Vascular Surgery Fellowship Program
About the Division

The Division of Vascular Diseases and Surgery is one of nine specialty divisions within the Department of Surgery at The Ohio State University Wexner Medical Center. Our division provides state-of-the-art vascular care to the citizenry of Ohio and surrounding states at the Richard M. Ross Heart Hospital and the affiliated healthcare facilities of the Ohio State Wexner Medical Center. We remain deeply engaged in the education and training of medical students, surgery residents and fellows while continuing our involvement in clinical outcomes and quality initiatives research and, more recently, expanding our faculty’s efforts in vascular biology.

Ohio State Wexner Medical Center’s heart and vascular experts offer the best care in central Ohio. No other hospitals or heart centers in central Ohio are ranked among the nation’s best by U.S. News & World Report – only Ohio State.

Opened in 2004 and expanded in 2007, Ohio State’s Richard M. Ross Heart Hospital is a 150-bed facility that combines the latest technology with patient-focused care to create the best possible healing environment. Each floor is dedicated to a specific service, such as cardiac surgery or vascular medicine. From diagnostic studies and routine care to implantation of lifesaving heart pumps, robot-assisted surgical procedures and heart transplants, the Ross Heart Hospital offers the full spectrum of heart and vascular care, including medications, vascular, valve and bypass surgery, pacemaker implants, coronary and vascular angioplasty and stents, arrhythmia surgery and ablation.

Mission

The mission of the Division of Vascular Diseases and Surgery is to deliver the highest quality of care to vascular patients throughout Ohio and the surrounding regions, to innovate in medicine through translational research and clinical outcomes studies, and to educate medical students, postgraduate trainees and vascular care providers.
Clinical Experience

The strength of our fellowship is the tremendous depth and breadth of clinical material. We offer a comprehensive educational program in routine and complex vascular reconstructions using both open, endovascular, and hybrid techniques. We are a major referral site for complex vascular care throughout Ohio and surrounding states. The endovascular and open surgery experience is combined seamlessly throughout the fellowship experience, as in real-world practice. The experience covers the full range of vascular surgery including:

- Aortoiliac, femoropopliteal and tibial occlusive disease
- Cerebrovascular disease
- Thoracic, thoracoabdominal and abdominal aortic aneurysms and dissections
- Peripheral and visceral aneurysms
- Open mesenteric and renal revascularization
- Open venous reconstructions
- Management of outpatient venous diseases
- Endovascular aneurysm repair, including thoracic and fenestrated
- Tibial, mesenteric, renal and carotid interventions
- Percutaneous atherectomy, thrombectomy and pharmacomechanical and standard thrombolysis
- Percutaneous venous interventions including deep vein thrombosis (DVT) thrombolysis
- Thoracic outlet disease
- Spine exposure
- Dialysis access
- Pediatric vascular surgery
- Portal hypertension

While we are fully engaged in all progressive developments in endovascular surgery, the open surgical experience remains robust at Ohio State. Recent graduates have finished with 500-700 vascular operations and endovascular procedures in the defined categories. Fellows benefit from a faculty with a healthy age and experience range and diverse training backgrounds, ensuring exposure to multiple solutions to vascular problems.

Fellows also participate in the outpatient clinic one half day (minimum) per week to ensure continuity of care and familiarity with outpatient diseases, post-operative management, and preoperative risk stratification.

The Noninvasive Vascular Laboratory

The fellowship offers extensive experience in the noninvasive lab and requires active weekly participation not only in interpretation of studies but also in performance of sonography. An established vascular lab curriculum is followed. Registered Physician in Vascular Interpretation (RPVI) certification is obtained during the fellowship.

Education

The crown jewel of the division is our accredited Vascular Surgery fellowship, which has been in existence for 41 years, since 1978. This is a two-year fellowship, and qualified applicants have completed the requirements for certification in general surgery by the American Board of Surgery.

