

Infectious Diseases
Howard University Hospital

Overview and Rationale

Infectious disease medicine requires an understanding of the microbiology, prevention, and management of disorders caused by viral, bacterial, fungal, and parasitic infections, including the appropriate use of antimicrobial agents, vaccines, and other immunobiologic agents. Important elements include the environmental, occupational, and host factors that predispose to infection, as well as basic principles of the epidemiology and transmission of infection. The general internist should be able to provide appropriate preventive (including optimal use of immunization and chemoprophylaxis), diagnostic, and therapeutic care for most infections. He or she should also be able to evaluate symptoms that may be caused by a wide range of infectious disorders.

General internists should also learn about diagnostic and management approaches to patients with HIV infection. Experience should include patients with early HIV infection who have few or no symptoms and also patients with advanced HIV infection who manifest the acquired immunodeficiency syndrome (AIDS)

Goals:

1. To acquire the knowledge, skill and attitudes necessary to effectively manage patients with infectious disease needs.

Objectives: At the end of the rotation the resident should be able to;

2. Detect abnormal clinical and laboratory data in the infectious disease patient
3. Order and interpret common laboratory data for the infectious disease patient
4. understand the indications and complications of antimicrobial therapy
5. demonstrate knowledge of the use of immunizations and antibiotic chemoprophylaxis in the prevention of infectious diseases.

Rotation Description and Lines of responsibility

This is a four week consultative rotation on the infectious disease service at Howard University Hospital. The attending physician is responsible for all the clinical, academic and administrative responsibilities during the rotation. The attending physician is available 24 hours a day and makes daily teaching rounds. The attending physician will facilitate and precept didactic sessions.

A fellow will also be assigned to the rotation and also has a direct supervisory interaction with the resident on the service. The fellow also engages in all educational activities on the service.

The resident independently assesses infectious disease consults on the clinical services. The resident is responsible for collecting, collating all laboratory and radiographic data and completion of the consult data base. The resident will present cases reviewed to the attending physician on teaching rounds. Residents are required to fully participate in all educational activity including case conferences and journal club. The resident also evaluates new and established patients in the HIV and infectious diseases

clinics. In the ambulatory clinic the resident is supervised by an attending physician. Residents experience the natural history of common infectious processes and engages in preventive care related to infectious diseases.

Teaching methods:

Core Lectures: Residents are required to attend core lectures in infectious diseases given by the department of internal medicine. These lectures are usually components of the pathophysiology and grand rounds lecture series.

Case conference: Interesting cases on the consult service and the ambulatory clinic are presented at this weekly conference. A comprehensive evidenced based presentation is given and addresses the controversies surrounding the management of the case.

Journal Club: Month review of interesting articles in common infectious diseases periodicals. Articles are chosen for their content and contribution to the body of knowledge in the literature.

Teaching Rounds: Teaching rounds are conducted every day and consist of patient based discussions and demonstrations that are evidenced based.

Didactics: Didactic sessions are facilitated by the faculty member during daily teaching rounds. These topics include the following;

- Central nervous system
 - Brain abscess
 - Encephalitis
 - Meningitis
- Conjunctivitis
- Endocarditis
- Fever of unknown origin
- Fungal (histoplasmosis, coccidioidomycosis, cryptococcosis)
- Gastrointestinal
 - Biliary tract infection
 - Gastroenteritis
 - Infectious diarrhea
 - Liver abscess
 - Peritonitis
 - Viral hepatitis
- Genitourinary
 - Cervical cancer (HPV)
 - Cervicitis, vaginitis
 - Common sexually transmitted diseases (gonorrhea, chlamydia, trichomonas, herpes simplex, syphilis)
 - Pelvic inflammatory disease

- Prostatitis, epididymitis
 - Urethritis
 - Urinary tract infection
- HIV disease (see HIV Infection)
- Infection in the immunosuppressed patient
- Lyme disease
- Malaria
- Pericarditis
- Otitis
- Respiratory
 - Acute epiglottitis, pharyngitis
 - Empyema
 - Pneumonia (community and nosocomial), bronchitis
 - Sinusitis
 - Upper respiratory infection
- Rheumatologic/musculoskeletal
 - Osteomyelitis
 - Septic arthritis
- Rocky Mountain Spotted Fever
- Sepsis, septic shock syndrome
- Skin Infections
 - Cellulitis
 - Folliculitis
 - Ulcers
 - Viral exanthems
- Tuberculosis
 - Active infection
 - Positive tuberculin skin test
- Viral
 - Cytomegalovirus
 - Herpes simplex infection
 - Influenza
 - Mononucleosis
 - Varicella zoster infection
- AIDS-defining malignancies
 - Kaposi's sarcoma
 - Non-Hodgkin's lymphoma
 - Squamous cell carcinoma (cervix or anus)
- Cardiovascular Complications
 - Cardiomyopathy
 - Myocarditis
 - Pericarditis

