



Edward Via College of Osteopathic Medicine

4th Year Clinical Rotation: Infectious
Disease MED 8200: Medical Selective
Clinical Rotation I

COURSE SYLLABUS

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I. Rotation Description

Students will expand their knowledge of common adult infections. They learn about the treatment of acute and chronic medical conditions, including HIV, MRSA, sepsis, pneumonia and meningitis, as well as the demands of population and public health with infection control. The student is challenged to acquire the ability to apply this knowledge in diverse clinical settings with the majority being in an inpatient consultative service. The curriculum is taught through VCOM TV on-line lectures, on-line case modules and presentations, assigned readings, bedside and clinic teaching, journal clubs, grand rounds, and through one-on-one student-preceptor experience in caring for patients in the clinical setting.

II. Rotation Goals

- a. To acquire the knowledge, skills and competencies that are required to evaluate and treat patients with acute and chronic infectious medical conditions commonly found in the adult
- b. To develop the physical examination and clinical skills required of a graduate medical student in general internal medicine practice, including the ability interpret information relative to normal and abnormal structure, function and physiology
- c. To develop the psycho-social and communication skills and competencies that are required to communicate with, and treat a wide diversity of patients
- d. To develop the ability to research medical literature and scientific resources for information that affects the patient's condition, treatment and outcomes and the ability to evaluate and apply scientifically valid information to maximize the outcome of the patient
- e. To develop knowledge, skill application and understanding of the indications, contraindications and application of medical procedures and therapies common to the specialty, including but not limited to ordering and interpretation of diagnostic studies, utilization of pharmacological agents, incorporation of osteopathic principles and practices into the patient's care, and clinical procedures such as central line placement, lumbar punctures, intubation, etc.

III. Rotation Design

The majority of the Infectious Disease rotation occurs in the hospital setting as a consulting service. A portion of the experience may also be clinic-based, including travel medicine clinic.

IV. Credits

4 week course = 4 credit hours

V. Suggested Textbook and References

- a. Andreoli and Carpenter's Cecil Essentials of Medicine: 8th Edition (Available in VCOM library)
- b. Infectious Disease Society of America (IDSA)– Clinical guidelines. Available free on website.
http://www.idsociety.org/Guidelines_Pocketcards/

VI. Course Grading/Requirements for Successful Completion of the Infectious Disease Rotation

- a. Attendance according to VCOM and preceptor requirements
- b. Preceptor Evaluation at end-of-rotation

Grading policies, academic progress, and graduation requirements may be found in the *College Catalog and Student Handbook* at: <http://www.vcom.vt.edu/catalog/>.

VII. Clinical Performance Objectives

The end-of-rotation evaluation for this rotation will be completed by your preceptor and is based on clinical core competencies. These core competencies reflect student performance in 6 key areas: communication, problem solving, clinical skills, medical knowledge, osteopathic medicine and professional and ethical considerations. Your end-of-rotation evaluation from your preceptor will be based directly on your performance in these 6 core competencies as described below.

- a. Communication - the student should demonstrate the following clinical communication skills:
 1. Effective listening to patient, family, peers, and healthcare team
 2. Demonstrates compassion and respect in patient communications
 3. Effective investigation of chief complaint, medical and psychosocial history specific to the rotation
 4. Considers whole patient: social, spiritual & cultural concerns
 5. Efficiently prioritizes essential from non-essential information
 6. Assures patient understands instructions, consents & medications
 7. Presents cases in an accurate, concise, well organized manner

- b. Problem Solving – the student should demonstrate the following problem solving skills:
 1. Identify important questions and separate data in organized fashion organizing positives & negatives
 2. Discern major from minor patient problems
 3. Formulate a differential while identifying the most common diagnoses
 4. Identify indications for & apply findings from the most common radiographic and diagnostic tests
 5. Identify correct management plan considering contraindications & interactions

- c. Clinical Skills - the student should demonstrate the following problem solving skills:
 1. Assesses vital signs & triage patient according to degree of illness
 2. Perform good auscultory, palpatory & visual skills
 3. Perform a thorough physical exam pertinent to the rotation

- d. Osteopathic Manipulative Medicine - the student should demonstrate the following skills in regards to osteopathic manipulative medicine:
 1. Apply osteopathic manipulative medicine successfully when appropriate
 2. Perform and document a thorough musculoskeletal exam
 3. Utilize palpatory skills to accurately discern physical changes that occur with various clinical disorders
 4. Apply osteopathic manipulative treatments successfully

- e. Medical Knowledge – the student should demonstrate the following in regards to medical knowledge:
 1. Identify & correlate anatomy, pathology and pathophysiology related to most disease processes
 2. Demonstrate characteristics of a self-motivated learner including demonstrating interest and enthusiasm about patient cases and research of the literature
 3. Are thorough & knowledgeable in researching evidence based literature
 4. Actively seek feedback from preceptor on areas for improvement
 5. Correlate symptoms & signs with most common diseases

- f. Professional and Ethical Behaviors - the student should demonstrate the following professional and ethical behaviors and skills:
 1. Is dutiful, arrives on time & stays until all tasks are complete
 2. Consistently follows through on patient care responsibilities
 3. Accepts & readily responds to feedback, is not resistant to advice
 4. Assures professionalism in relationships with patients, staff, & peers
 5. Displays integrity & honesty in medical ability and documentation
 6. Acknowledges errors, seeks to correct errors appropriately
 7. Is well prepared for and seeks to provide high quality patient care
 8. Identifies the importance to care for underserved populations in a non-judgmental & altruistic manner

- g. Osteopathic Manipulative Medicine Components

Students must be familiar with the OMM didactic and workshop requirements for their OMS-4 year as described in the Osteopathic Manipulative Medicine website.

