

Name of rotation: Primary Cardiology service (PCS) **Division:** Cardiology

Course Director: Shawn Robinson, M.D. **Site(s):** UMMC

Duration of rotation: one month only
 2 weeks possible

General description of the rotation including educational purpose, rationale or value:

The PCS team cares for patients admitted with a broad range of cardiac pathology and severity of illness. Patients admitted to this service are located in either of 3 neighboring monitored wards, the CCU for critically ill patients, the PCU, a monitored cardiac unit for patients with intermediate severity, and the 3D telemetry unit for the most stable patients. Patients with varying degrees of congestive heart failure are admitted to the companion, CCS team. Residents on the PCS team are provided an educational experience in the care of acute coronary syndromes ranging from ST elevation MI to unstable angina, symptomatic and/or life-threatening arrhythmias, and recent post-MI patients who require optimization of medical therapy and determination for need of revascularization (PCI or CABG surgery). Emphasis is placed on expediting care to minimize total health care costs. The importance of preventive measures, particularly as relevant to cardiovascular disease is highlighted.

Resident responsibilities, including interns and residents:

Two residents and 4 interns assigned to PCS are directly supervised by a cardiology attending, with assistance from a cardiology fellow. A subintern and rarely junior medical students complete the team. The residents are responsible for the complete admission evaluation leading to an appropriate well designed work-up and treatment plan for patients admitted to the CCU, PCU, and 3D telemetry. The resident will review with the attending and staff fellow the results of advanced cardiac diagnostic and therapeutic procedures including EP, echo and cardiac cath procedures. As tests are ordered and results reviewed, specific emphasis will be placed upon analyzing the risks, costs and alternatives for these procedures. Interdisciplinary rounds provide residents with an opportunity to direct collaborative efforts with support services to provide optimal overall patient care, with special emphasis on dietary and rehabilitation aspects of cardiac care. The resident coordinates discharge arrangements for each patient with a nurse clinical care coordinator. Residents are expected to attend Cardiology Grand Rounds. If time and interest permit, they may attend Cardiology Journal Club, ECG Conference, Echo Conference, and Cardiac Cath Conference. Nurse practitioners care for 4-6 patients admitted for procedures. Residents are not responsible for these patients except for emergency situations.

Educational Objectives: An expanded version of the competencies is listed under Core Competencies in Internal Medicine. Those listed here are specific to this rotation.

During this rotation, the PGY-1 resident will:

Patient Care

1. Develop increasing independence in patient evaluation and management of complex cardiac issues, e.g., arrhythmias, ischemic heart disease, congestive heart failure, valvular heart disease, and shock.
2. Develop risk stratification for a cost-effective strategy of invasive and non-invasive diagnostic cardiac evaluations.
3. Evaluate and manage patients with common conditions such as (but not limited to) chest pain, acute coronary syndromes, syncope, arrhythmias and pericardial disease.
4. Develop skills in triage of patients both into and out of the CCU and PCU, by understanding indications for support in an intermediate care unit, prognosis, morbidity and mortality statistics.
5. Admit up to 5 patients in 24 hours (or 8 in 48 hours), detailing comprehensive history, physical examination, evaluation and management plan.
6. Write daily progress notes for all patients assigned to the intern.
7. Develop efficiency in providing cross-coverage to patients cared for by other interns.

Medical Knowledge

1. Expand knowledge base in internal medicine per specialty-specific objectives.
2. Discuss the principles of acute pharmacologic therapy related to acute coronary syndromes as well as other life-threatening cardiac disorders.

3. List the indications, risks and therapeutic use of invasive hemodynamic monitoring, temporary transvenous pacemakers, counterpulsation balloon pumps, thrombolytic therapy, and coronary angiography.
4. Interpret basic and increasingly complex EKG's.
5. Interpret findings from stress tests, echocardiograms and coronary angiography.
6. List the indications, risks and therapeutic use of (non) invasive electrophysiology studies.
7. Complete certification in diagnostic procedures, e.g., thoracentesis, paracentesis, joint aspiration, lumbar puncture, arterial puncture for arterial blood gas determination and therapeutic procedures, e.g., central line placement.

Practice-Based Learning

1. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.

Interpersonal and Communication Skills – See master list for these competencies.

1. Enhance their interpersonal, leadership and teaching skills.
2. Develop skills in communicating with services outside of the Department of Medicine, particularly surgical services.

Professionalism – See master list for these competencies.

System-Based Practice

1. Practice cost-effective health care and resource allocation that does not compromise quality of care.
2. Advocate for quality patient care and assist patients in dealing with system complexities.
3. Partner with health care managers and health care providers to assess, coordinate, and improve health care through interdisciplinary rounds.

During this training, the PGY-2 resident will:

Patient Care

1. Develop increasing independence in patient evaluation and management of complex cardiac issues in a critical care setting, e.g., arrhythmias, ischemic heart disease, valvular heart disease, and shock.
2. Develop risk stratification for a cost-effective strategy of invasive and non-invasive diagnostic cardiac evaluations.
3. Evaluate and manage patients with chest pain and acute coronary syndromes.
4. Develop efficiency in providing cross-coverage to patients cared for by other interns.
5. Develop increasing independence in patient evaluation and management.
6. Supervise interns and students in their daily patient care, overseeing all evaluation and management.

Medical Knowledge

1. Expand knowledge base in internal medicine per specialty-specific objectives.
2. Demonstrate ability to analyze and initiate acute pharmacologic therapy of complex cardiac arrhythmias, acute coronary syndromes as well as other life-threatening cardiac disorders.
3. List the indications, risks and therapeutic use of (non)invasive electrophysiology studies.
4. List the indications, risks and therapeutic use of invasive hemodynamic monitoring, temporary transvenous pacemakers, counterpulsation balloon pumps, thrombolytic therapy, and coronary angiography.
5. Interpret basic and increasingly complex EKG's.
6. Incorporate findings from stress tests, echocardiograms and coronary angiography into decision-making.
7. Complete certification in diagnostic procedures, e.g., thoracentesis, paracentesis, joint aspiration, lumbar puncture, arterial puncture for arterial blood gas determination and therapeutic procedures, e.g., central line placement.

