

Curriculum on Cardiology Danbury Hospital Internal Medicine Residency Program

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Revision Date: November 2013

A. Educational Purpose and Goals

There are two cardiology rotations, the cardiology service on 8 tower is the inpatient service rotation, and the rotation in the Medical Arts Building is the outpatient service rotation. Both rotations are carefully designed to provide the medical resident with the hands on care of the patient with chronic or unstable cardiac disease.

The inpatient service rotation teaches the care and management of patients with destabilized or new cardiac disease, whereas the outpatient rotation allows the house officer to view the longitudinal care and management of these same patients.

The OBJECTIVES are to deliver an excellent educational venue for house officers to develop key critical skills in the diagnosis, evaluation, and guideline based management of cardiovascular disease, including valvular disease, myopathies, arrhythmias, and coronary artery disease.

B. Teaching Methods

Both teaching venues involve didactic and socratic methods within a nurturing environment to achieve the desired lessons for the student. These methods include the following specific processes: Teaching methods on the cardiovascular rotation include:

- Attending teaching rounds
- Clinical rounding and case management with the cardiology fellow
- Patient Care Rounds with the multidisciplinary team
- Didactic conferences including noon lectures, cardiac cath conference, grand rounds, specific cardiology grand rounds, and morning report. A specific ECG course is also offered to house staff in order to promote proficiency in interpretation skills.
- Review of diagnostic studies
- Patient side clinical rounds

C. Educational Content

1. Mix of Diseases

In general patients with valvular disease (aortic, mitral, tricuspid, both stenotic and regurgitant) cardiomyopathies (hypertrophic, genetic,

secondary, hypertensive, dilated, and preserved systolic function), arrhythmias (ventricular, atrial, reentrant, automatic, and conduction disorders), and coronary artery disease (acute, chronic) are seen daily by the house officer in the acute inpatient care center or outpatient facility. In addition the practice leads the area in the development of cardiac risk reduction, and guideline based treatment protocols. Complex hypertensive diseases, hyperlipidemia, and vascular disease and medicine round out the patient profile typically seen.

2. Patient characteristics

Acute presentation or chronic presentations of the patient mix. Frequently in the patients with advanced age, frailty, co-morbid disease states, in the setting of complex socio economic situations. A wide diversity of patients from a large group of diverse families in the service area.

3. Types of clinical encounters

Bedside, emergency room, private office.

4. Procedures and services

Echocardiography, cardiac catheterization, stress testing, arrhythmia detection and management, nuclear cardiology, electrophysiology, ablations, open heart surgery, angioplasty.

5. Reading lists, other educational resources

Resources for education for the interns and residents include:

- Braunwald's textbook of Cardiology
- Guidelines of the ACCF/AHA
- UpToDate monographs
- Randomized controlled trials

D: Faculty

Cardiology faculty and their area of expertise and their didactic lectures are as follows:

- Jon Alexander, Nuclear Cardiology and clinical cardiology
- Meg Bond, Echocardiography and clinical cardiology
- David Copen, The history of Cardiology, and clinical cardiology
- Samuel Felder, ECG interpretation, arrhythmia interpretation
- Ira Galin, Vascular Medicine, risk reduction
- Harvey Kramer, risk reduction clinical cardiology
- Andrew Keller, Echocardiography, heart failure, and clinical cardiology
- Susan Mani, Women's Cardiac Disease, clinical cardiology
- Robert Jarret, Global Cardiology Issues, clinical Cardiology
- Jeff Schmierer, Practice management, clinical cardiology
- Brian Pollack, Clinical cardiology and echocardiography
- Larry Fisher, Clinical cardiology and interventional cardiology
- Ron Raymond, clinical cardiology
- Mark Krichavsky, interventional cardiac and vascular treatments

- Mark Warshofsky, interventional cardiology
- Hal Wasserman, interventional cardiology
- Murali Chiravuri, electrophysiology
- Robert Winslow, electrophysiology

B. Method of Evaluation of Resident and Faculty Competence

The residents are evaluated based on their performance and professionalism on the cardiovascular rotation. Their clinical competency is observed during the rotation, as well as their leadership and teaching skills. Review is made of the resident's history/physical exam, progress notes and other documentation. Residents' attendance and performance at rounds and conferences is monitored. Residents evaluate the teaching skills and effectiveness of the attending physician. In addition the residents perform an overall evaluation of the cardiology rotation. The interns are supervised by the more senior residents. All housestaff are supervised by attending physicians. Cardiovascular fellows are often involved and play a role in resident supervision.