The division is responsible for the vascular education of Ohio State’s medical students and surgical residents and is home to one of the oldest vascular surgery fellowships in the country. Graduates of our fellowship finish equipped to practice the full spectrum of vascular and endovascular surgery in a community or an academic setting. Eight faculty staff the vascular surgery clinical teaching service. As our fellowship evolves to follow the changing paradigms in vascular education, we have maintained a high-quality depth and breadth of experience for our general surgery residents, and the vascular surgery rotation remains a favorite among the residents. The service consists of a second-year fellow, a first-year fellow, a fourth-year senior general surgery resident, a junior resident, and one to three interns, as well as medical students and physician extenders. Most clinical activity occurs in the Ross Heart Hospital, University Hospital and The James Cancer Hospital, but service is also provided at University Hospital East and Nationwide Children's Hospital. With seven surgeons operating at the main campus and University Hospital East, there is ample operative experience for both of the fellows and all of the residents. There are three operating rooms dedicated to the vascular surgery service in the Ross Heart Hospital, with two newly constructed, state-of-the-art hybrid suites. Two other peripheral vascular GE Innovia™ suites can be used in the cath lab.

To prepare physicians to function as well-qualified, independent specialists in vascular surgery, the faculty is committed to the education of vascular surgery residents in basic science and vascular surgery as it relates to the specialty. We hope to instill in our trainees the essential elements of success for a career in vascular surgery, including honesty and integrity, objectivity, self-motivation, curiosity, timeliness, a sense of responsibility and a commitment to excellence established by the Accreditation Council for Graduate Medical Education (ACGME). Implicit in the educational goals of our program is the successful acquisition of the six general competencies adopted by the ACGME.
Educational Conferences
Every Monday from 7 to 9 a.m., clinical activity is suspended and our educational conferences take place. All faculty, fellows and on-service residents and students participate. Faculty and fellows rotate presenting topics following the Association of Program Directors in Vascular Surgery (APDVS) basic science and clinical curricula; the entire curriculum is covered over a two-year period. The morbidity and mortality (M&M) conference, interesting cases and preoperative case conference occur monthly. Quarterly, a vascular lab topics presentation and Vascular Quality Initiative (VQI) meeting are held. In addition, every Wednesday morning from 7 to 8 a.m., faculty-led teaching rounds are held, and once a month, the fellows spend an hour with a single faculty member devoted to discussion of advanced vascular topics. We have a monthly Aortic Center of Excellence meeting, where physicians in the Heart and Vascular Center meet and discuss care for patients with diseases of the aorta. Journal Club is held bimonthly at a faculty member’s home on a rotating basis. Our division organizes and hosts the annual “Vascular Non-Invasive Testing Symposium” and “Controversies in Vascular Diseases” every fall, now in its 11th year. Fellows are given the opportunity to present at this regional conference. We also participate in General Surgery grand rounds and M&M conferences, and quarterly we host a visiting professor in vascular disease at our Mid-Ohio Endovascular Club. Visiting vascular specialists are also arranged to present at Heart and Vascular Center Grand Rounds twice annually and for the Luther Keith Visiting Professorship annually.

Research Opportunities
Each fellow is expected to submit an abstract for presentation at a regional or national meeting annually, followed by manuscript submission if appropriate. Ample opportunities are available in outcomes research, retrospective chart reviews and prospective trials run by our faculty. For those with a sincere interest, vascular biology research opportunities are available in the lab of Lian-Wang Guo, MS, PhD, and Bowen Wang, PhD, and dedicated time for basic research may be arranged on an individual basis.

Current prospective research trials include:

- **A 3:1 Randomized Trial Comparing the Boston Scientific RANGER® Paclitaxel Coated Balloon vs. Standard Balloon Angioplasty for the Treatment of Superficial Femoral Arteries (SFA) and Proximal Popliteal Arteries (PPA)**, to evaluate the safety and effectiveness of the Ranger Paclitaxel Coated Balloon for treating lesions located in the superficial femoral and proximal popliteal arteries (SFA/PPA)
  - PI: Jean Starr, MD
  - Sponsor: Boston Scientific
  - ClinicalTrials.gov Identifier: NCT03064126

- **Barostim Therapy for Heart Failure (BeAT-HF)**, a trial to develop valid scientific evidence for safety and effectiveness of Baroreflex Activation Therapy with the Barostim Neo in subjects with heart failure
  - PI: Jean Starr, MD
  - Sponsor: CVRx, Inc
  - ClinicalTrials.gov Identifier: NCT02627196

