcerative colitis. Nationwide Children's Hospital, Gastroenterology Conference, Columbus, Ohio, July 10, 2007.

**Radulescu A, El-Assal O, Besner G.** HB-EGF: from bench to bedside. Columbus Surgical Society, Annual Presidential Symposium, Columbus, Ohio, February 16, 2008.

**Radulescu A, El-Assal O, Besner G.** Targeting NEC: from bench to bedside. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Radulescu A, Yu X, El-Assal O, Besner G.** HB-EGF: from bench to bedside. Nationwide Children's Hospital, Research Retreat, Columbus, Ohio, March 13, 2008.

**Ryan M, Radulescu A, El-Assal O, Mehta V, Besner G.** Mechanisms of HB-EGF-induced angiogenesis during healing from intestinal injury. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.

**Yu X, Radulescu A, Besner G.** HB-EGF therapy increases villous microcirculatory blood flow in rat PUPS with experimental NEC. Nationwide Children's Hospital, Research Retreat, Columbus, Ohio, March 13, 2008.

**Zhou Y, Besner G.** Heparin-binding EGF-like growth factor dilates terminal mesenteric arterioles via upregulation of ETB receptors. Nationwide Children's Hospital, Research Retreat, Columbus, Ohio, March 13, 2008.

**Zorko N, Radulescu A, Besner G.** Production of a murine model of necrotizing enterocolitis. The Ohio State University Medical Center, Research Day, Columbus, Ohio, April 10, 2008.



# Plastic Surgery



**Michael J. Miller, M.D.**  
Chief, Division of Plastic Surgery

**U**nder the first full year of direction by Dr. Michael Miller, the Division of Plastic Surgery added new faculty and a new clinical location, facilitating the delivery of state-of-the-art plastic surgery care. The division is performing new and innovative procedures and is striving to deliver further specialized care over the next year.

Significant effort has been devoted toward building a productive clinical enterprise. With the addition of new faculty, the division has developed an extremely strong aesthetic service and has continued its growth in reconstructive microsurgery and bariatric surgery. The division's presence at Nationwide Children's Hospital continues to be strong, due to the services of Dr. Robert Ruberg, Dr. Gregory Pearson, and Dr. Gayle Gordillo. The division's clinical volume has continued to increase, as we gain referrals and exposure to all disciplines at The Ohio State University Medical Center.

The division's presence at University Hospital and the James Cancer Hospital continues to increase, as we provide patient care in facial trauma, burn, wound care, and oncologic reconstructive surgery, particularly breast and head and neck reconstruction. Faculty members have worked very hard to maintain essential clinical services in plastic surgery at University Medical Center and Children's Hospital. However, even with the growth of our faculty, we remain short-staffed, due to increased case volume, and we plan to recruit several additional surgeons. Next year, we hope to decrease the use of community faculty and rely more on the division's own full-time and clinical faculty.

This year, the division added three new faculty members. In July 2007, Dr. William Wallace, a graduate of our training program, began an appointment as assistant professor of clinical surgery. Bill has provided clinical services in general plastic surgery and has been responsible for developing a new program in post-bariatric surgery body contouring. In August 2007, Dr. Pankaj Tiwari, a graduate of the

plastic surgery program at Baylor University, in Houston, Texas, and the fellowship training program in oncologic reconstructive surgery and reconstructive microsurgery at the University of Texas M. D. Anderson Cancer Center, in Houston, began an appointment as assistant professor of surgery. Dr. Tiwari has continued to increase our expertise in reconstructive microsurgery and has also provided general plastic surgery services. In October 2007, Dr. Anne Taylor began an appointment as clinical assistant professor of surgery. Dr. Taylor is a graduate of our program and was in private practice in Columbus for about 10 years. A specialist in aesthetic surgery, she has been appointed director of our Aesthetic Surgery Service, which is due to open July 1, 2008, at Easton Town Center. We hope to continue to build this service, and in conjunction with other disciplines, establish a Center for Human Appearance.

Due to the impending retirement of Dr. Ruberg, we are recruiting a director of plastic surgery at Children's Hospital, who will hold a dual appointment at Ohio State and Children's. Recruitment goals for the upcoming academic year include attracting two faculty specialists in hand surgery and specialists in craniofacial, burn, and reconstructive microsurgery.

We continue to evolve our support staff and infrastructure as growth mandates. We have added two physician assistants, a clinical manager, and additional nurses. With the addition of our Easton aesthetics office, under the direction of Dr. Taylor, we have also added support staff. We continue to work with operating room staff to identify and train support personnel, obtain necessary surgical instruments and equipment, and develop more efficient processes to conduct multidisciplinary surgical cases. Our clinical office locations are currently at Knightsbridge and Easton.

At Children's Hospital, the division provides general plastic surgery services and conducts two major multidisciplinary clinical programs. The Craniofacial Clinic was staffed this year by Dr. Ruberg and Dr. Pearson, and patient volume has continued to grow. Dr. Gordillo directs the multidisciplinary Vascular Malformations Clinic, which serves as a center for patient care and clinical and basic translational research. We began discussions this year to establish a third multidisciplinary center, the Pediatric Hand Center. Children's Hospital has indicated solid support for the center, offering resources for a clinician, who would serve as co-director with an orthopedic surgeon, and creation of the necessary infrastructure.

The division continues to conduct an active research program and has taken steps this year to establish new areas of basic, translational, and clinical research. The clinical needs of the division have overshadowed the development of the research program, but I anticipate progress in this area as our clinical services become more stable. Dr. Gordillo, our most active investigator, is conducting research under the mentorship of Chandan Sen, Ph.D., vice chairman for research in the Department of Surgery. Despite enormous pressure to provide clinical services, Dr. Gordillo has developed a successful national wound healing database and has made important contributions in wound healing and vascular malformations research. As our clinical program becomes better established, greater energy will be devoted to advancing our research program in biocomputation, regenerative medicine, and clinical science.

Alok Sutradhar, Ph.D., joined the division last year as a postdoctoral fellow in computational mechanics. His project is creation of a computer model of the breast for individualized patient simulation, to be

used for surgical planning and outcomes prediction and as an aid for patient education and decision support. In addition, he is collaborating with Dr. Glaucio Paulino, professor of civil and environmental engineering at the University of Illinois. Their project is a study of computational methods to optimize planning of craniofacial reconstructive surgery and scaffold design for tissue-engineered bone replacements in the midfacial skeleton. This coming year, I anticipate moving Dr. Sutradhar to a faculty position as he completes several projects and papers and applies for extramural funding. Some of his other projects include: (1) development of an objective assessment score for selection of appropriate type of breast reconstructive surgery, (2) breast motion capture to assess mobility after breast reconstruction surgery, (3) measurement of the elasticity of breast skin, (4) intraoperative assessment of regional tissue perfusion in surgical flaps, and (5) correlating patient satisfaction with breast shape analysis in breast reconstruction surgery. I hope to recruit a more senior full-time scientist to serve as our research director, consistent with arrangements made at the time of my recruitment in 2007.

Dr. Robert Ruberg continues to serve as a leader in University, community, and national organizations, as he begins to complete his clinical career at Ohio State. Dr. Ruberg will officially retire next year, but he will continue to assist the division, the Department of Surgery, and the College of Medicine in academic matters. In addition, he has agreed to maintain his position at Children's Hospital until a replacement can be found. His knowledge and experience are invaluable to the Division of Plastic Surgery.

Dr. Gayle Gordillo has continued to develop her successful research program in wound healing and vascular malformations. She has submitted two major extramural grants and demonstrates consistent progress under the mentorship of Dr. Sen. Dr. Gordillo continues to provide clinical services and participate in the residency program by monitoring the operative experience of the residents. She is developing a clinical database for the division that will link the University Medical Center Information Warehouse and the multi-institutional wound-healing database she successfully created for translational research.

Dr. Gregory Pearson continues a very active practice in general plastic surgery, particularly in facial trauma and pediatric plastic surgery. He will assume all of the plastic surgery cases at Children's Hospital upon Dr. Ruberg's retirement, and he will serve well in this position. In addition, his assistance with the residency program is of tremendous help to the director. Dr. Pearson is organizing the Tri-State Craniofacial Meeting, to be held in Columbus in October 2008. In April 2008, Columbus hosted an AO North America Course, at which he gained many accolades for his presentation and participation.

Dr. Anne Taylor joined our practice this year and has brought a new and exciting aesthetics program to Ohio State. She has been instrumental in the opening of our Easton location, and she will serve as director of our Aesthetic Surgery Service as it continues to develop. Her teaching role will increase as she is able to concentrate more of her efforts in surgery at the new Ambulatory Surgery Center, which is slated for Gowdy Field next year.

Dr. Pankaj Tiwari is our newest reconstructive microsurgeon, and he has succeeded in building a thriving clinical practice. He has gained respect from all areas and will continue to do so. He is working hard on a microsurgery lab for the Division of Plastic Surgery that will help our residents learn about performing microsurgery.

Dr. William Wallace completed his first year as a faculty member and has done very well. He has been instrumental in helping to build a post-bariatric surgery body contouring program, and he plans to also steer his practice toward aesthetic plastic surgery. He has been working on a web site for our division as well. I believe he will continue to grow both academically and clinically next year.

Regarding our residency program, Dr. Michael Miller assumed the role of program director this year, and Dr. Pearson was appointed assistant program director. In October 2007, the program underwent its five-year accreditation review and was approved for a full five years. We are in the process of applying to change our residency program from an independent to an integrated program. The Accreditation Council for Graduate Medical Education (ACGME) has voted to approve our plans to create an integrated six-year program, and we have completed our application to the Residency Review Committee. We plan to initiate the new program format in the 2009–2010 academic year. This is an exciting change for our program that should add a great deal of knowledge and experience for our residents. The change is consistent with changes in training we expect to be mandated by the ACGME starting in 2010. For our in-service examination this year, all of our residents scored very high, and they have continued to be successful. The graduates of our residency program this year were Dr. Patricia Sandholm, who went into private practice in Portland, Oregon; Dr. Ergun Kocak, who began a fellowship in reconstructive microsurgery at the M. D. Anderson Cancer Center, in Houston; and Dr. Liza Kim, who began a fellowship in reconstructive microsurgery at Massachusetts General Hospital, in Boston.

We have enhanced our communication with the community faculty through social events, a monthly community faculty meeting, and a city-wide M&M conference, and we have established a local professional society, the Columbus Society of Plastic Surgeons. Each of our visiting professors this year spoke at the Columbus Society of Plastic Surgeons, and these events have drawn attention to Ohio State and what our faculty has to offer the community.

We have outgrown our current academic and clinical space. This year we anticipate moving our academic offices and outpatient clinic to a new location being established at Gowdy Field, in conjunction with the new Outpatient Ambulatory Surgery Center and other clinical departments.

Our priorities for the upcoming year are to:

- Continue to work toward financial stability.
- Recruit additional faculty in key areas.
- Foster academic development of current faculty.
- Establish more efficient clinical care processes.
- Improve and expand our team of support staff.
- Continue working to resolve academic space deficiencies.

- Submit a redesigned residency program for consideration in 2008.
- Publicize our unique clinical services.
- Expand our basic and translational research programs in wound healing, biocomputation, regenerative medicine, and clinical science.

## Faculty

**Michael J. Miller, M.D.**

Professor of Surgery; Chief, Division of Plastic Surgery

**B.S.:** University of Massachusetts, Boston, Mass., 1978

**M.D.:** University of Massachusetts, Boston, Mass., 1982

**Specialty Training:** Berkshire Medical Center, Pittsfield, Mass.; Ohio State University Medical Center, Columbus, Ohio; Tulane University, New Orleans, La.

**Appointment:** 2007

**Specialty Interests:** Reconstructive surgery for patients deformed by cancer

**Research Interests:** Tissue repair and regeneration and applications of advanced technology in clinical surgery



Miller

**Gayle M. Gordillo, M.D.**

Assistant Professor of Surgery

**A.B.:** Stanford University, Stanford, Calif., 1984

**M.D.:** The Ohio State University, Columbus, Ohio, 1990

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1999

**Specialty Interests:** Burns, complex wounds

**Research Interests:** Angiogenesis



Gordillo

**Gregory D. Pearson, M.D.**

Assistant Professor of Clinical Surgery

**B.S.:** Ohio University, Athens, Ohio, 1994

**M.D.:** The Ohio State University, Columbus, Ohio, 1998

**Specialty Training:** Plastic surgery, The Ohio State University, Columbus, Ohio, 2004; Fellowship in craniofacial surgery, Riley Hospital for Children, Indianapolis, Ind., 2005

**Appointment:** 2005

**Specialty Interests:** Craniofacial disorders



Pearson

**Robert L. Ruberg, M.D.**

Professor of Surgery; Senior Vice Chairman for Academic and Administrative Affairs, Department of Surgery

**B.A.:** Haverford College, Haverford, Pa., 1963

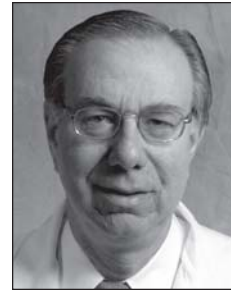
**M.D.:** Harvard Medical School, Cambridge, Mass., 1967

**Specialty Training:** Hospital of the University of Pennsylvania, Philadelphia, Pa.

**Appointment:** 1975

**Specialty Interests:** Breast surgery, children's plastic surgery

**Research Interests:** Plastic surgery education, curriculum development



*Ruberg*

**Anne Taylor, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** Denison University, Granville, Ohio, 1986

**M.D.:** The Ohio State University, Columbus, Ohio, 1990

**Specialty Training:** Plastic surgery, The Ohio State University Medical Center, Columbus, Ohio, 1996

**Appointment:** 2007

**Specialty Interests:** Aesthetic surgery



*Taylor*

**Pankaj Tiwari, M.D.**

Assistant Professor of Surgery

**B.A.:** Harvard University, Boston, Mass., 1995

**M.D.:** New York University, New York, N.Y., 2000

**Specialty Training:** Plastic surgery, Baylor College of Medicine, Houston, Texas, 2006; fellowship in reconstructive microsurgery, M. D. Anderson Cancer Center, Houston, Texas, 2007

**Appointment:** 2007

**Specialty Interests:** Aesthetic surgery and reconstructive microsurgery



*Tiwari*

**William A. Wallace, Jr., M.D.**

Assistant Professor of Clinical Surgery

**B.S.:** Oklahoma State University, Oklahoma City, Okla., 1995

**M.D.:** University of Oklahoma, Norman, Okla., 1999

**Specialty Training:** Plastic surgery, The Ohio State University Medical Center, Columbus, Ohio, 2007

**Appointment:** 2007

**Specialty Interests:** Body contouring



*Wallace*

## Emeritus Faculty

**Ronald B. Berggren, M.D.**

Professor Emeritus of Surgery

**B.A.:** Johns Hopkins University, Baltimore, Md., 1953

**M.D.:** University of Pennsylvania, Philadelphia, Pa., 1957

## Clinical Faculty

**Haroon A. Aziz, M.D.**

Clinical Assistant Professor of Surgery

**F.Sc.:** Forman Christian College, Lahore, Pakistan, 1965

**M.B.B.S.:** King Edward Medical College, Lahore, Pakistan, 1970

**Arthur G. Bing, M.D.**

Clinical Assistant Professor of Surgery

**M.D.:** Pajaran University, Bandung, Indonesia, 1965

**Robert S. Houser, D.O.**

Clinical Assistant Professor of Surgery

**B.S.:** The Ohio State University, Columbus, Ohio, 1993

**D.O.:** Ohio University, Athens, Ohio, 1997

**Jason B. Lichten, M.D.**

Clinical Instructor of Surgery

**B.A.:** Brandeis University, Waltham, Mass., 1993

**B.S.:** University of Pennsylvania, Philadelphia, Pa., 1994

**M.D.:** Jefferson Medical College, Philadelphia, Pa., 1998

**James D. McMahan, M.D.**

Clinical Instructor of Surgery

**B.S.:** University of Oregon, Eugene, Ore., 1979

**M.D.:** Oregon Health and Science University, Portland, Ore., 1983

**Bivik R. Shah, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Michigan, East Lansing, Mich., 1989

**M.D.:** The Ohio State University, Columbus, Ohio, 1994



**Timothy A. Treece, M.D.**

Clinical Instructor of Surgery

**B.S.:** The Ohio State University, Columbus, Ohio, 1979

**M.D.:** The Ohio State University, Columbus, Ohio, 1982

**Susan D. Vasko, M.D.**

Clinical Instructor of Surgery

**B.S.:** The Ohio State University, Columbus, Ohio, 1979

**M.S.:** The Ohio State University, Columbus, Ohio, 1980

**M.D.:** The Ohio State University, Columbus, Ohio, 1986

**Rafael E. Villalobos, D.O.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Maryland, Baltimore, Md., 1985

**M.Sc.:** University of Maryland, Baltimore, Md., 1987

**D.O.:** West Virginia School of Osteopathic Medicine, Lewisburg, W.Va., 1991

**John K. Wakelin, M.D.**

Clinical Instructor of Surgery

**B.A.:** Xavier University, Cincinnati, Ohio, 1996

**M.D.:** The Ohio State University, Columbus, Ohio, 2000

## Resident Staff

**Liza Kim, M.D.**

PGY-5

**B.S.:** University of California, Los Angeles, Calif., 1997

**M.D.:** George Washington University, Washington, D.C., 2003

**Ergun Kocak, M.D.**

PGY-5

**B.S.:** University of Michigan, Ann Arbor, Mich., 1996

**M.D.:** The Ohio State University, Columbus, Ohio, 2000

**Patricia Sandholm, M.D.**

PGY-5

**B.S.:** Massachusetts Institute of Technology, Cambridge, Mass., 1996

**M.D.:** State University of New York at Syracuse, Syracuse, N.Y., 2003

**Laura Figura, M.D.**

PGY-4

**B.S.:** The Ohio State University, Columbus, Ohio, 2000

**M.D.:** The Ohio State University, Columbus, Ohio, 2004

**Dana Goldberg, M.D.**

PGY-4

**B.S.:** University of Notre Dame, South Bend, Ind., 2000

**M.D.:** The Ohio State University, Columbus, Ohio, 2004

**Nabil Habash, M.D.**

PGY-4

**B.S.:** Florida State University, Tallahassee, Fla., 1998

**M.D.:** University of North Carolina, Chapel Hill, N.C., 2003

## Mission and Vision

The mission of the Division of Plastic Surgery at The Ohio State University Medical Center is to restore wholeness to people who suffer from physical deformities, through integrated programs in patient care, education, and research in the field of plastic surgery. Our vision is to become the world's leading center for the practice, training, and advancement of plastic surgery.

