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Goal:
The goal of the second year module will be to correlate academic and book knowledge with clinical cardiovascular patient care. You will be expected to translate your academic knowledge into practical clinical skills in caring for patients with cardiovascular diseases including coronary artery disease, valvular heart disease and hypertension. You will be expected to be able to make appropriate decision making processes diagnosing, evaluating and treating patients with cardiovascular disease utilizing standard techniques.

Learning Objectives:
At the end of this course the student will be able to:
1. Identify patients with cardiovascular risks.
2. Diagnose the more common cardiovascular states such as coronary artery disease, hypertension, dysarrhythmia, and valvular heart disease.
3. Discuss the epidemiological, pathologic and clinical manifestations as well as laboratory findings of cardiovascular diseased patients.
4. Outline a therapeutic approach to form a diagnosis.
5. Apply the medial knowledge, practice based and systems based skills in order to develop a differential diagnosis and therapeutic treatment plan.
6. Develop interpersonal communication skills in handling cardiovascular patients.
7. Based on the above define a treatment plan for the patient.

Learning Activities:
Learning will include lectures and case-based learning in small groups.

Recommended Resources:
- Power Point presentations for most lectures are available at http://www.sjhg.org
- Marriot's Practical Electrocardiography. 10th Edition, 2001 Lippincott Williams & Wilkins
- Harrison's Principles of Internal Medicine. 16th Edition. 2011, McGraw Hill.
- The Heart. 6th Edition, 2011 McGraw Hill
  (also available in free iPad App and e-book)
  http://www.filecluster.com/iPad/Hurst-s-the-Heart-13th-edition-192386.html
  http://ebookee.org/Hurst-s-the-Heart-13th-Edition-2-Volume-Set-_1401966.html

Policies for Attendance, Examinations, Grading and Remediation / Re-examination:

Attendance:
Attendance at all lectures (and small groups) is mandatory. Students failing to meet minimum attendance requirements for a course will receive a grade of "Fail". Excused absences may not exceed 25% of all scheduled sessions. The Course Director establishes criteria for excused absences. Students unable to attend classes due to illness or unforeseen circumstances must contact the Department of Student Affairs before the scheduled class(es), or as soon as possible thereafter. Attendance will be monitored at all classes and faculty reserves the right to evaluate student performance at any time during a course.   Students are responsible for making up all academic work which is missed during an excused absence.

Examination:
The exam is scheduled for Monday November 5th, 2012

Grading:
Total grade is calculated as following: Exam = 90% of total grade; Small Groups = 10% of total grade (5% for each SG case).

Remediation / Re-examination
The remediation follows the UMDNJ-SOM Remediation Policy.

Lecture 1
Course Introduction/ Introduction to Hemodynamics – John N. Hamaty DO, FACC, FACOI, FASE, FSNC

1. To understand the basics of cardiovascular hemodynamics including pressure tracings, blood pressure response, and cardiovascular hemodynamics.

Lecture 2
Auscultation and Valvular Heart Disease – Jay L. Rubenstone DO, FACC

1. During this lecture you will be introduced to common cardiovascular auscultation techniques. The objective will be to learn basic valvular heart disease auscultation and diagnose with common valvulopathies.

2. This lecture will introduce you to the multiple valvular heart diseases that cardiovascular patients develop. You will be expected to learn cardiovascular examination diagnostic technique recommendations and treatment of the common valvular heart disease including aortic stenosis, aortic insufficiency, mitral regurgitation and mitral stenosis.

Lecture 3
Echocardiography / Pericarditis – Jerome M. Horwitz DO

1. You will learn to understand the indications for ordering for echocardiography
2. You will learn to utilize echocardiography for the diagnosis of valvular heart disease as well as assessment of left ventricular systolic and diastolic function.
3. To understand fundamentals of the efficacy of echocardiography of prognosis of ischemic heart disease.
4. To utilize echocardiography in the diagnosis of pericardial diseases.