- **Best Endovascular vs. Best Surgical Therapy in Patients with Critical Limb Ischemia (BEST-CLI)**, a study to compare the effectiveness of best available surgical treatment with best available endovascular treatment in adults with critical limb ischemia
  - PI: Jean Starr, MD
  - Sponsor: National Institutes of Health (NIH), National Heart, Lung, & Blood Institute (NHLBI), Division of Cardiovascular Diseases
  - ClinicalTrials.gov Identifier: NCT02060630

Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis (CREST-2), two independent multicenter, randomized, controlled trials of carotid endarterectomy and intensive medical management versus medical management alone and carotid artery stenting and intensive medical management versus medical management alone in patients with asymptomatic high-grade carotid stenosis
  - PI: Jean Starr, MD
  - Sponsor: The National Institute of Neurological Disorders and Stroke (NINDS)
  - ClinicalTrials.gov Identifier: NCT020893217

Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial - Hemodynamics (CREST-H), a trial aimed to determine whether cognitive impairment attributable to cerebral hemodynamic impairment in patients with high-grade asymptomatic carotid artery stenosis is reversible with restoration of flow
  - PI: Jean Starr, MD
  - Sponsor: The National Institute of Neurological Disorders and Stroke (NINDS)
  - ClinicalTrials.gov Identifier: NCT03121209

CREST-2 Registry (C2R), a safety and quality registry of patients undergoing carotid artery stenting for symptomatic or asymptomatic carotid artery disease
  - PI: Jean Starr, MD
  - Sponsor: The University of Maryland
  - ClinicalTrials.gov Identifier: NCT02240862

Effects of Prevena Therapy on Reduction of Groin Surgical Site Infection in Obese and/or Diabetic Patients Undergoing Vascular Surgery, a prospective, randomized, single arm trial evaluating the effectiveness of Prevena therapy on decreasing groin surgical site infections in obese patients who are undergoing vascular surgery
  - PI: Jean Starr, MD
  - Sponsor: The Ohio State University Division of Vascular Diseases and Surgery
  - ClinicalTrials.gov Identifier: NCT01983215

The Impact of Diabetes on Revascularization (TIDE), a trial to investigate the mechanisms by which diabetes affects surgical and endovascular revascularization procedures with the long-term goal of improving outcomes in critical limb ischemia
  - PI: Jean Starr, MD
  - Sponsor: Vanderbilt University Medical Center
  - ClinicalTrials.gov Identifier: NCT03085524

A Mathematical Model of Abdominal Aortic Aneurysm Progression, a trial to identify candidate biomarkers for abdominal aortic aneurysm growth and propose a mathematical model for aneurysm progression
  - PI: Michael Go, MD

MicroRNA and Inflammatory Cytokines in Blood and CSF in TEVAR, a trial designed to discover novel drug targets that can be used for development of new pharmacological therapies to advance patient safety and eliminate paralysis after thoracic endovascular aneurysm repair
  - PI: Hosam El Sayed, MD
Additional Information

Scholarship has always been a point of emphasis in our division. In particular, Bhagwan Satiani, MD, MBA, (left) has written and presented extensively in the areas of the business of medicine, workforce issues, healthcare policy and administration and has become an acknowledged regional and national expert.

Clinically, we consistently enroll high numbers of patients in multicenter clinical trials and registries and have recently renewed our focus on outcomes research, especially utilizing the Vascular Quality Initiative database. Fellows are expected to participate in a hospital quality project each year during their training, and there are many ways to get involved.

Researcher Lian-Wang Guo, MS, PhD, (top right) is investigating the disease mechanisms dictated by epigenetic regulators in the vascular cells and lesions via ChIPseq/RNAseq and transgenic animal models. Dr. Guo has recently identified a molecular switch that, when pharmacologically turned off, halts the disease-prone cellular transition. This bromodomain and extra-terminal (BET) family of epigenetic "readers" couple with transcription factors to co-activate the expression of a select set of genes that in concert drive cell state transition. Dr. Guo hopes their research will ultimately lead to effective treatments for large populations who would otherwise develop flowobstructing vascular diseases or blindness.

