

# Edward Via College of Osteopathic Medicine

MED 8040/MED 8045  
Clinical Internal Medicine I and Modules  
Academic Year 2024 - 2025

## ROTATION SYLLABUS

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## I. **Rotation Description**

As clinicians, teachers, and researchers, our internal medicine faculty members are committed to the college's mission to provide medical education and research that prepares globally minded, community-focused physicians and to improve the health of those most in need.

The Internal Medicine faculty are passionate about medicine and medical education. The Internal Medicine faculty include those practicing primary care internal medicine, hospital medicine, and those who practice in the full range of sub-specialties. Sharing the college's mission, and leading by example, the faculty members





every diagnostic entity students must learn. The list reflects the common and typical clinical entities that the faculty feels VCOM students should experience. The list can be found in VLMS or CANVAS.

Students must learn more than they will experience during clinical rotations. The log does not reflect the totality of the educational objectives during the rotation. Clinical experience is an important part, but only a part, of your rotation requirement. Students may discover they have not seen some of the presentations/procedures on the list during the rotation; however, they should arrange to see these problems in the fourth year or learn about them in other ways through the other course materials provided. Students need to commit themselves to extensive reading and studying during the clinical years. “Read about patients you see and read about patients you don’t see”.

One of the competencies students must develop during their clinical training involves documentation. Documentation is an essential and important feature of patient care and learning how and what to document is an important part of medical education. The seriousness and accuracy with which students maintain and update their patient logs are measures of professionalism. Students must review these logs with their preceptor prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their VLMS entries with their preceptor during the rotation period.

Throughout the year, data is reviewed by Clinical Affairs, the curriculum committees, and administration to ensure the clinical experiences meet the objectives of the rotation and to assess the comparability of experiences at various sites. The logs serve to:

- Demonstrate student exposure to patients with medical problems that support course objectives.

- Demonstrate level of student involvement in the care of patients.

- Demonstrate student exposure to, and participation in, targeted clinical procedures.

- Demonstrate student exposure to patient populations in both inpatient and outpatient settings.

- Demonstrate comparability of experiences at various clinical sites.

- Quantify for students the nature and scope of their clinical education and highlight educational needs for self-directed learning.

Students will receive a report at the end of the OMS 3 year that outlines the patient encounters the student was involved in throughout their rotations. These individual log reports can be shared during interviews/audition rotations/future credentialing to demonstrate the scope of their clinical experiences.

#### **IV. Credits**

MED 8040: 4 credit hours

MED 8045: 1 credit hour

#### **V. Course Texts and Reference Materials**

##### **A.**









- Third-Year Preceptor Evaluation: It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned in to the Site

repeat the rotation, all components of the rotation must be repeated, and the repeated rotation must be with a different preceptor than the one from the original rotation that the student failed. Once repeated, the transcript will show both the initial clinical medical knowledge module course and the initial clinical rotation competency evaluation course, as well as the repeated clinical medical knowledge module course and the repeated clinical rotation competency evaluation course. The repeated courses will have the letter “R” at the end of the course number to reflect that they are repeated. Both the grade earned for the initial courses and the repeated courses will be recorded on the transcript, but only the repeated courses will be GPA accountable, regardless of whether the initial or repeated course grade is higher.

In addition, students who fail more than one first attempt failure of end-of-rotation exams within a semester (i.e. failed the first attempt end-

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performance measure. Poor ratings in this area will include comments as to the exact nature of the rating.

## VII. Academic Expectations

Grading policies, academic progress, and graduation requirements may be found in the [College Catalog and Student Handbook](#).

### A. Attendance

Attendance for all clinical rotation days is mandatory. The clinical site will determine the assigned days and hours to be worked within the rotation period. Students are required to attend any orientation the clinical site sets as mandatory prior to any rotation or the clinical year. The orientation sessions vary by site and are required to maintain assignment to the site. Although the clinical site determines the assigned days and hours to be worked, VCOM has established the following guidelines:

4-week rotations may not be less than 20, eight-hour days for a total of a minimum of 160 hours and often average 180 hours or greater.

- Students may be required to work up to 24 days in a 4-week period or 25 days in a 1-month rotation, including call and weekends at the discretion of the clinical site.
- If the clinical site requires longer daily hours or shift work, the student may complete the required hours in less than 20 days with the following specifications:

Students should not work greater than an average of 12 out of every 14 days  
Students should not work more than 12 hours daily, exclusive of on-call assignments.

If on-call hours are required, the student should not be on duty for greater than 30 continuous hours.

Students may be required to work weekends but in general should have 2 weekends per month free and an average of 2 of 7 days per week free.

It should be noted that preceptors will have final determination of the distribution of hours, which may vary from this policy but should not in general be less than 160 hours for a 4-week rotation. The institution's DSME and assigned clinical faculty determine clinical duty hours. Students are responsible to the assigned clinical faculty and are expected to comply with the general rules and regulations established by the assigned clinical faculty, and/or the core hospital(s), or facility associated with the rotation.