- Dermatologic complications
 - Bacillary angiomatosis
 - H. zoster
 - Kaposi's sarcoma
 - Molluscum contagiosum
 - Scabies
 - Seborrheic dermatitis
- Endocrine Complications
 - Hypoadrenalism
 - Hypogonadism
 - Hypothyroidism
 - Lipodystrophy
- Gastrointestinal complications
 - Diarrhea
 - Esophageal candidiasis
 - Esophageal ulcer disease
 - Hepatomegaly, hepatitis, jaundice
 - Wasting syndrome
- General management
- Evaluation and management of early disease
- Advance directives evaluation
- Assessment of alternative health practices
- Assessment of social support systems
- Monitoring progression to AIDS
- Ongoing staging
- Diagnosing AIDS-defining opportunistic infections
- Functional assessment
- Mental status evaluation
- Nutritional assessment
- Referral to case-management agencies
- Palliative and terminal care
- Pregnancy counseling (pretest, post-test, risk factors)
- Gynecologic complications
 - Cervical dysplasia/neoplasia
 - Pelvic inflammatory disease
 - Vaginal candidiasis
- Hematologic Complications
 - Anemia
 - Antiphospholipid antibody
 - Immune thrombocytopenic purpura
 - Thrombotic thrombocytopenia purpura
- Infectious diseases (see also Preventive measures and specific organ-based complications)

- Cytomegalovirus disease
 - Mycobacterial disease
 - Pneumocystis carinii pneumonia
- Syphilis (diagnosis, treatment)
 - Neurologic complications
- Central nervous system mass lesions
 - Cryptococcal meningitis
 - Dementia
 - Myelopathy
 - Myopathy
 - Neurosyphilis
 - Peripheral neuropathy
 - Polyneuropathy
- Wasting syndrome
- Ocular Complications
 - Conjunctivitis
 - Iritis
 - Keratitis
 - Retinitis
- Oral complications
- Pregnancy counseling (pretest, post-test, risk factors)
 - Ongoing staging
 - Diagnosing AIDS-defining opportunistic infections
 - Functional assessment
 - Mental status evaluation
 - Nutritional assessment
 - Referral to case management agencies
- Palliative and terminal care
- Preventive measures
 - Antibiotic prophylaxis
 - Pneumocystis carinii pneumonia
 - Tuberculosis
 - Antiretroviral drug therapy
 - Immunizations
 - Mycobacterium avium complex
 - Protease inhibitor therapy
 - Toxoplasmosis
- Transmission of HIV
- Psychiatric Complications
 - Anxiety-panic disorders
 - Pain management
 - Depression
- Renal

- Lactic acidosis
- Renal tubular acidosis

Counseling Skills

- Alternative health practices
- HIV risk assessment
- Post-diagnosis counseling
- Substance abuse

Procedure Skills

- Proper collection of culture specimens throat, cervix, vagina, rectum, urethra and blood
- Saline and potassium hydroxide preparation of vaginal fluid, skin scrapings
- Tuberculin and anergy panel skin tests

Primary Interpretation of Tests

None specific to the discipline

Ordering and Understanding Tests

- Antibiotic sensitivity testing and serum levels
- Biopsy of tissues
- CD4 lymphocyte counts
- Cerebrospinal fluid cell count, chemistry, VDRL, cryptococcal antigen, cytology
- Computed tomography, magnetic resonance imaging of the central nervous system
- ELISA, polymerase chain reaction, and immunoblotting techniques
- Induced sputum stain for *Pneumocystis carinii*
- Polymerase chain reaction ELISA and Western blot for detection of infectious diseases
- Serology for infections (e.g., Lyme disease, syphilis, etc.)
- Syphilis serology and dark-field microscopy
- Toxoplasma serology
- Vitamin B12 levels and Schilling test

Evaluation Methods

Residents are evaluated by attending staff at the end of the month in a summative fashion using a global rating form

Attending physicians are evaluated in an anonymous fashion using a global rating form. The completed forms are submitted to the program director's office.

The rotation is evaluated using a global rating form and submitted to the program director's office.

Reading list