Lecture 4
Dyslipidemia / Use of Statins – Mario L. Maiese DO FACC, FACOI

1. You will become familiar with the treatment thresholds for treatment based on CAD, DM etc.
2. You will learn which agents are best for which dyslipidemia
3. You will learn why statins are important and the long-term positive ramifications of use

Lecture 5
ECG Part I – John N. Hamaty DO, FACC, FACOI, FASE, FSNC

1. To understand the EKG as the gold standard for detection of arrhythmias and ischemic heart disease
2. You will learn to identify common EKG abnormalities including detection of ischemic
    heart disease, arrhythmias, acute myocardial infarction, and various conduction abnormalities.

Lecture 6
ECG Part II – John N. Hamaty DO, FACC, FACOI, FASE, FSNC

1. To understand the EKG as the gold standard for detection of arrhythmias and ischemic heart disease
2. You will learn to identify common EKG abnormalities including detection of ischemic heart disease,
    arrhythmias, acute myocardial infarction, and various conduction abnormalities.

Lecture 7
Stress Testing / Nuclear/ Echo – John N. Hamaty DO, FACC, FACOI, FASE, FSNC

1. The objective of this lecture is to understand the basics of stress testing in determining risk stratification and prognosis for patients with coronary artery disease. Next you will learn the differences in the several types of stress testing and their indications and contraindications.
    You will learn the difference between ordering a nuclear stress test versus a stress echocardiogram.

Lecture 8
Hypertension / Use of Antihypertensives – Joshua M. Crasner DO, FACC, FACOI

1. The purpose of this lecture is to introduce you to the epidemiologic and treatment options in evaluating a patient with hypertension. You will learn medication utilization for hypertension.
2. You will be exposed to the basic genetic patterns that are associated with hyperlipidemia. You will also learn to diagnose and rise stratify patients based on abnormal patterns as well as their treatments.

Lecture 9
Cardiac Catheterization/ Radiology – Timothy P. Morris DO, FACC

1. The objective of this lecture is to introduce you to cardiac catheterization its' indications and contraindications in treating patients with coronary artery disease.
2. You will learn the appropriateness of recommending cardiac catheterization for acute coronary syndrome and their treatment utilizing stents and or angioplasty.
3. You will also learn rank and a graphic assessment of the cardiac patient utilizing basic radiologic techniques including x-rays and angiography.

Lecture 10
Acute MI / Complications of MI – Willis E. Godin DO, FACC

1. The purpose of this lecture will be to introduce you to the pathogenesis of acute myocardial infarction. You will learn the common presenting signs and symptoms. You will be introduced to a fundamental treatment approach to myocardial infarction.
2. Myocardial infarction is associated with several complications including heart failure and acute valvular heart disease. You will learn to recognize and treat these common complications.

Lecture 11
Congenital Heart Disease – John N. Hamaty DO, FACC, FACOI, FASE, FSNC
Dr. John Hamaty
1. The objective for the lecture will be to teach you the more common congenital heart disease abnormalities that occur not only in children but as well as adult congenital heart disease.
2. You will be expected to know the most common abnormalities that take place their genetic predisposition as well as their familial association. Lastly, you will be expected to understand the more common adult congenital heart disease presentations that occur; your ability to diagnose and subsequently treat these diseases entities

Lecture 12-
Syncope / Pacemakers and ICD – Sivaraman Yegya-Raman MD, FACC

1. The objective of this lecture is to introduce you to basic indications for recommending pacemaker/ electrophysiologic testing. You will learn the basic nomenclature for defining a pacemaker as well as its indications and contraindications. You will also be exposed to a common electrophysiologic disease state: syncope. You will also learn the fundamental diagnosis and treatment options for evaluating a patient with syncope.

Lecture 13
Congestive Heart Failure – Howard M. Weinberg DO, FACC

1. During this lecture you will learn to describe the incidence and prevalence of heart failure
2. You will be able to list the common etiologies of heart failure and define the compensatory mechanisms that occur due to heart failure.
3. You will be able to identify current assessment and treatment modalities for heart failure patients

Lecture 14
Course Review – John N. Hamaty DO, FACC, FACOI, FASE, FSNC

1. This time will be utilized to discuss any remaining questions you have from the module. This will be your opportunity to clarify the material that was presented over the past four weeks as well as discuss the examination outline and procedure.