VANDERBILT UNIVERSITY
MEDICAL CENTER

Vascular Medicine Fellowship Application

2018-2019
FACULTY MEMBERS

Joshua A. Beckman, MD
Program Director
The Brown Family Fellowship in Vascular Medicine
Vanderbilt University Medical Center

Vascular Medicine
Joshua A. Beckman, MD
Esther Kim, MD
Aaron W. Aday, MD

Hematology
Colleen Morton, MD
Jennifer Green, MD

Vascular Surgery
Thomas Naslund, MD
John Curci, MD
Louis Garrard, MD
Patrick Stone, MD

Radiology
Murray Mazer, MD
J. Jeffrey Carr, MD
Kim Sandler, MD

Interventional Cardiology
Peter Fong, MD

Podiatry
Adam Hicks, DPM

Interventional Radiology
Filip Banavac, MD
LeAnn Stokes, MD

Vascular Medicine Advisory Board
Thomas J. Wang, MD
Lisa Mendes, MD
**Outpatient Vascular Medicine Clinic** (12 months, 2 half days per week)
Located in both Medical Center East and 100 Oaks, Vanderbilt Heart and Vascular Ambulatory services are the private offices of the cardiovascular medicine and surgical staff physicians. Facilities for a comprehensive ambulatory cardiovascular evaluation are present at both sites. Office hours are generally from 8:00 a.m. to 5:00 p.m. daily. Twice per week, fellows will see their own patients and referrals from general practitioners, internists, cardiologists, or surgeons in the community or surrounding areas for evaluation and management of diagnostic and/or therapeutic vascular disorders. Fellows will evaluate and manage a broad range of vascular diseases including those related to atherosclerosis, thrombosis, chronic venous disease and lymphatic disorders. Fellows are responsible for the entire vascular care of these patients, including the dictation of notes to referring physicians and the arrangement of diagnostic and/or therapeutic procedures as needed. Supervision will be provided by a vascular medicine faculty member. In this way, the fellow will be exposed to a variety of outpatient management styles but will also be clearly denoted as the primary caregiver.

**Noninvasive Vascular Laboratory** (3 months dedicated time)
A structured three month Noninvasive Vascular Laboratory rotation will enable the trainee to acquire expertise in the full range of noninvasive tests performed to evaluate patients with vascular diseases. These will include physiologic diagnostic studies of the upper and lower extremities, such as segmental blood pressure measurements, pulse volume recordings and Doppler waveform analysis as well as exercise testing with post-exercise pressure measurements to assess hemodynamic responses and functional capacity. An important component of the noninvasive vascular diagnostic laboratory experience will be the acquisition of the skills necessary to perform and interpret vascular duplex ultrasound examinations. During this rotation, the trainee will learn the principles governing ultrasonography and acquire fundamental knowledge in ultrasound physics, transducer technology and ultrasound instruments, and importantly, learn how to utilize ultrasound instrument settings and manipulate a transducer to acquire optimal images for duplex ultrasound studies of the carotid arteries, peripheral arteries and bypass grafts, renal arteries, and peripheral veins. The trainee will gain sufficient experience to meet published standards and eligibility to sit for the Registered Physicians Vascular Interpretation credential. The trainee will perform and interpret a minimum of 100 physiologic arterial examinations, 100 venous duplex ultrasound examinations, 100 arterial duplex ultrasound examinations, and 100 carotid duplex ultrasound examinations. The trainee will also acquire experience with aortic and visceral (renal and mesenteric) duplex ultrasound examinations. The vascular laboratory curriculum for the Level III trainee should include laboratory quality and accreditation processes, a review of correlation studies, and participation in quality improvement activities, such as peer review and cross-modality correlation studies. The Noninvasive Vascular Laboratory experience will be supervised by Dr. Kim and also by Dr. Beckman.

**Vascular Imaging** (1 month dedicated time)
The trainee will dedicate one month to Vascular Imaging in the CardioVascular (CV) Imaging Laboratory. This time will be devoted to acquiring fundamental knowledge about vascular magnetic resonance (MR) and computed tomographic (CT) imaging. With respect to MR, the trainee is expected to learn imaging principles and become familiar with MR angiographic techniques such as time of flight and gadolinium infusion imaging. Trainees will also learn principles of CT angiography, contrast dosing, and radiation safety. For both MR and CT, the trainee will become familiar with postprocessing two and
three-dimensional reconstruction techniques utilizing maximum intensity projections and multi-planar reformatting. For all noninvasive angiographic techniques, the trainee will learn normal and pathologic states of the aorta, peripheral arterial system, renal and mesenteric vasculature, as well as the carotid and pulmonary circulations. This training will be acquired by participating in review and interpretation sessions under the supervision of Drs. Murray Mazer and Jeffrey Carr.