Practice-Based Learning

1. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
2. Lead team discussions and review key literature pertinent to cases on the team.

Interpersonal and Communication Skills – See master list for these competencies.

Professionalism – See master list for these competencies.

System-Based Practice

1. Practice cost-effective health care and resource allocation that does not compromise quality of care.
2. Advocate for quality patient care and assist patients in dealing with system complexities.
3. Partner with health care managers and health care providers to assess, coordinate, and improve health care through interdisciplinary rounds.
4. Facilitate the learning of students and other health care professionals.

During this training, the PGY-3 resident will:

Patient Care

1. Evaluate and manage patients with complex cardiac issues in a critical care setting in an independent fashion, e.g., arrhythmias, ischemic heart disease, valvular heart disease, and shock.
2. Risk stratify a cost-effective strategy of invasive and non-invasive diagnostic cardiac evaluations.
3. Evaluate and manage patients with chest pain and acute coronary syndromes in independent fashion with fellow / attending oversight.
4. Develop efficiency in providing cross-coverage to patients cared for by other interns.
5. Supervise interns and students in their daily patient care, overseeing all evaluation and management.

Medical Knowledge

1. Expand knowledge base in internal medicine per specialty-specific objectives.
2. Demonstrate ability to analyze and initiate acute pharmacologic therapy of complex cardiac arrhythmias, acute coronary syndromes as well as other life-threatening cardiac disorders.
3. List the indications, risks and therapeutic use of (non)invasive electrophysiology studies.
4. List the indications, risks and therapeutic use of invasive hemodynamic monitoring, temporary transvenous pacemakers, counterpulsation balloon pumps, thrombolytic therapy, and coronary angiography.
5. Interpret complex EKG's.
6. Incorporate findings from stress tests, echocardiograms and coronary angiography into decision-making.
7. Complete certification in diagnostic procedures, e.g., thoracentesis, paracentesis, joint aspiration, lumbar puncture, arterial puncture for arterial blood gas determination and therapeutic procedures, e.g., central line placement.

Practice-Based Learning

1. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
2. Lead team discussions and review key literature pertinent to cases on the team.

Interpersonal and Communication Skills – See master list for these competencies.

Professionalism – See master list for these competencies.

System-Based Practice

1. Practice cost-effective health care and resource allocation that does not compromise quality of care.
2. Advocate for quality patient care and assist patients in dealing with system complexities.
3. Partner with health care managers and health care providers to assess, coordinate, and improve health care through interdisciplinary rounds.
4. Facilitate the learning of students and other health care professionals.

Check all principle teaching methods used during this rotation:

<input checked="" type="checkbox"/>	Attending teaching rounds	<input checked="" type="checkbox"/>	Interdisciplinary rounds
<input checked="" type="checkbox"/>	Patient management discussions	<input checked="" type="checkbox"/>	Small group discussions
<input checked="" type="checkbox"/>	Conferences specific to rotation	<input checked="" type="checkbox"/>	Bedside clinical rounds
<input checked="" type="checkbox"/>	Individual instruction of procedures	<input checked="" type="checkbox"/>	Review of diagnostic studies, including radiology
<input type="checkbox"/>	Other: _____		

Describe the most important educational content, including the mix of diseases, patient characteristics, types of clinical encounters, procedures and services:

1. Patients requiring electrophysiology study/procedures for ventricular tachyarrhythmias, supraventricular tachycardia, WPW, ICD, BiV, syncope and pacemaker patients.
2. Acute myocardial infarction patients.
3. Unstable angina (R/O MI) patients.
4. Hemodynamic collapse (shock), patients in need of intra-aortic balloon counter-pulsation.

Check the principal ancillary education materials used:

- | | | | |
|-------------------------------------|---|-------------------------------------|------------------------------|
| <input type="checkbox"/> | Reading lists | <input type="checkbox"/> | Pathologic material |
| <input checked="" type="checkbox"/> | Radiologic studies | <input checked="" type="checkbox"/> | Other noninvasive studies |
| <input type="checkbox"/> | Handouts on relevant topics | <input checked="" type="checkbox"/> | Articles from the literature |
| <input checked="" type="checkbox"/> | Other: Data from patients being studied in the unit | <input checked="" type="checkbox"/> | Case studies |

Methods used to evaluate the resident and the rotation:

- Evaluation of residency performance and professionalism
- Evaluation of attending teaching skills and other attributes
- Rotation assessment by resident
- Observation of resident's clinical competency
- Observation of resident's leadership and teaching skills
- Review of the resident's history/physical exam, progress notes and documentation of procedures in the chart
- Resident's attendance of rounds and conferences monitored
- Other: _____

Identify strengths and limitations specific to the resources of the sponsoring institution:

A collaborative team teaching approach between the clinical unit attending and the special care staff (EP, CHF and cardiac catheterization attendings). Opportunity for residents to learn common cardiac evaluation tools.

Conferences or Attending/Patient Rounds: (Journal club, division rounds, etc.)

<u>Name</u>	<u>Location</u>	<u>Day</u>	<u>Time</u>
Attending Rounds	UMH	7 days/wk	9:00-11:00 am
Cardiology Grand Rounds	Borges	Thursday	12:00-1:00 pm

The resident and faculty members of the Postgraduate Education Committee reviewed and edited the content of this curriculum at its meeting on 9/18/07.