

Rotation: Cardiology

Duration of Rotation (hours): 1 Block Rotation

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Faculty: FM oversight: Chris Bernheisel and Ohio Heart Faculty

Supervision: (How it occurs): Residents are indirectly supervised with direct supervision immediately available by Ohio Heart faculty cardiologist.

The adult medicine experience **must** total 8 months, of which 6 are inpatient. The following curricular areas **must** be included in either longitudinal or block format: cardiovascular, neurologic, endocrinologic, pulmonary, gastrointestinal, rheumatologic, infectious, nephrologic, and hematologic diseases. Residents **must** receive instruction and clinical experience in the prevention, counseling, detection, diagnosis and treatment of gender-specific diseases in women and men.

RRC Requirements:

Content Areas Covered:

1. Acute Coronary Syndrome
 - a. UA
 - b. NSTEMI
 - c. STEMI
 - d. Chest Pain: Rule Out
2. CHF
 - a. Acute Decompensated
 - b. Systolic Dysfunction
 - c. Diastolic Dysfunction
3. Arrhythmia's:
 - a. Tachy:
 - i. Atrial Fibrillation/Atrial Flutter
 - ii. SVT
 - iii. V. Tach (sustained and non-sustained)
 - iv. PACs
 - v. PVCs
 - b. Brady
 - i. First, Second (Mobitz 1 and 2), and Third Degree Heart Blocks
 - ii. Sinus Brady
 - c. Evaluation and management of palpitations
4. CAD
 - a. Risk factor management for CAD
 - b. Management of angina
5. Cardiomyopathy
 - a. Ischemic
 - b. Hypertrophic
 - c. Dilated
6. Valvular Disease (testing and referral)

- a. Aortic (stenosis, regurgitation)
- b. Mitral (stenosis, regurgitation)
- 7. EKG Reading
 - a. Rate, rhythm, axis
 - b. STEMI
 - c. LVH
 - d. BBB
- 8. Evaluation of syncope
- 9. HTN Management

Specific Educational Strategies:

Schedule (hours): The resident spends 6 half days with cardiology in a variety of settings (office, cath lab, hospital consults), depending upon the schedule of the cardiologist they are working with that day.

Teaching Methods & Venues:

1. Experiential learning through working one on one with cardiologist in the outpatient and inpatient settings. The resident is expected to evaluate patients and precept with the cardiologist.
2. Didactics: The resident is to attend the clinical case conference at 7 am on Friday mornings. One time during the month, the resident is to present a case for the conference.
3. EKG Review: The resident is to meet with Dr. Bernheisel twice during the month to review EKGs.
4. Online Test: During the month, the resident is to complete the CHF and CAD SAMS on the ABFM website.

Evaluation Methods and Timing:

1. The resident will receive a milestone based written evaluation by Dr. Menon at the completion of the month.
2. A milestone based evaluation on EKG reading will be completed by Dr. Bernheisel following the two sessions.

Recommended Resources for the Rotation:

1. EKG Resources
 - a. Books
 - i. [Dubin's Rapid Interpretation of EKG's](#)
 - ii. [The Only EKG Book You Will Ever Need](#)
 - b. Online Tutorials
 - i. [The Online EKG Center](#)
 - ii. [Learn The Heart](#)
 - c. iOS Apps
 - i. EKG Guide
 - ii. Instant EKG
2. Online Articles: <http://tchucfm.squarespace.com/cardiology/>
 - a. Online quizzes with related articles

Goals: (address broad over reaching needs in a curriculum)

1. Resident can recognize and manage the common cardiovascular problems commonly seen in a family medicine practice care setting (hospital, office practice, nursing home and home).
2. Resident is able to recognize the cardiovascular problems that require consultation with a cardiologist and is able to coordinate cardiovascular care for the patient.
3. Resident incorporates preventive cardiology into the general care of his or her continuity patients in the Family Medicine Center.
4. Resident knows the indications, contra-indications and limitations for the specific diagnostic and treatment modalities used in the care of patients with cardiovascular disease.

