

Cardiology Rotation

Goals:

Cardiovascular disease is a major cause of morbidity and mortality in America, so family physicians should develop proficiency in diagnosis and management of a diverse cardiovascular disorders. Family practitioners provide comprehensive and continuing care to individuals and families, with particular attention to behavioral and lifestyle factors.

Core cognitive ability and skill may be improved in block rotation of cardiology under direct supervision of cardiologists but residents should obtain cardiology experience throughout the three years in family medicine service and internal medicine rotations.

(For abbreviations of competencies see key below.)

Knowledge:

Objective: Upon completion of the training the resident will demonstrate the following competencies.

1. Normal cardiovascular anatomy and physiology (MK)
2. Changes in cardiovascular physiology with age and pregnancy (MK)
3. Risk factors: (MK)
 - a. Coronary artery disease
 - i. Hyperlipidemia
 - ii. Cigarette smoking
 - iii. Genetic predispositions
 - iv. Sedentary life style
 - v. Hypertension
 - vi. Diabetes mellitus
 - vii. Obesity
 - viii. Nutrition
 - ix. Hormonal status
 - x. Emotional stress
 - b. Valvular heart disease
 - c. Cardiovascular history (MK)
 - d. Cardiovascular physical examination (MK)
 - e. Noninvasive examinations (MK)
 - xi. Electrocardiography
 - xii. Chest radiography
 - xiii. Stress testing
 1. Treadmill or pharmacologic technique
 - xiv. Echocardiography/Doppler imaging
 - xv. ECG monitoring
 1. Hospital and ambulatory
 - xvi. Vascular Doppler and ultrasound examination
 - xvii. Computerized tomography (CT)
 - xviii. Magnetic resonance imaging (MRI) and Magnetic resonance angiogram (MRA)

4. Observation of Invasive examinations (MK)
 - a. Diagnostic cardiac catheterization and angiography
 - b. Internal monitoring devices
 - i. Central venous and peripheral arterial catheter
5. Electrophysiologic studies (MK)
6. Understanding of indications and contraindications of therapeutic interventions: (MK)
 - a. Coronary artery bypass
 - b. Angioplasty techniques and stent placement
 - c. Pacemaker insertion
 - d. Implantable cardioverter-defibrillator
 - e. Valve replacement/repair, percutaneous balloon valvotomy
 - f. Electro physiologic ablation
7. Relevant laboratory interpretation including serum enzymes, isoenzymes and lipids
8. Specific disease/conditions including:
 - a. Coronary artery disease
 - b. Syncope, cardiogenic and non-cardiogenic
 - c. Dysrhythmias
 - d. Hypertension
 - e. Pulmonary heart disease
 - f. Congestive heart failure
 - g. Thromboembolic disease
 - h. Valvular heart disease
 - i. Congenital heart disease
 - j. Dissecting aneurysm
 - k. Innocent heart murmurs
 - l. Peripheral vascular disease
 - m. Cardiomyopathies
 - n. Pericardial disease
 - o. Infection-related disease – viral myocarditis, subacute bacterial endocarditis, Kawasaki's disease
 - p. Among others – immunologic (acute rheumatic fever), psychogenic, traumatic, nutritional, myxoma, thyroid dysfunction, marfan syndrome, drug related such as cocaine, steroids and chemotherapeutic agents
 - q. Evaluation of cardiac patient for noncardiac surgery
 - r. Antibiotic prophylaxis for valvular disease
9. Cardiovascular pharmacology

Skills

Objective: Upon completion of the training, the resident will demonstrate the following competencies.

1. Diagnostic procedures (PC)
 - a. Interpretation of ECG
 - b. Interpretation of chest radiographs
 - c. Stress test monitoring and interpretation
 - d. Ambulatory ECG monitoring and interpretation

2. Therapeutic procedures (PC)
 - a. Risk management
 - b. Cardiopulmonary Resuscitation (CPR), Basic Life support (BLS), and Advanced Cardiac Life Support (ACLS)
 - c. Treating dysrhythmias and conduction disturbances
 - d. Use of external temporary pacemaker
 - e. Management of acute myocardial infarction, postinfarction care, and complications
 - f. Congestive heart failure
 - g. Hypertensive emergencies
 - h. Supervision and management of cardiovascular rehabilitation
 - i. Psychosocial issues
 - i. Sexual functioning
 - ii. Depression
 - iii. Family dynamics
 - j. Management of patients after intervention
 - i. Lifestyle adjustments
 - ii. Coronary artery bypass surgery
 - iii. Valve surgery

Attitudes

Objective: Upon completion of the training the resident will demonstrate the following competencies.

1. partnership of physician and patient to promote optimal cardiovascular health. (P, ICS)
2. Communicate effectively and compassionately with the patients and families. (P, ICS)
3. Understanding of the psychosocial and economic impact and use of the health care system to assist as needed. (P, ICS, PBLI)
4. Support of the individual and family through consultation, evaluation, treatment and rehabilitation. (P, ICS, SBP)
5. The importance of lifestyle factors on the development and exacerbation in the disease process. (P, ICS)
6. A multidisciplinary approach to the care of individuals. (P, ICS, SBP)

Key

- a) Professionalism (P)
- b) System Base Practices (SBP)
- c) Interpersonal Communication Skills (ICS)
- d) Patient Care (PC)
- e) Medical Knowledge (MK)
- f) Practice Base Learning & Improvement (PBLI)