Peripheral Vascular Disease
Clinical/Catheterization Service
(3 months)

During this rotation, the Peripheral Vascular (PV) fellow functions as an independent Cardiologist. The subspecialty trainee is expected to attain competence in the diagnosis and management of peripheral vascular diseases in hospitalized patients, with an emphasis on patients requiring invasive diagnostic evaluation or therapeutic intervention:

1) Diagnosis and treatment of common peripheral vascular diseases in hospitalized patients.
2) Recognition and risk assessment of acute peripheral vascular ischemia.
3) Recognition and risk assessment of aneurismal disease in the periphery.
4) Recognition of cerebral vascular ischemia and provision of rapid neurovascular rescue.
5) Obtain basic skills required for peripheral vascular catheterization and angiography.
6) Obtain basic skills required for extra- and intracranial angiography.
7) Perform and accurately interpret the significance of hemodynamic gradients in the peripheral vasculature.
8) Strategies for prevention complications associated with invasive diagnostic evaluation, and therapeutic endovascular intervention.
9) Recognition and management of uncontrolled hypertension and/or chronic renal insufficiency associated with renal artery stensosis.
10) Recognition, appropriate evaluation and management of penetrating arterial ulcers, abdominal aortic aneurysms, ascending and descending thoracic aortic aneurysms and psuedoaneurysms in the periphery.
11) Recognition and management of abdominal angina.
12) Recognition and evaluation of venous disorders including SVC syndrome, and May Thurner syndrome.
13) Appropriate ordering and interpretation of duplex ultrasound, CT scans and MRA.

The PV fellow will develop expertise in the recognition, diagnosis and management of the spectrum of diseases that occur in an adult general medical/surgical hospital. The PV fellow will become proficient in the performance of a focused cardiovascular and peripheral vascular disease history and physical examination. The PV fellow will develop expertise in performing invasive as well as, non-invasive diagnostic assessment of peripheral vascular diseases.

The PV fellow will dedicate the majority of the time to patient care responsibilities, and will be actively and directly involved in diagnostic and therapeutic decision-making. Although assigned to a hospital service, the PV fellow will also see outpatients at his/her assigned continuity clinic.

In addition, PV fellows will actively participate in scheduled teaching conferences through the week that include the Endovascular Forum, the core curriculum seminars, Morbidity and Mortality case presentations, Cardiology Journal Club, research conferences. Moreover, the PV fellows will be encouraged to participate, when possible, Cardiology Noon Conferences as well as regular literature reviews and read about peripheral vascular, as well as, cardiovascular entities exhibited by the cases seen on the service.

The PV fellow works one on one with PV program physicians during the 3 month rotation. Under the guidance of supervising faculty, PV fellows are responsible for evaluating assigned patients on the service during initial and follow-up care over the course of their hospitalization. The PV fellow is responsible for patient preparation for invasive procedures and follow-up assessment afterward. All patients are teaching patients on the inpatient services. The average daily census is typically 5-10 patients with 2-3 new patients each weekday. The PV fellow will spend 3 days a week (Tuesday, Wednesday and Thursday) in the invasive laboratory working directly and only with the program faculty. The other 2 days (Monday and Friday) are to be spent in the non-invasive laboratory where a log will be kept of each non-invasive study and the findings of that study. In addition, when the PV fellow is not in the invasive laboratory they will be expected to see patients in the Program faculty clinics. When the PV fellow is not in clinic or in the non-invasive lab they are expected to conduct research. Upon completion of their rotation, the PV fellow is expected to present their research at the Endovascular Forum and submit their manuscript for scientific publication.

