Preventive Cardiology Specific Goals and Objectives

(Note: the corresponding COCATS 4, Task Force 2 Medical Knowledge Competencies are listed in parentheses next to each section)

1. Atherosclerosis and Lipids (lectures, clinic)

Goal: To understand clinical aspects of lipoprotein metabolism and diagnosis and management of lipid disorders as they relate to atherosclerotic cardiovascular disease.

Objectives: Fellows will be able to
   a. Describe basic mechanisms of atherogenesis and atherosclerosis. (1,8)
   b. Know the principles of genetics as applied to cardiovascular disease and pharmacology (2)
   c. Know the risk factors for atherosclerotic cardiovascular disease, including family history, and how they affect risk (3-6)
   d. Describe clinical aspects of lipid and lipoprotein metabolism. (8,10, 21)
   e. Describe and implement the AHA/ACC lipid guidelines. (3-7).
   f. Describe dietary treatment of lipid disorders. (10,12)
   g. Describe pharmacologic treatment of lipid disorders. (10, 21)
   h. Describe the major clinical trials that affect lipid therapy and guidelines. (10)
   i. Evaluate clinical dyslipidemias and recommend treatment strategies based on case presentations.(10)
   j. Understand the methodology and appropriate use of advanced lipoprotein testing. (7,10)
   k. Know the effects of systemic diseases and inflammation on cardiovascular disease risk and its management (16)

2. Hypertension Management (lectures, clinic)

Goal: To understand clinical aspects of the diagnosis and management of hypertension.

Objectives: Fellows will be able to
   a. Understand the major secondary causes of hypertension and their initial evaluation.(8,11,17)
   b. Describe key aspects of management of patients with hypertension. (11, 21)
   c. Describe and implement the AHA/ACC and ASH hypertension guidelines. (11, 21)
   d. To understand the approach to the diagnosis and treatment of the patient with resistant hypertension. (11)

3. Diabetes Mellitus, Metabolic Syndrome, and Obesity (lectures, clinic)

Goal: To understand the prevalence, cardiovascular implications, and treatment of obesity, metabolic syndrome, and diabetes mellitus, including sleep apnea and cardiovascular disease risk

Objectives: Fellows will be able to
   a. Describe the pathophysiology of obesity and metabolic syndrome (insulin resistance syndrome). (8,9)
b. Describe the mechanisms by which obesity and metabolic syndrome increase cardiovascular risk. (8,9)
c. Describe lifestyle management of obesity and metabolic syndrome. (8,9,12)
d. Describe pharmacological therapy of obesity and metabolic syndrome. (8,9)
e. Describe treatment of diabetes mellitus and diabetic lipid disorders. (8,9,12)
f. Describe the initial approach to recognizing and managing obstructive sleep apnea and its effect on CVD risk. (17)

4. **Smoking Cessation** (lecture, clinic, smoking cessation module)

**Goal**: To understand the cardiovascular effects of tobacco exposure and strategies for physician-assisted smoking cessation.

**Objectives**: Fellows will be able to

a. Describe the effects of smoking on cardiovascular disease incidence. (8,15)
b. Describe primary methods for smoking cessation. (15, 21)
c. Describe the key components of office-based smoking management systems. (15)

5. **Exercise and Cardiac Rehabilitation** (cardiac rehabilitation clinic and inpatient experience)

**Goal**: To understand the physiological principles and processes of cardiac rehabilitation for patients with a wide range of cardiovascular diseases.

**Objectives**: Fellows will be able to

a. Describe cardiovascular and pulmonary responses to exercise in patients with cardiovascular disease. (12,14)
b. Understand exercise testing protocols and accurately determine functional capacity. (12,14)
c. Provide the basic components of an exercise prescription for patients with cardiovascular disease. (12,14)
d. Understand principles of early mobilization and cardiovascular response to low-level exercise following myocardial infarction, coronary artery bypass surgery, and cardiac transplant. (12,14)
e. Understand guidelines for home activities upon hospital discharge. (12,14)
f. Understand physiology of exercise training in patients with cardiovascular disease. (12,14)
g. Understand the metabolic cost and cardiovascular response to activities of daily living. (12,14)
h. Incorporate secondary prevention into cardiac rehabilitation goals of the patient. (12,14)
i. Work with a multi-disciplinary team to achieve treatment and rehabilitation goals. (12,14)

6. **Nutrition** (lecture, clinic, nutrition clinic)

**Goal**: To understand the metabolic, epidemiological, and clinical rationale for nutritional recommendations for patients with cardiovascular disease.