## Basic Science Research Programs

- Macrophage-derived oxidants promote hemangioma growth. Dr. Gayle Gordillo, Principal Investigator. Mentored Clinical Scientist Award (K08), National Institutes of Health, National Institute of General Medical Sciences, April 1, 2004 – March 31, 2008, \$633,042.

## Clinical Research Programs

- A multicenter, randomized, controlled trial examining cellular and tissue oxygenation levels related to various wound healing therapies Dr. Gayle Gordillo, Co-Principal Investigator. KCI USA, Inc., June 22, 2007 – June 21, 2009, \$124,878.

- A prospective, multicenter, double-blind, randomized, placebo-controlled trial to evaluate the safety and efficacy of ICXP007 in a phase III trial with four-layer therapeutic compression, for the treatment of non-infected skin leg ulcers due to venous insufficiency. Dr. Gayle Gordillo, Co-Principal Investigator. U.S. Food and Drug Administration, \$195,304.
- Human tissue distribution of orally-supplemented natural vitamin E tocotrienol detects the presence of tocotrienol in various human tissues. Dr. Gayle Gordillo, Co-Principal Investigator.
- Efficacy of natural vitamin E tocotrienol on the treatment of surgical scars: randomized, double-blinded, placebo-controlled trial designed to assess the qualitative effects of tocotrienol on scar healing outcomes in plastic surgery patients. Dr. Gayle Gordillo, Co-Principal Investigator. Carotech, \$600,000.

## Translational Research Programs

- Identification of oxidation-reduction events in response to oxygen therapy. Dr. Gayle Gordillo, Co-Principal Investigator. This study is an ongoing translational research endeavor supported by a contract with GWR Medical, LLC.
- Gene expression profiles in healing and non-healing wounds. Dr. Gayle Gordillo, Co-Principal Investigator. A large, multicenter translational research protocol being implemented at Ohio State and other wound-care centers in the National Healing Corporation network, the project collects wound tissue specimens, medical history, and clinical outcomes data to determine patterns of gene expression in healing versus non-healing wounds. Tissue specimens will be evaluated by histology for quality control and will then proceed to gene chip analysis on single cell populations, using laser capture technology. Data collection and management strategies were incorporated into the protocol, which is approved by the General Clinical Research Center at Ohio State.
- Mechanisms regulating wound vascularization. Dr. Gayle Gordillo, Co-Principal Investigator. A pilot study for the Program Project Initiative Grant to get preliminary data for a planned P50 Center grant submission to the National Institutes of Health, to establish a wound-healing Center of Excellence at Ohio State. A \$400,000 seed grant was provided by the Davis Heart and Lung Research Institute to support the development of this proposal. Dr. Gordillo is the clinical core director, wrote the human subjects protocol, and supervised development of data management tools to support translational needs of four basic science investigators.
- Mechanisms underlying impaired diabetic wound healing. Dr. Gayle Gordillo, Co-Principal Investigator. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, R01, \$1,200,00. This is a translational protocol examining the effects of diabetes on macrophage function in wounds. Macrophages are collected from the wound non-invasively, using VAC sponges, in a protocol developed jointly by Dr. Gordillo and Sashwati Roy, Ph.D.

## Accomplishments in Research

- Dr. Gayle Gordillo is co-principal investigator for an R01 grant awarded in April 2008 by the National Institute of Diabetes and Digestive and Kidney Diseases.
- Dr. Gayle Gordillo is co-principal investigator of clinical trials sponsored by KCI, Intercytex, and Carotech.
- Dr. Gayle Gordillo co-authored an article published in the September 4, 2007 issue of the Proceedings of the National Academy of Science.

## Active Research Grants

**Gordillo GM.** Role of macrophages in hemangioendothelioma development. National Institutes of Health, National Institute of General Medical Sciences, April 1, 2004 – March 31, 2009, \$633,043.

## Clinical Programs

- Hemangioma and Vascular Malformation Clinic. Established and directed by Dr. Gayle Gordillo, the clinic provides comprehensive care to patients with hemangiomas and vascular malformations.
- Inpatient Wound Consult Service. Established and directed by Dr. Gayle Gordillo, the service provides expertise in the evaluation and management of inpatients with pressure ulcers, venous stasis ulcers, and diabetic foot ulcers. The service sees about 200 patients per year.
- Comprehensive Wound Center (CWC). Recognized by Ohio State's Board of Trustees in 2004, the center was developed by Dr. Gayle Gordillo and Chandan Sen, Ph.D., to: (1) accelerate the translation of basic science findings to clinical application, (2) encourage novel partnerships and multidisciplinary approaches to investigate complex problems related to wound repair and regeneration, and (3) use data to develop clinical best practices and become a leader in the field of tissue repair and wound management. The objectives and activities of the CWC adhere to guidelines of the NIH Road Map for Medical Research. The CWC was used as a centerpiece in the recently-funded OSU proposal for an NIH Clinical and Translational Science Award of \$35 million.

## Accomplishments in Clinical Care

- Growth of the Hemangioma and Vascular Malformation Clinic. The clinic has grown from two to four physician providers and now includes two plastic surgeons, a dermatologist, and an otolaryngologist. The volume of patients has doubled, with more than 400 patient visits per year.
- Awarding of three sponsored clinical trials, with Dr. Gayle Gordillo as principal investigator or co-principal investigator.
- Establishment of a new Aesthetics Office, under the direction of Dr. Anne Taylor, located at Easton Town Center.

## Clinical Statistics

OR Procedures	815
Outpatient Visits	1,760
Admissions	294
Patient Days	1,317
Average Length of Stay (Days)	4.29

## Educational Programs

- Plastic surgery residency training program.

## Accomplishments in Education

- Dr. Michael Miller, Dr. Robert Ruberg, and Dr. Gayle Gordillo served as examiners for the American Board of Plastic Surgery, in Phoenix, Ariz., November 8–10, 2007.
- Dr. Michael Miller served as chairman of the AO North America Course, in Columbus, Ohio, April 12–13, 2007.
- Dr. Gregory Pearson served as a guest speaker at the AO North America Course, in Columbus, Ohio, April 12–13, 2007.

## Accomplishments in Community Outreach

- Dr. Michael Miller presented “Reconstructive Surgery in Oncology” at Wyandot Memorial Hospital, in Upper Sandusky, Ohio, on August 7, 2007; at Genesis HealthCare Systems, in Zanesville, Ohio, on September 5, 2007; and at the Scioto County Medical Society, in Portsmouth, Ohio, on February 15, 2008.
- Dr. Michael Miller was interviewed in October 2007 by Suburban News Publications, Ohio News Network, and WSNY 94.7 FM, for Breast Cancer Awareness Month.

## Publications

**Buchholz TA, Lehman CD, Harris JR, Pockaj BA, Khouri N, Hylton NF, Miller MJ, Whelan T, Pierce LJ, Esserman LJ, Newman LA, Smith BL, Bear HD, Mamounas EP.** Statement of the science concerning locoregional treatments after preoperative chemotherapy for breast cancer: a National Cancer Institute conference. *J Clin Oncol* 2008; 26(5):791–797.

**Kim MS, Shalchiero JC, Reece GP, Miller MJ, Beahm EK, Markey MK.** Assessment of breast aesthetics. *Plast Reconstr Surg* 2008; 121(4):186e–194e.

**Swisher SG, Hofstetter WL, Miller MJ.** The supercharged microvascular jejunal interposition. *Semin Thorac Cardiovasc Surg* 2007; 19(1):56–65.

## Visiting Professorships

**Miller MJ.** Sloan-Kettering Memorial Hospital, Department of Surgery, Grand Rounds, New York, N.Y., November 19, 2007.

**Miller MJ.** University of Illinois, Department of Bioengineering, Champaign, Ill., October 4, 2007.

## National Presentations

**Gordillo GM.** Dietary treatment of hemangioendothelioma. American Association of Plastic Surgeons, Boston, Mass., April 7, 2008.

**Gordillo GM.** Wound tissue oxygenation. Society for Advanced Wound Care, San Diego, Calif., April 24, 2008.

## Miscellaneous Presentations

**Gordillo GM.** Building a culture of research: making translational research work for you. Children's Hospital Research Institute, Columbus, Ohio, February 15, 2008.

**Gordillo GM.** Burns. The Ohio State University Medical Center, Med III Surgery Core Clerkship Course, Columbus, Ohio, December 3, 2007.

**Gordillo GM.** Endothelial cell tumor translational research. The Ohio State University Medical Center, Department of Surgery Faculty Meeting, Columbus, Ohio, January 22, 2008.

**Gordillo GM.** Endothelial cell tumor treatment program. The Ohio State University Medical Center, Wisconsin Surgical Society, Columbus, Ohio, May 6, 2008.

**Gordillo GM.** Evaluation and management of chronic wounds. The Ohio State University Medical Center, Med IV Medical Therapeutics Elective, Columbus, Ohio, March 10, 2008.

**Gordillo GM.** Evaluation and management of chronic wounds: a summary of wound healing society guidelines. The Ohio State University Medical Center, Rehabilitation Services, Grand Rounds, Columbus, Ohio, October 16, 2007.

**Gordillo GM.** Hemangioma: mechanisms and nutritional intervention. The Ohio State University Medical Center, Wisconsin Surgical Society, Columbus, Ohio, May 6, 2008.

**Gordillo GM.** Plastic surgery. The Ohio State University Medical Center, Med III Surgery Core Clerkship Course, Columbus, Ohio, October 8, 2007.

**Gordillo GM.** Plastic surgery as a career. Alpha Epsilon Delta Pre-Medical Honor Society, Columbus, Ohio, February 16, 2008.

**Gordillo GM.** Plastic surgery as a career. The Ohio State University Medical Center, Surgery Interest Group, Columbus, Ohio, November 26, 2007.

**Gordillo GM.** Privacy and confidentiality in clinical research. The Ohio State University Medical Center, Med I Patient-Centered Research Education, Columbus, Ohio, October 18, 2007.

**Gordillo GM.** Tissue oxygenation: effects of topical and hyperbaric oxygen on gene expression in chronic wounds. The Ohio State University Medical Center, Wound Care and Hyperbaric Update 2008, Columbus, Ohio, April 19, 2008.

**Gordillo GM.** Translational research in wound healing. The Ohio State University Medical Center, Integrated Biomedical Science Graduate Program Seminar, Columbus, Ohio, November 13, 2007.

**Gordillo GM.** Wound healing: basic mechanisms and management. The Ohio State University Medical Center, Med II Musculoskeletal Course, Columbus, Ohio, March 13, 2008.

**Gordillo GM.** Wound-healing research at the OSU Comprehensive Wound Center. 106.3 FM, It's All About Health, Columbus, Ohio, February 11, 2008.

**Habash N.** Vertical breast reduction: retrospective review of revision rate in the first year of a new technique. Ohio Valley Society of Plastic Surgeons, Cleveland, Ohio, May 16, 2008.

**Kocak E.** Distal interphalangeal and thumb interphalangeal joint arthrodesis with the Herbert headless compression screw: outcomes and complications in 67 consecutively treated joints. Ohio Valley Society of Plastic Surgeons, Cleveland, Ohio, May 16, 2008.

**Miller MJ.** Breast implants and breast health. The Ohio State University Medical Center, Department of Obstetrics and Gynecology, Grand Rounds, Columbus, Ohio, October 11, 2007.

**Miller MJ.** Computer-aided methods of breast reconstruction. The Ohio State University Medical Center, Wisconsin Surgical Society, Columbus, Ohio, May 6, 2008.

**Miller MJ.** Soft tissue reconstruction. The Ohio State University Comprehensive Cancer Center, Spine and Bone Tumor Symposium, Columbus, Ohio, May 3, 2008.

**Miller MJ.** Translational research in plastic surgery: blending biological science, engineering, and clinical medicine. The Ohio State University Medical Center, Davis Heart and Lung Research Institute, Columbus, Ohio, November 2, 2007.

**Miller MJ.** Update on wound coverage techniques. American College of Surgeons, Ohio Chapter, Columbus, Ohio, May 10, 2008.

**Sutradhar A.** Computer simulations for predicting outcome of breast augmentation and reconstruction surgery. Ohio Valley Society of Plastic Surgeons, Cleveland, Ohio, May 16, 2008.

**Tiwari P.** Intraoperative, real-time fluorescence vascular angiography imaging of perforator anatomy to guide skin paddle selection and design. Ohio Valley Society of Plastic Surgeons, Cleveland, Ohio, May 16, 2008.



# Surgical Oncology



**William B. Farrar, M.D.**  
Chief, Division of Surgical Oncology

In the Division of Surgical Oncology, all clinical and basic research activities are devoted to the evaluation and management of cancer. The mission of the division is reflected in the mission of the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute. Our goal is to provide excellence in clinical cancer care; to educate medical students, residents, and fellows; and to conduct research. Most of the research in the division is translational, in which ideas and hypotheses from the laboratory are incorporated into clinical evaluation through the clinical trial mechanism.

Dr. Doreen Agnese continues to distinguish herself as an excellent clinician, working mainly in breast cancer, melanoma, and cancer genetics. She participates in our High-Risk Breast Cancer Clinic and continues to lead our weekly multi-modality breast meeting. This year, Dr. Agnese became a member of the clinical subcommittee of the Center for Women's Health and a reviewer for the European Journal of Surgical Oncology.

Dr. Mark Bloomston, assistant professor of surgery, was appointed director of translation research in liver cancer and director of the surgical oncology fellowship program this year. He also received a James IV Surgical Association Traveling Fellowship Award.

Dr. William Carson, a leader in basic research, continues to serve as associate director of the Comprehensive Cancer Center at the James Cancer Hospital, and he also directs the institutional review board at the James. Dr. Carson continues to be active in teaching and research. He is principal investigator on several National Cancer Institute awards, including a K24 mid-career investigational award.

Dr. Edward Martin is an international leader in gastrointestinal cancer and continues to evaluate the detection of colon cancer. He holds a national grant for probe-assisted PET/CT-guided surgery for

colon cancer and continues to place patients in this clinical trial. Dr. Martin is a leader in teaching surgical principles to residents and fellows at The Ohio State University Medical Center.

Dr. Stephen Povoski, a leader in breast cancer prevention, continues to serve as director of our High-Risk Breast Cancer Clinic. He is a leader in innovative techniques for the treatment of breast cancer and has been the principal investigator on our partial radiation program. Dr. Povoski is also working with the Division of Nuclear Medicine to evaluate near-infrared/ultrasound dual modal imaging for breast cancer. This year he was named deputy editor of the *World Journal of Surgical Oncology*.

Dr. Lisa Yee, an excellent clinician and researcher, has a number of translational clinical trials, for which she continues to recruit patients. She holds a National Cancer Institute grant supporting her work in fatty acids and breast cancer prevention.

Dr. William Farrar is the Arthur G. and Mildred C. James/Richard J. Solove professor of surgical oncology. Breast and thyroid cancer continue to be the focus of his clinical and research activities. Dr. Farrar is co-director of the JamesCare Breast Center at Stoneridge, a comprehensive center that makes available all aspects of breast cancer diagnosis during one clinic visit, providing mammography, ultrasound, stereotactic breast biopsy, MRI, and outpatient techniques. He serves on the Commission on Cancer of the American College of Surgeons, and he continues as primary investigator at The Ohio State University Medical Center for the National Surgical Adjuvant Breast and Bowel Project. Dr. Farrar serves on the breast treatment, breast cancer prevention, and thyroid cancer guidelines committees of the National Comprehensive Cancer Network. At the James Cancer Hospital, he continues to serve as medical director, and he also serves on the leadership committee, which is working toward a major expansion of the James.