C. Rotation Specific Competency Objectives

Please refer to the Core Curriculum for the expected General Medicine Curriculum core competency objectives. The rotation specific objectives are provided below.

1. Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to fulfill at each year of training as listed below:

PGY1:

- Understand the indications, uses, side effects and differences among the commonly used cardiovascular drugs.
- Understand and use the basic principles of EKG and rhythm interpretation
- Begin to understand the indications and uses for both noninvasive and invasive cardiovascular examinations.
- Obtain/perform a comprehensive cardiovascular history and physical exam.
- Be able to develop a differential diagnosis for the evaluation of common cardiovascular symptoms including shortness of breath, chest pain, palpitations, and syncope.

PGY2:(in addition to PGY1 responsibilities)

- Recognize a wide variety of cardiovascular problems, and make a determination as to severity and urgency of these problems.
- Be able to integrate evidence based medicine into their clinical decision making
- Be able to manage interdisciplinary team
- Be able to integrate teaching of junior members of the team into their assessment and plans

PGY3: (in addition to PGY2 responsibilities)

- Be able to recognize a wide variety of supraventricular and ventricular arrhythmias on EKG.
- Be able to teach junior members of team physical exam findings
- Minimize unnecessary testing
- Be able to stabilize patients with emergent cardiac issues

2. Medical Knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to fulfill:

- Discuss the major classes of cardiovascular drugs, their mechanism of action, and appropriate uses.
- Be able to discuss basic cardiovascular physiology and pathophysiology including concepts in electrophysiology, hemodynamics and coronary artery disease.
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3. Interpersonal and Communication Skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected to fulfill:

- Communicate effectively with physicians, other health professionals, and health related agencies.
- Work effectively as a member or leader of a health care team or other professional group.
- Maintain comprehensive, timely, and legible medical records.

- The resident on the cardiovascular rotation should prepare written notes which are legible and timely.
- The resident on the cardiovascular rotation should be able to concisely and succinctly present relevant patient data to other colleagues and attending physicians.

4. Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

- Compassion, integrity, and respect for others.
- Responsiveness to patient needs that supersedes self-interest.
- Respect for patient privacy and autonomy.
- Accountability to patients, society, and the profession.
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.
[as further specified by the RRC]
- Gain an understanding of the psychosocial effects of cardiovascular disease in the patient as an individual.
- Understand the unique role that the physician plays in patients with cardiovascular disease.
- Understand the societal impact of cardiovascular disease including costs to patient lifestyle and productivity, as well as monetary costs of therapy.

5. Practice Based Learning

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life long learning. Residents are expected to develop skills and habits to be able to fulfill :

- Identify and perform appropriate learning activities.
- Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems.
- Use information technology to optimize learning.
- Participate in the education of patients, families, students, residents and other health professionals, as documented by evaluations of a resident's teaching abilities by faculty and/or learners.
[as further specified by the RRC]
- Perform literature searches and text book reading on topics which are relevant to the patients being seen on the cardiology service.
- Discuss with patients the issues surrounding their cardiovascular disease, and the reasons for therapeutic choices.

6. Systems Based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to fulfill:

- Coordinate patient care within the health care system relevant to their clinical specialty.
- Incorporate considerations of cost awareness and risk-benefit analysis in patient care.
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
[as further specified by the RRC]
- Assist patients in negotiating the health care system, including gaining access to adequate cardiovascular and ancillary services.
- Gain an awareness of the cost and risk benefit issues when recommending cardiovascular testing.
- Work with nursing, nutrition, and cardiac rehabilitation to enhance the care for cardiovascular patients.