Legend for Learning Activities	
AR/FS – Attending Rounds/Faculty Supervision CC – Core Curriculum conferences DPC – Direct Patient Care MM – Morbidity and Mortality Conference EV – Endovascular Forum	JC – Journal Club LR – Literature Review (independent) RC – Research Conference CAC – Cath Conference

Legend for Evaluation Methods for Fellows	
AE – Attending Evaluations PDR – Program Director's Review (twice during the 3 month rotation)	360^{o} – 360^{o} Evaluation

Principal Educational Goals by Relevant Competency

The educational goals and objectives for the PV fellow on this rotation are indicated for each of the six ACGME competencies in the tables below. The first column describes whether the objective is knowledge, skill and/or attitude. The third column lists the most relevant learning activities for that objective, and the fourth column indicates the evaluation methods for that objective.

A. Patient Care

Goal: PV fellows must be able to proved patient care that is compassionate, appropriate, and effective for the treatment of Vascular & Cardiovascular diseases.

Knowledge, Skills, Attitude	Objectives – Fellows will demonstrate the:	Learning Activities	Evaluation Methods
Knowledge, Skills	Ability to take a complete medical history and perform a careful and accurate physical examination with a cardiovascular & peripheral vascular disease focus	DPC, AR/FS	AE
Knowledge, Skills	Ability to write concise, accurate and informative histories, physical examinations and progress notes with a cardiovascular & peripheral vascular disease focus	DPC, AR/FS	AE
Knowledge, Skills	Ability to formulate comprehensive and accurate problem	DPC,	AE, PDR

	lists, differential diagnoses and diagnostic & therapeutic plans	AR/FS, CC, LR	
Knowledge, Skills	Ability to perform invasive diagnostic procedures with specific attention to maintaining patient comfort and safety.	DPC, AR/FS, CAC, EV	AE, 360^{o}
Knowledge, Skills	Ability to prescribe and appropriately utilize medical therapy for the prevention & treatment of cardiovascular disease in hospitalized patients, understanding the proper dosing and potential related adverse events and interactions	DPC, AR/FS, LR, CC, JC, EV	AE

B. Medical Knowledge

Goal: PV fellows must demonstrate knowledge about established principles and evolving science critical to the practice of infectious diseases in hospitalized patients.

Knowledge, Skills, Attitude	Objectives – Fellows will:	Learning Activities	Evaluation Methods
Knowledge	Diagnose and treat peripheral vascular diseases in hospitalized patients with possible cardiovascular disease	AR/FS, CC, DPC, JC, LR, EF	AE, PDR
Knowledge	Recognition of unusual or uncommon vascular diseases not typically cared for by primary care physicians.	AR/FS, CC, DPC, JC, LR, RC	AE, PDR
Knowledge	Demonstrate growing knowledge of normal and abnormal vascular anatomy as visualized using vascular imaging studies (angiography. CT & MRA)	AR/FS, CAC, LR, EF	AE
Knowledge	Demonstrate growing knowledge of normal and abnormal pathophysiology specifically with respect to peripheral hemodynamic flow disturbances that may lead to metabolic consequences	AR/FS, LR, CAC, RC, DPC, EF	AE
Knowledge	Demonstrate knowledge of indications and contra-indications for therapeutic catheterization or surgical procedures for vascular diseases in patients with probable cardiac consequences	AR/FS, CC, DPC, JC, LR, RC, CAC, EF	AE, PDR
Knowledge	Diagnosis and treatment of patients with renal insufficiency and severe vascular dsease	AR/FS, CC, DPC, JC, LR, RC	AE, PDR
Knowledge	Recognize complications of various invasive catheter-based and endovascular surgical procedures, including appropriate management.	AR/FS, CC, DPC, JC, LR, MM	AE, PDR
Knowledge	Understand strategies for prevention of vascular disease through medical therapy, diet and lifestyle modification.	AR/FS, ICC, CC, DPC, MLR, JC, CPC	AE, PDR
Knowledge	Recognize and manage aneurysmal disease including knowledge of diagnostic assessment, activity prescription, medical therapy and antibiotic prophylaxis.	AR/FS, CC, DPC, JC, LR, RC, CAC, EF	AE, PDR

C. Interpersonal Skills and Communication

Goal: PV fellows must demonstrate the knowledge, skills and attitudes necessary to develop and maintain appropriate interpersonal relationships and to communicate effectively with patients, families, colleagues and the public.