Researcher Bowen Wang, PhD (bottom right), is investigating the lack of non-invasive therapeutic strategies to effectively prevent and reverse the development of vascular lesions such as restenosis and aneurysm. Dr. Wang is dedicated to utilizing an interdisciplinary approach to not only understand their etiologies, but also develop prototypes of effective therapeutics that can lead to future application in vascular patients.
Faculty

Lian-Wang Guo, MS, PhD
Associate Professor of Surgery
BS: Xinjiang University, PR, China
MS: Shanghai Institute of Plant Physiology, Chinese Academy of Sciences
PhD: Shanghai Institute of Plant Physiology, Chinese Academy of Sciences
Appointment: 2017
Research Interests: Epigenetic mechanisms in vascular disease, neurodegeneration in the retina, translational drug delivery into the vasculature and eye

Mounir Haurani, MD
Associate Professor of Clinical Surgery
Director, Outpatient Vascular Lab Services
BS: University of Michigan, Ann Arbor, Michigan, 1998
MD: Wayne State University School of Medicine, Detroit, Michigan, 2002
Specialty Training: Residency in general surgery, Henry Ford Hospital, Detroit, Michigan; research fellowship, Henry Ford Hospital, Detroit, Michigan; clinical and research fellowship in surgery, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts
Appointment: 2011
Specialty Interests: Aneurysms, carotid disease, venous obstructive disease, peripheral vascular disease, complex endovascular revascularization, IVC filter retrieval and placement
Research Interests: Surgical education, clinical outcomes reactive oxygen species and neointimal hyperplasia

Kristine Orion, MD
Associate Professor of Clinical Surgery
Director, Quality and Patient Safety
BS: University of Hawaii at Manoa, Honolulu, Hawaii
MD: University of Miami, Miami, Florida
Specialty Training: Residency in general surgery, University of Iowa; vascular surgery fellowship at The Johns Hopkins Hospital, Baltimore, Maryland
Appointment: 2019
Research Interests: Open thoracoabdominal aneurysm repair, thoracic outlet syndrome, patient quality and safety

Bhagwan Satiani, MD, MBA
Professor of Clinical Surgery
Undergraduate Degree: Shah Abdul Latif College, Mirpurkhas, Pakistan, 1964
MS: Dow Medical College, University of Karachi, Karachi, Pakistan, 1971
MBA: Franklin University, Columbus, Ohio, 2002
Specialty Training: General surgery residency and trauma fellowship, Emory University, Atlanta, Georgia; vascular surgery fellowship, The Ohio State University, Columbus, Ohio
Appointment: 2004
Specialty Interests: Noninvasive vascular studies and diagnoses, healthcare economics, business aspects of medicine
Research Interests: Medical economics

Timur Sarac, MD
Professor of Clinical Surgery
Director, Division of Vascular Diseases and Surgery
Director, Aortic Center
Bachelor of Arts: Canisius College
MD: SUNY at Buffalo
Specialty Training: General surgery residency, University of Rochester; research fellowship, University of Rochester; fellowship in vascular surgery at University of Florida, endovascular fellowship at Texas Tech University
Appointment: 2018
Specialty Interests: Complex aortic disease, thoracic and thoracoabdominal aortic aneurysm aneurysms
Research Interests: Minimally invasive stents for thoracic and abdominal aortic aneurysms

Hosam El Sayed, MBBCh, PhD
Associate Professor of Clinical Surgery
Associate Program Director, Vascular Surgery Fellowship Program
BS: University of Cairo, School of Medicine
MD: University of Cairo, School of Medicine
PhD: General surgery, University of Cairo, School of Medicine
Specialty Training: General surgery residency, University of Cairo and The Ohio State University, Columbus, Ohio; vascular surgery fellow, Eastern Virginia Medical School
Appointment: 2015
Specialty Interests: Complex aortic disease, limb salvage, complex endovascular interventions, complex vascular access procedures, minimally invasive venous interventions and noninvasive vascular lab diagnosis
Research Interests: Outcome clinical research, complex aortic endograft therapy for thoracic and abdominal aortic disease, endovascular lower extremity revascularization, evaluation and adoption of new technologies and therapies in vascular surgery