The average student clinical day begins at 7 am and ends at 7 pm. Students are expected to work if their assigned clinical faculty is working. Some rotations assign students to shifts and in such cases the student may be required to work evening or night hours. If on-call hours are required, the student must take the call; however, the student should not be on duty for greater than 30 continuous hours. Students may be required to work weekends, but in general should have two weekends per month free and two of seven days per week free. Student holidays are determined by the clinical site and follow those of other students and/or residents from the clinical site. Students must be prompt and on time for the clinical rotation.

Students are expected to arrive on time for all clinical rotations. If a student is late, he or she must notify the site coordinator and the preceptor prior to or at the time they are scheduled to arrive. Students must have a reason for being late such as illness or vehicle issues and it is not anticipated that this would occur more than one occasion AND it is important the student call in prior to being late. Repeated tardiness is considered as unprofessional behavior and is a reason for dismissal from a rotation. Students with repeated tardiness will be referred to the PESB. Tardiness is defined as more than 5 minutes after the scheduled time the preceptor designates as the expected arrival time.

The Office of Clinical Affairs requires that the medical student complete and submit an Excused





- iii. Angiography
  - iv. Enzyme levels (troponin, CK-MB, D-dimer)
  - v. Chest X-Ray
  - vi. Echocardiography
- c. Interpret laboratory and diagnostic studies including patient demographics to determine a pre-test probability of the most likely etiologies of chest pain.
  - d. Identify cardiovascular risk factors.
  - e. Predict an appropriate diagnostic and treatment plan for various types of chest pain—including recommended lifestyle modifications.
  - f. Define and correlate the pathogenesis, signs, and symptoms of the acute coronary syndromes.
  - g. Distinguish between STEMI and non-STEMI and recognize the difference in work up and therapy.
  - h. Identify complications of STEMI and non-STEMI, e.g. pericarditis, heart failure, arrhythmias, and stroke.

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- b. Identify and interpret murmurs based on location, characteristics, and associated findings.
- c. Relate surgical and non-surgical indications for treatment valvular heart disease.
- d. Identify supraventricular and ventricular arrhythmias on an electrocardiogram.
- e. Identify the common causes of supraventricular and ventricular arrhythmias.
- f. Evaluate a patient with atrial fibrillation (including stroke and bleeding risk scoring) to choose appropriate treatment.
- g. Identify indications for permanent pacing.
- h. Identify a bundle branch block on electrocardiogram.
- i. Differentiate SA and AV nodal blocks based on pathophysiology electrocardiography findings.
- j. Devise a management plan of a patient with a left bundle branch block.
- k. Define Long QT syndrome and its risk factors including common drugs.
- l. Predict treatment regimens for ventricular tachycardia (including torsades de pointes).

#### **4. Disorders of Cardiac Output**

**Topics Included:** Congestive heart failure, hypertrophic cardiomyopathy, dilated cardiomyopathy, myocarditis cardiac tamponade

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- i. Relate the differences between types of insulin and the indications for their use.
- j. Recognize the clinical presentation and work up of hypoglycemia.
- k. Generate a treatment plan for hypoglycemia.

## 6. Gastrointestinal Bleed

**Topics Included:** Gastric ulcers, peptic ulcer disease, esophageal and gastric varices and acute inflammatory diverticulitis

### Reading References:

Cecil's Essentials of Medicine, 10<sup>th</sup> ed.

- o Ch. 32 Common Manifestations of Gastrointestinal Disease, Subchapter: Gastrointestinal Hemorrhage
- o Ch. 35 Endoscopic and Imaging Procedures
- o Ch. 36 Esophageal Disorders
- o Ch. 37 Diseases of the Stomach and Duodenum

[Sleisenger and Fordtran's Gastrointestinal and Liver Disease, Chapter 20](#) (Available in VCOM Electronic Library in Clinical Key)

**Module:** [GI Bleed](#)

### Learning Objectives:

- a. Identify the clinical presentation and work up of gastrointestinal bleeding.



- g. Recognize the clinical presentation, diagnosis, and treatment of spontaneous bacterial peritonitis (SBP).
- h. Identify physical exam maneuvers to evaluate for ascites.
- i. Identify the indications for paracentesis and interpret ascitic fluid including the serum to ascites albumin gradient (SAAG).
- j. Identify indications for hepatic transplantation referral in end stage liver disease.
- k. Identify risk factors and common clinical presentations for viral hepatitis.
- l. Interpret viral hepatitis serologies.

## 9. Nephrology

**Topics Included:** Pyelonephritis, glomerulonephritis, nephrotic syndrome, nephritic syndrome, pre-renal azotemia, post-renal azotemia, acute kidney injury, nephrolithiasis, cystitis, urethritis, dehydration

### Reading Reference:

<sup>Kid(om)</sup>  
Cecil Essentials of Medicine, 10<sup>th</sup> ed.

