

**Sub-internship Selective Curriculum in Medicine for  
4th year medical student at Marshall University**

**MED 827**

**Course Department, Number & Title:** MED 827, Sub-internship in Medicine

**Course credit or length:** 4 Weeks

**Grading Mode:** Honors/Pass/Fail

**Course director and contact information:**

**I Introduction:** This Selective Medicine Course is a 4 week course that is organized as a sub-internship to provide senior students with a structured clinical internal medicine experience. Students assume the responsibilities of being an integral team member of an inpatient medical service and as such improve and build upon cognitive and technical clinical skills attained during the third year clerkship. This course is offered at the Huntington VA Medical Center only. The contact information for this course is:

**Course director and contact information:**

-Samson Teka, MD, Course Director, VAMC, 304-429-6755, Ext. 2574. [Samson.Teka@va.gov](mailto:Samson.Teka@va.gov)

**VA Course Coordinator and contact information:**

-Pete Williams, Course Coordinator, VAMC, 304-429-6755, Ext 2557.

**MUSOM Course Coordinator and contact information:**

-Brittani Ruiz; 304-691-1739, [ruizb@marshall.edu](mailto:ruizb@marshall.edu)

**Course location:** Huntington VA Medical Center

**II Message from Course Director and Coordinator:**

We look forward to making your educational experience a pleasant and rewarding one!

The rotation is inpatient oriented with 3 medical teams. Since this is a sub-internship, you will generally work as many hours as a PGY-1 resident with one day off per week. You will be on call every 3<sup>rd</sup> day until 8:00PM (admitting 2pm-8pm) when your team is on call. You are expected to attend Medical Grand Rounds from 8:00AM to 9:00AM and the block conference from 9:30AM -12:30PM every Tuesday.

Each rotation may consist of 3-4 students per month, if there is a month with 4 students we will offer night call for a week to each student. These responsibilities are described in item VI.

### **III Instructions for Obtaining VA Credentials:**

You will be notified via e-mail of a date and time to come to the Huntington VA Medical Center for completion of necessary security and clearance and processing. In the e-mail, you will be provided the website and relevant instructions for completing required online training. The training must be completed and you must print out the certificate of completion and bring it with you on the day of processing. You should also bring a copy of your Basic Cardiac Life Support (CPR) card. It will also be helpful for you to bring vehicle information (driver's license number, car tag number, make of vehicle, model of vehicle, color of vehicle and VIN) for the purpose of obtaining the appropriate parking decal.

On the date/time you are asked to be at the Huntington VA Medical Center for processing, please meet as a group in the main lobby of the Medical Center. Once the full group has assembled, please ask a VA personnel at the desk just inside the front entrance to call or page me and I (or a designee) will greet you at the lobby and escort you to the Medical Service area.

### **IV Course Goals and Objectives:**

The Goal of the Sub-internship in Medicine course is to provide the students a house staff level responsibility with a supervised educational experience in which to build upon and improve clinical skills and knowledge attained during the junior medicine clerkship. This course will arrange a proper environment in which to develop the clinical skills and attitudes essential to the practice of internal medicine and the delivery of the highest quality inpatient care.

As a sub-intern, you will fulfill clinical and academic responsibilities as an integral team member of an inpatient medical service.

Competencies that sub-interns are expected to attain by the end of the rotation are as follows:

- Understand the patient confidentiality. Patient confidentiality and computer security are taken very seriously at the Huntington VA Medical Center. Never leave a computer you are using unattended. Do not leave patient identifying information unsecured.
- Be able to effectively communicate with every staff (physician and non-physician members).
- Be able to properly transfer care at the end of the day and end of service coverage.
- Be able to access clinical, laboratory and radiologic data.
- Be able to prioritize tasks for daily patient care.

- Be able to document H&P, admission order, daily progress and discharge instructions & summary.
- Be able to complete procedures, understand the risks and benefits and obtain informed consent.
- Be able to arrange appropriate care and follow-up after discharge from the hospital.

#### **V Institutional Objectives/ Outcome Measurements:**

At the completion of this course, students will have met the following Institutional Objectives by demonstrating the denoted competencies:

**Medical Knowledge-** The students will demonstrate basic knowledge in internal medicine and its application in the resolution of typical clinical problems.

**Outcome Measurement-** The student will give oral presentations to the faculty and be observed during patient encounters.

**Patient Care-** The student will demonstrate the ability to elicit a detailed history, focusing on the Chief Complaint, ordering appropriate diagnostic testing and arriving at a final diagnosis with the development of a comprehensive and efficient management plan. The student will be able to discuss the differential diagnosis with the faculty member.