Michael Go, MD
Associate Professor of Surgery
Medical Director, Vascular Diseases and Surgery at Ohio State University Hospital East
Director, Critical Limb Ischemia
BS: Duke University, Durham, North Carolina, 1996
MD: University of Cincinnati, Cincinnati, Ohio, 2000
MS: The Ohio State University, Columbus, Ohio, 2005
Specialty Training: Residency in general surgery, The Ohio State University, Columbus, Ohio; fellowship in vascular surgery, University of Pittsburgh, Pittsburgh, Pennsylvania
Appointment: 2008
Specialty Interests: General vascular surgery, endovascular surgery, limb salvage preservation
Research Interests: Endovascular surgery, stem cell research
Jean Starr, MD  
Professor of Clinical Surgery  
Program Director, Vascular Surgery Fellowship Program  
Medical Director, Endovascular Services  
BS: The Ohio State University, Columbus, Ohio, 1985  
MD: The Ohio State University, Columbus, Ohio, 1989  
Specialty Training: General surgery residency and vascular surgery fellowship, Cleveland Clinic, Cleveland, Ohio  
Appointment: 2004  
Specialty Interests: Vascular and endovascular surgery, intervention procedures, thoracic and abdominal aneurysms  
Research Interests: Endovascular trials

Patrick Vaccaro, MD, MBA  
Professor of Clinical Surgery  
Luther M. Keith Professor of Surgery  
Medical Director of Perioperative Services, Ohio State Ross Heart Hospital  
BS: Yale University, New Haven, Connecticut, 1971  
MD: University of Cincinnati, Cincinnati, Ohio, 1975  
MBA: The Ohio State University Fisher College of Business, Columbus, Ohio, 2013  
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: Vascular surgery, endovascular surgery, thoracic and abdominal aneurysms  
Research Interests: Clinical trials

K. Craig Kent, MD  
Dean, The Ohio State University College of Medicine  
Leslie H. and Abigail S. Wexner Dean’s Chair in Medicine  
MD: University of California, San Francisco  
Specialty Training: General surgery residency, University of California, San Francisco; fellowship in vascular surgery, Brigham and Young Women’s Hospital; endovascular fellowship, The Cleveland Clinic  
Research Interests: Stem cell drug delivery, tissue engineering and outcomes research

Bowen Wang, PhD  
Assistant Professor of Research  
Bachelor of Medicine in Basic Medicine, Peking University, Health Science Center, Beijing, China  
PhD: University of Wisconsin-Madison, PhD in Cellular and Molecular Pathology  
Research Interests: Restenosis, vascular injury, phenotypic switching, aneurysm, biomimetic medicine, nanomedicine

For an application or more information on the vascular training program, contact the address below. This division also participates in the ERAS registration program. Selected applicants will be invited for a personal interview.

Dawn Sagle  
Residency Coordinator  
Division Administrator  
701 Prior Hall, 376 W. 10th Ave.  
Columbus, OH 43210  
Phone: 614-293-8536; Fax: 614-293-8902  
wexnermedical.osu.edu/departments/surgery/vascular

THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER AND COLLEGE OF MEDICINE  
DIVISION OF VASCULAR DISEASES AND SURGERY

Alumni List of Vascular Fellows

1984-1985 Benson Harvey, MD  
1987-1988 Alan Annenberg, MD  
1988-1989 William Finklemeyer, MD  
1989-1990 Edward Rigdon, MD  
1989-1990 Douglas Massop, MD  
1990-1992 Matthew Lukens, MD  
1991-1993 John Horowitz, MD  
1992-1994 J. Chadwick Tober, MD  
1993-1995 Deepak Gupta, MD  
1995-1996 George Geroulakos, MD  
1996-1997 David Landau, MD  
1997-1998 Stavros Kalilias, MD  
1998-1999 Norman Kuminis, MD  
1999-2000 Randy Irwin, MD  
2000-2001 Dawn Salvatore, MD  
2001-2002 Bart Chess, MD  
2002-2003 Deepak Guttikonda, MD  
2003-2004 David Finley, MD  
2004-2005 John Foor, MD  
2005-2006 Kenneth Wright, MD  
2006-2007 Nnamdi Azie, MD  
2006-2007 Gregory Walker, MD  
2007-2009 Richard Fries, MD  
2008-2010 Siddharth Bhende, MD  
2009-2011 Maria Litzendorf, MD  
2010-2012 Joseph Habib, MD  
2011-2013 Alex Thors, MD  
2012-2014 Nicolas Mouawad, MD  
2013-2015 Loren Masterson, MD  
2014-2016 Babatunde Oriowo, MD  
2015-2017 Suzanne Siefert-Kool, MD  
2016-2018 Ghaleb Darwazeh, MD  
2017-2019 Daisy Chou, MD  
2018-2020 Jennifer Baker, MD  
2019-2021 Kara Hessel, MD