**Objectives**: Fellows will be able to

a. State the primary dietary elements related to atherosclerosis prevention. (12)
b. Describe dietary interventions for hypertension and dyslipidemia. (5, 12)

7. **Psychosocial and Behavioral Aspects of Cardiovascular Diseases** (lecture, clinic, cardiac rehabilitation clinic, nutrition clinic, smoking cessation module)

**Goal:** To understand how depression, anxiety, and patient behavior affect cardiac outcomes, as well as interventions to motivate behavioral change.

**Objectives:** Fellows will be able to
a. Describe the effects of depression and anxiety on cardiovascular outcomes. (12,13,15)

b. Describe strategies for motivating behavior change in patients with heart disease. (12,13,15)

c. Outline treatment strategies for cardiovascular disease patients with concomitant depression and/or anxiety. (12,13,15)

8. **Screening Tests** (lecture, clinic)

**Goal:** To understand proper use of new/emerging serological and imaging tests for evaluating cardiovascular risk and detecting subclinical atherosclerosis.

**Objectives:** Fellows will be able to
a. Describe the appropriate clinical use of screening tests such as lipoprotein(a), high sensitivity C-reactive protein, and advanced lipoprotein testing. (4,6)

b. Understand imaging tests for screening such as measurement of carotid intima-media thickness, ankle-brachial index, coronary calcium scoring, and AAA screening. (7,18)

9. **Special Populations** (lecture, clinic)

**Goal:** To review differences in cardiovascular prevention strategies between men and women, young and old patients, and people of different racial backgrounds.

**Objectives:** Fellows will be able to:

a. Identify sex-related differences in risk factors for heart disease (4).

b. Consider differences in prevention strategies among young and older patient (4).

c. Consider differences in evaluation of patients of different racial backgrounds (4).

**Note:** these COACTS 4, Take Force 2 items are covered elsewhere in the UW CVM Fellowship:

19. **Know the impact of reproductive stages, pregnancy, and hormonal treatment for reproductive disorders on cardiovascular risk.**

20. **Know the principles of antithrombotic therapy in cardiovascular disease.**
Rotation for First-Year Fellows

A one-month rotation during the first year of the cardiology fellowship will be dedicated to in-depth participation in the care of patients in the Preventive Cardiology and cardiac rehabilitation programs. A personalized schedule with the components below will be created by fellowship staff in consultation with the Preventive Cardiology Program Director. Fellows will be exposed to, and when appropriate, manage patients with direct observation by Preventive Cardiology faculty and staff. Fellows will work in the inpatient rehabilitation (Phase I), outpatient rehabilitation (Phases II-III), and specialty programs in Preventive Cardiology. They will obtain experience managing patients recovering from myocardial infarction, percutaneous coronary intervention, coronary artery bypass graft surgery, cardiac transplantation, and with other cardiac problems. The fellows will

1. Learn to implement comprehensive primary and secondary prevention strategies including management of cardiovascular risk factors, exercise prescription, behavioral change, and management of new/emerging risk factors.
2. Develop a working knowledge of all phases of cardiac rehabilitation.
3. Learn how to provide individualized exercise and activity prescriptions to patients with cardiovascular disease.

The one-month rotation will consist of activities primarily at the UW Research Park Clinic rotation, unless otherwise noted.