**Outcome Measurement-** The student will demonstrate the ability to faculty during oral presentations, patient encounters, documentation and during examinations.

**Practice Based Learning and Improvement-** Students are expected to develop skills and habits to be able to meet the following goals:

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- Use information technology to optimize learning
- Participate in the education of patients, families, students, students and other health professionals

**Outcome Measurement-** The student will demonstrate the ability to faculty by patient encounters, observations, oral presentations and examinations.

**System based Practice-** Students are expected to:

- Work effectively in various health care delivery settings and systems relevant to their clinical specialty
- Coordinate patient care within the health care system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in inter-professional teams to enhance patient safety and improve patient care quality
- Participate in the identification of system errors as part of performance improvement activities and contribute to the development and implementation of potential systems solutions.

**Outcome Measurement-** The student will demonstrate the ability to faculty by direct observation.

**Interpersonal and Communication Skills-** Students are expected to communicate effectively with patients, families, and the public, as appropriate across a broad range of socioeconomic and cultural backgrounds. Effectively communicate with other healthcare team and agencies. Students must act in a consultative role to other physicians and health care professionals.

**Outcome Measurement-** The student will demonstrate the ability to faculty by direct observation.

**Professionalism-** Students are expected to demonstrate compassion, integrity, and respect for others. Students must demonstrate their understanding that responsiveness to patient needs supersedes self-interest. Students must show respect for patient privacy and autonomy as well as demonstrate their grasp of their accountability towards patients, society and the profession. Equally, they must show sensitivity and responsiveness to a diverse patient population, including diversity to gender, age, culture, religion, disabilities and sexual orientation.

Students are also expected to attend all clerkship activities on time, dress professionally and answer pagers and emails in a reasonable time frame.

**Outcome Measurement-** The student will demonstrate the ability to faculty by direct observation.

#### **VI Sub-internship Responsibilities:**

1. The sub-intern workday begins at 7:00 a.m. At that time it is expected that the student will receive sign-outs from the night call intern or sub-intern, and evaluate his/her patients prior to work rounds. Saturday or Sunday arrive 7:30a.m. and stay until round and work are completed.

Students will be released after work is completed by the attending physician unless they are on call. Student will take Saturday or Sunday off as arranged by the senior resident.

2. The optimal patient load for a sub-intern will be three to four patients. During weekend or off day where no sub-intern is available, the patients will be seen by the Senior Resident. If we have more than three sub-interns we will start assign the fourth sub-intern an overnight call and this will be rotated between all four sub-interns. If any sub-intern is interested in experiencing overnight call, it will be arranged by the Clerkship Director.

3. Each call day, the sub-intern will be expected to admit at least one patients. Students take call from 2 p.m. to 8 p.m. every third day. Call days will be on the day that your team is on call. Students will admit one patient on short-call days. If a student received no admissions on the call or short-call day then they will be asked to pick up one to two overflow patient on the next day.

4. A detail history and physical examination, and assessment and plan, must be performed on all new patients the day of admission. The history, physical examination and plan of treatment must be reviewed and discussed by supervising PGY-2 or PGY-3 resident and co-signed by the attending physician.

5. All sub-interns are responsible for writing daily problem-oriented progress notes on all of their patients. These notes must be reviewed, critiqued, and countersigned by the supervising resident (PGY-2 or PGY-3) or attending physician daily. Also, sub-interns are responsible for preparing discharge instruction notes and discharge summaries on a student note; these must be reviewed, corrected and signed by the supervising senior resident or attending physician. The senior resident will put the official discharge instruction and summary after discussing with sub-intern. All orders need to be put by the sub-intern and signed by the senior resident or attending physician.

6. We used to have daily a small group teaching during lunch break but with the new change at the VA (three team) we will have morning report (Monday and/or Thursday), Block conference Tuesdays, also we will have case presentation to the chief of medicine (Dr. Dial) twice a month on Wednesday and we will have a noon teaching by cardiology and clinical pharmacy every Friday. If those are not enough or if students request certain topic still we can do the small group teaching which is provided by senior residents, fellows and faculties. If presented the students will evaluate the quality and content of the presentation by residents and fellows.

7. Sign out meeting is at 5:00pm, students will sign out their patient to the on call team like every intern on the team. If you miss any pertinent information the senior resident will add to the sign out information.

8. On and Off service notes are required for patients assigned to the sub-intern at the start of the rotation and on those patients remaining hospitalized at the conclusion of the student's rotation. These

on and off service notes should include a brief history and physical examination and summary of the patient's hospital course as well as a comprehensive problem list and care plan.