Dr. Wiley W. “Chip” Souba, Jr. continues to serve as dean of the College of Medicine and vice president for health sciences at The Ohio State University Medical Center.

In September 2007, Anne VanBuskirk, Ph.D., resigned her appointment as assistant professor of surgery.

In June 2008, Dr. Ryan Neff completed the fellowship in surgical oncology and accepted an appointment as assistant professor of surgery at Washington University, in St. Louis, Mo.

**In Memoriam****Michael J. Walker, M.D., 1946–2008**

The Department of Surgery expresses its sorrow on the death of friend and colleague Michael J. Walker, M.D., associate professor of surgery in the Division of Surgical Oncology, who died September 1, 2008, in Chicago.

Dr. Walker was born in 1946, in Washington, D.C. He received his undergraduate degree at the University of Toronto and his medical degree at the State University of New York at Syracuse. He completed his residency in general surgery and a fellowship in surgical oncology at the University of Illinois at Chicago.

Following his training, Dr. Walker joined the surgical faculty at the University of Illinois, where he remained for seven years. In 1989, he joined the faculty of the Department of Surgery at The Ohio State University Medical Center. From 2001 to 2003, he served as chief of staff of the James Cancer Hospital.

An expert in surgical oncology who was known for his expertise in the surgical treatment of melanoma and soft tissue sarcoma, Dr. Walker was a well-published author in both disciplines. He was a major contributor to clinical trials in melanoma, locally and nationally. He helped to define the use of the sentinel node in the management of melanoma and was an invited speaker on melanoma, nationally and internationally.

Dr. Walker was highly regarded as a teacher and mentor of medical students, residents, and surgical oncology fellows. He received a number of teaching awards, including the faculty teaching awards bestowed by the residents and medical students of the Department of Surgery.

To honor Dr. Walker, The Ohio State University Medical Center has established the Michael J. Walker Lectureship in Surgical Oncology. In addition, in recognition of his particular contributions to medical student education, the Department of Surgery has named its faculty teaching award bestowed by medical students the Michael J. Walker Teaching Award.



## Faculty

### **William B. Farrar, M.D.**

Professor of Surgery; Chief, Division of Surgical Oncology; the Arthur G. and Mildred C. James/Richard J. Solove Professor of Surgical Oncology

**B.A.:** Illinois Wesleyan University, Bloomington, Ill., 1971

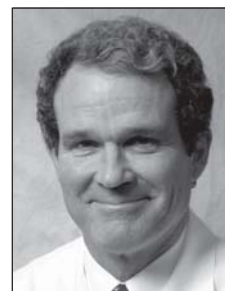
**M.D.:** University of Virginia, Charlottesville, Va., 1975

**Specialty Training:** The Ohio State University, Columbus, Ohio; Memorial Sloan-Kettering Cancer Center, New York, N.Y.

**Appointment:** 1982

**Specialty Interests:** Breast disease, thyroid disease, head and neck cancer

**Research Interests:** Breast cancer (high-risk breast cancer clinic, clinical studies for the adjuvant treatment of breast cancer, role of stereotactic biopsy for diagnosis, use of sestamibi in breast cancer diagnosis); thyroid cancer (role of aspiration biopsy and follicular neoplasms, extent of surgery for thyroid cancer); parathyroid disease (localization studies using sestamibi and Neoprobe)



*Farrar*



*Agnese*

### **Doreen M. Agnese, M.D.**

Assistant Professor of Surgery and Internal Medicine

**M.D.:** University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School, Piscataway, N.J., 1993

**Specialty Training:** General surgery internship and residency, research fellowship, University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School, Piscataway, N.J.; fellowship in surgical oncology and clinical cancer genetics, The Ohio State University, Columbus, Ohio

**Appointment:** 2004

**Specialty and Research Interests:** Breast cancer, melanoma, cancer genetics, all aspects of surgical oncology



*Bloomston*

### **Mark Bloomston, M.D.**

Assistant Professor of Surgery

**B.S.:** Florida State University, Tallahassee, Fla., 1992

**M.D.:** University of South Florida, Tampa, Fla., 1997

**Specialty Training:** Internship, residency, and research fellowship in general surgery, University of South Florida, Tampa, Fla.; fellowship in surgical oncology, Ohio State University Medical Center, Columbus, Ohio

**Appointment:** 2006

**Specialty and Research Interests:** Pancreatic and alimentary tract cancers

**William E. Carson, III, M.D.**

Associate Professor of Surgery

**B.S.:** University of California, Irvine, Calif., 1982**M.D.:** University of Southern California, Los Angeles, Calif., 1986**Specialty Training:** University of California, Irvine, Calif.; Roswell Park Cancer Institute, Buffalo, N.Y.**Appointment:** 1997**Specialty Interests:** Breast cancer**Research Interests:** The role of natural killer cells in septic shock

Carson

**Edward W. Martin, Jr., M.D.**

Professor of Surgery

**B.S.:** The Ohio State University, Columbus, Ohio, 1967**M.D.:** Meharry Medical College, Nashville, Tenn., 1972**Specialty Training:** National Institutes of Health training, The Ohio State University, Columbus, Ohio; American Cancer Society Advanced Fellowship, The Ohio State University, Columbus, Ohio**Appointment:** 1977**Specialty Interests:** Gastrointestinal malignancies**Research Interests:** Radioimmunoguided surgery, tumor markers, biologic response modifiers, liver metastatic model, dormant cancer cells, vaccines

Martin

**Stephen P. Povoski, M.D.**

Associate Professor of Surgery

**B.S.:** State University of New York, Buffalo, N.Y., 1985**M.D.:** State University of New York Health Science Center, Syracuse, N.Y., 1989**Specialty Training:** University of Cincinnati Medical Center, Cincinnati, Ohio; Memorial Sloan-Kettering Cancer Center, New York, N.Y.**Appointment:** 2001**Specialty Interests:** Breast cancer, breast diseases**Research Interests:** Sentinel lymph node mapping and biopsy for breast cancer, image-guided/minimally invasive breast biopsy, high-risk breast cancer clinic, ductal lavage

Povoski

**Wiley W. “Chip” Souba, Jr., M.D.**

Professor of Surgery; Dean, The Ohio State University College of Medicine; Vice President for Health Sciences, The Ohio State University Medical Center

**B.S.:** Muskingum College, New Concord, Ohio, 1975

**M.D.:** University of Texas, Houston, Texas, 1978

**Sc.D.:** Harvard School of Public Health, Boston, Mass., 1984

**M.B.A.:** Boston University School of Management, Boston, Mass., 1998

**Specialty Training:** Residency in surgery, University of Texas, Houston, Texas; fellowship, Brigham and Women’s Hospital and the Dana-Farber Cancer Institute, Boston, Mass.; fellowship, University of Texas M.D. Anderson Cancer Center, Houston, Texas

**Appointment:** 2006

**Specialty Interests:** Leadership development; the academic medicine environment

**Research Interests:** Metabolism of glutamine



*Souba*



*Walker*

**Michael J. Walker, M.D.**

Associate Professor of Surgery

**B.Sc.:** University of Toronto, Toronto, Canada, 1968

**M.D.:** State University of New York Upstate Medical University, Syracuse, N.Y., 1972

**Specialty Training:** University of Illinois, Chicago, Ill.

**Appointment:** 1989

**Specialty Interests:** General surgical oncology, melanoma, soft tissue sarcoma, head and neck cancer, breast cancer

**Research Interests:** Regulation of melanoma growth by growth factors, oncogenes, and tumor suppressor genes; interaction of endocrine and growth factors on the cell biology of soft tissue sarcoma



*Yee*

**Lisa D. Yee, M.D.**

Associate Professor of Surgery

**B.A.:** University of California, San Diego, Calif., 1982

**M.D.:** Yale University, New Haven, Conn., 1986

**Specialty Training:** Mount Sinai Medical Center, Miami, Fla.

**Appointed:** 1996

**Specialty Interests:** General surgical oncology

**Research Interests:** Tumor progression and metastasis

## Resident Staff

### **Ryan Neff, M.D.**

PGY-7

**B.S.:** Franklin and Marshall College, Lancaster, Pa., 1997

**M.D.:** Jefferson Medical College, Philadelphia, Pa., 2001

### **Suhail Sharif, M.D.**

PGY-6

**B.S.:** University of Illinois, Chicago, Ill., 1996

**M.D.:** University of Guadalajara, San Antonio, Texas, 2000

## Mission

The Division of Surgical Oncology is dedicated to the evaluation and management of cancer and to cancer research and education.

## Active Research Grants

**Carson WE III.** Core C: clinical correlative science. National Cancer Institute P01, September 30, 2002 – August 31, 2007, \$916,915.

**Carson WE III.** Effect of IL-21 on antibody-dependent cellular toxicity mediated by an HER2/neu antibody and NK cell against breast carcinoma cells *in vitro* and *in vivo*. Zymogenetics, Inc., April 14, 2004 – July 31, 2009, \$74,600.

**Carson WE III.** Modulation of tumor CEA levels for an anti-CEA vaccine. National Cancer Institute, May 18, 2005 – April 30, 2009, \$583,587.

**Carson WE III.** A phase 1 study of PS-341 (bortezomib, Velcade) and interferon-alpha-2b in malignant melanoma. Millennium Pharmaceuticals, Inc., February 10, 2005 – November 30, 2008, \$53,500.

**Carson WE III.** A phase 1 trial of IL-21 in combination with weekly paclitaxel and trastuzumab in patients with HER2-positive malignancies. Mary Kay Ash Charitable Foundation, August 1, 2006 – July 31, 2008, \$100,000.

**Carson WE III.** A phase 2, randomized, double-blind, placebo-controlled trial evaluating the efficacy and safety of bevacizumab in combination with carboplatin and paclitaxel chemotherapy. Genentech, Inc., June 8, 2007 – August 1, 2009, \$40,545.

**Carson WE III.** A program of immune-based treatments for cancer. National Cancer Institute, April 1, 2008 – March 31, 2009, \$178,300.

**Carson WE III.** A program of immune-based treatments for cancer. National Cancer Institute, July 22, 2002 – March 31, 2008, \$774,447.

**Carson WE III.** Therapy of melanoma with bortezomib and interferon-alpha. National Cancer Institute, April 1, 2006 – February 28, 2009, \$4,491.

**Carson WE III.** Therapy of melanoma with bortezomib and interferon-alpha. National Cancer Institute, April 1, 2006 – February 28, 2009, \$523,031.

**Carson WE III.** Tumor immunology. National Cancer Institute, June 1, 2008 – May 31, 2009, \$247,825.

**Farrar WB.** Breast and bowel treatment protocols agreement. National Surgical Adjuvant Breast and Bowel Project Foundation, Inc., February 1, 1999 – January 31, 2009, \$472,945.

**Farrar WB.** Breast and bowel treatment protocols agreement. National Surgical Adjuvant Breast and Bowel Project Foundation, Inc., February 1, 2006 – January 31, 2009, \$63,950.

**Farrar WB.** Low-fat diet and breast cancer recurrence: outcome trial. Los Angeles Biomedical Research Institute, December 1, 2004 – December 31, 2007, \$3,000.

**Farrar WB.** Study of tamoxifen and raloxifene (STAR trial). National Surgical Adjuvant Breast and Bowel Project Foundation, Inc., June 1, 1999 – May 31, 2008, \$796,010.

**Farrar WB.** Treatment of breast and bowel cancer patients: a clinical trial. National Surgical Adjuvant Breast and Bowel Project Foundation, February 1, 1999 – January 31, 2008, \$404,695.

**Lee RJ, Carson WE III, Guan J, Lee LJ, Marcucci G.** Microfluidic synthesis of nanoparticles for oligonucleotide delivery. National Cancer Institute, March 20, 2008 – February 28, 2009, \$159,422.

**Lee LJ, Carson WE III, Lee RJ, Marcucci G, Wang S.** Novel micro/nanofluidic electroporation devices for DNA and oligonucleotide delivery. National Institute of Biomedical Imaging and Bioengineering, September 30, 2007 – August 31, 2009, \$383,309.

**Martin EW Jr, Abdessalam S, Kocak E.** Probe-assisted, PET/CT-guided surgery for colon cancer. National Institute of Biomedical Imaging and Bioengineering, September 19, 2003 – August 31, 2007, \$361,925.



**Povoski S, Shapiro CL.** A pilot trial of exemestane in combination with celecoxib as neoadjuvant treatment in postmenopausal women with stage II, III, breast cancers. Pharmacia & Upjohn, Inc., June 27, 2003 – November 30, 2008, \$66,500.

**Walker MJ.** Prospective study of the natural history of subjects who were entered in the MMAIT-03-011 and MMAIT-04-001 trials and underwent postoperative therapy with the BCG plus placebo or BCG plus Canvaxin. John Wayne Cancer Institute, April 1, 2007 – March 31, 2009, \$8,125.

**Walker MJ, Agnese D.** A phase 3, multi-center, randomized trial of sentinel lymphadenectomy and complete lymph node dissection versus sentinel lymphadenectomy alone in cutaneous melanoma patients with molecular or histopathological evidence of metastases in the sentinel node. John Wayne Cancer Institute, June 1, 2006 – May 31, 2009, \$11,430.

**Xu RX, Martin EW Jr, Povoski S, Sun D.** Targeted delivery of microbubble encapsulated fluorophores for cancer imaging. Army Medical Research and Materiel Command, September 15, 2007 – September 14, 2008, \$109,320.

**Xu RX, Povoski S.** Development of an integrated dynamic breast imaging system for the early detection of breast cancer. Wallace H. Coulter Foundation, September 1, 2006 – August 31, 2009, \$228,932.

**Yee LD.** HER-2/neu and dietary fat: gene-nutrient interactions in breast cancer. National Cancer Institute, August 1, 2005 – July 31, 2008, \$349,791.

## Clinical Programs

- Comprehensive surgical oncology service.

## Clinical Statistics

OR Procedures	1,930
Outpatient Visits	28,555
Admissions	897
Patient Days	6,484
Average Length of Stay (Days)	7.07

## Educational Programs

- Two-year fellowship in surgical oncology, which includes 18 months of clinical work and six months of basic research.
- Comprehensive rotation in surgical oncology for third- and fourth-year residents in general surgery.
- Subinternship in surgical oncology.

## Publications

**Agnese DM, Maupin R, Tillman B, Pozderac RD, Magro C, Walker MJ.** Head and neck melanoma in the sentinel lymph node era. *Arch Otolaryngol Head Neck Surg* 2007; 133(11):1121–1124.

**Cao X, Bloomston M, Zhang T, Frankel WL, Jia G, Wang B, Hall NC, Koch RM, Cheng H, Knopp MV, Sun D.** Synergistic antipancreatic tumor effect by simultaneously targeting hypoxic cancer cells with HSP90 inhibitor and glycolysis inhibitor. *Clin Cancer Res* 2008; 14(6):1831–1839.

**Carson WE 3rd, Liang MI.** Current immunotherapeutic strategies in breast cancer. *Surg Oncol Clin N Am* 2007; 16(4):841–860, ix.

**Colonna J, Plaza JA, Frankel WL, Yearsley M, Bloomston M, Marsh WL.** Serous cystadenoma of the pancreas: clinical and pathological features in 33 patients. *Pancreatology* 2008; 8(2):135–141.

**Gowda A, Roda J, Hussain S-RA, Ramanunni A, Joshi T, Schmidt S, Zhang X, Lehman A, Jarjoura D, Carson WE, Kindsvogel W, Cheney C, Caligiuri MA, Tridandapani S, Muthusamy N, Byrd JC.** IL-21 mediates apoptosis through up-regulation of the BH3 family member BIM and enhances both direct and antibody-dependent cellular toxicity in primary chronic lymphocytic leukemia cells in vitro. *Blood* 2008; 111(9):4723–4730.

**Johnston J, Wheatley GH 3rd, El Sayed HF, Marsh WB, Ellison EC, Bloomston M.** Gastric duplication cysts expressing carcinoembryonic antigen mimicking cystic pancreatic neoplasms in two adults. *Am Surg* 2008; 74(1):91–94.

**Kondadasula SV, Roda JM, Parihar R, Yu J, Lehman A, Caligiuri MA, Tridandapani S, Burry RW, Carson WE 3rd.** Colocalization of the IL-12 receptor and FcγRIIIa to natural killer cell lipid rafts leads to activation of ERK and enhanced production of interferon-γ. *Blood* 2008; 111(8):4173–4183.

**Lesinski GB, Trefry J, Brasdovich M, Kondadasula SV, Sackey K, Zimmerer JM, Chaudhury AR, Yu L, Zhang X, Crespín TR, Walker MJ, Carson WE 3rd.** Melanoma cells exhibit variable signal transducer and activator of transcription 1 phosphorylation and a reduced response to IFN- $\alpha$  compared with immune effector cells. *Clin Cancer Res* 2007; 13(17):5010–5019.

**Mamounas EP, Jeong J-H, Wickerham DL, Smith RE, Ganz PA, Land SR, Eisen A, Fehrenbacher L, Farrar WB, Atkins JN, Pajon ER, Vogel VG, Kroener JF, Hutchins LF, Robidoux A, Hoehn JL, Ingle JN, Geyer CE Jr, Cosantino JP, Wolmark N.** Benefit from exemestane as extended adjuvant therapy after 5 years of adjuvant tamoxifen: intention-to-treat analysis of the National Surgical Adjuvant Breast and Bowel Project B-33 trial. *J Clin Oncol* 2008; 26(12):1965–1971.