1. Preventive Cardiology Clinic (“clinic,” 2 days per week). The UW Preventive Cardiology Clinic includes “Lipid Clinic,” the “Advanced Hypertension Clinic,” “Sudden Cardiac Death Prevention Clinic,” and provides broad exposure to the range of topics in the COCATS 4, Task Force 2 core curriculum. Each clinic includes an MD or DO, Registered Dietician, and Registered Nurse.
   a. Dr. James Stein, MD (Director) - ½ day/week (Friday AM)
   b. Dr. Patrick E. McBride (Associate Director) - 1 day/week (Tuesday AM, Wednesday PM, every other Wednesday AM)
   c. Dr. Heather Johnson - ½ day/week (Wednesday AM)

   *If these clinics are not available, fellows may be scheduled with Dr. Mary Zasadil, Dr. Jon Keevil, or Dr. Matthew Tattersall, other physician members of the Preventive Cardiology program, but who have off-site clinics.*

2. Preventive Cardiology Nutrition Clinic – 1 day/week (Monday AM and PM, Wednesday PM)
3. Outpatient Cardiac Rehabilitation – 1 day/week
4. Inpatient Cardiac Rehabilitation – ½ day/week (UW Hospital CSC)
5. Smoking cessation/reading – ½ day/week. See “Smoking Cessation” addendum at the end of this document for details.

*Note: Fellows will not participate in their usual general cardiology continuity clinic when on their Preventive Cardiology rotation.*
Didactic/Interactive Lecture Series

The Preventive Cardiology lecture series is the major Preventive Cardiology experience of the UW Cardiovascular Medicine Fellowship. This lecture series is repeated such that each fellow typically participates in the lecture series twice during their fellowship. All fellows are required to attend and sign in, indicating their attendance. They will receive a written quiz 1-2 weeks before the lecture series with feedback provided. The quiz will be repeated after the lecture series, as well. The information presented as part of the lecture series will be reinforced during their general cardiology clinical training.

The lecture series is as follows:

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Stein</td>
<td>Atherogenesis and Atherosclerosis</td>
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<tr>
<td>Keevil</td>
<td>Cardiovascular Disease Risk Assessment – Global Burden, Risk Factors and Framingham Assessment</td>
</tr>
<tr>
<td>Stein</td>
<td>Non-Traditional Risk Factors for Cardiovascular Disease Prediction: HsCRP, Advanced Lipoprotein Testing, and Lp(a)</td>
</tr>
<tr>
<td>Tattersall</td>
<td>Effects of Systemic Diseases and Inflammation on Cardiovascular Disease Risk and its Management</td>
</tr>
<tr>
<td>Stein</td>
<td>New Imaging Tests for Cardiovascular Disease Risk Prediction</td>
</tr>
<tr>
<td>Stein</td>
<td>Clinical Lipid Metabolism, Dyslipidemias and Treatment - I</td>
</tr>
<tr>
<td>Stein</td>
<td>Clinical Lipid Metabolism, Dyslipidemias and Treatment - II</td>
</tr>
<tr>
<td>Stein</td>
<td>Clinical Trials in Lipid Lowering Therapy</td>
</tr>
<tr>
<td>McBride</td>
<td>Lipid Management Guidelines and Update</td>
</tr>
<tr>
<td>McBride</td>
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<tr>
<td>Johnson</td>
<td>Hypertension - Pathophysiology</td>
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<tr>
<td>Johnson</td>
<td>Hypertension – Treatment and Guidelines</td>
</tr>
<tr>
<td>Johnson</td>
<td>Resistant and Secondary Causes of Hypertension</td>
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<tr>
<td>Poddar/Mihm</td>
<td>Nutrition, Diet and Cardiovascular Disease – I</td>
</tr>
<tr>
<td>Poddar/Mihm</td>
<td>Nutrition, Diet and Cardiovascular Disease - II</td>
</tr>
<tr>
<td>Zasadil</td>
<td>Exercise Physiology Basics &amp; CVD Prevention: How to Write an Exercise Prescription</td>
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<tr>
<td>Jorenby</td>
<td>Smoking Cessation</td>
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<tr>
<td>Benca</td>
<td>What a Cardiologist Needs to Know about Sleep Apnea</td>
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<tr>
<td>Dopp/Vardeny</td>
<td>Primer: Clinical Pharmacology and Pharmacogenetics of CV Drugs</td>
</tr>
<tr>
<td>Orland</td>
<td>Common Genetic Variants for CVD Risk and Risk Factors</td>
</tr>
</tbody>
</table>
Core Reading Materials (to be provided to each fellow)


