

ROTATION DESCRIPTION

ROTATION TITLE: Cardiology

SITE DESCRIPTION (common diseases states treated, patient demographics, etc):

There are two teaching services (red and blue teams) that admit patients primarily with acute ischemia, heart failure, and arrhythmias. Each team has a cardiology attending, cardiology fellow, internal medicine housestaff and medical students. Each team follows patients in the CCU and on the floor (9PCU). Each team admits every other day. The census for each team ranges from 7-15 patients, with a high turnover of patients.

ROTATION PRECEPTOR(S):

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- Anne Spencer, Pharm.D., BCPS

ROTATION RESPONSIBILITIES:

- Obtain from the patient a working database, which should include; the patient's significant past history and assessment of current problems with a plan for each.
- Prepare and maintain a monitoring system for each patient on the service.
- Transmit pertinent information about a patient to other health professionals.
- Discuss a patient's drug therapy with the patient in a manner in which the patient can understand.
- Assess whether the patient understands his/her drug therapy.
- Independently initiate clinical pharmacy services with patients and health professionals on the service.
- Monitor patient status and medications daily to identify potential drug interactions, adverse effects, toxicities, allergies, and assess overall drug therapy.
- Provide pharmacokinetic consults to physicians for patients receiving appropriate pharmacologic agents (aminoglycosides, digoxin, etc).
- Provide both formal and informal education to patients, nurses, physicians and physician assistants regarding drug therapy.
- Actively participate in teaching Pharm.D. students.

ACTIVITIES:

Expected hours

- 7:30 AM to 5:30 PM

As patient care requires, the above listed times may vary.

Required meetings

- Participate in daily cardiology attending rounds.
- Attend Medical Grand Rounds (Tuesday AM) and Cardiology Grand Rounds (Thursday AM) when appropriate.
- Patient discussions ("Pharmacy Attending Rounds"): resident and students will meet with the preceptor to present new patients and update existing patient status. This will be performed on the nursing units.
- Presentations: topics will be chosen several days in advance to allow time for preparation. These topics should be a discussion and exploration of the medical literature.

Required presentations

- Formally present patients to the preceptor.
- Become familiar with the identification of symptoms, development of a therapeutic plan and monitoring parameters for:

Angina	Acute Ischemia
Hypertensive urgency/emergency	Heart failure
Hypertension	Hemodynamic monitoring/Cardiogenic shock
Hyperlipidemias	Endocarditis
Arrhythmias (supraventricular and ventricular)	

Required readings

- See attached Table of Contents

Other required activities

- Provide one example of a written note to the preceptor on a weekly basis. (drug history, therapeutic consult, SOAP note, kinetics note).

METHOD OF EVALUATION:

Evaluation of residents will be based on the Resident Learning System. The RPD will identify the specific goals and objectives on which the resident will be evaluated and will give the evaluation form to the preceptor and resident by the first day of the rotation. The individualized evaluation tool will be reviewed by the resident and preceptor to guide the learning experiences of the resident within the scope of the service and required patient care.

Evaluation of students will use the acute care learning objectives.

Cardiology Rotation Resource

Compiled by A. Spencer 05/02
Revised J Nappi 12/05

These articles are meant to assist you on your cardiology rotation. You are by no means "required" to read all articles. The key is meant to advise you about what articles are appropriate for you to read based on your education level. You are not bound by these guidelines...they are simply in place to help you select appropriate articles to read.

* students and residents

PG 1 residents

^ PG 2 residents

Section 1 Electrocardiograms

ABCs of Clinical Electrocardiology. In BMJ 2002; Feb 16-May 18

* Introduction 1-Leads, rate, rhythm and cardiac axis

* Introduction II-Basic terminology

Bradycardias and atrioventricular conduction block

Atrial arrhythmias

^ Junctional tachycardias

^ Broad complex tachycardia-part I

^ Broad complex tachycardia-part II

^ Acute myocardial infarction-part I

^ Acute myocardial infarction-part II

^ Myocardial ischaemia

Section 2 Ischemic Heart Disease

Review Articles

*Unstable angina: Current concepts of pathogenesis and treatment. Ambrose JA. Arch Intern Med 2000;160:25-37.

#Unstable angina pectoris. Yeghiazarians Y et al. N Engl J Med 2000;342:101-114.

^ Current Trials in Acute Myocardial Infarction. Bahit MC et al. Cardiology Special Edition 2001;7:49-55.

