

## INFECTIOUS DISEASE

**Course Department, Number & Title:** MED 813, Infectious Disease

**Course credit or length:** 2 Weeks

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**Course location:** Erma Byrd Center, Cabell Huntington Hospital, St. Mary's Hospital, Cabell-Huntington Health Department

**Brief Course Description:** Infectious diseases have plagued mankind since the beginning of time. In the 21<sup>st</sup> century, the morbidity and mortality attributable to infectious diseases continues to be a major threat to human health and well-being. Future physicians should have the knowledge and skills to diagnose and manage infections commonly encountered in their practice. In this rotation, fourth year students will acquire knowledge and skills in the evaluation and treatment of infected patients. Special emphasis will be placed in the development of a rational approach to antimicrobial use and infection prevention. Students will be exposed to outpatient infectious disease evaluation and management at the Byrd Clinical Center and inpatient consults at Cabell Huntington Hospital, with the option to participate in the Sexually Transmitted Diseases Clinic and Tuberculosis Clinic at the Cabell-Huntington Health Department.

## INFECTIOUS DISEASE

### Institutional Objective

**Patient Care** - *Students must demonstrate the ability to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.*

### Course Objective

The student will be able to develop an approach to the evaluation of patients with infectious diseases and to formulate a rational management plan.

### Outcome Measure

The student will be able to demonstrate the ability to:

1. Obtain an accurate and complete history with emphasis on personal, social and sexual history as well as environmental exposures.
2. Perform a basic physical examination and recognize pertinent signs of active infection.
3. Interpret basic diagnostic data including microbiologic cultures and serology.
4. Explain the rationale behind their choice of antimicrobials with consideration for microbial resistance, adverse drug effects and cost.
5. Monitor and appropriately respond to signs of improvement or deterioration while on antimicrobial therapy.

The student will write daily progress notes on the patients they follow and consult notes on those patients assigned to them (medical history, physical examination, diagnostic data, clinical impression including differential diagnosis and plan).

### **Course Objective**

The student will have an adequate knowledge of the principles of Infectious Diseases.

### **Outcome Measure**

The student will be able to explain to faculty:

1. The importance of timely administration of empiric antibiotics for serious infections and the importance of prompt de-escalation.
2. The difference between colonization, contamination and true infection.
3. The importance of basing duration of antimicrobial therapy on the infectious disease diagnosis

### **Course Objective**

The student will have an understanding of strategies for infection prevention.

### **Outcome Measure**

The student will be able to demonstrate the ability:

1. To be fully compliant with the hand hygiene policy and strict observation of recommended precautions.
2. To identify strategies in preventing healthcare associated infections including ventilator-associated pneumonias, catheter-related bloodstream and urinary tract infections.
3. To explain the importance of immunization and chemoprophylaxis.

**Medical Knowledge-** *Students must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.*

### **Course Objective**

The student must demonstrate the basic understanding of epidemiology, clinical manifestations, diagnosis and treatment of common infectious diseases and to apply their knowledge to patient care.

### **Outcome Measure**

The student must be able to demonstrate the ability to diagnose and formulate a rational treatment plan for the following common infections:

1. UTI and pyelonephritis
2. Pneumonia
3. Endocarditis
4. Meningitis
5. Osteomyelitis and septic arthritis.

### **Course Objective**

The student must demonstrate knowledge of evidence-based strategies for the prevention of healthcare-associated infections.

### **Outcome Measure**

The student must list the evidence-based strategies for the prevention of the following healthcare-associated infections:

1. Catheter-associated UTI.
2. Catheter-associated bloodstream infections.
3. Ventilator-associated pneumonia.

### **Institutional Objective**

**Practice-based Learning and Improvement** - *Students must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.*

#### **Course Objective**

The student will incrementally build upon knowledge gained from the patient-care encounters.

#### **Outcome Measures**

The student must demonstrate to faculty the ability to apply knowledge and skills learned from previous cases to similar clinical situations. The student must list changes that he or she would make with regard to the approach to infections and antimicrobial therapy at the end of the rotation.

### **Institutional Objective**

**Interpersonal and Communication Skills**- *Students must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.*

#### **Course Objective**

The student will be able to communicate information effectively with patients and other care providers with regard to evaluation and management of Infectious Diseases.

#### **Outcome Measure**

The student will be able to demonstrate the ability to:

1. Explain to patients the nature of their infection and treatment recommendations.
2. Synthesize information obtained from various sources into a concise and complete ID consultation note.

### **Institutional Objective**

**Professionalism**- *Students must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.*

#### **Course Objective**

The student will behave in an ethical, responsible, reliable and dependable manner and be able to accept constructive feedback to improve performance. The student must demonstrate professionalism in interacting with patients and other care providers.

#### **Outcome Measure**

The student will be directly observed and assessed as part of the final grade by faculty to determine ethical behavior, reliability and level of dependability of the student and the student's ability to accept criticisms or suggestions. The student will also be evaluated by faculty on:

1. Professionalism in interacting with patients and other care providers.
2. Ability to demonstrate sensitivity to and tolerance of differences in gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behaviors and disability of patients, their families and caregivers and professional colleagues.
3. Ability to identify and understand barriers in providing care to patients with HIV/AIDS and Hepatitis C.

### **Institutional Objective**

**Systems-based Practice** - *Students will be able to recognize and better understand the role of other health care professionals in the overall care of the patient.*

### **Course Objective**

The student will better understand health-care delivery systems and social service agencies which are critical to the care of ID patients.

### **Outcome Measure**

The student will orally demonstrate to faculty:

1. A better basic understanding and utilization of various resources (such as social work, national foundations and governmental agencies) regarding the assistance in providing care for ID patients.
2. A better basic understanding of the role of the health department in the prevention and management of infectious diseases.

### **Self-Directed Learning**

As a medical student, you are encouraged to use any unstructured time as an opportunity to read about your patients, research questions that arise during the day. Use this time to prepare your case report and for the readings.

## **ASSESSMENT METHODS**

### **Mid Point Evaluation**

Oral feedback will be given to the student at the end of week one.

### **Notes and Presentations of patients on daily rounds– 60%**

The student will be required to submit a case report on the 2<sup>nd</sup> Monday of the elective. The case will be reviewed by a faculty preceptor and the critique will be discussed with the student. The report will be graded as follows: history (4 points), physical examination (3 points), diagnostic data (3 points), working impression (5 points) and plan (5 points).

### **Attendance and Participation – 25%**

Attendance and participation are expected every day. Failure to attend all sessions will result in a lower grade.

### **Professionalism – 15%**

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

**Each component mentioned above (case presentation, attendance and participation and preceptor evaluation) must be passed in order to successfully complete the course.**

### **Evaluation of Course and Faculty Requirement**

Completion of evaluations of Course and Faculty members by the student is a required component of this course. The student will be issued an “Incomplete” until the course and faculty evaluations have been submitted.