Internal Medicine Curriculum  
Hypertension and Preventive Cardiology Rotation

Contact Person: Dr. Michael Geer

General Information
This rotation is designed to familiarize the resident with the management of patients with hypertension and cardiovascular risk factors such as hyperlipidemia and metabolic syndrome typically encountered by internists. The resident will gain experience in the diagnosis and treatment of patients with hypertension, hyperlipidemia, insulin resistance, peripheral vascular disease, neurocardiogenic syncope and hypertensive heart disease associated with heart failure. The rotation will be based on outpatient experiences designed to maximize the learning opportunities for general internists.

Educational Purpose and Goals
The objectives of the rotation are to familiarize the resident with those aspects of internal medicine that relate to hypertension and reduction of cardiovascular risk factors. The primary goal of the rotation is to enhance the resident’s ability to diagnose, provide cost-effective treatment for, and understand the pathophysiology of hypertension and related cardiovascular disease processes. Other goals of the rotation include:
A. Initial diagnosis and initiation of management of hypertension.
B. Initial diagnosis and initiation of management of lipid disorders.
C. Initial diagnosis and initiation of management of metabolic syndrome.
D. Initial diagnosis of peripheral vascular disease.
E. Investigate early markers of cardiovascular disease.
F. Follow up management with identification of treatment goals for hypertension and hyperlipidemia.
G. Understand the use of the Cardiac Profiler for assessment of vascular disease and large and small artery elasticity.
H. Understand the use of vascular screening with carotid intimal thickening, assessment of the aorta by ultrasound, and Doppler of the lower extremity arteries.
I. Interpretation of EKG, rhythm strips in the management of hypertensive patients.
J. Understand the use of laboratory markers such as C reactive protein, homocysteine, etc in the management of cardiovascular risk reduction.
K. Understand the use of 24 hour ambulatory blood pressure monitoring in patients with hypertension.
L. Learn to utilize 2007 Pre Op Cardiac Assessment guidelines for non-cardiac surgery

Teaching Methods
Multiple teaching methods are utilized on the cardiology rotation including:
A. Self-study of assigned readings.
B. Self-study with faculty review of EKG interpretation.
C. Supervised outpatient evaluations on all patients seen in the Hypertension Management Center.
D. Presenting information about assigned topics.
E. Review with attending of vascular screening done in the clinic as well as a review of all laboratory studies.
F. Review with attending all echocardiograms done on clinic patients.

**Disease Mix**
A. Hypertension and its complications affecting other organ systems like heart and kidneys.
B. Lipid disorders including hypercholesterolemia, hypertriglyceridemia, dyslipidemia.
C. Metabolic syndrome.
D. Peripheral vascular disease.
E. Congestive heart failure as a result of hypertension
F. Management of patients with chronic atrial fibrillation and hypertensive disease.
G. Patients with diabetes complicated by hypertension and hyperlipidemia.
H. Patients with insulin resistance.
I. Patients before and after interventional therapy for renovascular disease.

**Patient Characteristics and Clinical Encounters**
The rotation has been designed to include significant outpatient exposures matching the encounters of general internists in practice. Patients encountered by the resident will represent a wide diversity in age, lifestyles and cardiovascular disease.
Patients on this rotation include: 1) outpatients with cardiovascular risk factors, 2) outpatients for whom consultation has been requested regarding hypertension or dyslipidemia, 3) follow up management of patients with hypertension, hyperlipidemia, metabolic syndrome and 4) outpatients for management of orthostatic hypotension.

**Procedures and Services**
A. Laboratory test interpretations of patients seen in clinic.
B. EKG interpretations of patients being seen.
C. Vascular screening test interpretations performed in the clinic.
D. Exercise stress test performed to assess exercise tolerance, blood pressure response and assessment of coronary status in patients seen in the clinic.

**Reading Lists**
A. Required reading includes:
   1. Cardiology and Hypertension Section from the MKSAP 14 Series.

B. Supplemental reading includes:
3. Guidelines from JNC 7
4. NCEP Guidelines from ATP 3
5. ADA guidelines for management of Hypertension in patients with Diabetes

Other Educational Resources
Review of current literature with emphasis on articles from:
1. Current Opinion in Lipidology
2. The Journal of Clinical Hypertension
3. The American Journal of Cardiology
4. New England Journal of Medicine

Evaluation of Resident Performance
The resident on the rotation is evaluated continuously by attending Cardiologist and will receive a verbal mid-month evaluation. In addition, residents receive a written end of month evaluation which is forwarded to their residency file.
Through presentation of patients to the attending cardiologist, interviewing, communication and interpersonal skills are constantly on display and critiqued in order to encourage thorough and accurate history taking and physical examinations.
At the completion of the rotation the resident will sit for a mandatory multiple choice examination that will test his knowledge of the management of hypertension and hyperlipidemia.

Supervision
The cardiology attending will provide immediate supervision to the resident and will review all patient recommendations with the resident.

Teaching Rounds and Conferences
Resident must attend all Internal Medicine Morning reports, Grand rounds and/or required Noon Conferences.

