Vascular Rotation for Cardiology Fellows
Cardiology Fellow Curriculum
Penn State Milton S Hershey Medical Center

OVERVIEW

The cardiovascular fellow on the two week Vascular rotation will observe the performance of vascular procedures and interventions, participate in reading sessions in which vascular studies are interpreted, see patient in the Vascular Clinic and see Vascular Consult patients.

EDUCATIONAL GOALS

Cardiovascular fellows will acquire the following skills:

- Evaluation of patients with peripheral vascular disease, including:
  - Taking of an appropriate history
  - Performing an appropriate examination
  - Ordering the appropriate tests
  - Learning when to refer patients to other subspecialists
- Interpretation of Vascular studies at a cardiology level.
- Understanding treatment options, including medical, interventional and surgical
- Understanding pharmacologic agents used for treating patients with vascular disease
- Understanding the complications associated with interventional and surgical interventions, how to manage certain complications and understand when to consult vascular physicians).
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TRAINING OBJECTIVES

- To develop the knowledge and skills required to obtain a proper history in patients with vascular disease or suspected vascular disease. Specific areas include characterization of claudication, signs and symptoms suggestive of cerebrovascular ischemia (TIA, stroke), symptoms suggestive of renal artery stenosis and mesenteric ischemia. **(Patient Care, Medical Knowledge, Interpersonal and Communication Skills)**

- To become familiar in bedside physical examination of patients with vascular disease or suspected vascular disease. The examination includes palpation of all pulses, recognition of pulse characteristics, and blood pressure examinations in both upper and lower extremities, and the taking of brachial-femoral indices, the examination of the abdomen for vascular disease, and the specific examination of the carotid arteries. (**Patient Care, Medical Knowledge)**

- To acquire skills in the interpretation of of vascular studies, including Doppler, sonography, xray, CT and angiography **(Patient Care, Medical Knowledge)**

- To learn to interpret laboratory data to assist with risk stratification and treatment. **(Patient Care, Medical Knowledge, Systems-Based Practice, Practice-Based Learning)**

- To understand the clinical value of different therapeutic interventions including medical, percutaneous, and surgical therapies in the management of adults with vascular disease. **(Patient Care, Medical Knowledge, Systems-Based Practice, Practice-Based Learning, Interpersonal and Communication Skills)**

- To interact with the health care team including nurses, physician assistants, technicians, social workers, nutritionists, physical therapists, respiratory therapists as well as other physicians. **(Patient Care, Medical Knowledge, Systems-Based Practice, Interpersonal and Communication Skills, Professionalism)** (in what capacity?).

- Learn how to utilize hospital and community resources for managing patients with vascular disease in the outpatient setting. (**Systems-Based Practice, Practice-Based Learning, Patient Care and Interpersonal and Communication Skills)**

- Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families and colleagues. Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behaviors and disabilities of patients and professional colleagues. Adhere to principles of confidentiality, scientific/academic integrity and informed consent. **(Patient Care, Professionalism)**

- Access and critically evaluate current medical information and scientific evidence. Use information technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education. **(Patient Care, Medical Knowledge, Systems-Based Practice, Practice-Based Learning and Improvement)**

PRINCIPLE TEACHING METHODS

- An attending physician will serve as a mentor (which service?) for the cardiac fellow. The mentor and student relationship will be utilized as the main teaching method during daily clinical rounds. The fellow is expected to utilize all available scientific research, published guidelines and expert opinion to assist with decision making and learning.

- Discrepant findings on diagnostic data, controversial issues and differences of opinion will be discussed with the attending of that service.

- The cardiac fellow may be responsible, on a rotating basis, for presenting educational information at selected conferences.

EVALUATION METHODS

- The attending physicians involved in the vascular rotation will utilize a standardized evaluation process to assess the performance of the cardiac fellow. A written evaluation of the cardiac fellows' performance on the service will be made at the end of each rotation by the attendings with which the fellow interacts. The attendings will evaluate each fellow according to the ACGME general competencies including: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism and systems-based practice. In addition, bedside skills such as obtaining history, physical examination and performance of vascular procedures will be evaluated. The attending will meet with the fellow at the end of the rotation to review the written evaluation. Fellows are required to electronically sign each evaluation in New Innovations.

