

Lahey Clinic Internal Medicine Residency Program: Curriculum for Infectious Disease

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Overview

During the rotation in infectious diseases (ID), residents see both inpatient and outpatient consults that have a broad range of infectious disease problems. Residents see a variety of infectious disease presentations, ranging from complicated, hospital-acquired, multi-drug-resistant infections to outpatient consults for fevers of unknown origin or for vector-transmitted infections such as Lyme disease. Residents also are exposed to the primary and longitudinal care of patients with human immunodeficiency virus (HIV) infection. In addition, the rotation offers exposure to a travel clinic for patients traveling abroad to high-risk areas.

Residents participating in the inpatient infectious diseases elective will rotate with an Infectious Diseases fellow, an attending and fourth-year medical students. The on-call attending changes every Thursday, thus giving the resident a chance to work with several different ID specialists. Residents doing the outpatient elective will work one-on-one with the attending in the clinic on any given day.

Residents are responsible for performing a full history and physical on new consults, as well as reviewing all available data such as labs, radiology studies, etc. Residents will then present to the on-call attending, with particular emphasis on the differential diagnosis and plan of action. Residents on the inpatient elective are required to review relevant literature and present that review informally on rounds.

Feedback and evaluation are given verbally at the end of each attending's week on call and by the program director at the end of the rotation at Myevaluations.com.

Principal teaching and learning activities include consult rounds, the outpatient clinic and the following conferences:

- 1) Microbiology rounds (daily)
- 2) Transplant Conference (Thursdays)
- 3) Infectious Disease Clinical Conference (Thursdays)

Goals

- 1) Understanding how a patient's social history (travel, HIV risk factors, exposures) can have a significant impact on the differential diagnosis and management of infections
- 2) Understanding antibiotic selection and therapy including familiarity with major classes, choosing appropriate antibiotics and monitoring for antibiotic toxicities

- 3) Exposure to a broad range of major syndromes including community and hospital-acquired pneumonia, infective endocarditis, cellulitis, urinary tract infections and the evaluation of fever
- 4) Appropriate use of diagnostic services including gram stain and culture, antimicrobial sensitivity testing and other standard microbiology lab techniques
- 5) Understanding basic principles of infection control such as contact or respiratory isolation and contact tracing
- 6) Exposure to critically ill patients and immunosuppressed patients, as well as an understanding of their specific spectrum of diseases

Principle Educational Goals Based on the ACGME General Competencies

In the tables below, the principle educational goals of the Infectious Disease curriculum are listed for each of the six ACGME competencies:

- 1) Patient Care
- 2) Medical Knowledge
- 3) Practice-Based Learning and Improvement
- 4) Interpersonal and Communication Skills
- 5) Professionalism
- 6) Systems-Based Practice

1) Patient Care

Objective	Learning Environment	Evaluation Method
Perform a comprehensive history and physical with particular attention to risk factors for infection and resistant organisms	Consult rounds Outpatient clinic	Global assessment Small group participation
Formulate a management plan	Consult rounds Outpatient clinic	Global assessment Small group participation
Clearly document patient management in the medical record	Consult rounds Outpatient clinic	Global assessment

2) Medical Knowledge

Objective	Learning Environment	Evaluation Method
Recognize how exposure history determines patient care	Consult rounds Outpatient clinic Assigned readings	Global assessment Small group participation
Use diagnostics appropriately	Consult rounds Outpatient clinic Micro rounds	Global assessment Small group participation
Recognize major infectious	Consult rounds	Global assessment

clinical syndromes	Outpatient clinic	Small group participation
Use antibiotics appropriately	Consult rounds Outpatient clinic ID clinical conference	Global assessment Small group participation
Recognition and management of antibiotic toxicities	Consult rounds Outpatient clinic ID clinical conference Assigned readings	Global assessment Small group participation

3) Practice-based Learning and Improvement

Objective	Learning Environment	Evaluation Method
Be able to perform a literature search to answer clinical questions	Consult rounds Outpatient clinic ID Clinical conference	Global assessment Small group participation
Be able to interpret microbiological data such as pathogen identification and antimicrobial sensitivities	Consult rounds Outpatient clinic Micro rounds	Global assessment Small group participation
Facilitate team member education	Consult rounds Outpatient clinic Micro rounds	Global assessment Small group participation