9. During your rotation, you will be evaluated by both your Senior Resident and your Attending Physician. It is your responsibility to discuss your mid-term evaluation with both for input in regards to improving your performance during the rotation. Official mid-term and final evaluations will be done by the Clerkship Coordinator and Clerkship Director.

10. You are expected to exhibit professional behavior at all times and be attentive during rounds and other educational activity. Use of cell phones and other electronic devices during rounds and teaching sessions is prohibited unless being used to look-up medically relevant items. It goes without saying that these devices should also not be used during patient encounters.

### **VII Site of Clerkship and Daily Schedule:**

Site of clerkship is VAMC

Typical schedule is as follows:

#### **Working hour is 7:00-5pm M-F**

7:00-5pm Sat/Sun, can leave early after work is done.

One day a week off work

Call is until 10pm once a week, no overnight call

#### **Regular day schedule:**

7:30-9:00am Pre-rounds

9:00-12:00pm Rounds with attending

12:00-1:00pm Lunch Break/Conference

2:00-8:00pm Take admissions on call days

3:00-5:00pm complete post round works, prepare for sign-out (I-PASS)

5:00pm sign out

#### **Morning Report and Conferences:**

Attendance by sub-interns is required at designated Morning Reports, Grand Rounds and Noon Conferences along with the residents of the Department of Medicine. Students are encouraged to attend Morning Report, which is held at 8:30AM on Monday and/or Thursday.

Block conference is held by all medicine subspecialties and other departments every Tuesday from 9:30am-12:30pm without patient care responsibilities.

**Topics include but are not limited to:**

- Cardiology: Chest pain, CAD, Arrhythmias, CHF, Syncope
- Pulmonary: COPD, PE, ILD, Pulmonary edema, OSA
- Hem/Oncology: Anemia, BM disorder, Lung, Breast, Colon and Prostate cancer  
DVT, HIT, MPD
- GI: GERD, Upper and Lower GI bleeding, Liver cirrhosis with complication, Hepatitis, Nausea, Vomiting, Diarrhea, Abdominal pain (GB stone, Cholecystitis, PUD, Gastritis, Pancreatitis, Appendicitis, Diverticulitis...)
- Nephrology; Acute and chronic renal failure, Kidney stone, Acidosis and Alkalosis, Electrolyte disorder, HTN
- Endocrinology: DM with complication, Thyroid disorder, HLP
- Neurology: TIA/CVA, Seizure, Neuropathy, Vertigo, Dementia, Mental status change, Delirium
- ID: Infections (Pneumonia, UTI, Meningitis, Cellulitis, MRSA and C. diff.....
- Optometry: Important eye disorder associated with medical diseases
- Pharmacy: Drug-Drug interaction, commonly used medications side effect, Drug level and dosing
- Pathology/Lab: important Lab and Pathology finding consistent with medical diagnosis
- Mental Health: Depression, Anxiety, PTSD, Suicide precaution, Substance abuse, Psychosis
- Others: Coding, Social Work, Rehabilitation Medicine, and Respiratory Therapy and other important information pertinent to inpatient medicine

**VIII Attendance Policy:**

**Your attendance is expected during the entire rotation. Any scheduled absences must be shared with us on the first day of your rotation and appropriate request for absence should be completed through the Student Scheduler in advance. This includes interview time away from your rotation. If significant periods of absence (MORE THAN TWO DAYS) are encountered during your rotation, you will be expected to make-up the time accordingly. If you have illness or unexpected absences, you**

**MUST contact one of us AND a member of your Medical Team and inform them that you will need to be away from the Medical Center. This insures that the patients you are following will be seen accordingly by other members of the Medical Team.**

On the days you are expected to be at your rotation, you should arrive at 7:00AM and be here until 5:00PM and are expected to be at the Medical Service Sign-Out DAILY.

#### **IX Sub-internship Workshop Series:**

During the Sub-internship in Medicine course, all students are required to attend the block conferences covering the approach to the diagnosis and management of patients with the following medical urgencies and emergencies. If the Patient Care Institutional Objectives are not met with the conferences, the attending on service will cover the topics below:

1. Chest Pain
2. Congestive Heart Failure
3. Hypertension
4. Arrhythmias
5. Acute Renal Failure
6. Abdominal Pain
7. Gastrointestinal Hemorrhage
8. Diabetic Ketoacidosis , Hyperosmolar and Hyperglycemic Non-ketotic Coma
9. Pulmonary embolism
10. COPD/Asthma
11. The Febrile Patient
12. Altered Mental Status

A test will be given at the end of the rotation, the exam content will be covered by the course director.