**Neff RL, Farrar WB, Kloos RT, Burman KD.** Anaplastic thyroid cancer. *Endocrinol Metab Clin North Am* 2008; 37(2):525–538, xi.

**Povoski SP.** The utilization of an ultrasound-guided 8-gauge vacuum-assisted breast biopsy system as an innovative approach to accomplishing complete eradication of multiple bilateral breast fibroadenomas. *World J Surg Oncol* 2007; 5(1):124.

**Povoski SP, Hall NC, Martin EW Jr, Walker MJ.** Multimodality approach of perioperative 18F-FDG PET/CT imaging, intraoperative 18F-FDG handheld gamma probe detection, and intraoperative ultrasound for tumor localization and verification of resection of all sites of hypermetabolic activity in a case of occult recurrent metastatic melanoma. *World J Surg Oncol* 2008; 6:1.

**Roda JM, Joshi T, Butchar JP, McAlees JW, Lehman A, Tridandapani S, Carson WE 3rd.** The activation of natural killer cell effector functions by cetuximab-coated, epidermal growth factor receptor positive tumor cells is enhanced by cytokines. *Clin Cancer Res* 2007; 13(21):6419–6428.

**Rosemurgy A, Luzardo G, Cooper J, Bowers C, Zervos E, Bloomston M, Al-Saadi S, Carroll R, Chheda H, Carey L, Goldin S, Grundy S, Kudryk B, Zwiebel B, Black T, Briggs J, Chervenick P.** 32P as an adjunct to standard therapy for locally advanced unresectable pancreatic cancer: a randomized trial. *J Gastrointest Surg* 2008; 12(4):682–688.

**Sun D, Bloomston M, Hinkle G, Al-Saif OH, Hall NC, Povoski SP, Arnold MW, Martin EW Jr.** Radioimmunoguided surgery (RIGS), PET/CT image-guided surgery, and fluorescence image-guided surgery: past, present, and future. *J Surg Oncol* 2007; 96(4):297–308.

**Varker KA, Biber JE, Kefauver C, Jensen R, Lehman A, Young D, Wu H, Lesinski GB, Kendra K, Chen HX, Walker MJ, Carson WE 3rd.** A randomized phase 2 trial of bevacizumab with or without daily low-dose interferon  $\alpha$ -2b in metastatic malignant melanoma. *Ann Surg Oncol* 2007; 14(8):2367–2376.

**Varker KA, Martin EW, Klemanski D, Palmer B, Shah MH, Bloomston M.** Repeat transarterial chemoembolization (TACE) for progressive hepatic carcinoid metastases provides results similar to first TACE. *J Gastrointest Surg* 2007; 11(12):1680–1685.

**Varker KA, Muscarella P, Wall K, Ellison C, Bloomston M.** Pancreatectomy for non-pancreatic malignancies results in improved survival after R0 resection. *World J Surg Oncol* 2007; 5:145.

**Wang B, Povoski SP, Cao X, Sun D, Xu RX.** Dynamic schema for near infrared detection of pressure-induced changes in solid tumors. *Applied Optics* 2008; 47(16):3053–3063.

**Xu RX, Qiang B, Mao JJ, Povoski SP.** Development of a handheld near-infrared imager for dynamic characterization of in vivo biological tissue systems. *Appl Opt* 2007; 46(30):7442–7451.

**Xu RX, Young DC, Mao JJ, Povoski SP.** A prospective pilot clinical trial evaluating the utility of a dynamic near-infrared imaging device for characterizing suspicious breast lesions. *Breast Cancer Res* 2007; 9(6):R88.

**Zimmerer JM, Lehman AM, Ruppert AS, Noble CW, Olencki T, Walker MJ, Kendra K, Carson WE 3rd.** IFN-alpha-2b-induced signal transduction and gene regulation in patient peripheral blood mononuclear cells is not enhanced by a dose increase from 5 to 10 megaunits/m<sup>2</sup>. *Clin Cancer Res* 2008; 14(5):1438–1445.

**Zimmerer JM, Lesinski GB, Radmacher MD, Ruppert A, Carson WE 3rd.** STAT1-dependent and STAT1-independent gene expression in murine immune cells following stimulation with interferon-alpha. *Cancer Immunol Immunother* 2007; 56(11):1845–1852.

## Abstracts

**Kneile JR, Bloomston M, Butterfield M, Huebner K, Frankel WL.** Immunohistochemical stains for FHIT, CDX2, p53, Maspin and Ki-67 are altered in gallbladder adenocarcinoma but only tumor size correlates with survival. *Mod Pathol* 2007; 20(Suppl 2):285A.

**Kneile JR, Bloomston M, Marsh WL, Huebner K, Frankel WL.** FHIT expression is decreased in pancreatic adenocarcinoma but does not correlate with survival. *Mod Pathol* 2007; 20(Suppl 2):285A.

**Liu J, Bloomston M, McKeegan CB, Frankel WL.** MicroRNA-21 is up-regulated in human pancreas cancer: a tissue microarray study of 247 cases using in-situ hybridization. *Mod Pathol* 2008; 21(Suppl 1):309A.

**Neff RL, Al Saif O, Sharif S, Bozek C, Agnese D, DeRenne LA, Povoski SP, Walker MJ.** The significance of multiple metastatic foci in sentinel lymph nodes of melanoma. *Ann Surg Oncol* 2008; 15(Suppl 2):61–62.

**Shapiro CL, Povoski SP, Jiminez R, Dehart J, Ottman S, Shiels DR, Xiaobia L, Brueggemeier R.** Phase II trial of neoadjuvant exemestane (EXE) and celecoxib (CELE): effect on biomarkers. *J Clin Oncol* 2007; 25(Suppl 18S):11056.

## National Presentations

**Dillhoff M, Liu J, Frankel W, Bloomston M.** MicroRNA-21 is overexpressed in pancreatic cancer and is a potential predictor of survival. American Hepato-Pancreato-Biliary Association, Eighth Annual Meeting, Fort Lauderdale, Fla., March 27–30, 2008.

**Hall NC, Martin EW, Povoski SP, Murrey DA, Zhang J, Knopp MV.** 18F-FDG activity in a surgical specimen correlates with pathology results: potential role in evaluating margins in surgical oncology. Society of Nuclear Medicine, Annual Meeting, New Orleans, La., June 16, 2008.

**Neff RL, Al-Saif O, Sharif S, Bozek C, Agnese DA, DeRenne LA, Povoski SP, Walker MJ.** The significance of multiple metastatic foci in sentinel lymph nodes of melanoma. Society of Surgical Oncology, 61st Annual Meeting, Chicago, Ill., March 14, 2008.

**Neff RL, Sharif S, Al-Saif O, Nag S, Grecula J, Walker MJ.** The impact of initial surgery at a cancer hospital on the outcome of retroperitoneal sarcomas. American Society of Clinical Oncology, Annual Meeting, Chicago, Ill., May 30 – June 3, 2008.

## Miscellaneous Presentations

**Agnese DM.** Breast cancer. Blanchard Valley Hospital, Grand Rounds, Findlay, Ohio, October 19, 2007.

**Bloomston M.** MicroRNAs in pancreatic cancer. The Ohio State University Medical Center, Wisconsin Surgical Society Meeting, Columbus, Ohio, May 6, 2008.

**Povoski SP.** Breast disease. Columbus Comprehensive Review, Columbus, Ohio, September 23, 2007.



# Transplantation



**Mitchell L. Henry, M.D.**  
Chief, Division of Transplantation

**T**he Division of Transplantation continues to combine a busy clinical transplant program with a diverse and productive research effort. Within the Comprehensive Transplant Center (CTC), the division has embarked on a number of collaborative, interdisciplinary endeavors to enhance both the clinical activities and the basic research efforts in transplantation at The Ohio State University Medical Center. The CTC is establishing a team of specialists to pursue areas of common interest in transplantation, including immunopharmacology, immune assessment and monitoring, immune engineering, information systems, biostatistics, clinical trials, public policy and ethical considerations, and communications and public relations.

In May 2008, Dr. Kenneth Andreoni, previously associate professor of surgery and director of kidney and pancreas transplantation at the University of North Carolina, in Chapel Hill, N.C., began an appointment as associate professor of surgery and director of liver transplantation in the division. Dr. Andreoni received his undergraduate degree at Georgetown University, in Washington, D.C., and his medical degree at Yale University, in New Haven, Conn. He completed a residency in general surgery and a research fellowship in transplant immunology at Johns Hopkins University Hospital, in Baltimore, Md. From 1996 to 1998, Dr. Andreoni was a fellow in clinical transplantation at Ohio State. Following his fellowship at Ohio State, he was assistant professor of surgery and director of kidney and pancreas transplantation at the University of Arizona Health Sciences Center, in Tucson, Ariz., before joining the faculty at the University of North Carolina.

Gregg Hadley, Ph.D., professor of surgery, director of the Tissue Typing Laboratory, and deputy director of research in the Comprehensive Transplant Center, completed his first full year with the division this year. His research is examining transplant rejection and graft-versus-host pathology and the development of strategies for therapeutic intervention in these processes. In other basic science research, Dr. Ginny Bumgardner continues her research in hepatocyte and islet transplant murine models, and Dr.

Ronald Pelletier continues his National Institutes of Health-funded work on chronic allograft rejection and immune tolerance.

Clinically, the volume of kidney and pancreas transplantation remains high, buoyed by a strong living-donor program. Under the guidance of Dr. Amer Rajab, the division's initiative for clinical transplantation of islet cells into Type 1 diabetic patients is conducting evaluations of patients for the islet cell transplant waiting list. The division continues to conduct clinical trials examining new and innovative immunosuppressive regimens in the post-transplant patient.

Members of the division faculty continue to participate in national organizations, including the American Society of Transplant Surgeons, the United Network for Organ Sharing, and the Vascular Access Society of the Americas.

In July 2007, Dr. Khaled Obeidat, who joined the transplant team in 2006, began fellowship training as part of the 2007 fellowship match. In June 2008, Dr. Jordana Gaumond completed the fellowship in transplantation and accepted an appointment as assistant professor of surgery at the Oregon Health and Science University, in Portland, Ore. In July 2008, Dr. Yusuf Gunay and Dr. Srinivas Samavedi will begin the fellowship program in transplantation.



## Faculty

### **Mitchell L. Henry, M.D.**

Professor of Surgery; Chief, Division of Transplantation; Deputy Director of Surgical Services, Comprehensive Transplant Center

**B.S.:** University of Nebraska, Lincoln, Neb., 1976

**M.D.:** University of Nebraska, Omaha, Neb., 1979

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1985

**Specialty Interests:** Transplantation, immunosuppression

**Research Interests:** Pancreatic transplantation, xenotransplantation



*Henry*

### **Kenneth A. Andreoni, M.D.**

Associate Professor of Surgery; Chief, Liver Transplantation

**B.S.:** Georgetown University, Washington, D.C., 1984

**M.D.:** Yale University, New Haven, Conn., 1988

**Specialty Training:** Residency in surgery and fellowship in gastrointestinal surgery, Johns Hopkins University Hospital, Baltimore, Md.; fellowship in clinical transplantation, The Ohio State University Medical Center, Columbus, Ohio

**Appointment:** 2008

**Specialty Interests:** Liver transplantation

**Research Interests:** New anti-rejection drugs, antibody-mediated injury to liver, kidney grafts



*Andreoni*

### **Ginny L. Bumgardner, M.D., Ph.D.**

Professor of Surgery; Associate Dean for Research Education, College of Medicine

**B.S.:** College of William and Mary, Williamsburg, Va., 1979

**M.D.:** University of Virginia, Charlottesville, Va., 1983

**Ph.D.:** University of Minnesota, Minneapolis, Minn., 1994

**Specialty Training:** University of Minnesota, Minneapolis, Minn.; University of California at San Francisco

**Appointment:** 1993

**Specialty Interests:** Transplantation, immunosuppression, post-transplant pregnancy, liver disease and transplantation

**Research Interests:** Transplantation immunology, liver immunobiology, cellular transplantation



*Bumgardner*

**Elizabeth Ann Davies, M.D.**

Clinical Assistant Professor of Surgery

**B.S.:** University of Akron, Akron, Ohio, 1979

**M.D.:** Northeastern Ohio Universities, Rootstown, Ohio, 1983

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1993

**Specialty Interests:** Transplantation, immunosuppression

**Research Interests:** Transplantation, organ procurement



*Davies*

**Elmahdi A. Elkhammas, M.D.**

Associate Professor of Clinical Surgery

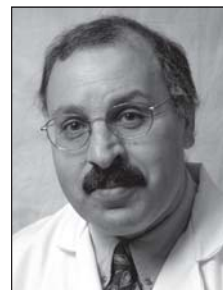
**M.D.:** Gar-Younis University, Benghazi, Libya, 1977

**Specialty Training:** The Ohio State University, Columbus, Ohio

**Appointment:** 1991

**Specialty Interests:** Transplantation, immunosuppression

**Research Interests:** Liver transplantation, urologic complications



*Elkhammas*

**Ronald M. Ferguson, M.D., Ph.D.**

Professor of Surgery; Executive Director, Comprehensive Transplant Center

**B.S.:** Augsburg College, Minneapolis, Minn., 1967

**M.D.:** Washington University, St. Louis, Mo., 1971

**Ph.D.:** University of Minnesota, Minneapolis, Minn., 1982

**Specialty Training:** University of Minnesota, Minneapolis, Minn.

**Appointment:** 1982

**Specialty Interests:** Xenotransplantation, immunosuppression

**Research Interests:** Xenotransplantation, immunology, organ procurement



*Ferguson*

**Gregg A. Hadley, Ph.D.**

Professor of Surgery; Director, Tissue Typing Laboratory; Deputy Director of Research, Comprehensive Transplant Center

**B.S.:** Purdue University, West Lafayette, Ind., 1975

**M.S.:** University of Iowa, Iowa City, Iowa, 1979

**Ph.D.:** University of Minnesota, Minneapolis, Minn., 1986

**Specialty Training:** Washington University School of Medicine, St. Louis, Mo.

**Appointment:** 2006

**Specialty Interests:** Transplant immunology

**Research Interests:** Mechanisms of organ transplant rejection and graft-versus-host disease



*Hadley*

**Ronald P. Pelletier, M.D.**

Associate Professor of Surgery

**B.S.:** Trinity College, 1979**M.D.:** University of Cincinnati, Cincinnati, Ohio, 1987**Specialty Training:** The Ohio State University, Columbus, Ohio**Appointment:** 1996**Specialty Interests:** Pre- and post-transplant immune status monitoring**Research Interests:** Pathophysiology of chronic rejection*Pelletier***Amer Rajab, M.D., Ph.D.**

Assistant Professor of Surgery; Director, Pancreas and Islet Transplantation

**M.D.:** Damascus University, Damascus, Syria, 1983**Ph.D.:** Lund University, Lund, Sweden, 1991**Specialty Training:** University of Texas Southwestern Medical Center, Dallas, Texas**Appointment:** 2001**Specialty Interests:** Organ transplantation**Research Interests:** Islet transplantation*Rajab*

## Fellows

**Jordana L. Gaumond, M.D.**

Transplantation Fellow/Clinical Instructor of Surgery

**B.S.:** Oregon State University, Corvallis, Ore., 1995**M.D.:** Oregon Health Sciences University, Portland, Ore., 2000**Khaled A. Obeidat, M.D.**

Transplantation Fellow/Clinical Instructor of Surgery

**M.D.:** Jordan University of Science and Technology, Irbid, Jordan, 1997

## Resident Staff

**Amit Arora, M.D.**

PGY-3, Riverside Methodist Hospital

**B.S.:** Youngstown State University, Youngstown, Ohio, 2001**M.D.:** Northeastern Ohio Universities, Rootstown, Ohio, 2005

**David Baker, D.O.**

PGY-4, Doctors Hospital

**D.O.:** Des Moines University, Des Moines, Iowa, 2004

**Jason Bowersock, M.D.**

PGY-3, Mount Carmel Health System

**B.S.:** University of Cincinnati, Cincinnati, Ohio, 2000

**M.D.:** Wright State University, Dayton, Ohio, 2005

**Samedyar Durrani, M.D.**

PGY-3, Mount Carmel Health System

**B.A.:** The Ohio State University, Columbus, Ohio, 2001

**M.D.:** University of Cincinnati, Cincinnati, Ohio, 2005

**Jonathan Enlow, D.O.**

PGY-3, Riverside Methodist Hospital

**B.S.:** Muskingum College, New Concord, Ohio, 2001

**D.O.:** Ohio University, Athens, Ohio, 2005

**Alan Parks, D.O.**

PGY-4, Doctors Hospital

**D.O.:** Des Moines University, Des Moines, Iowa, 2004

**Tamy Perng, D.O.**

PGY-4, Doctors Hospital

**D.O.:** Oklahoma State University, Tulsa, Okla., 2004

**Kristin Ryan, D.O.**

PGY-4, Doctors Hospital

**D.O.:** Ohio University, Athens, Ohio, 2004

## Mission

The Division of Transplantation is dedicated to building upon a solid foundation of basic, translational, and clinical research in order to define and develop the next generation of high-quality, comprehensive, cost-effective transplant programs.