Guidelines

*ACC/AHA Guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction. Circulation 2000;102:1193-1209 and Update Circulation 2002;106:1893-1900.

*ACC/AHA Guidelines for the Management of Patients With ST-Elevation Myocardial Infarction. Journal of the American College of Cardiology 2004 (August 4 issue)

*AHA/ACC Preventing Heart Attack and Death in Patients with Atherosclerotic Cardiovascular Disease:2001 Update. Circulation 2001;104:1577-1579.

*AHA Guidelines for Primary Prevention of Cardiovascular Disease and Stroke: 2002 Update. Circulation 2002;106:388-391.

*ACC/AHA 2002 Guideline Update for the Management of Patients With Chronic Stable Angina—Summary Article A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on the Management of Patients With Chronic Stable Angina) Circulation. 2003;107:149-158.

Trials

- ^ Effects of clopidogrel in addition to aspirin in patients with acute coronary syndromes without ST-segment elevation (**CURE**). N Engl J Med 2001;345:494-502.
- ^ Comparison of early invasive and conservative strategies in patients with unstable coronary syndromes treated with the glycoprotein IIb/IIIa inhibitor tirofiban. (**TACTICS-TIMI 18**) N Engl J Med 2001;344:1879-87.
- ^ Effect of glycoprotein IIb/IIIa receptor blocker abciximab on outcome in patients with acute coronary syndromes without early coronary revascularization: the **GUSTO IV-ACS** randomized trial. Lancet 2001;357:1915-24.
- ^ Reperfusion therapy for acute myocardial infarction with fibrinolytic therapy or combination reduced fibrinolytic therapy and platelet glycoprotein IIb/IIIa inhibition: the **GUSTO V** randomized trial. Lancet 2001;357:1905-14. (Commentary pg 1898-99).
- ^ Efficacy and safety of tenecteplase in combination with enoxaparin, abciximab or unfractionated heparin: the **ASSENT-3** randomised trial in acute myocardial infarction. Lancet 2001;358:605-13.
- ^ Warfarin, aspirin or both after myocardial infarction. N Engl J Med 2002;347:969-74.
- ^ A randomized, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (**CAPRIE**) Lancet 1996;348:1329-39.
- * Effects of angiotensin converting-enzyme inhibitor, ramipril, on cardiovascular events in high-risk patients (**HOPE**). N Engl J Med 2000;342:143-53.
- # Effects of ramipril on cardiovascular and microvascular outcomes in people with diabetes mellitus: results of the **HOPE study and MICRO-HOPE** substudy. Lancet 2000;355:253-59.
- ^ Vitamin E supplementation and cardiovascular events in high-risk patients. (**HOPE**). N Engl J Med 2000;342:154-160.
- # Prevention of radiographic-contrast-agent-induced reductions in renal function by acetylcysteine. N Engl J Med 2000;343:180-4.
- ^ Acetylcysteine to prevent angiography-related renal tissue injury (APART trial) Am J Cardiol 2002;89:356-8.
- ^ A comparison of low-molecular-weight heparin with unfractionated heparin for unstable coronary artery disease. (**ESSENCE**) N Engl J Med 1997;337:447-52.

Section 3 Heart Failure

Review Articles

- *New Concepts in Diastolic Dysfunction and diastolic heart failure; Part 1 Diagnosis, prognosis, measurements of diastolic function. Zile et al. Circulation 2002;105:1387-1393.
- * New Concepts in Diastolic Dysfunction and diastolic heart failure; Part 2 Causal mechanisms and management. Circulation 2002;105:1503-1508.
- *Beta blockers for stable heart failure. Stevenson LW NEJM 2002;346:1346-47
- # Medical management of advanced heart failure. Nohria et al. JAMA 2002;287:628-640.

Guidelines

- *ACC/AHA 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult. Journal of the American College of Cardiology or Circulation 2005 (September 20 issue),

Trials

Effect of carvedilol on morbidity and mortality in patients with chronic heart failure. (**US Carvedilol**) Packer et al. N Engl J Med 1996;334:1349-55

Effect of metoprolol CR/XL in chronic heart failure: Metoprolol CR.XL randomized intervention trial in congestive heart failure (**MERIT-HF**). Lancet 1999;353:2001-7.

^ Effect of carvedilol on survival in severe chronic heart failure. Packer et al. N Engl J Med 2001;344:1651-8.

^ A trial of the beta-blocker bucindolol in patients with advanced chronic heart failure (**BEST**). N Engl J Med 2001;344:1659-67.