Knowledge, Skills, Attitude	Objectives – Fellows will:	Learning Activities	Evaluation Methods
Skill	Communicate sensitively and effectively with hospitalized patients and with their families	DPC, AR/FS	AE
Skill, Attitude	Display a willingness and ability to teach medical students, pharmacy students, medical residents, nurses and ancillary service personnel	DPC, AR/FS	AE, 360^{o}

D. Professionalism

Goal: PV fellows must demonstrate the knowledge, skills, and attitudes necessary to practice professionally responsible, ethical and compassionate care in clinical cardiovascular diseases.

Knowledge, Skills, Attitude	Objectives – Fellows will:	Learning Activities	Evaluation Methods
Knowledge, Skill, Attitude	Interact professionally towards patients, families, colleagues, and all members of the health care team	DPC, AR/FS	AE, PDR, 360^{o}
Attitude	Display an appreciation of the social context of illness especially in hospitalized, critically ill patients	DPC, AR/FS, CC,	AE
Attitude	Provide mentoring and act as a role model for junior members of the care delivery team	DPC	AE
Skill	Participate in the decision for diagnostic test requests or referral for intervention reviewing the ethical aspects of that decision	DPC, AR/FS	AE
Knowledge, skill, Attitude	Fulfill all the requirements to assure the privacy and confidentiality of all the medical information of the patient.	DPC, AR/FS	AE, PDR, 360^{o}

E. Practice-Based Learning and Improvement

Goal: PV fellows must demonstrate the knowledge, skills, and attitudes necessary to initiate self-directed and independent learning. PV fellows must keep abreast of current information and practices relevant to cardiovascular disease.

Knowledge, Skills, Attitude	Objectives – Fellows will:	Learning Activities	Evaluation Methods
Attitude	Demonstrate a commitment to professional scholarship through the systematic and critical perusal of relevant print and electronic medical literature, with an emphasis on the integration of basic science with clinical medicine, and evaluation of information in light of the principles of evidence-based medicine	DPC, AR/FS, LR, CAC, CC, JC, RC, EF	AE, PDR
Skill, Attitude	Demonstrate a commitment to learning through participation in research and producing formal presentations and/or publications	CC, CAC, JR, RC, EF	PDR
Skill, Attitude	Integrate knowledge learned through participation in ward rounds, teaching conferences and other educational activities into their practice (e.g., observation of long-term outcome of interventions and medical care applying lessons to patients with acute illness)	DPC, AR/FS, JC, RC	AE, PDR

F. Systems-Based Practice

Goal: PV fellows must demonstrate the knowledge, skills, and attitudes necessary to manage effectively in multiple, diverse, complex systems of care to provide effective treatment, consultation and referrals for patients.

Knowledge, Skills, Attitude	Objectives – Fellows will:	Learning Activities	Evaluation Methods
Knowledge, Skill	Demonstrate the ability to work in the outpatient clinic coordinating routine follow-up of chronic illness, evaluation and management of new vascular & cardiovascular illness and assisting in system development that ensures appropriate disease management and health maintenance practices	DPC, AR/FS, LR	AE, PDR
Skill, Attitude	Display a willingness and ability to work with catheterization laboratory staff to efficiently deliver compassionate care	DPC, AR/FS	AE, PDR, 360^{o}
Skill, Attitude	Integrate knowledge learned through participation in ward rounds, teaching conferences and other educational activities into their practice	DPC, AR/FS	AE, PDR
Attitude	Participate in refinement of care delivery systems ensuring provision of evidence-based care (e.g., participation and refinement of acute stroke protocol)	DPC, AR/FS, RC	PDR
Attitude	Consider the cost-effectiveness of diagnostic, prevention and treatment modalities when selecting such strategies for patients.	DPC, AR/ FS, CAC, JC, LR, CC	AE, PE