Objectives/Evaluation Tools: (written as specific measurable, outcome based statements encompassing knowledge, skills, and attitudes)

Patient Care

1. Take accurate cardiac history and perform a focused cardiovascular physical examination. *Intern Year*
2. Order cost-effective, evidence based imaging studies for common complaints encountered by family physicians (chest pain, shortness of breath, lower extremity edema, orthopnea, palpitations). *Intern Year*
3. Assimilate data from history, physical, laboratory, and imaging studies to diagnose and initiate treatment for topic list outlined above. *Second Year*
4. Interpret EKGs, including identifying: Rhythm, Axis, Intervals, ST changes, Waveforms (QRS complex, T waves). *Second Year*
5. Initiates evidence based treatments for acute coronary syndrome, coronary artery disease, and congestive heart failure (acute and chronic), differentiating between those treatments with mortality from those with morbidity benefit. *Second Year*

Medical Knowledge

1. Describe the clinical presentation, physical exam findings, laboratory and imaging results, and management for the content areas outlined above. *Second Year*
2. List the differential for common cardiac complaints (chest pain, shortness of breath, lower extremity edema, orthopnea, palpitations) encountered by family physicians. *Second Year*
3. Compare and contrast the different stress test methods (sensitivity, indication, contraindications, specificity). *Intern Year*

Practice Based Learning and Improvement

1. Demonstrates a commitment to learning through identifying learning and closing learning gaps. *Intern Year*
2. Completes required EKG reading assignments during rotation. *Second Year*

Interpersonal and Communication Skills

1. Assess, counsel and educate patients and their families on cardiac risk factors and lifestyle changes that affect the development of cardiovascular disease: family history, hyperlipidemia screening, smoking cessation, management of associated chronic conditions (diabetes, hypertension) and obesity. *Intern Year*
2. Counsel patients on the diagnosis, management, and disease course for topics outlined above. *Second Year*

Professionalism

1. Resident demonstrates appropriate consultation with cardiologist and is able to coordinate on-going care for patients with cardiovascular problems. *Intern year*

System Based Practice

1. Works in a multidisciplinary team, including nutrition, case management, PT, and NP, to treat common chronic cardiac conditions (chf, cad). *Second Year*

Cardiology Rotation Resources

A. Electronic

1. iPhone/iPod Touch: All from App Store

- a. The EKG Guide (\$5.99) and Instant EKG (\$8.99): Instant EKG is a much better product, but currently has a few bugs. Fixes have been submitted to apple, and is awaiting approval. Actually show tele strips (movies), loaded with information. The quizzes would be amazing if they worked every time. The EKG guide is fine, and an adequate alternative. Its user interface is not as nice and it does not have the other cool features that instant EKG has.
- b. iMurmur: Cool program that goes through all of the different types of murmurs. Can listen to each type of murmur. It is loaded with excellent information on each type of murmur and condition it may represent. \$0.99
- c. Clearance: Simple program that walks you through the pre-operative clearance. Interns: This app may be a bit confusing unless you are familiar with the guidelines. FREE
- d. Mediquations: Absolutely a must have. It cost 4.99 but is worth every penny. It is a medcalc program, but also includes most of the rules/ scoring systems used frequently in cardiology. There are free programs (TIMI Score, Cardio Calc) that also have the scoring systems (with Cardio Calc actually very good), but mediquations covers all areas and will be useful for other rotations also. \$4.99
- e. Skyscape: Free app that has a free medical calculator, drug guide, and a few other features. The interface is not the best (does not utilize the ipod touches great features: looks like a palm or a pocket pc program), but it is still useful. Also offers books that can be loaded into it:
 - a. 5-minute cardiology: \$74.95. The 5-minute series have traditionally been an excellent resource for residents. They provide a quick point of care tool to read up on different problems. Outstanding for reading up while walking to a patient's room or while writing an H&P.
 - b. Pocket Medicine: \$49.99. Many of the residents utilize this handbook (Pocket Medicine: The Massachusetts General Hospital Handbook of Internal Medicine). The app cost about the same as the physical book (\$45 with shipping and handling vs \$49.99). An excellent resource for any rotation.
 - c. ACC Pocket Guidelines: FREE.

B. Print

1. Rapid Interpretation of EKG's, Sixth Edition: \$33. Easy to read EKG guide book. Should be read (or The Only EKG Book You'll Ever Need \$53.95) by all residents during month long rotation. Even if read before, should be re-read.
2. Cardiology for the Primary Care Physician: \$35.93. New copy this year.
3. Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine: \$163.17. Harrison's for cardiology. Comprehensive text book.
4. CURRENT Medical Diagnosis and Treatment: Excellent book covering much of internal medicine. Far easier to read than Harrison's, yet still complete. Uptodate has replaced it, but still a good resource. Cost: \$65
5. Harrison's Internal Medicine: The medicine textbook. Cost: \$150
6. [Dubin's Rapid Interpretation of EKG's](#)
7. [The Only EKG Book You Will Ever Need](#)

C. Web Based

1. Uptodate: A must for all residents. Excellent resource for all rotations.
2. Online Articles: <http://tchucfm.squarespace.com/cardiology/>
3. eMedicine: Excellent adjunct to other resources. Can obtain information free by searching on google (topic then type emedicine). Will require login if you go directly to website.
4. [The Online EKG Center](#)
5. [Learn The Heart](#)