## Research Programs

- Transplant rejection.
- Allograft acceptance and transplant tolerance.
- Novel immunologic strategies for islet cell transplantation.
- Cellular transplantation.
- New immunosuppressive compounds.

## Accomplishments in Research

- **Gregg A. Hadley, Ph.D.**, professor of surgery, director of the Tissue Typing Laboratory, and deputy director of research in the Comprehensive Transplant Center, completed his first full year in the division this year. He continues his research program on immunologic mechanisms of transplant rejection and graft-versus-host disease pathology, and development of novel strategies for therapeutic intervention in these processes.
- **Pancreatic Islet Cell Transplantation.** Under the guidance of Dr. Amer Rajab, the initiative for clinical transplantation of islet cells into Type 1 diabetic patients continues to move forward. Approvals for the program have been received from the Institutional Review Board and the United Network for Organ Sharing. Thus, all components of the program are in place, and evaluations of patients for the islet cell transplant waiting list are under way.
- **Investigations Funded by the National Institutes of Health.** Dr. Ronald Pelletier continues the division's NIH-funded investigations into the immunobiology of graft acceptance and the role of alloantibodies in allograft pathobiology. Our recent studies addressing transplantation tolerance suggest that allograft acceptance may evolve through a series of mechanisms involving TGF $\beta$  and foxP3 regulatory cells. These mechanisms are associated with donor-reactive alloantibodies and pathology within the grafts, and do not lead to true transplantation tolerance, despite the ability to accept donor-matched skin allografts. Our ongoing studies of the role of alloantibodies in transplantation reveal that alloantibodies are not necessarily directed at MHC molecules, but are also directed at tissue-associated and tissue-specific molecules. Using new experimental assays for alloantibody detection, our studies have further revealed that some, but not all, of these antibodies are complement-fixing. Newly-acquired NIH funding for investigational studies focusing on humoral allograft rejection in an animal model are designed to carefully characterize the acute inflammatory events leading to Ab-mediated graft damage. We hope to define stages in the process that offer opportunities for therapeutic intervention to ameliorate graft damage.

- **Translational Research in Immunologic Recognition and Post-Transplant Outcomes.** Dr. Ronald Pelletier continues his translational research (basic, tissue typing, and clinical) investigating the relationship between cellular and humoral donor-specific immunologic recognition and post-transplant outcomes. Efforts are now under way to foster living donor/recipient pair exchanges to enable increasing numbers of patients to obtain a lifesaving kidney transplant. Additionally, methods for removing circulating alloantibodies in sensitized recipients to permit safe organ transplantation continue to be investigated.
- **Transplantation Immunobiology.** Dr. Ginny Bumgardner continues her investigations in transplant immunobiology, using experimental models of pancreatic islet and hepatocyte (liver cell) transplantation. Studies include a research project that focuses on understanding how a novel CD8+ T cell-dependent pathway is activated after transplant, and how its activation and effector function can be suppressed by immunotherapy in primary and sensitized transplant recipients. This pathway is important, because it can cause transplant tissue damage, either early or late after transplant, and interferes with the induction of transplantation tolerance. Dr. Bumgardner's laboratory was the first to report the efficacy of a novel immunosuppressive strategy that successfully suppresses this immunoresistant (CD4-independent) CD8+ T cell-mediated immune pathway and promotes long-term allograft survival. Very little is known regarding how CD8+ T cells cause immune damage of allografts, and *in vivo* effector functions of alloreactive CD8+ T cells are a specific focus for investigation. Our lab is also investigating CD4-dependent humoral immune pathways of allograft damage. This year, a manuscript was accepted for publication in the *Journal of Immunology*, which provides first evidence that humoral immune damage of hepatocellular allografts is mediated by a complement-independent, macrophage-dependent mechanism. Another manuscript reporting how different tissues evoke disparate mechanisms of allograft damage is in press in *Cell Transplantation*. These and other projects have been funded by external sponsors, such as the American Diabetes Association, the Roche Organ Transplant Research Foundation, the American Society of Transplant Surgeons, the American Society of Transplantation, and the National Institutes of Health.

## Active Research Grants

**Bumgardner GL, Sen CK.** Hypoxia preconditioning of pancreatic islets for intrahepatic transplantation. National Institute of Diabetes and Digestive and Kidney Diseases, July 1, 2005 – June 30, 2008, \$405,855.

**Elkhammas EA, Bumgardner GL, Ferguson RM, Henry ML, Pelletier RP, Rajab A.** Conversion from calcineurin inhibitor treatment to sirolimus treatment vs. continued calcineurin inhibitor treatment in liver allograft recipients undergoing maintenance therapy. Wyeth-Ayerst Research, September 19, 2002 – January 31, 2012, \$60,118.

**Elkhammas EA, Ferguson RM, Henry ML, Pelletier RP.** A facilitated access program to provide everolimus (RAD) for maintenance for patients completing therapy in RAD trials in solid organ transplantation. Novartis Pharmaceuticals Corp., February 17, 2004 – June 30, 2010, \$3,822.

**Elkhammas EA, Ferguson RM, Pelletier RP, Henry ML.** A facilitated access program to provide everolimus (RAD) for maintenance for patients completing therapy in RAD trials in solid organ transplantation. Novartis Pharmaceuticals Corp., February 17, 2004 – June 30, 2010, \$7,088.

**Elkhammas EA, Ferguson RM, Pelletier RP, Henry ML, Bumgardner GL, Rajab A.** Conversion from calcineurin inhibitor treatment to sirolimus treatment versus continued calcineurin inhibitor treatment in liver allograft recipients undergoing maintenance therapy. Wyeth-Ayerst Research, September 19, 2002 – January 31, 2012, \$298,260.

**Ferguson RM.** Thymoglobulin antibody immunosuppression in living donor recipients (TAILOR patient registry). Genzyme Corp., April 5, 2005 – September 30, 2007, \$68,500.

**Ferguson RM.** Thymoglobulin antibody immunosuppression in living donor recipients (TAILOR patient registry). Transplant Informatics Institute, April 5, 2005 – October 1, 2008, \$86,000.

**Ferguson RM, Bumgardner GL, Elkhammas EA, Henry ML, Pelletier RP.** Study of FTY720A combined with corticosteroids and full- or reduced-dose Neoral in *de novo* adult renal transplant recipients. Novartis Pharmaceuticals Corp., April 23, 2001 – December 31, 2007, \$435,216.

**Ferguson RM, Bumgardner GL, Henry ML, Nori U, Pelletier RP, Pesavento TE, Rajab A, Von Visger J.** A randomized, open-label, multicenter, parallel-group study of belatacept-based corticosteroid-free regimens in renal transplant. Bristol-Myers Squibb Co., June 18, 2007 – May 31, 2009, \$106,830.

**Ferguson RM, Henry ML, Pelletier RP, Rajab A.** A facilitated access program to provide everolimus (RAD) for maintenance for patients completing therapy in RAD trials in solid organ transplantation. Novartis Pharmaceuticals Corp., February 17, 2004 – June 30, 2010, \$10,923.

**Ferguson RM, Henry ML, Pelletier RP, Rajab A.** 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) vs. Rapamune. Novartis Pharmaceuticals Corp., October 5, 2004 – December 30, 2008, \$1,195,604.

**Ferguson RM, Pelletier RP, Henry ML, Rajab A.** A facilitated access program to provide everolimus (RAD) for maintenance for patients completing therapy in RAD trials in solid organ transplantation. Novartis Pharmaceuticals Corp., February 17, 2004 – June 30, 2010, \$14,500.

**Hadley GA.** Blockade of CS103 as a means to prevent tubular injury following allogeneic renal transplantation. American Society of Transplantation, July 1, 2007 – June 30, 2009, \$80,000.

**Hadley GA.** Kidney-restricted CTL and allograft rejection. National Institute of Allergy and Infectious Disease, April 1, 2007 – March 31, 2009, \$685,611.

**Hadley GA.** Role of CD103 in late loss of pancreatic islet allografts. Roche Organ Transplantation Research Foundation, March 1, 2007 – February 28, 2010, \$123,178.

**Horne P, Bumgardner GL.** CD-4 independent, CD8+ T cell-mediated alloimmunity studied through a hepatocellular allograft model. American Society of Transplantation, July 1, 2006 – June 30, 2009, \$60,000.

**Pelletier RP.** Acute humoral rejection of renal allografts. Cleveland Clinic Foundation, July 1, 2007 – June 30, 2009, \$371,438.

**Pelletier RP, Ferguson RM, Strauch AR, Marsh CB, Nadasdy T.** Mechanisms of chronic pathobiology in allografts. National Institutes of Health P01, August 30, 2001 – August 31, 2007, \$6,268,215.

**Rajab A.** Combined effects for improved tissue dissociation. EnteraTech, Inc., May 1, 2007 – December 31, 2008, \$9,944.

**Rajab A, Ferguson RM, Henry ML, Pelletier RP.** Rapid four-day steroid withdrawal with thymoglobulin induction and maintenance immunosuppression with sirolimus and mycophenolate in primary cadaveric renal transplantation. Wyeth Pharmaceuticals, Inc., December 1, 2005 – December 1, 2009, \$164,296.

**Rajab A, Henry HL, Pelletier RP, Ferguson RM.** Rapid four-day steroid withdrawal with thymoglobulin induction and maintenance immunosuppression with sirolimus and mycophenolate in primary cadaveric renal transplantation. Wyeth Pharmaceuticals, Inc., December 1, 2005 – December 1, 2007, \$250,000.

## Clinical Programs

- Pre-transplant.
- Post-transplant and transplant wellness. The program currently sees more than 2,000 patients.
- Living donor kidney.
- Kidney transplant.
- Liver transplant.



- Pancreas transplant.
- Vascular access.
- Deceased donor.

## Accomplishments in Clinical Care

- **Pediatric Transplant Program.** In an effort to enhance the transplant program at Nationwide Children's Hospital, Dr. Amer Rajab was appointed surgical director of pediatric transplantation. Over the past 12 months, six kidney transplants were performed at Children's Hospital.
- **Living Donor Kidney Transplant Program.** This year, a dedicated effort by the pre-transplant coordinators, the transplant surgeons, and the nephrologists resulted in 105 living donor kidney transplants.
- **Sequential Pancreas Transplant Program.** Continued efforts to focus on a sequential pancreas transplant program resulted in three of these transplants being performed this year, benefiting the large population of patients who, suffering from end-stage renal disease secondary to diabetes, have already undergone a successful kidney transplant. In addition, 30 combined kidney-pancreas transplants were performed this year, allowing the recipients to be cured of both diseases by a single transplant procedure.

## Clinical Statistics

OR Procedures	912
Outpatient Visits	11,557
Admissions	800
Patient Days	5,703
Average Length of Stay (Days)	7.10

## Educational Programs

- Two-year fellowship in solid organ transplantation. The program is accredited by the American Society of Transplant Surgeons.

- Rotations for general surgery residents during their intern and PGY-3 years.
- Rotation for surgery residents from the Mount Carmel Hospital System, Riverside Methodist Hospital, and Doctors Hospital. The rotation provides the clinical transplant experience required by the American Board of Surgery.
- Comprehensive Transplant Center Lecture Series. The weekly lecture features broad-based clinical and basic science topics, presented by clinicians and researchers from Ohio State and other institutions.
- Biopsy Conference. The weekly conference reviews renal transplant biopsies and liver transplant biopsies, in conjunction with the pathologists and nephrology physicians.
- Divisional Morbidity and Mortality Conference.
- Observership Program. The one-month international visiting scholar appointment allows international medical students, graduates, and faculty who are not part of a formal training program at The Ohio State University Medical Center to observe faculty members, residents, or interns at Ohio State for a predetermined period of time. The goal is to introduce international visiting scholars to the fields of transplant surgery, patient care, research, and teaching.

## Accomplishments in Education

- The proceedings of the Vascular Access for Hemodialysis X Symposium, held in May 2006, have been published. Dr. Mitchell Henry chaired the meeting and served as editor of the book.
- The Vascular Access for Hemodialysis XI Symposium was held May 7–9, 2008, in Orlando, Fla. The meeting featured the inaugural Annual Henry Lectureship, established to honor Dr. Mitchell Henry's leadership role in the symposiums of the Vascular Access Society of the Americas (VASA) for the past 20 years. In addition, at the meeting, Dr. Henry was selected as president-elect of VASA.
- Dr. Mitchell Henry has been asked to create learning modules for the organ procurement unit in the national transplant surgery fellowship curriculum, currently being developed by the American Society of Transplant Surgeons (ASTS). The curriculum will define the key areas of knowledge necessary for mastery of the field of transplantation surgery, and when complete, this ASTS academic universe will contain more than 200 learning modules. Dr. Henry's text will address the limits of organ preservation and the attendant risk of organ dysfunction over time, as well as the basic principles of pulsatile kidney perfusion. His contribution will provide necessary information for trainees as they progress through their fellowship, and will serve as a dynamic reference for all ASTS members.

- Dr. Kenneth Andreoni has been asked to create a learning module for the organ procurement unit in the national transplant surgery fellowship curriculum. Dr. Andreoni's project will address public policy and allocation of organs, the National Organ Transplantation Act (NOTA), and the medical-legal ramifications for transplant professionals.
- Dr. Ginny Bumgardner is a member of the admissions committees for the medical school and the Medical Scientist Program (MSP), the M.D./Ph.D. dual-degree program. She also serves on the MSP steering committee, which addresses MSP policies and administrative issues. Dr. Bumgardner is a faculty member for the Integrated Biomedical Sciences Graduate Program.
- Dr. Ginny Bumgardner is associate dean for research education and graduate studies in the College of Medicine (COM). She chairs the COM Research Education Council, participates as a member of the OSU Clinical and Translational Science Awards community of research education, and is one of four OSU representatives to the national Clinical and Translational Science Awards research education consortium.
- Dr. Ginny Bumgardner is director of the Department of Surgery's Master of Medical Science Program and the Master of Medical Science Program of the College of Medicine.
- Dr. Jordana Gaumond completed the two-year fellowship in solid organ transplantation and accepted a position as a transplant surgeon at the Oregon Health and Science University, in Portland, Ore.
- Dr. Khaled Obeidat joined the transplant team as the junior fellow in the ASTS-approved fellowship training program.
- The division continues to distribute a CD-ROM for resident education that is continually updated with cutting-edge educational materials on transplantation.
- Progress continues on a video library for resident education. The division's attending faculty members believe that a complete video library in solid organ transplantation will be a valuable teaching tool for those interested in this specialized field.
- Lori Fiessinger, a premedical undergraduate honors student, recently completed her junior year in the biology honors program and is applying to medical school. She competed in the 2008 Denman Undergraduate Research Forum and was awarded fourth place in the health sciences category. The award was accompanied by \$200 cash and a photo with University President Gordon Gee, who attended the awards ceremony. Dr. Ginny Bumgardner serves as research advisor and mentor to Lori.
- Mason Fisher, M.D., a surgery resident, was a postdoctoral research fellow in Dr. Ginny Bumgardner's laboratory who completed the requirements for the master of medical science degree in June 2008. He presented results of his research at the 2008 meeting of the Columbus Surgical Society, the Seventh Annual Ohio State University Medical Center Research Day, and the 2008 Annual Research Conference of the Department of Surgery.

- Phillip Horne, B.S., completed the seventh year of his M.D./Ph.D. dual-degree program in August 2007. He has published four manuscripts as first author (two in the *Journal of Immunology*, one in *Transplantation*, and one in *Cell Transplantation*) and has co-authored several manuscripts. Dr. Ginny Bumgardner serves as research advisor and mentor to Phillip.
- Jason Zimmerer, Ph.D., was awarded a postdoctoral travel award by the College of Medicine postdoctoral office. Dr. Zimmerer had four abstracts accepted by the American Transplant Congress (ATC), which resulted in one oral presentation and three poster presentations at the June 2008 meeting of the ATC, in Toronto, Canada. He is the second author on an article to be published next year in the *Journal of Immunology*. Dr. Ginny Bumgardner serves as research advisor and mentor to Dr. Zimmerer.

## Community Outreach Programs

- **TransChart.** An Internet-based electronic medical record for post-transplant patients and health-care professionals managing their care, TransChart facilitates better communication and patient outcomes. The use of Transchart by outlying nephrologists is increasing, as its browser-based application for reviewing medical records and charting directly into the record is invaluable in managing patient care.

## Accomplishments in Community Outreach

Faculty members in the division continue to occupy positions of importance within the community of transplantation professionals. The faculty members and their positions are:

### **Kenneth A. Andreoni, M.D.**

- Vice Chairman, United Network for Organ Sharing, Kidney Committee.
- Chairman, United Network for Organ Sharing, Subcommittee on National Kidney Paired Donation.
- Co-Chairman, United Network for Organ Sharing, Subcommittee on Liver-Kidney Allocation.
- Chairman, United Network for Organ Sharing, Kidney Subcommittee Reviewing Scientific Registry of Transplant Recipients Kidney Transplant Metrics.