VIII. Curriculum

The Infectious Disease curriculum is delivered through the assigned readings detailed below that affect the clinical conditions most commonly encountered in the care of the adult patient. Each of these topics has specific learning objectives and is accompanied by assigned readings in the texts.

a. Infectious Diarrhea

1. Reading assignment: IDSA guidelines on *Clostridium difficile* and Cecil's essentials, pg 979-984
2. Objectives:
 - i. Define how to test for *Clostridium difficile*
 - ii. Describe treatment regimens for mild, severe, complicated and recurrent *Clostridium difficile* infections
 - iii. Describe appropriate infection control regimens related to *Clostridium difficile*
 - iv. Discuss differential, diagnosis, and treatment of other infectious diarrheas including:
 - Shigella
 - Salmonella
 - Escherichia coli
 - Rotavirus
 - Norovirus
 - Giardia
 - Campylobacter jejuni
 - Cryptosporidium
 - Entamoeba histolytica

b. Health-care associated infections

1. Reading assignment: IDSA guidelines Healthcare-associated infections and Antimicrobial Stewardship and Cecil's essentials, pg 992-997
2. Objectives:
 - i. Describe general prevention practices such as hand hygiene, device discontinuation, and antibiotic stewardship
 - ii. Describe prevention, diagnosis, common organisms, and treatment of the following healthcare associated infections:
 - Central line-associated bloodstream infections (CLABSI)
 - Ventilator-associated pneumonia
 - Catheter-associated urinary tract infections
 - Surgical site infections

c. Fever

1. Reading assignment: IDSA guidelines - Fever and neutropenia in cancer patients and Cecil's essentials, pg 920-924
2. Objectives:
 - i. Define patients at high risk for febrile neutropenia
 - ii. Describe diagnostic testing and empiric antibiotic treatment for febrile neutropenia (including antifungal and antiviral treatments)
 - iii. Define fever of unknown origin
 - iv. Describe differential diagnosis of fever of unknown origin

d. Infections of Bone and Joint

1. Reading assignment: Cecil's essentials, pg 985-988
2. Objectives:
 - i. Describe common microbiology and differential diagnosis of acute arthritis
 - ii. Describe common microbiology and diagnosis of osteomyelitis

e. Human immunodeficiency virus/Acquired immunodeficiency syndrome

1. Reading assignment: IDSA guidelines – Primary care management of HIV-infected patients and Cecil's essentials, Ch 108, pg 1008-1027
2. Objectives

- i. Describe appropriate screening techniques and risk factors for acquiring HIV
- ii. Describe immunization recommendations for HIV-infected patients
- iii. Describe recommendations for HIV treatment and pregnancy
- iv. Understand metabolic complications from long-term antiretroviral therapy
- v. Discuss prophylaxis of opportunistic infections in HIV-infected patients
 - Pneumocystis jirovecii
 - Mycobacterium tuberculosis
 - Toxoplasmosis gondii
 - Mycobacterium avium-intracellulare

f. Skin and soft tissue infections

1. Reading assignment: IDSA guidelines on diabetic foot ulcers and Cecil's essentials, Ch 101, pg 969 -974
2. Objectives
 - i. Discuss the risk factors and diagnosis criteria (including use of imaging) for diabetic foot ulcers
 - ii. Describe common microbiology and empiric treatment for diabetic foot infections
 - iii. Discuss diagnosis and microbiology of common skin infections:
 - Erysipelas
 - Cellulitis
 - Necrotizing fasciitis
 - Varicella-zoster
 - Herpes simplex
 - Folliculitis
 - Subcutaneous abscess (furuncles and carbuncles)

g. Pneumonia

1. Reading assignment: IDSA guidelines on influenza and community-acquired pneumonia and Cecil's essentials, Chapter 99, pg 951-960
2. Objectives:
 - i. Discuss influenza vaccination guidelines and contraindications
 - ii. Discuss treatment and chemoprophylaxis indications and options for influenza
 - iii. Define community-acquired pneumonia (CAP)
 - iv. Describe which patients require intensive care treatment for pneumonia
 - v. Describe treatment guidelines for
 - Outpatient community-acquired pneumonia with and without comorbidities
 - Inpatient community-acquired pneumonia
 - Intensive care community-acquired pneumonia
 - vi. Describe common microbiology for pneumonia including those with
 - Seizures
 - Alcoholism
 - Diabetes mellitus
 - Sickle cell disease
 - Chronic lung disease
 - Chronic renal failure
 - vii. Discuss common presentation and diagnosis of Legionella, mycoplasma, and chlamydomphila pneumonia

h. Sepsis

1. Reading assignment: Cecil's essentials, pg 925-932
2. Objectives:
 - i. Define systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, septic shock

- ii. Discuss key therapies in treating sepsis including:
 - Fluid resuscitation
 - Cultures prior to initiating antibiotics if does not delay therapy
 - Remove foreign devices as able
 - Begin broad-spectrum empiric antibiotics within one hour of severe sepsis and septic shock
 - Use of inotropes in sepsis
- iii. Discuss indications and contraindications of human activated protein C
- i. Methicillin-resistant *Staphylococcus Aureus* (MRSA)
 - 1. Reading assignment: IDSA guidelines on MRSA and Cecil's essentials pg 886-887
 - 2. Objectives:
 - i. Discuss treatment of community-acquired MRSA abscess, cellulitis, pneumonia
 - ii. Discuss decolonization indications and strategies for recurrent MRSA infections