The test will be given during the last week of your rotation (usually on Friday), you need to contact Brandy Holly to schedule a date and time for the exam. After you complete your rotation we ask that you complete a course evaluation as well as an evaluation of the VA.

#### **X Learning Objectives of Workshops:**

After participating in the workshop the participant will demonstrate to the faculty the ability to:

##### **1. Chest Pain**

- a. Differentiate unstable angina, acute myocardial infarction, acute aortic dissection, and pericarditis;
- b. Discuss other causes of atypical chest pain including anxiety, panic attack, costochondritis, and GI related causes of chest discomfort;
- c. Employ diagnostic tests to differentiate between unstable angina and myocardial infarction;
- d. Know the indications for thrombolytic therapy and PTCA with suspected acute myocardial infarction;
- e. Discuss medications which have been shown to decrease mortality in unstable angina and acute myocardial infarction;
- f. Relate the management of malignant ventricular arrhythmias associated with acute myocardial infarction;

## **2. Congestive Heart Failure**

- a. Recognize symptoms and signs of CHF;
- b. Differentiate mechanisms and clinical presentations of diastolic versus systolic dysfunction etiologies of congestive heart failure;
- c. Know all indication and mortality improving medication for systolic dysfunction
- d. Understand indications for cardiac transplantation.

## **3. Hypertension**

- a. Define malignant hypertension and distinguish hypertensive urgencies from emergencies;
- b. Describe the approach to the evaluation of hypertensive emergency;
- c. Recognize the various manifestations of hypertensive emergency;
- d. Distinguish the various pharmacologic approaches for the management of hypertensive emergency;
- e. Know the choice of oral antihypertensive based on the patient condition and evidence

## **4. Arrhythmias**

- a. Recognize atrial and ventricular arrhythmias (specifically atrial fibrillation and ventricular tachycardia);
- b. Understand the emergent and non-emergent management of atrial fibrillation;
- c. Understand the scenarios that lead to development of atrial and ventricular arrhythmias;
- d. Discuss the diagnostic work-up for patients with arrhythmias;
- e. Discuss the need for anticoagulation in patient with specific arrhythmias;

f. Discuss the pharmacology and side effects of medications commonly used to treat arrhythmias.

## **5. Acute Renal Failure**

- a. Discuss causes of acute renal failure
- b. Differentiate characteristics of non-oliguric from oliguric acute renal failure;
- c. Recognize similarities and differences between ischemic and toxic acute tubular necrosis;
- d. Describe presenting features of acute glomerulonephritis and acute tubular necrosis;
- e. Assess risk factors and prescribe prophylaxis for acute renal failure;
- f. Recognize complications of acute renal failure including acid-base, fluid, and electrolyte disorders.

## **6. Abdominal Pain**

- a. Describe the common causes of abdominal pain in the hospitalized patient;
- b. Describe the procedures for evaluation of abdominal pain;
- c. Development of management plan for patients with specific causes of abdominal pain.

## **7. Gastrointestinal Hemorrhage**

- a. Demonstrate the approach to the patient who presents with acute GI bleeding and recognize the signs of massive or brisk bleeding that require urgent therapy;
- b. Recognize the findings and studies that provide clues to the volume depletion and rapidity of the patient's bleeding;
- c. Assess the differential diagnosis of GI bleeding;
- d. Recognize the predisposing factors and important aspects of the history of patients with GI bleeding;
- e. Determine the therapeutic options available for the management of variceal bleeding and nonvariceal UGI bleeding;
- f. Correlate the factors that are associated with a poor prognosis in patients with GI bleeding.

## **8. Diabetic Ketoacidosis and Hyperosmolar Hyperglycemic Non-ketotic Coma**

- a. Recognize predisposing factors for and clinical features of DKA;
- b. Interpret diagnostic tests needed for the diagnosis of DKA;
- c. Differentiate DKA from other causes of an anion-gap metabolic acidosis

- d. Determine treatment priorities for DKA;
- e. Recognize symptoms and signs of Hyperosmolar Hyperglycemic Nonketotic Coma;
- f. Determine priorities for treatment of Hyperosmolar Hyperglycemic Nonketotic Coma and how they differ from patients with DKA.