### **Ginny L. Bumgardner, M.D., Ph.D.**

- Chair, Ad Hoc Work Force Committee, American Society of Transplant Surgeons (ASTS). The committee developed and distributed a survey to transplant surgeons of the ASTS to gather information about their demographics, educational and professional background, clinical activity, and professional productivity. The results of the survey have been analyzed and presented to the ASTS council and committee chairs and are being prepared for publication.

- Co-Chair, Awards Committee, American Society of Transplant Surgeons (ASTS). The committee develops award guidelines and develops new awards for consideration by the ASTS Council. The ASTS awards committee reviews ASTS research applications annually and awards approximately \$750,000 annually.
- Associate Editor, American Journal of Transplantation (AJT) Editorial Board. Dr. Bumgardner has been an associate editor for AJT since 2007. AJT has an impact factor of 6.843, which is the highest ranking of transplantation journals.
- Editorial Board, Transplantation.
- Member, Graduate Research Education and Training (GREAT). GREAT is a national organization that fosters the exchange of information and ideas among the faculty and administrative leaders of biomedical Ph.D., M.D.-Ph.D., and postdoctoral programs. GREAT also sponsors annual conferences on issues of importance in research education.

**Elizabeth Ann Davies, M.D.**

- Chairman, Education Committee, International Society for Organ Preservation.

**Elmahdi A. Elkhammas, M.D.**

- Chairman, Executive Committee; Deputy Editor, Libyan Journal of Medicine.
- Chairman, Board of Directors, Ibnosina Medical Association.
- Member, Executive Committee on Health Reform in Libya.
- Board Member, African Center for the Prevention of Infectious Diseases, Tripoli, Libya.

**Ronald M. Ferguson, M.D., Ph.D.**

- Executive Director, Comprehensive Transplant Center, The Ohio State University Medical Center.

**Gregg A. Hadley, Ph.D.**

- Member, National Institutes of Health Tumor, Transplantation, and Tolerance Study Section.
- Member, Scientific Advisory Committee, Roche Organ Transplantation Research Foundation.
- Associate Editor, American Journal of Transplantation.
- Editorial Board, Transplantation.
- Chairman, Basic Sciences Committee, American Society of Transplantation.

**Mitchell L. Henry, M.D.**

- Council Member, American Society of Transplant Surgeons.
- Secretary, Board of Directors, United Network for Organ Sharing.
- President-Elect, Vascular Access Society of the Americas.

**Ronald P. Pelletier, M.D.**

- Member, Board of Directors, National Kidney Foundation. The board works to prevent kidney and urinary tract diseases, improve the health and well-being of individuals and families affected by these diseases, and increase the availability of all organs for transplantation.

## Publications

**Elkhammas EA.** Opinion: It is time to acknowledge and fight medical errors in the health system. *Tripoli Post* 2008; March 22:1–3.

**Henry ML, Bumgardner GL.** Pulsatile perfusion: a preservation strategy to optimize the use and function of transplanted kidneys. *Curr Opin Organ Transplant* 2007; 12:345–350.

**Horne PH, Koester MA, Jayashankar K, Lunsford KE, Dziema HL, Bumgardner GL.** Disparate primary and secondary allospecific CD8+ T cell cytolytic effector function in the presence or absence of host CD4+ T cells. *J Immunol* 2007; 179(1):80–88.

**Lunsford KE, Jayashankar K, Eiring AM, Horne PH, Koester MA, Gao D, Bumgardner GL.** Alloreactive (CD4-independent) CD8+ T cells jeopardize long-term survival of intrahepatic islet allografts. *Am J Transplant* 2008; 8(6):1113–1128.

**Nickeleit V, Andreoni K.** Inflammatory cells in renal allografts. *Front Biosci* 2008; 13(1):6202–6213.

**Pelletier RP, Soule J, Henry ML, Rajab A, Ferguson RM.** Clinical outcomes of renal transplant recipients treated with enteric-coated mycophenolic acid vs. mycophenolate mofetil as a switch agent using a primary steroid-free Rapamune and microemulsion protocol. *Clin Transplant* 2007; J21(4):532–535.

**Rajab A, Pelletier RP, Henry ML, Elkhammas EA, Bumgardner GL, Ferguson RM.** Steroid-free maintenance immunosuppression with Rapamune and low-dose Neoral in pancreas transplant recipients. *Transplantation* 2007; 84(9):1131–1137.

**Satoskar AA, Lehman AM, Nadasdy GM, Sedmak DD, Pesavento TE, Henry ML, Pelletier RP, Ferguson RM, Nadasdy T.** Peritubular capillary C4d staining in late acute renal allograft rejection—is it relevant? *Clin Transplant* 2008; 22(1):61–67.

**Soule J, Henry ML.** Noninvasive methods to identify early vascular access dysfunction. *Semin Vasc Surg* 2007; 20(3):164–166.

## Books

**Henry ML.** *Vascular Access for Hemodialysis X*. W. L. Gore and Associates, Inc., and Worzalla Publishing Co., 2008.

## Chapters

**Rajab A, Ferguson RM, Usatii A.** Kidney transplantation: the recipient post-transplant complications. In: Gruessner RWG, Benedetti E (eds). *Living Donor Organ Transplantation*. New York: McGraw Hill Medical, 2008; 242–252.

**Rajab A, Pelletier RP, Henry ML.** Perfusion and storage techniques. In: Toledo-Pereyra LH (ed). *Organ Preservation for Transplantation*. Austin, Texas: Landes Bioscience 2008; 1–12.

## International Presentations

**Elkhammas EA.** Clinical research: overview and principles. Libyan Journal of Medicine Medical Research Conference, Tripoli, Libya, August 6, 2007.

**Elkhammas EA.** Ethical aspect of medical practices. International Conference of Libyan Doctors Abroad, Benghazi, Libya, July 27–29, 2007.

**Elkhammas EA.** Introduction to medical ethics. International Conference of Libyan Doctors Abroad, Benghazi, Libya, July 27–29, 2007.

**Hasan M, Rajab A, Pelletier RP.** Hand-assisted donor nephrectomy in donor with BMI > 30. 25th World Congress of Endourology and SWL, Cancun, Mexico, November 3, 2007.

**Pelletier RP, Satoskar AA, Sun Q, Nadasdy T, Nadasdy G, Rajab A, Ferguson RM.** Implementation of a steroid-free, rapamycin and Neoral maintenance immunosuppression regimen reduces acute cellular rejection (ACR) but not acute humoral rejection (AHR). American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

**Rajab A.** Diabetes and transplantation. Veterans Hospital, Grand Rounds, Homs, Syria, October 16, 2007.

**Rajab A.** Hepatitis C and liver transplantation. Veterans Hospital, Grand Rounds, Homs, Syria, June 8, 2008.

**Rajab A, Pelletier RP, Henry ML, Bumgardner GL, Elkhammas EA, Ferguson RM.** Long-term outcome of steroid-free maintenance immunosuppression with sirolimus and low-dose cyclosporine in primary kidney transplantation. American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

**Rajab A, Pelletier RP, Henry ML, Elkhammas EA, Bumgardner GL, Ferguson RM.** Maintenance immunosuppression with sirolimus and low-dose cyclosporine in primary kidney transplantation (poster presentation). American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

**Rajab A, Pelletier RP, Henry ML, Elkhammas EA, Bumgardner GL, Ferguson RM.** A prospective study of steroid-free calcineurin inhibitor-free maintenance immunosuppression based on Rapamune/Myfortic in kidney transplantation (poster presentation). American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

**Satoskar AA, Nadasdy G, Pelletier RP, Henry ML, Lehman A, Ferguson RM, Nadasdy T.** Correlation of histopathologic features with graft outcome in C4d positive early acute antibody-mediated rejection in non-desensitized renal allografts to guide therapy. American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

**Sun Q, Pelletier RP, Adams P, Nadasdy T, Hadley GA, Ferguson RM.** The natural history of antibody-mediated rejection in kidney transplantation: a prospective observation based on desensitized recipients. American Transplant Congress, Toronto, Ontario, Canada, May 31 – June 4, 2008.

## National Presentations

**Bumgardner GL.** Pre-transplant evaluation of kidney-pancreas recipients. American Society of Transplant Surgeons, Surgical Fellows Symposium, Maui, Hawaii, November 7, 2007.

**Buss J, Diakoff E, Osei K, Ferguson RM, Rajab A.** Comparable graft function for autotransplanted islets and islet allografts using steroid-sparing immunosuppression with mycophenolate mofetil and cyclosporine in the nonhuman primate. Joint Conference of the Cell Transplant Society, the International Pancreas and Islet Transplant Association, and the International Xenotransplantation Association, Minneapolis, Minn., September 15–20, 2007.

**Ferguson RM.** Maintaining optimal MPA dosing following kidney transplantation. Tulane University Medical School, New Orleans, La., July 26, 2007.

**Ferguson RM.** Maintaining optimal MPA dosing following kidney transplantation. University of Minnesota, Minneapolis, Minn., October 18, 2007.

**Ferguson RM.** Maintaining optimal MPA dosing following kidney transplantation. University of Tennessee Graduate School of Medicine, Knoxville, Tenn., September 13, 2007.

**Ferguson RM.** Maintaining optimal MPA dosing following kidney transplantation. University of Wisconsin, Madison, Wis., July 23, 2007.



**Ferguson RM.** Managing early graft dysfunction with steroid-free, CNI-free immunosuppression. North American Symposium on Dialysis and Transplantation, Wailea, Hawaii, July 11, 2007.

**Ferguson RM.** Steroid-free maintenance immunosuppression: the OSU experience with a rapamycin/Neoral-based therapy. North American Symposium on Dialysis and Transplantation, Wailea, Hawaii, July 9, 2007.

**Hadley GA.** Role of the integrin CD103 in transplant immunity. University of Miami, Miami, Fla., January 24, 2008.

**Hadley GA.** Therapeutic blockade of the CD103 pathway. Biogen-Idec, Boston, Mass., November 15, 2007.

**Hadley GA.** Therapeutic blockade of the CD103 pathway. Ligocyte, Bozeman, Mont., August 9, 2007.

**Henry ML.** Fistula first: a surgeon's perspective. Vascular Access Society of the Americas, Veith Symposium, New York, N.Y., November 14, 2007.

**Henry ML.** The high-risk recipient. American Society of Transplant Surgeons, Eighth Annual State of the Art Winter Symposium, Marco Island, Fla., January 27, 2008.

**Henry ML.** How can we transplant more organs from ECD donors? United Network for Organ Sharing, Region 10 Collaborative Panel Discussion, Indianapolis, Ind., December 6, 2007.

**Henry ML.** Management of pseudo-aneurysms in vascular access. Controversies in Vascular Access Symposium, Boston, Mass., October 18, 2007.

**Henry ML.** Optimizing outcomes in HCV+ liver transplant recipients. University of North Carolina, Chapel Hill, N.C., September 12, 2007.

**Henry ML.** Practical knowledge for transplant surgeons. American Society of Transplant Surgeons, Eighth Annual State of the Art Winter Symposium, Marco Island, Fla., January 24, 2008.

**Henry ML.** Prednisone pre-transplant. Wake Forest University, Winston-Salem, N.C., September 7, 2007.

**Henry ML.** Prednisone-free immunosuppression. Baylor University, Transplant Conference, Dallas, Texas, April 10, 2008.

**Henry ML.** Prednisone-free immunosuppression. Emory University, Visiting Professor Grand Rounds, Atlanta, Ga., December 5, 2007.

**Henry ML.** Running a practice. American Society of Transplant Surgeons, Eighth Annual State of the Art Winter Symposium, Marco Island, Fla., January 24, 2008.

**Henry ML.** Steal syndrome. Controversies in Vascular Access Symposium, Boston, Mass., October 19, 2007.

**Henry ML** (Program Director and Session Moderator). Steal syndrome. Vascular Access Society of the Americas, Annual Meeting, Orlando, Fla., May 5–10, 2008.

**Henry ML.** Surgical fellows curriculum in transplantation. American Society of Transplant Surgeons, Fellows and Program Directors Conference, Chicago, Ill., May 1, 2008.

**Henry ML.** The use of PTFE: grafts in the fistula-first era. Vascular Access Society of the Americas, Veith Symposium, New York, N.Y., November 14, 2007.

**Obeidat K, Rajab A.** Long-term outcome of steroid-free immunosuppression in primary kidney transplantation. Genzyme, Annual Fellows Conference, Boston, Mass., April 25, 2008.

**Pelletier RP.** Importance of optimizing MPA dosing. Novartis Pharmaceuticals, Educational Program, Ann Arbor, Mich., July 18, 2007.

**Pelletier RP.** Importance of optimizing MPA dosing. Novartis Pharmaceuticals, Educational Program, Oklahoma City, Okla., September 26, 2007.

**Pelletier RP.** Importance of optimizing MPA dosing. Novartis Pharmaceuticals, Educational Program, University of North Carolina at Chapel Hill, Chapel Hill, N.C., October 9, 2007.

**Pelletier RP.** Steroid-free immunosuppression protocols at Ohio State. University of North Carolina at Chapel Hill, Grand Rounds, Chapel Hill, N.C., October 10, 2007.

## Miscellaneous Presentations

**Bumgardner GL.** Extracorporeal liver support as a bridge to hepatic transplantation. The Ohio State University Medical Center, Solid Organ Transplant for the Intensivist II, Transplant Intensive Care Course, Columbus, Ohio, September 21, 2007.

**Bumgardner GL.** Liver. The Ohio State University Medical Center, Professor Rounds with PGY-4's and PGY-5's, Columbus, Ohio, October 11, 2007.

**Bumgardner GL.** Patient-centered research education lecture 1. The Ohio State University Medical Center, Patient-Centered Research Education for Medical Students, Columbus, Ohio, October 1, 2007.

**Davies EA.** Lecture and wet lab. University of Toledo College of Health Sciences and Human Services, Human Donation Science Program, Kidney Workshop, Toledo, Ohio, April 23–24, 2008.

**Davies EA.** Organ donation: an in-depth look at the donation process. Lifeline of Ohio Organ Procurement, Columbus, Ohio, April 8, 2008.

**Davies EA.** Overview of donor management and organ recovery. OhioHealth, 2007 Neuroscience Nursing Symposium: A Neuro Event, Columbus, Ohio, September 29, 2007.

**Henry ML.** American Board of Surgery examiner. American Board of Surgery meetings, Columbus, Ohio, October 29–31, 2007.

**Henry ML.** Organ transplantation. Kiwanis Club, Lincoln, Neb., July 6, 2007.

**Henry ML.** Understanding the UNOS kidney allocation system. National Kidney Foundation of Ohio Meeting, Columbus, Ohio, May 6, 2008.

**Henry ML.** Update on diabetes research: who should be considered for pancreas and islet cell transplantation? The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, December 1, 2007.

**Obeidat K, Rajab A.** Steroid-free, calcineurin inhibitor-free immunosuppression in kidney transplantation. Columbus Surgical Society, 20th Annual Presidential Symposium, Columbus, Ohio, February 16, 2008.

**Rajab A.** Clinical pancreas islet transplantation: are we there yet? The Ohio State University Medical Center, Comprehensive Transplant Center Seminar, Columbus, Ohio, December 19, 2007.

**Rajab A.** Future of islet cell transplantation and cellular therapies in diabetes. The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, November 29 – December 1, 2007.

**Rajab A.** Transplant surgery. Mount Carmel West Hospital, Grand Rounds, Columbus, Ohio, December 5, 2007.

**Rajab A.** Transplantation in the treatment of diabetes. MedCentral/Mansfield Hospital, Grand Rounds, Mansfield, Ohio, July 24, 2007.

**Rajab A.** Transplantation in the treatment of diabetes. Smith Clinic, Grand Rounds, Marion, Ohio, November 15, 2007.



# Vascular Diseases and Surgery



**Patrick S. Vaccaro, M.D.**

Chief, Division of Vascular Diseases and Surgery

**T**he 2007–2008 academic year brought several exciting changes to the Division of General Vascular Surgery. The name of the division was changed to the Division of Vascular Diseases and Surgery, to indicate that the division offers the entire complement of care to the vascular patient, including not only open surgery, but also endovascular and nonsurgical care. The year also saw the division acquire a permanent home. The fifth floor of the Richard M. Ross Heart Hospital became the dedicated unit for the vascular service, a development that we believe will enhance the highly-specialized, personalized care the division provides to each patient. Our commitment to clinical and scholarly activities, teaching, research, and service remains unchanged. Growth in the endovascular approach to care continues, which is reflected by the steady increase in outpatient versus inpatient procedures and admissions. Our involvement in clinical trials has continued to grow, and the members of our division continue to be recognized for their outstanding educational efforts. The division was recognized for achieving the highest degree of patient satisfaction in the entire Ohio State University Health System. Of vascular surgery patients, 92.3 percent gave a satisfaction rating of 9 or 10 on a scale of 10.