The effect of digoxin on mortality and morbidity in patients with heart failure. (**DIG trial**) N Engl J Med 1997;336:525-33.

The effect of spironolactone in morbidity and mortality in patients with severe heart failure. (**RALES**) N Engl J Med 1999;341:709-17.

Effect of losartan compared with captopril in mortality in patients with symptomatic heart failure: randomized trial-the losartan heart failure survival study (**ELITE II**). Lancet 2000;355:1582-7.

^ A randomized trial of the angiotensin-receptor blocker valsartan in chronic heart failure (**Val-Heft**) Cohn et al. N Engl J Med 2001;345:1667-75.

^ Intravenous nesiritide, a natriuretic peptide, in the treatment of decompensated heart failure. Colucci et al. N Engl J Med 2000;343:246-53.

^ Short-term intravenous milrinone for acute exacerbation of chronic heart failure. (**OPTIME-CHF**) JAMA 2002;287:1541-47.

Section 4 Lipid-lowering Therapies

Review articles

* Long-term safety of hepatic hydroxymethyl glutaryl coenzyme A reductase inhibitors. Bottorff et al. Arch Intern Med 2000;160:2273-80.

Defining patient risks from expanded preventive therapies. Tolman Am J Cardiol 2000;85:15E-19E.

Guidelines

* Executive summary of the third report of the national cholesterol education program (NCEP) expert panel on detection, evaluation and treatment of high blood cholesterol in adults (**Adult Treatment Panel III**) JAMA 2001;285:2486-2497

ACC/AHA/NHLBI Clinical advisory on the use and safety of statins. JACC 2002;40:568-73.

Trials

^ Aggressive lipid-lowering therapy compared with angioplasty in stable coronary artery disease. (**AVERT**) Pitt et al. N Engl J Med 1999;341:70-6.

^ Effect of statin therapy on C-reactive protein levels. (**PRINCE**). Albert et al. JAMA 2001;286:64-70.

Section 5 Arrhythmias

Review Articles

^ Sudden death due to cardiac arrhythmias. Huikuri et al. NEJM 2001;345:1473-1482.

Guidelines

* ACC/AHA/ESC Guidelines for the management of patients with atrial fibrillation: executive summary. JACC 2001;

Practical guidelines for clinicians who treat patients with amiodarone. Arch Intern Med 2000;160:1741-8.

Trials

Amiodarone as compared with lidocaine for shock-resistant ventricular fibrillation. (**ALIVE**) NEJM 2002;346-884-890.

* Pharmacologic management of atrial fibrillation: current therapeutic strategies. Am Heart J 2001;141:S15-21.

* Classification and pharmacology of antiarrhythmic drugs Am Heart J 2001;140:12-20.

Dofetilide order sets and information sheet

^ Dofetilide in patients with congestive heart failure and left ventricular dysfunction. N Engl J Med 1999;341;857:65.

^ Amiodarone in patients with congestive heart failure and asymptomatic ventricular arrhythmia. N Engl J Med 1995;333:77-82.

^9. A comparison of seven antiarrhythmic drugs in patients with ventricular tachyarrhythmias. N Engl J Med 1993;329:452-8.

^10. Mortality and morbidity in patients receiving encainide, flecainide, or placebo. (CAST) N Engl J Med 1991;324:381-8.

^11. A comparison of antiarrhythmic drug therapy with implantable defibrillators in patients resuscitated from near-fatal ventricular arrhythmias. (AVID) N Engl J Med 1997;337:1576-83.

^12. Facilitating transthoracic cardioversion of atrial fibrillation with ibutilide pretreatment. N Engl J Med 1999;340:1849-54.

Section 7 Miscellaneous

Endocarditis

*1. Prevention of bacterial endocarditis. JAMA 1997;277:1794-1801.

#2. Diagnosis and Management of infective endocarditis and its complications. Circulation 1998;98:2936-48.

*3. Antibiotic treatment of adults with infective endocarditis due to streptococci, enterococci, staphylococci, and HACEK microorganisms. JAMA 1995;274;1706-13.

Viagra

*4. Use of sildenafil in patients with cardiovascular disease. J Am Coll Cardiol 1999;33:273-82

Anticoagulation and valves

#5. Optimal oral anticoagulant therapy in patients with mechanical heart valves. N Engl J Med 1995;333:11-7.

#20. Drug effects on the electrocardiogram. Drugs 1993;46:219-48.