### **9. Pulmonary Embolism**

- a. Explain the risk factors for pulmonary embolism;
- b. Recognize the symptoms and signs of pulmonary embolism;
- c. Determine the diagnostic workup and treatment of patients with suspected pulmonary embolism;
- d. Describe indications and treatment regimens for anticoagulant therapy and emergency thrombolysis;
- e. Recognize the indications for prophylaxis for deep venous thrombosis;

### **10. COPD/Asthma**

- f. Identify the risk factors for a COPD/asthma exacerbation;
- g. Assess the severity of a COPD/asthma attack based on clinical presentation and arterial blood gases;
- h. Identify the approaches to COPD/asthma management that can successfully;
- i. Recognize the importance of objective measurements of lung function in COPD/asthma management;
- j. Recognize the importance of patient education and environmental control in COPD/asthma management.

### **11. The Febrile Patient**

- a. Describe the clinical manifestations, etiologies, diagnostic approach, and management of complicated community-acquired pneumonia;
- b. Recognize the clinical approach to the patient with sepsis and septic shock;
- c. Indicate the rational use of empiric and targeted anti-microbial therapy;
- d. Perform an assessment of the febrile hospitalized patient;
- e. Know the differences in microbiologic etiologies and management of various nosocomial infections.

### **12. Altered Mental Status**

- a. Understand the common causes of delirium and coma;
- b. Demonstrate the appropriate diagnostic work-up in a patient with altered mental status;

- c. Develop a management plan for various causes of altered mental status;
- d. Understand use of various environmental and pharmacologic interventions to manage delirium.

### **Basic Science Objectives**

#### **PHYSIOLOGY:**

Students will review normal physiology as it relates to the organ or system involved in the disease process, including basic physiologic principles.

#### **PATHOPHYSIOLOGY:**

Students will discuss the pathophysiology of the disease process:

- What causes the disease
- How these changes affect normal physiology resulting in disease
- What are the underlying mechanisms of disease

Students will be able to describe how these changes result in the clinical manifestations of the disease in the patient. Include:

- Symptoms of the disease
- Physical exam findings
- Radiographic findings
- Laboratory abnormalities

Students will review the underlying pathology of the disease, both at the gross and histologic level

Microbiology – for cases involving infectious diseases:

- Students will review the microbiological characteristics of the organism(s) involved
- Identify the virulence factors of the microbe(s) that enable them to cause disease

#### **TREATMENT:**

Based on the pathophysiology, what is the treatment of the disease process or illness and why.

- Explain the rationale behind each intervention.
- Review the basic pharmacology for medications, including mechanisms of actions of drugs
- Review surgical indications and procedures when appropriate.

## **XI Student Assessment for Sub-internship in Medicine:**

The student's clinical performance on the wards will be evaluated by both the supervising resident and attending physician using the clinical evaluation form. The student will be evaluated for: fund of knowledge, history taking, physical examination, clinical reasoning, data synthesis, interpersonal and communication skills, use of diagnostic and learning resources, technical skills, and professionalism. Students will also be evaluated for their ability to integrate the basic sciences with clinical practice (this will be **50%** of your evaluation). Daily attendance will also be part of the evaluation. Furthermore, the student's participation during the noon conference and attendance at Grand Rounds will be integrated into the summary evaluation prepared by the Course Director (this will be **20%** of your evaluation). The other **30%** will be your exam result.

### **Mid Rotation Student Progress Report**

In accordance with LCME standard ED-30, the Course Director will evaluate student performance at mid-point to review the student's professional, clinical and academic performance up to that point. The clinical preceptors (attending and resident) will complete evaluation form about the student progress and it is the student responsibility to discuss with preceptors for input in regards to improving your performance during the rotation. The clerkship director will be notified by preceptors if the performance of the student needs any improvement or is unsatisfactory. The formative midway evaluation will be reviewed with the student and the student will have the opportunity to discuss with the Course Director.

### **Exit Interview /Final Grade**

The second half of the four weeks evaluation by the new attending and the senior resident will be completed and the summative evaluation by preceptors will be discussed with the clerkship director as the final evaluation.

The student also will be asked to critique the course and must complete a confidential evaluation form (via on-line) to include sub-internship clinical service experience, attending and resident teaching and oversight. The student evaluation form must be completed on the last day of the rotation and composite results will be shared with the department of medicine (chair, program director, and clerkship director) after submission of the student's final grade to the Office of Academic Affairs.

## **XII Textbooks for Sub-internship:**

The standard textbook for the sub-internship is Harrisons: Principles of Internal Medicine.

The Washington Manual is recommended as a quick reference while working on the wards but is not required. We also have UpToDate and several other electronic resources.

Electronic resources (free access at VAMC): PIER, Up-To-Date, PubMed, MD Consult, Micromedex, NEJM.