Clinical volumes remain high, with the proportion of endovascular procedures steadily increasing. Dr. Jean Starr continues to increase our endovascular repertoire by adding cutting-edge techniques and new clinical trials. She has most recently expanded our ability to treat graft occlusions percutaneously, with excellent results. At the same time, she has added two new clinical trials to our program. The first is the Boston Scientific SONOMA study, a post-market study evaluating the NexStent carotid stent system and a new distal embolic protection system. This makes the fourth carotid stenting trial with which the division has become involved. The second trial is the CVRx Rheos Trial, a study examining the efficacy of treating refractory hypertension with a carotid baroreceptor stimulator. At this year's annual Department of Surgery banquet, Dr. Starr was recognized by the medical students for outstanding teaching by a Department of Surgery faculty member.

Dr. William Smead was listed by Best Doctors in America for 2007 and continues to be recognized by the residents for his superlative technical skills. His vast experience with open procedures and his willingness to guide the residents and fellows through the most difficult of operative cases remain very positive aspects of our educational mission. Dr. Smead continues to bring clarity and sage advice to the most difficult clinical scenarios, and he provides operative experience that balances the increasing external pressures for more endovascular approaches to treatment. He truly makes our trainees understand that one needs to consider all approaches to treatment when considering what is best for the patient. In October 2007, Dr. Smead served as an associate examiner for the American Board of Surgery Certifying Examination.

Dr. Blair Vermilion continues to assume primary responsibility for management of the venous diseases component of the division, making sure that we stay on the cutting edge of technical advances, especially in the treatment of varicose veins and venous incompetency. Recognized for his outstanding teaching skills, he was selected this year by the Department of Surgery to receive the College of Medicine's Excellence in Teaching Award. This was his third award in the last four years acknowledging his outstanding teaching skills. Dr. Vermilion was appointed as a physician consultant to the Medical Center, a role in which he promotes efficient, effective, and compassionate care. As an active member of the Clinical Resource Evaluation Committee, he represents the medical staff, with length-of-stay management and PCRM advocacy as two of his primary responsibilities.

Dr. Mohan Das is repeatedly recognized by the students and residents for his outstanding teaching skills and ability to explain surgical anatomy. He has increased his involvement with the division's educational curriculum. Vascular conferences are being expanded in time and content, and he is setting up the clinical and basic science conference schedules, as well as the format. Dr. Das is also spearheading the division's effort to expand the provision of vascular services at University Hospital East, which will have a positive impact on the division, the Heart Signature Program, and the health-care delivery system.

Dr. Bhagwan Satiani continued to conduct his well-attended Seminar in Practice Management and manage the Noninvasive Vascular Lab. The Vascular Lab was reaccredited by the Intersocietal Commission for the Accreditation of Vascular Laboratories in October 2007, and the lab's hours of operation were expanded through his leadership. He also further refined the noninvasive vascular lab teaching curriculum for our vascular fellowship this year, adding much-needed structure. Dr. Satiani continues to publish extensively in the field of medical economics, and was recently appointed to the Private Practice Committee and the Diversity Committee of the Society of Vascular Surgery.

Dr. Patrick Vaccaro continues to serve as division chief and program director, and this year he was elected a trustee of the Columbus Medical Association. Dr. Vaccaro has engaged the division in two pending clinical trials. The first is a carotid plaque observational study (REPLICA) examining genetic variation and the expression level of plaque RNA. The second study is the Medtronic dissection trial, which is investigating the treatment of acute aortic dissections with a new thoracic endograft. Dr. Vaccaro recently led the division through a site visit for re-accreditation of the vascular fellowship by the Accreditation Council for Graduate Medical Education, the results of which will be available in October 2008.

Pedram Ghafourifar, Ph.D., produced 12 basic science publications this year. Unfortunately, in May 2008 he resigned his appointment to move to another institution. He will be missed, and a search for his replacement is under way.

In June 2008, Dr. Gregory Walker became the first trainee to complete our revised two-year vascular fellowship, and he began private practice in Toledo, Ohio. In July 2008, Dr. Richard Fries will begin his second year of fellowship training, and Dr. Siddharth Bhende, from the Guthrie Clinic, will begin his first year of the fellowship. The division was pleased to match with Dr. Raymond Candage, from Loyola University, in Chicago, who will begin the fellowship program in July 2009.

This year marks the retirement of Mrs. Janet Combs, who has served as the fellowship program coordinator and secretary of Dr. William Smead for the past 18 years. She has been a steadying influence for a long line of trainees and an incredible asset to the program, and will be sorely missed. We wish her well in her future endeavors.

## Faculty

**Patrick S. Vaccaro, M.D.**

Professor of Clinical Surgery; Chief, Division of Vascular Diseases and Surgery; Program Director, Vascular Diseases and Surgery

**B.S.:** Yale University, New Haven, Conn., 1971

**M.D.:** University of Cincinnati, Cincinnati, Ohio, 1975

**Specialty Training:** General surgery residency, The Ohio State University, Columbus, Ohio; clinical fellowship in cardiothoracic surgery, Baylor College of Medicine, Houston, Texas

**Appointment:** 2004

**Specialty Interests:** General vascular surgery, endovascular therapy

**Research Interests:** Endothelial cell biology, spinal cord ischemia, clinical trials



Vaccaro

**B. Mohan Das, M.D.**

Assistant Professor of Clinical Surgery

**B.A.:** Madras Christian College, Madras, India, 1967

**M.D.:** Stanley Medical College, Madras, India, 1974

**Specialty Training:** General surgery residency and vascular surgery fellowship, Albert Einstein Medical Center, Philadelphia, Pa.; vascular surgery fellowship, Cleveland Clinic, Cleveland, Ohio

**Appointment:** 2004

**Specialty Interests:** General vascular surgery, carotid disease, lower extremity and dialysis access surgery

**Research Interests:** Clinical trials



Das

**Pedram Ghafourifar, Ph.D.**

Research Associate Professor of Surgery; Director of Basic Science Research, Division of Vascular Diseases and Surgery; Investigator, Davis Heart and Lung Research Institute; Associate Director of Pharmacology

**Pharm.D.:** Tehran University, Tehran, Iran, 1991

**Ph.D. (Pharmacology):** Tehran University, Tehran, Iran, 1996

**Appointment:** 2006

**Specialty Interests:** General medical pharmacology, vascular and cardiac pharmacology, vascular biology

**Research Interests:** Vascular biology, vascular disease, oxidative stress, ischemia/reperfusion, apoptosis, aging



Ghafourifar



**Bhagwan Satiani, M.D., M.B.A.**

Professor of Clinical Surgery; Director of Non-Invasive Vascular Services

**Undergraduate Degree:** Shah Abdul Latif College, Mirpurkhas, Pakistan, 1964

**M.D.:** Dow Medical College, University of Karachi, Karachi, Pakistan, 1971

**M.B.A.:** Franklin University, Columbus, Ohio, 2002

**Specialty Training:** General surgery residency and trauma fellowship, Emory University, Atlanta, Ga.; vascular surgery fellowship, The Ohio State University Medical Center, Columbus, Ohio

**Appointment:** 2004

**Specialty Interests:** Non-invasive vascular diagnosis, business and legal aspects of medicine

**Research Interests:** Business education for physicians



*Satiani*

**William L. Smead, M.D.**

The Luther M. Keith Professor of Surgery

**B.A.:** Amherst College, Amherst, Mass., 1968

**M.D.:** Vanderbilt University, Nashville, Tenn., 1972

**Specialty Training:** Massachusetts General Hospital, Boston, Mass.; Southampton Chest Hospital, Southampton, England

**Appointment:** 1978

**Specialty Interests:** General vascular surgery, aortic aneurysmal disease (thoracic and abdominal), renovascular hypertension, carotid disease, pediatric vascular problems

**Research Interests:** Claudication, carotid disease, thoracic outlet syndrome, aortic aneurysmal disease



*Smead*

**Jean E. Starr, M.D.**

Assistant Professor of Clinical Surgery; Director of Endovascular Services

**B.S.:** The Ohio State University, Columbus, Ohio, 1985

**M.D.:** The Ohio State University, Columbus, Ohio, 1989

**Specialty Training:** General surgery residency and vascular surgery fellowship, Cleveland Clinic, Cleveland, Ohio

**Appointment:** 2004

**Specialty Interests:** Endovascular surgery, interventional procedures, carotid stents

**Research Interests:** Endovascular aortic aneurysm repair, carotid stenting



*Starr*

**Blair D. Vermilion, M.D.**

Associate Professor of Clinical Surgery

**B.S.:** Miami University, Oxford, Ohio, 1968

**M.D.:** The Ohio State University, Columbus, Ohio, 1972

**Specialty Training:** General surgery residency, Indiana University, Indianapolis, Ind.; vascular surgery fellowship, St. Anthony Hospital, Columbus, Ohio

**Appointment:** 2004

**Specialty Interests:** General vascular surgery, venous disease

**Research Interests:** Clinical trials



Vermilion

## Resident Staff

**Richard B. Fries, M.D.**

PGY-6

**B.S.:** University of Cincinnati, Cincinnati, Ohio, 1997

**M.D.:** University of Cincinnati, Cincinnati, Ohio, 2001

**Gregory W. Walker, D.O.**

PGY-7

**BS.:** University of Michigan, Ann Arbor, Mich., 1993

**M.Ed.:** University of Texas, Austin, Texas, 1995

**D.O.:** Arizona College of Osteopathic Medicine of Midwestern University, Glendale, Ariz., 2001

## Mission

The mission of the Division of Vascular Diseases and Surgery is consistent with that of The Ohio State University Medical Center. Our mission includes the delivery of the highest quality of care to patients throughout Central Ohio suffering from peripheral vascular disease, the contribution to innovations in medicine through research and clinical outcomes studies, and the education of medical students and postgraduate trainees. Strategic planning has been a priority for us as we have focused on identifying how to best fulfill our mission and create the future of medicine to improve people's lives. A key element of our focus is a commitment to providing leadership in personalized health-care and becoming a high-performance organization and workplace of choice.

## Sponsored Research Projects

- **Cleveland Clinic Foundation/Medtronic PIVOTAL (Positive Impact of Endovascular Options for Treating Aneurysms Early) Study.** Dr. Jean Starr, Principal Investigator. Primary Objective: To compare endovascular repair versus surveillance, with respect to patient survival, AAA rupture, and AAA-related death, and to determine whether the repair of small aneurysms (4–5 cm) using the AneuRx AAA Stent Graft is superior to serial imaging surveillance, with respect to frequent rupture or aneurysm-related death, over a three-year follow-up period. The project has IRB approval, but we are waiting on continuing review approval on submitted changes in the consent form. The project continues to enroll eligible patients.
- **Cook Zenith Study.** Zenith TX2 Thoracic TAA Endovascular Graft Clinical Study Protocol. Dr. Patrick Vaccaro, Principal Investigator. Primary Objective: To evaluate the safety and effectiveness of the Zenith TX2 Thoracic TAA Endovascular Graft in elective treatment of patients with descending thoracic aortic aneurysms (DTAA). Enrollment in this study remains open.
- **Gore-Tex Propaten Study.** Comparison of Primary Patency Between Gore-Tex Propaten Vascular Grafts and Thin-Wall Gore-Tex Stretch Vascular Grafts. Dr. Patrick Vaccaro, Principal Investigator. Primary Objective: To demonstrate equivalence in patency performance of Gore-Tex Propaten Vascular Grafts and Thin Wall Gore-Tex Stretch Vascular Grafts in a peripheral bypass application, to support a claim of substantial equivalence. Enrollment in this study is closed.
- **Guidant CAPTURE Study.** A Post-Approval Study of the Guidant Carotid Stent System and Embolic Protection Systems. Dr. Jean Starr, Principal Investigator. Primary Objective: To collect data on the Acculink and Accunet, when used by a broad group of physicians under commercial-use conditions, to support the following specific goals: (1) confirm that the Acculink Carotid Stent System and the Accunet EPS can be used safely by physicians with varying levels of experience, and (2) identify rare or unanticipated device-related events that might occur with their use. Enrollment in this study is closed.
- **National Institute on Aging (AG023264-03).** Heart Mitochondrial NOS and In Vitro Hypoxia/Reperfusion. Pedram Ghafourifar, Ph.D., Principal Investigator.
- **American Heart Association (AH0565221B).** Mitochondrial NOS and Hypoxia/Reoxygenation. Pedram Ghafourifar, Ph.D., Principal Investigator.
- **Abbott Vascular CHOICE Study.** Dr. Jean Starr, Principal Investigator. Carotid Stenting for High Surgical Risk Patients: Evaluating Outcomes Through the Collection of Clinical Evidence. Primary Objectives: To provide (1) additional information that the commercially available Abbott Vascular Carotid Stent Systems and Embolic Protection Systems can be used successfully by a wide range of physicians under commercial use conditions, and (2) an ongoing post-market surveillance mechanism for documentation of clinical outcomes and for possible extension of the Centers for Medicare and Medicaid Services coverage to a broader group of patients. Enrollment in this study remains open.

- **Bolton Medical, Inc. Relay Trial.** A Phase II Clinical Study of the Safety and Efficacy of the Relay Thoracic Stent Graft in Patients with Thoracic Aortic Pathologies. Dr. Patrick Vaccaro, Principal Investigator. Primary Objectives: Efficacy and safety. Primary efficacy will be evaluated by the device-related adverse event rate of endovascular repair (via Relay Thoracic Stent Graft) through one year. Primary safety will be evaluated by comparing major adverse events within one year in subjects treated using the Relay Thoracic Stent Graft with those who underwent open surgical repair. Enrollment in this study remains open.
- **Boston Scientific Corporation SONOMA Study.** The NexStent Carotid Stent System: A Post-Market Approval Evaluation Study in Conjunction with the FilterWire EZ Embolic Protection System. Dr. Jean Starr, Principal Investigator. Primary Objective: To confirm the safety of the NexStent Carotid Stent System and the FilterWire EZ Embolic Protection System in routine clinical practice and to identify rare or unanticipated device-related events that may occur with the use of this system. Enrollment in this study remains open.
- **Cordis Corporation SAPPHIRE WW Study.** Stenting and Angioplasty with Protection in Patients at High Risk for Endarterectomy. Dr. Jean Starr, Principal Investigator. Primary Objective: To estimate 30-day MAE rate of stenting distal protection in the treatment of obstructive carotid artery disease in high-surgical risk patients with atherosclerotic disease of the carotid artery(ies). Enrollment in this study remains open.
- **CVRx Rheos Trial.** CVRx Rheos Pivotal Trial. Dr. Jean Starr, Principal Investigator. Primary Objective: To demonstrate the efficacy and safety of the Rheos system in subjects with stage II hypertension that is resistant to treatment with at least three antihypertensive agents, one of which is a diuretic. This trial is being conducted as the pivotal trial for supporting the pre-market approval application to the FDA. Enrollment in this study remains open.

## Pending Sponsored Projects

- **RNA Expression Profiling of Lesions From In Vivo Carotid Atherectomy (REPLICA): A Carotid Plaque Observational Study.** Sponsor: Fox Hollow Technologies. Dr. Patrick Vaccaro, Principal Investigator; Dr. Jean Starr, Co-Investigator. Objective: To establish the relationship between genetic variation and the expression level of plaque RNA as assessed by microarray analysis (to discover functional single nucleotide polymorphisms (SNPs) that directly impact gene expression. IRB submission is pending.
- **Abbott Renal Stent Trial (HERCULES Trial).** Dr. Jean Starr, Principal Investigator. We are waiting for approval as a clinical site.
- **Medtronic Dissection Trial.** Dr. Patrick Vaccaro, Principal Investigator. We are waiting for approval as a clinical site.

## Non-Sponsored Research Studies

- **Operative Treatment of Thoracic Outlet Syndrome.** Dr. Patrick Vaccaro and Jeffrey Henke, Investigators. Primary Objective: A retrospective review of all cases of thoracic outlet syndrome (TOS) treated by first rib resection, from January 1995 to January 2006. Operative outcomes and the factors that may influence those outcomes are the primary focus of the study.
- **Complications with the Angio-Seal and StarClose Endovascular Closure Devices: A Retrospective Review.** Dr. Jean Starr and Ryan Helmick, Investigators. Primary Objective: To review the patient characteristics, method of closure, and outcomes, including complications, of patients receiving peripheral angioplasty for heart catheterization and closure with either manual compression, Angio-Seal, or StarClose devices at The Ohio State University Medical Center.
- **Isolated External Iliac Artery Stenting: Long-Term Retrospective Primary Patency Rates Reviewed.** Dr. Jean Starr, Investigator; Dr. Vance Smith and Dr. Richard Fries, Co-Investigators. Approval is pending review of revised data sheet.
- **Carotid Subclavian Bypass for Subclavian Stenosis: A Retrospective Review.** Dr. Patrick Vaccaro, Investigator; Dr. Richard Fries and Dr. Matthew Barrett, Co-Investigators. Approval: April 23, 2009.
- **Cryoplasty Intervention in Lower Extremity Peripheral Arterial Disease.** Dr. Patrick Vaccaro, Investigator; Dr. Jean Starr and Jon Henry, Co-Investigators. Approval: April 23, 2009.
- **Calf DVT and Thrombus Load.** Dr. Bhagwan Satiani, Investigator; Dr. Richard Fries, Co-Investigator. Approval: January 9, 2009.