- Ch. 24 Approach to the Patient with Renal Disease
- Ch. 26 Glomerular Diseases

## 10. Electrolyte Disorders

**Topics Included:** Hypo/hyper kalemia, natremia, calcemia, phosphatemia, pseudohyponatremia, diabetes insipidus

**Reading Reference:** Cecil's Essentials of Medicine, 10<sup>th</sup> ed., Ch. 25: Fluids and Electrolyte Disorders

**Module:** [Inpatient Management of Diabetes Mellitus, Electrolyte Disorders, Acid-Base Disorders](#)

### Learning Objectives:

- a. Identify the electrolyte disorders based on clinical presentation and diagnostic testing.
- b. Classify hyponatremia and hypernatremia based on volume status.
- c. Identify complications in rapid treatment of hyponatremia and hypernatremia.
- d. Select appropriate treatment for hyponatremia and hypernatremia based on volume status and clinical presentation.



- l. Define TTP (Thrombotic Thrombocytopenic Purpura) in terms of cause, lab testing and treatment modalities depending on platelet counts. C 25.c tl E (s)-5 6.5s-1309.5
- m. Define Heparin induced thrombocytopenia in terms of pathophysiology.
- n. Define thrombotic thrombocytopenic purpura and the hemolytic syndrome in terms of associated disorders, clinical signs and symptoms, lab tests and treatment options. Recognize the association of O157:H7 and HUS (Hemolytic Uremic Syndrome). C 25.c tl E (s)-5 6.5s-1309.5

- m. Identify blood pressure management in suspected stroke.
- n. Recognize pharmacologic and rehabilitation therapies in a patient with stroke.
- o. Generate patient counseling information regarding the early recognition of stroke symptoms.
- p. Identify a preliminary management plan for patients presenting with functional deficits, including adaptive interventions and involvement of interdisciplinary team members from appropriate disciplines, such as social work, nursing, rehabilitation, nutrition, and pharmacy.
- q. Identify appropriate imaging algorithms to evaluate headache.
- r. Describe the appearance of gray matter, white matter, and CSF on T1, T2, and FLAIR images.
- s. Describe the appearance of stroke on DWI imaging.
- t. List common sites for berry aneurysms.
- u. Demonstrate localization and identification of the major intracranial vascular structures.
- v. Describe treatment options for patients with cerebral aneurysms.
- w. Compare and contrast the techniques and applications of catheter angiography, MR angiography and CT angiography.
- x. Recognize the typical appearance and locations of subarachnoid hemorrhage on brain CT.
- y. Outline clinical and imaging strategies to distinguish cerebral lymphoma from toxoplasmosis.
- z. Explain the concept behind MR spectroscopy of the brain and its application.
- aa. Describe the features of mass effect on brain CT and MRI scans.

## 17. Obstructive Lung Disease: Inpatient Management

**Topics Included:** Acute exacerbation treatment of COPD, respiratory failure, asthma (acute), criteria for admission

### Reading Reference:

Cecil's Essentials of Medicine, 10<sup>th</sup> ed.

- o Ch. 14 General Approach to Patients with Respiratory Disorders
- o Ch. 16 Obstructive Lung Disease
- o Ch. 22 Preoperative and Postoperative Care

Osteopathic Considerations in Systemic Dysfunction, Rev 2<sup>nd</sup> ed.

- o Osteopathic Considerations in Lower Respiratory Disorders pp 33-50

**Online Case:** [Aquifer Radiology Case 4](#)

**Module:** [Inpatient COPD](#)

**Learnings**

- o. Describe the pulmonary effects of increased acute/chronic sympathetic activation.
- p. Identify the spinal segments most likely to become facilitated with lung dysfunction.
- q. Identify how the biomechanical, respiratory, neurological, metabolic and behavioral models describe contributions to the development of symptomatic disease and address treatment for each component.
- r. Recognize and identify an appropriate OMT treatment plan in a patient with COPD

## 18. Altered Mental Status

**Topics Included:** Delirium, Dementia, (Alzheimer, Lewy Body, Vascular, Frontotemporal, Parkinson's, infectious), Normal Pressure hydrocephalus, Wernicke-Korsakoff

**Reading Reference:** Cecil's Essentials of Medicine, 10<sup>th</sup> ed.

Ch. 110 Dementia and Memory Disturbances

Ch. 126 The Aging Patient

**Module:** [Altered Mental Status](#)

### Learning Objectives:

- a. Distinguish between delirium and dementia.
- b. Identify causes of altered mental status and delirium in hospitalized patients.
- c. Define adverse consequences of delirium.
- d. Identify the differential diagnosis for altered mental status and narrow the differential based on history and physical examination.
- e. Recognize tools such as CAM to identify delirium.
- f. Identify appropriate work-up including lab and imaging to aid in diagnosis of altered mental status.
- g. Identify pharmacologic and non-pharmacologic treatments for delirium.
- h. Identify delirium prevention techniques.
- i. Recognize preferred screening tools for dementia.
- j. Recognize differences between various cause of dementia.
- k. Identify treatment and prevention strategies for dementia.