EDUCATIONAL CONTENT

The fellow's education will take place in the following manner. A portion of the time will be spent observing and, at appropriate times, participating in the performance of diagnostic and interventional procedures. A portion of the time will be spent reviewing and participating in the reading of vascular studies. A portion of the time will be spent in the Vascular Clinic and in the hospital seeing and examining patients with vascular disease or suspected vascular disease. Patients with a variety of vascular diseases or suspected vascular diseases will be seen, including but not confined to peripheral vascular disease, carotid disease, mesenteric disease; arterial and venous disease. Patients will include those of a wide age span, of both genders, of a variety of ethnic and socioeconomic backgrounds.

A specific schedule for each week of the two week rotation is as follows:

Schedule:

	Monday	Tuesday	Wednesday	Thursday	Friday
7 AM Conference		Vascular Conference (C4637)	Cardiology Core Conference		Neurovascular Radiology Conference
8 AM Conference		Multispecialty Angio Conference (HG302)			
AM	CVIR Neuro Intervention Lab		VA Continuity Clinic and consults	Vascular Clinic	CVIR
PM			Neuro Intervention Lab	Vascular Consults	

Modules

1) CVIR – Interventional radiology:
    a. Contacts: Dr. Peter Waybill 0247, Dr. Harjit Singh 1355
    b. Location: Interventional Radiology lab on ground floor.
    c. Activity: Observe and learn about peripheral angiograms and interventions.
    d. Time: Monday and Tuesday – all day
2) VA Radiology
    a. Contacts: Dr. Mark Labell and Dr. Kenneth Hopper.
    b. Location: Building 1 on 1st floor (Radiology Department)
    c. Activity: Read peripheral vascular (carotid, renal, etc.) ultrasounds, and review other vascular studies. Also can work with vascular tech on 4th floor near echo lab to observe studies and learn about performing peripheral vascular ultrasound.
    d. Time: Wednesday afternoon after continuity clinic. Contact radiologist who is reading that day for an exact time. Plan 1 to 2 hours to read studies.
3) Vascular Clinic
    a. Contacts: Dr. David Han 2807, Dr. Robert Atnip 1301
        i. PA's: Bridget Johnston 3676, Karl Felsheim 4237.
    b. Location: UPG 2nd floor Vascular surgery clinic
    c. Activity: Observe and assist in vascular surgery clinic. Learn ABI's, review studies with attendings, and discuss management of vascular patients.
    d. Time: Thursday morning and extending into afternoon.
4) Vascular Consults
    a. Contacts: Vascular surgery fellow and chief resident
    b. Activity: Assist vascular surgery team with evaluation and assessment of patients for whom a vascular surgery consult has been requested.
    c. Time: Thursday afternoon after clinic.
5) Neurovascular Radiology
    a. Contacts: Dr. Kevin Cockroft 8501, Dr. Paul Kalapos.
    b. Location: Neurovascular interventional lab on ground floor.
    c. Activity: Attend conference on Friday morning, and then spend day in interventional neurology learning about diagnostic and therapeutic cerebrovascular procedures.
    d. Time: Friday all day
6) Other
    a. During week when there is time available other available activities include
        i. MRI – vascular studies
        ii. Vascular Lab next to the Cath lab to observe peripheral vascular ultrasounds

iii. Reading from syllabus

Suggested Readings

(To be constructed)

ACC SAP 6 – Peripheral Vascular Disease Section
Braunwald's Heart Disease – Chapter 54 & 55

Peripheral arterial disease

References

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Renal Artery Stenosis

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Carotid artery disease

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Aortic aneurysm and dissection

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Vasculitis and vasospasm

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Venous thrombosis and insufficiency

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Lymphedema

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