## Active Research Grants

**Ghafourifar P.** Heart mitochondrial NOS and hypoxia/reoxygenation. American Heart Association, Great Rivers Affiliate, January 16, 2006 – June 30, 2008, \$114,121.

**Starr J, Attar TT.** A post-approval study of the Guidant Carotid Stent System and Embolic Protection Systems. Guidant Corp., April 12, 2005 – September 30, 2007, \$18,000.

**Starr J, Das BM, Vaccaro P, Vermilion B.** The PIVOTAL study: positive impact of endovascular options for treating aneurysms early. Cleveland Clinic Foundation, June 1, 2005 – May 31, 2010, \$11,150.

**Starr J, Vaccaro P.** Carotid stenting for high surgical risk patients: evaluating outcomes through the collection of clinical evidence (CHOICE). Abbott Laboratories, April 26, 2007 – February 27, 2010, \$3,650.

**Starr J, Vaccaro P.** SONOMA: the NexStent Carotid Stent System: a post-market approval evaluation study in conjunction with the FilterWire EZ Embolic Protection System. Boston Scientific Corp., August 17, 2007 – August 16, 2011, \$3,370.

**Starr J, Vaccaro P.** Stenting and angioplasty with protection in patients at high risk for endarterectomy (SAPPHIRE WW). Cordis Corp., May 2, 2007 – December 31, 2014, \$4,200.

**Starr J, Wexler R.** CVRx Rheos pivotal trial. CVRx, Inc., November 12, 2007 – September 1, 2010, \$70,008.

**Vaccaro P, Smead WL, Starr J.** A phase 2 clinical study of the safety and efficacy of the relay thoracic stent graft in patients with thoracic aortic pathologies. Bolton Medical, Inc., August 15, 2007 – August 31, 2012, \$2,500.

**Vaccaro P, Smead WL, Starr J.** Zenith TX2 thoracic TAA endovascular graft clinical study. Cook, Inc., February 18, 2005 – February 17, 2010, \$2,700.

## Accomplishments in Research

- Pedram Ghafourifar, Ph.D., research associate professor of surgery and director of basic science research in vascular surgery, hosted a lecture July 27, 2007, by biomedical gerontologist Aubrey de Grey, Ph.D., of Cambridge, England, titled “Prospects for Extending Healthy Life – A Lot!”
- Dr. Jean Starr discussed a clinical trial of a pacemaker-like device to control hypertension, in an interview aired Feb. 8, 2008, by Ohio News Network, WCMH-TV/4 in Columbus, KDFW-TV in Dallas, and WTHR-TV in Indianapolis.
- The Institutional Review Board approved the Boston Scientific Corporation SONOMA Study and the CVRx Rheos Trial.
- The division continued to enroll patients in the Cleveland Clinic Foundation/Medtronic PIVOTAL Study, Cook Zenith Study, Abbott Vascular Choice Study, Bolton Medical, Inc. Relay Trial, Boston Scientific Corporation SONOMA Study, Cordis Corporation SAPPHIRE WW Study, and CVRx Rheos Trial.
- The division was the first site in Ohio approved for the CVRx Rheos Trial.
- Faculty in the division published 18 scholarly articles.

## Clinical Programs

- Comprehensive vascular diseases and surgery service.
- Endovascular surgery program.
- Arterial surgery clinic.
- Venous surgery clinic.
- Laser surgery for varicose veins.

## Accomplishments in Clinical Care

- In October 2007, the Peripheral Vascular Lab received approval for reaccreditation by the Intersocietal Commission for the Accreditation of Vascular Laboratories.
- The division achieved the highest level of patient satisfaction in the entire Ohio State University Health System during fiscal year 2007. Of vascular surgery patients, 92.3 percent gave a satisfaction rating of 9 or 10 on a scale of 10. Within the Health System as a whole, the average percentage of patients giving a rating of 9 or 10 was 81.4 percent.

## Clinical Statistics

OR Procedures	1,734
Outpatient Visits	7,462
Admissions	932
Patient Days	4,187
Average Length of Stay (Days)	4.44

## Educational Programs

- Seminar in Practice Management. Dr. Bhagwan Satiani presents this monthly seminar to the students and residents in the Department of Surgery.

- Two-year fellowship in vascular diseases and surgery, accredited in 2006 by the Accreditation Council for Graduate Medical Education.
- Comprehensive rotation in vascular diseases and surgery for junior and senior general surgery residents.
- Subinternship in general vascular surgery.

## Accomplishments in Education

- Dr. B. Mohan Das attended advanced AAA training with W. L. Gore & Associates, in Chicago, Ill., July 12–13, 2007.
- Dr. Richard Fries attended the 2008 Research Initiatives in Vascular Disease Conference, in Washington, D.C., April 10–11, 2008.
- Dr. Bhagwan Satiani attended the Society for Vascular Ultrasound's Registered Physician in Vascular Interpretation Exam Review Course, in St. Louis, Mo., March 13–14, 2008.
- Dr. Bhagwan Satiani attended the Midwestern Vascular Surgical Society Meeting, in Chicago, Ill., September 5–8, 2007.
- Dr. Bhagwan Satiani was appointed an ad-hoc member of the Private Practice Committee of the Society for Vascular Surgery, in May 2008.
- Dr. Bhagwan Satiani was appointed a member of the Diversity Committee of the Society for Vascular Surgery, in May 2008.
- Dr. William Smead served as associate examiner for the American Board of Surgery Certifying Examination, October 29–31, 2007.
- Dr. William Smead attended the Eastern Surgical Society Meeting, in Washington, D.C., April 24–27, 2008.
- Dr. Jean Starr attended advanced thoracic training with W. L. Gore & Associates, in Sacramento, Calif., September 17–19, 2007.
- Dr. Jean Starr attended the Boston Scientific Medical Advisory Board Meeting, in Salt Lake City, Utah, February 25–27, 2008.
- Dr. Jean Starr attended the Fourth Annual Summit Conference and Fisher Graduate Women in Business Meeting, in Columbus, Ohio, February 29, 2008.



- Dr. Jean Starr attended the Central Surgical Association Meeting, in Cincinnati, Ohio, March 5–7, 2008.
- Dr. Jean Starr attended training with CVRx, Inc., in Minneapolis, Minn., March 19, 2008.
- Dr. Jean Starr attended the Society for Vascular Surgery Women's Leadership Retreat, in Scottsdale, Ariz., April 3–6, 2008.
- Dr. Patrick Vaccaro served as associate examiner for the American Board of Surgery Certifying Examination, October 29–31, 2007.
- Dr. Patrick Vaccaro attended the Health Care Advisory Board National Meeting, in Cleveland, Ohio, December 3–4, 2007.
- Dr. Patrick Vaccaro attended the Central Surgical Association Meeting, in Cincinnati, Ohio, March 5–7, 2008.
- Dr. Patrick Vaccaro attended the 2008 Research Initiatives in Vascular Disease Conference, in Washington, D.C., April 10–11, 2008.
- Dr. Blair Vermilion attended advanced AAA training with W. L. Gore & Associates, in Los Angeles, Calif., July 26, 2007.
- Dr. Blair Vermilion attended a Hospital Accreditation Essentials Conference, in Chicago, Ill., April 1–3, 2008.

## Community Outreach Programs

- Presentation of regular lectures on vascular disease to Central Ohio hospitals, departments of surgery, medical staff meetings, grand round meetings, medical society meetings, emergency medical services meetings, COSI, and MedFlight.

## Accomplishments in Community Outreach

- Dr. Patrick Vaccaro was elected a trustee of the Columbus Medical Association.
- Dr. William Smead was listed in Best Doctors in America for 2007.
- Dr. Jean Starr received a Faculty Teaching Award bestowed by the medical students.

- Dr. Blair Vermilion received the College of Medicine's Excellence in Teaching Award.
- The name of the Division of General Vascular Surgery was changed to the Division of Vascular Diseases and Surgery.

## Publications

**Falcone RE, Satiani B.** Physician as hospital chief executive officer. *Vasc Endovasc Surg* 2008; 42(1):88–94.

**Ghafourifar P, Mousavizadeh K, Parihar MS, Nazarewicz RR, Parihar A, Zenebe WJ.** Mitochondria in multiple sclerosis. *Front Biosci* 2008; 13:3116–3126.

**Ghafourifar P, Parihar MS, Nazarewicz R, Zenebe WJ, Parihar A.** Detection assays for determination of mitochondrial nitric oxide synthase activity: advantages and limitations. *Methods Enzymol* 2008; 440:317–334.

**Ghafourifar P, Sen CK.** Mitochondrial nitric oxide synthase. *Front Biosci* 2007; 12:1072–1078.

**Nazarewicz RR, Zenebe WJ, Parihar A, Parihar MS, Vaccaro M, Rink C, Sen CK, Ghafourifar P.** 12(S)-hydroperoxyeicosatetraenoic acid (12-HETE) increases mitochondrial nitric oxide by increasing intramitochondrial calcium. *Arch Biochem Biophys* 2007; 468(1):114–120.

**Nazarewicz RR, Ziolkowski W, Vaccaro PS, Ghafourifar P.** Effect of short-term ketogenic diet on redox status of human blood. *Rejuvenation Res* 2007; 10(4):435–440.

**Parihar A, Parihar MS, Chen Z, Ghafourifar P.** mAtNOS1 induces apoptosis of human mammary adenocarcinoma cells. *Life Sci* 2008; 82(21–22):1077–1082.

**Parihar A, Parihar MS, Ghafourifar P.** Significance of mitochondrial calcium and nitric oxide for apoptosis of human breast cancer cells induced by tamoxifen and etoposide. *Int J Mol Med* 2008; 21(3):317–324.

**Parihar A, Vaccaro P, Ghafourifar P.** Nitric oxide irreversibly inhibits cytochrome oxidase at low oxygen concentrations: evidence for inverse oxygen concentration-dependent peroxynitrite formation. *IUBMB Life* 2008; 60(1):64–67.

**Parihar MS, Nazarewicz RR, Kincaid E, Brongold U, Ghafourifar P.** Association of mitochondrial nitric oxide synthase activity with respiratory chain complex I. *Biochem Biophys Res Commun* 2008; 366(1):23–28.

**Parihar MS, Parihar A, Fujita M, Hashimoto M, Ghafourifar P.** Mitochondrial association of alpha-synuclein causes oxidative stress. *Cell Mol Life Sci* 2008; 65(7–8):1272–1284.

**Parihar MS, Parihar A, Villamena FA, Vaccaro PS, Ghafourifar P.** Inactivation of mitochondrial respiratory chain complex I leads mitochondrial nitric oxide synthase to become pro-oxidative. *Biochem Biophys Res Comm* 2008; 367(4):761–767.

**Pawaskar M, Balkrishnan R, Kiser D, Gray M, Satiani B.** Work flow analysis: evaluation of conventional mobile versus portable ultrasound scanners in the noninvasive vascular laboratory. *J Vasc Ultrasound* 2008; 32(2):85–88.

**Pawaskar M, Satiani B, Balkrishnan R, Starr JE.** Economic evaluation of carotid artery stenting versus carotid endarterectomy for the treatment of carotid artery stenosis. *J Am Coll Surg* 2007; 205(3):413–419.

**Satiani B.** No defense. *Modern Healthcare* 2008; 38(11):24.

**Satiani B.** Specialty hospitals: who do they help? *Surgery* 2008; 143(5):589–598.

**Yu LH, Starnes BW, Starr J, Arko FR.** Vascular access site management. *Endovascular Today* 2008; 7(3):40–44.

**Zenebe WJ, Nazarewicz RR, Parihar MS, Ghafourifar P.** Hypoxia/reoxygenation of isolated rat heart mitochondria causes cytochrome C release and oxidative stress: evidence for involvement of mitochondrial nitric oxide synthase. *J Mol Cell Cardiol* 2007; 43(4):411–419.

## National Presentations

**Satiani B.** Changes in Stark law, anti-kickback and antitrust law for practicing physicians. Indian Doctors Association of Houston, Second Lecture on Business of Medicine, Houston, Texas, October 20, 2007.

**Starr JE.** Vascular surgeons' perspective on arterial closure. Abbott Vascular National Sales Meeting, Chicago, Ill., August 1, 2007.

**Pleister I, Evans J, Vaccaro PS, Satiani B.** Natural history of the great saphenous vein stump following endovenous laser therapy. Midwestern Vascular Surgical Society, 31st Annual Meeting, Chicago, Ill., September 7, 2007.

## Miscellaneous Presentations

**Das BM.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, November 28, 2007.

**Das BM.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, February 4, 2008.

**Das BM.** Carotid disease. Madison County Hospital, Medical Staff Meeting, London, Ohio, March 6, 2008.

**Das BM.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, March 31, 2008.

**Das BM.** Vascular disease. The Ohio State University Medical Center, Medical Therapeutics Lecture, Senior Elective Course for Pulmonary/Critical Care, Columbus, Ohio, March 24, 2008.

**Das BM.** The vascular system: the aorta and great vessels. The Ohio State University Medical Center, Professor Conference, Columbus, Ohio, March 13, 2008.

**Pleister I, Evans J, Vaccaro PS, Satiani B.** Natural history of the great saphenous vein stump following endovenous laser therapy. Columbus Surgical Society, 19th Annual Presidential Symposium, Columbus, Ohio, February 16, 2008.

**Satiani B.** "After all, tomorrow is another day": an optimistic view for physicians. Clark County Medical Society, Springfield, Ohio, January 21, 2008.

**Satiani B.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, December 12, 2007.

**Satiani B.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, February 6, 2008.

**Satiani B.** Vascular system: venous disease. The Ohio State University Medical Center, Professor Conference, Columbus, Ohio, February 28, 2008.

**Smead WL.** Portal hypertension. The Ohio State University Medical Center, Professor Conference, Columbus, Ohio, September 27, 2007.

**Smead WL.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, November 26, 2007.

**Smead WL.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, June 4, 2008.

**Smead WL.** Surgical approach to treatment of diabetic foot infection. Merck & Company, Columbus, Ohio, August 15, 2007.

**Starr JE.** Aortic aneurysms (or blood vessel balloons). COSI (Center of Science and Industry), Columbus, Ohio, October 19, 2007.

**Starr JE.** Innovations in endovascular therapy. Ohio State Medical Association, 2008 Women in Medicine, Columbus, Ohio, May 3, 2008.

**Starr JE.** Management of arterial thrombus: surgical, medical and ultrasound. The Ohio State University, Heart of It All Conference, Columbus, Ohio, June 24, 2008.

**Starr JE.** Peripheral vascular surgery. The Ohio State University, Basic Science Lecture, Columbus, Ohio, December 6, 2007.

**Starr JE.** Rheos baroreceptor hypertension system. Richard M. Ross Heart Hospital, Rheos Pivotal Consumer Lecture Series, Columbus, Ohio, March 12, 2008.

**Starr JE.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Study Session, Columbus, Ohio, April 2, 2008.

**Starr JE.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, June 2, 2008.

**Starr JE.** Treatment of ruptured AAA. Delaware Emergency Medical Service, Delaware, Ohio, September 25, 2007.

**Starr JE.** Treatment of ruptured AAA. MedFlight, Columbus, Ohio, July 23, 2007.

**Starr JE.** Vascular surgery. The Ohio State University Medical Center, Surgery Interest Group, Columbus, Ohio, April 29, 2008.

**Starr JE.** Vessel closure. Abbott Vascular Program, Columbus, Ohio, April 10, 2008.

**Vaccaro PS.** Peripheral artery aneurysms. Wyandot Memorial Hospital, Medical Staff Meeting, Upper Sandusky, Ohio, November 27, 2007.

**Vaccaro PS.** Peripheral vascular disease in diabetics: application of minimally invasive surgical procedures. The Ohio State University Medical Center, Global Diabetes Summit, Columbus, Ohio, November 30, 2007.

**Vaccaro PS.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, July 30, 2007.

**Vaccaro PS.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, August 1, 2007.

**Vaccaro PS.** Vascular and thoracic animal lab. The Ohio State University Medical Center, Columbus, Ohio, November 1, 2007.

**Vaccaro PS.** The vascular system: peripheral vascular disease. The Ohio State University Medical Center, Professor Conference, Columbus, Ohio, March 27, 2008.

**Vermilion BD.** Advances in the management of venous disease of the lower extremity. The Ohio State University Medical Center, Wisconsin Surgical Society Meeting, Columbus, Ohio, May 6, 2008.

**Vermilion BD.** Disease of the great vessels. The Ohio State University Medical Center, Basic Sciences Conference, Columbus, Ohio, November 1, 2007.

**Vermilion BD.** Endovascular AAA and TAA. The Ohio State University, Heart of It All Conference, Columbus, Ohio, June 24, 2008.

**Vermilion BD.** Peripheral arterial aneurysms. Licking Memorial Hospital, Medical Staff Meeting, Newark, Ohio, August 13, 2007.

**Vermilion BD.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, October 1, 2007.

**Vermilion BD.** Stroke, vascular surgery, and the ischemic and swollen leg. The Ohio State University Medical Center, Student Group Session, Columbus, Ohio, October 3, 2007.

**Vermilion BD.** Venous disease in primary care. The Ohio State University Medical Center, MedNet 21 Webcast, Columbus, Ohio, December 21, 2007.