4) Interpersonal and Communications Skills

Objective	Learning Environment	Evaluation Method
Communicate a plan of action and follow-up effectively to patients and other team members	Consult rounds Outpatient clinic	Global assessment Small group participation
Communicate potential risks of therapy including antibiotic toxicities to patients and their caretakers	Consult rounds Outpatient clinic	Global assessment
Relate microbiology findings to other team members	Consult rounds Outpatient clinic	Global assessment Small group participation

5) Professionalism

Objective	Learning Environment	Evaluation Method
Interact with patients, colleagues and hospital staff in a respectful manner	Consult rounds Outpatient clinic Micro rounds ID clinical conference Transplant conference	Global assessment Small group participation
Maintain patient	Consult rounds	Global assessment

confidentiality and HIPAA guidelines	Outpatient clinic Micro rounds ID clinical conference Transplant conference	Small group participation
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6) Systems-Based Practice

Objective	Learning Environment	Evaluation Method
Mobilize vagal nerve activity (VNA) and other services to provide outpatient antibiotics	Consult rounds Outpatient clinic	Global assessment
Work with infection control practitioners as part of an interdisciplinary team	Consult rounds Outpatient clinic	Global assessment Small group participation

Infectious Disease Curriculum Checklist

	Setting: I (inpatient) O (outpatient)	Date
Central nervous system		
Meningitis		
Encephalitis		
Conjunctivitis		
Endocarditis		
Fever of unknown origin		
Fungal (histoplasmosis, coccidioidomycosis)		
Gastrointestinal		
Biliary tract infection		
Gastroenteritis		
Infectious diarrhea		
Viral hepatitis		
Peritonitis		
Genitourinary		
Cervicitis, vaginitis		
Common sexually transmitted diseases (gonorrhea, chlamydia, trichomonas, herpes simplex, syphilis)		
Pelvic inflammatory disease		
Prostatitis, epididymitis		
Urethritis		
Urinary tract infection		
Infection in the immunosuppressed		
Lyme disease		
Malaria		
Otitis		

Respiratory		
Acute epiglottitis, pharyngitis		
Pneumonia (community and nosocomial), bronchitis		
Sinusitis		
Upper respiratory infection		
Empyema		
Musculoskeletal		
Osteomyelitis		
Septic arthritis		
Sepsis, septic shock syndrome		
Skin infections		
Cellulitis		
Ulcers		
Tuberculosis		
Active infection		
Positive tuberculin skin test		
Viral		
Herpes simplex infection		
Influenza		
Mononucleosis		
Varicella zoster infection		
Cytomegalovirus		
HIV		
Evaluation and management of early disease		
Advance directives evaluation		
Assessment of social support systems		
Monitoring progression to AIDS		
Assessment of alternative health practices		
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		
Vaginal candidiasis		
Cervical dysplasia/neoplasia		
Pelvic inflammatory disease		
Infectious diseases (see also Preventive measures below and specific organ-based complications)		
Mycobacterial disease		
Pneumocystis carinii pneumonia		

Cytomegalovirus disease		
Syphilis (diagnosis, treatment)		
Oral complications		
Antibiotic prophylaxis		
Pneumocystis carinii pneumonia		
Tuberculosis		
Antiretroviral drug therapy		
Immunizations		
Transmission of HIV		
<i>Mycobacterium avium complex</i>		
Protease inhibitor therapy		
Toxoplasmosis		
AIDS-defining malignancies		
Kaposi's sarcoma		
Non-Hodgkin's lymphoma		
Squamous cell carcinoma (cervix or anus)		
Dermatologic complications		
Kaposi's sarcoma, Scabies, folliculitis		
Seborrheic dermatitis		
Bacillary angiomatosis		
Gastrointestinal complications		
Diarrhea		
Esophageal candidiasis		
Esophageal ulcer disease		
Hepatomegaly, hepatitis, jaundice		
Wasting syndrome		
Neurologic complications		
Dementia		
Central nervous system mass lesions		
Cryptococcal meningitis		
Neurosyphilis		