Requirements of Rotation Completion
The following components are required for successful completion of the rotation:
A. Attendance at all scheduled outpatient sessions.
B. Successful completion of the required reading based on resident attestation and faculty testing of resident.
C. Demonstration of appropriate skills in eliciting accurate history and physical findings.
D. Obtain satisfactory end-of-rotation evaluation.
E. Must successfully pass end of rotation examination on hypertension and hyperlipidemia.

Accreditation Council on Graduate Medical Education

“Every competency can be taught with every patient.” B. Joyce, 2006
http://www.acgme.org/Outcome
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:

- communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- gather essential and accurate information about their patients
- make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- develop and carry out patient management plans
- counsel and educate patients and their families
- use information technology to support patient care decisions and patient education
- perform competently all medical and invasive procedures considered essential for the area of practice
- provide health care services aimed at preventing health problems or maintaining health
- work with health care professionals, including those from other disciplines, to provide patient-focused care

MEDICAL KNOWLEDGE
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- demonstrate an investigatory and analytic thinking approach to clinical situations
- know and apply the basic and clinically supportive sciences which are appropriate to their discipline

PRACTICE-BASED LEARNING AND IMPROVEMENT
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- analyze practice experience and perform practice-based improvement activities using a systematic methodology
- locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems
- obtain and use information about their own population of patients and the larger population from which their patients are drawn
- apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- use information technology to manage information, access on-line medical information; and support their own education
- facilitate the learning of students and other health care professionals
INTERPERSONAL AND COMMUNICATION SKILLS
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- create and sustain a therapeutic and ethically sound relationship with patients
- use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- work effectively with others as a member or leader of a health care team or other professional group

PROFESSIONALISM
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development
- demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities

SYSTEMS-BASED PRACTICE
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
- practice cost-effective health care and resource allocation that does not compromise quality of care
- advocate for quality patient care and assist patients in dealing with system complexities
- know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance
# Hypertension and Preventive Cardiology Rotation

**Intern/Resident** _______________________________________ Circle one: PGY 2 or 3

**Supervising Faculty** ___________________________________ Month ______________

<table>
<thead>
<tr>
<th>Rotation Check List</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Reviewed the goals and objectives at the beginning of the rotation</td>
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<td>Evaluation and feedback mid month</td>
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<td>Evaluation and feedback at the end of rotation</td>
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<td>Attended all scheduled clinical sessions</td>
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<td>Completed assigned readings.</td>
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<td>Completed required case reports/abstracts/posters</td>
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<td>Performed at or above the expected PGY level. Please check one.</td>
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<td><em>PGY 1 Residents are responsible</em></td>
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<td>- for gathering relevant patient data</td>
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<td>- performing and interpreting physical examination findings</td>
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<td>- perform basic procedures and interpret data</td>
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<td>- interpret laboratory tests</td>
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<td>- interpret basic radiographic studies</td>
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<td><em>PGY-2 will have improved competence and demonstrate</em></td>
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<td>- improved data gathering and physical examination skills</td>
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<td>- improved knowledge</td>
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<td>- improved decision making</td>
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<td>- enhanced ability to counseling</td>
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<td><em>PGY-3 will approach mastery and demonstrate the ability to function as consultant</em></td>
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<td>Reviewed and met the core competencies as outlined. Please discuss at least one additional example.</td>
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<td><strong>A Patient Care</strong></td>
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<tr>
<td>• Residents will obtain and document appropriate history taking, physical exam and laboratory interpretation skills for patients with cardiovascular disease and metabolic syndrome</td>
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<td>• Develop a basic understanding of the planned services and procedures</td>
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<td><strong>B. Medical Knowledge</strong></td>
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<td>• Successfully completed the required examination</td>
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<td>• Demonstrate appropriate skills in evaluating and managing the patients with the stated disease mix</td>
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### C. Practice Based Learning
- Residents will develop and implement treatment plans by utilizing appropriate information systems and resources to help manage patients presenting for care of cardiovascular disease
- Undertakes self-evaluation with insight and initiative
- Will adapt learning and evidence based medicine to own patient practice

### D. Interpersonal and Communication Skills
- Residents will communicate diagnosis, treatment plan and follow up care to patients and their families
- Residents will participate in the multidisciplinary care and communicate with staff and other personnel in the specialty clinic

### E. Professionalism
- Residents will recognize the importance of patient preferences when selecting diagnostic and therapeutic options.
- Commitment to ethical principles pertaining to the provision or withholding of care, patient confidentiality, informed consent, and business practices

### F. Systems-Based Practice
- Residents will be able to develop, implement and evaluate treatment plans for patients that include determining when to obtain consultations
- Advocates for quality patient care and assists patients in dealing with health system complexity
- Uses systematic approaches to reduce errors and enhance care
- Residents will diagnose, provide cost-effective treatment for, and of hypertension and cardiovascular disorders

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Resident Signature ____________________________ Date ____________________

Supervising Faculty ____________________________ Date ____________________


All items must be completed for rotation credit and checklist returned to the Department of Medicine by the month’s end.