**Vascular Intervention** (1 to 2 months)
The trainee will spend one to two months in the Catheterization and Interventional Radiology Laboratories to observe and assist in the performance of peripheral angiography and catheter-based endovascular interventions. The trainee will develop an understanding of the indications, complications and limitations of peripheral angiography and have the opportunity to read and interpret diagnostic angiograms during supervised reading sessions. In addition, the trainee will be exposed to peripheral angioplasty, endovascular stents, distal protection devices, stent grafts, filters, catheter-based thrombolysis and thrombectomy, thrombin injection of pseudoaneurysms, and superficial vein ablation. Drs. LeAnn Stokes and Pete Fong of the Cardiovascular Division will provide overall supervision for the trainee’s experience in peripheral angiography and endovascular intervention. This 1-2 month rotation is not intended to provide the trainee with the requisite knowledge, skills, and experience to perform angiography or catheter based interventions independently, but to provide an educational foundation necessary for advanced, team-based practice.

**Vascular Surgery** (1 to 2 months)
Trainees will spend one to two months on the Vascular Surgery service. They will participate in the outpatient evaluation and management of the vascular patients referred to our institution’s vascular surgeons, round on the vascular surgery inpatients, and observe vascular surgical procedures in the operating room. The trainee will become familiar with the indications, contraindications, risk, and potential complications of patients undergoing vascular surgery. They will develop an appreciation of the complex and extensive nature of vascular surgical procedures and participate in the postoperative care of patients undergoing vascular surgery. The trainee will observe operations for repair of aortic aneurysms, aortic reconstruction for occlusive disease, infrainguinal bypass and carotid endarterectomy as well as other vascular surgery operations. They will learn to evaluate and manage arterial, venous and neuropathic ulcers. Vascular surgery faculty including Drs. Thomas Naslund, Patrick Stone, Louis Garrard, and John Curci who will supervise the trainees during the vascular surgery rotation.

**Hematology** (1 to 2 months)
Trainees will spend one to two months on the Hematology Consultation service. They will participate in the outpatient evaluation and management of patients with venous thromboembolism and hypercoagulable states referred to our institution’s benign hematologists, round on the inpatient consultative service, and participate in decision-making. The trainee will become familiar with the indications, contraindications, risk, and potential complications of patients with thrombotic events and anticoagulation. They will develop an appreciation of the complex and extensive nature of these diseases and treatments and participate in the perioperative care of patients. Benign hematology faculty include Drs. Colleen Morton and Jennifer Green, who will supervise the trainees during this rotation.
**ROUNDS AND CONFERENCES**

Vascular Medicine Conferences

A. A biweekly case conference will serve as the central Vascular Medicine conference.
B. Vascular Journal Club will also be held monthly.
C. On the last Monday of the month at 7:00 AM, there is an aortic and vascular conference. This multidisciplinary conference is comprised of case presentations by fellows and includes participation from faculty from the Divisions of Cardiovascular Medicine, Cardiothoracic Surgery, and Vascular Surgery.
D. Alternating joint conferences with hematology, vascular surgery, and rheumatology will occur bimonthly.

There are daily conferences held at the Vanderbilt Heart and Vascular Institute. Below is a schedule of conferences which are open to all:

A. Mondays
   a. 7:00 AM Valve conference
   b. 12:00 PM Clinical Heart Failure Conference
B. Tuesdays
   a. 7:00 AM Clinical Management Conference
   b. 12:00 PM Adult Congenital Heart Disease Conference
C. Wednesdays
   a. 7:15 AM Cardio-Oncology conference
   b. 12:00 PM Cardiology Grand Rounds
D. Thursday
   a. 7:00 AM Arrhythmia Conference
   b. 12:00 PM Echo Conference
E. Friday
   a. 7:00 AM Interventional Cardiology Conference
APPLICATION REQUIREMENTS

The candidates for Vascular Medicine training should be individuals with MD or DO degrees who are completing or have completed internal medicine residency and cardiovascular fellowship training programs and are interested in a career in vascular medicine. This may include cardiovascular trainees who have completed 24 months of core clinical cardiology training who wish to extend their clinical and research training to vascular medicine.

Interested applicants are asked to complete the application form:

Vanderbilt Vascular Medicine Fellowship Application

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