Fellow Learning Evaluation

(Note: corresponding COCATS 4, Task Force 2 Patient Care Competencies are listed in parentheses next to each section)

Evaluations will include reviews of:

1. Fellow participation in Preventive Cardiology activities described above, as observed by faculty. (1-10; additionally will provide competencies in systems-based practice, practice-based learning and improvement, professionalism, and interpersonal and communication skills).

2. Evaluations of Preventive Cardiology case management in the Preventive Cardiology Clinic (such as management of lipids, hypertension, and cardiovascular disease risk) as well as interpretations of exercise monitoring during cardiac rehabilitation and risk assessment during patient encounters. (1-10; additionally will provide competencies in systems-based practice, practice-based learning and improvement, professionalism, and interpersonal and communication skills)

3. A quiz will be provided prior to and after the lecture series and a score of 75% correct will be required to pass. (1-10; additionally will provide competencies in systems-based practice, practice-based learning and improvement)

4. Pass UW Smoking Cessation on-line CME quiz. Requires a score of 70% or higher. (4; additionally will provide competencies in systems-based practice, practice-based learning and improvement, and interpersonal and communication skills)
Addendum: Smoking Cessation Education and Assessment

Smoking Cessation experience will involve a 1 credit hour on-line CME course (~60 minutes) from the UW Center for Tobacco Research and Intervention (CTRI) plus review of a series of short education videos (~75 minutes of education) and that cover hospital and clinical interventions, as well as motivational interviewing and the Wisconsin QuitLine (www.ctri.wisc.edu). Each video is patient/encounter based. This information will be reinforced during the preventive cardiology rotation in the office and hospital as well as in a didactic lecture. Skills assessment will be demonstrated by completion of the tobacco cessation CME course exam and by observation in clinic and on the wards by attending cardiologists.

Materials and Competency Demonstration

2. Then review the four sets of videos below (Clinic interventions, hospital interventions, motivational interviewing, and QuitLine).
3. Competency demonstration: got back to the CME and take the test. Passing requires 70% score or higher to pass – to be completed after the CME and videos below are reviewed.

Clinic Interventions

http://www.ctri.wisc.edu/HC.Providers/healthcare_ondemand_clinic.htm

- Alcoholism (4:04)
- Depression (4:40)
- Diabetes (3:59)
- Clinician/Patient Brief Counseling Examples (19:00)

Hospital Interventions

http://www.ctri.wisc.edu/HC.Providers/healthcare_ondemand_hospital.htm

- CVD 1 (3:06)
- Pulmonary 1 (2:11)
- Discharge (3:54)
- CVD 2 (2:38)
- Pulmonary 2 (5:20)

Motivational Interviewing Videos

http://www.ctri.wisc.edu/HC.Providers/healthcare_ondemand_mi.htm

- Clinician/Patient Tug-of-War (:21)
- Empathy: How NOT to Express It to a Smoker (:27)
Empathy: How to Express It to a Smoker (2:00)
Developing Discrepancies: How NOT to Do It (1:18)
Developing Discrepancies: How to (4:43)
Rolling with Resistance (:46)
Self-Efficacy: How to Support It (6:00)
Incorporating Techniques Into Practice (3:00)
A Call to Action from Dr. Michael Fiore (1:00)

Pharmacy Interventions

http://www.ctri.wisc.edu/HC.Providers/healthcare_ondemand_pharmacy.htm
Plan to Quit (3:58)
Asthma (2:35)
Birth Control (2:28)
CVD (4:21)
COPD 1 (2:02)
COPD 2 (4:25)

Quit Line Videos

http://www.ctri.wisc.edu/HC.Providers/healthcare_ondemand_ql.htm
1-800-QUIT-NOW Quit Line Web Coach
Overview (7:40) Feature (2:00)

Updated: September 29, 2015, JHS