

Infectious Disease Consult Service

The infectious disease consult service provides evaluation and consultative management of those patients with various infectious diseases who have been admitted to both medicine and non-medicine services including ICU patients. The infectious disease division includes the following individuals:

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I. Educational Purpose

The general internist should be competent to evaluate and treat those patients with an infectious disease process as well as understand when a referral to an infectious disease specialist is appropriate. The general internist should also be well-trained in the choice of antimicrobial agents as well as the techniques of infectious disease prevention (i.e. handwashing). The housestaff will be exposed to the various causes of infectious disease (bacteria, fungi, viruses, and protozoa) and the bodily manifestations that result. Examples of the latter include meningitis/encephalitis, pneumonia/empyema, tuberculosis, infectious endocarditis, infectious colitis, urinary infections, bacteremia/septicemia, cellulitis, abscesses, soft-tissue infections, osteomyelitis, and sexually transmitted diseases. The housestaff will receive extensive training in the care of patients with HIV/AIDS. The housestaff will be trained in the evaluation and management of fever of unknown origin. The housestaff will also learn prevention techniques including handwashing, gowning/masking, instrument cleaning, as well as immunization schedules. The housestaff will be educated on antimicrobial decision-making including cost and pharmacodynamics/pharmacokinetics. The housestaff will gain a further understanding of immunology and its importance in infectious disease.

II. Learning Venue

A. Rotation description - The infectious disease consult service is a University Hospital-based service that will allow the housestaff officer to see patient's ages 18 and older, of male and female gender, and of varying ethnicities/cultures. The service averages 6-10 patients and consists of the attending, a fellow, a senior resident and/or intern, and sometimes includes medical students.

Expectations of the PGY-1: The intern will 1) complete detailed history and physicals on all consult patients and complete progress notes on a daily basis. 2) Have detailed knowledge of every patient on the service (up to 12 patients). 3) Be expected to interpret basic laboratory and radiographic tests including the results of gram stains and cultures. 4) Be expected to teach the medical students on the service as well as further his/her own learning through the use of reading materials outlined below. Intellectual curiosity and evidence based patient care should be demonstrated. 5) Display professionalism and good communication skills with other team members, nursing, patients and families. 6) Work efficiently with nursing, social workers and case managers on quality and timely patient care.

Expectations of the Senior Resident: The senior resident will 1) demonstrate leadership and should model professionalism and good communication skills. 2) Continue to expand their knowledge of infectious diseases with the aid of the reading materials outlined below. (Active mentoring of evidence based pt care should be demonstrated thru the use of PICO's, online searches and interpretation of newer studies) 3) model systems based practice competencies by working efficiently with nursing, social workers and case managers on quality and timely patient care.

B. Teaching Methods:

1. Daily Attending Rounds

The entire team (students, housestaff, fellow, and attending) will discuss patient issues and formulate consult recommendations. The team will be expected to have seen each of their assigned patients, collected all relevant data, and present in a concise, logical format to the attending.

2. Recommended Reading:

- Mandell, Douglas, Bennett; Principles and Practices of Infectious Diseases; 5th Edition; Churchill Livingstone 2000
- Bailey & Scott's Diagnostic Microbiology; 10th Edition; Mosby 1998
- Keceas, Crowe, Grayson, Hoy; The Use of Antibiotics; 5th Edition; Butterworth Heinmann 1997
- Sande and Volberding; The Medical Management of AIDS; 6th Edition 1999
- Mayo Clinic Proceeding Review of Antimicrobial Agents
- MKSAP for Infectious Diseases and AIDS
- Armstrong and Cohen; Infectious Diseases; Mosby 1999
- Goodman & Gilman's; The Pharmacological Basis of Therapeutics; 10th Edition; McGraw Hill 2002
- Yu, Merigan, Barriers; Antimicrobial Therapy and Vaccines; Williams & Wilkins 1999
- Dolin, Masur, Saas; AIDS Therapy; Churchill Livingstone 1999
- For recent studies and peer reviewed scientific literature visit the ACP online PIER site <http://pier.acponline.org/index.html?hp>

3. Unique Learning Opportunities:

HIV/AIDS Conference (Mondays from 8:30-9:30AM) – didactic sessions covering all aspects HIV/AIDS, but primarily devoted to care of the HIV/AIDS patient.

ID Conference (Tuesdays from 4-5PM) – pre-determined topics are presented here by faculty and fellows.

Case Conference (Wednesdays from 4-5PM) – the faculty and fellows present infectious disease cases to the division.

Journal Club (once per month on Fridays 8-9AM) – the faculty and fellows review and critique articles relevant to their specialty.

Daily Microbiology Rounds – the team will meet with the clinical microbiologists to review material/studies relevant to the team's patients.

Daily Pharmacology Rounds – the team will meet with a clinical pharmacologist to discuss the pharmacokinetics/pharmacodynamics and cost of antimicrobial agents being currently used on the service.

C. Mix of Diseases and Patient Characteristics

1. Common Clinical Presentations and Diseases:

Central Nervous System

- meningitis
- encephalitis
- brain/spinal cord abscess

Respiratory

- pneumonia (bacterial, fungal, viral)
- Tuberculosis
- empyema
- sinusitis
- bronchitis

Skin/Soft Tissue

- cellulitis/erysipelas
- diabetic infections
- abscesses

Bone

- osteomyelitis

Cardiovascular

- infective endocarditis
- aortitis/vasculitis

Genitourinary

- pyelonephritis
- cystitis
- urinary infections
- Sexually Transmitted Diseases
 - Chlamydia
 - Herpes Simplex
 - Gonorrhea
 - Syphilis
 - pelvic inflammatory disease
- Reproductive
 - orchitis
 - epididymitis
- Gastrointestinal
 - gastroenteritis
 - colitis
 - infectious diarrhea
- Sepsis
- Solid Organ Transplantation
 - temporal occurrence of infections
 -
- Cancer Chemotherapy
 - neutropenic fevers
- Bioprosthesis Infections
- Fever of Unknown Origin
- Adult Immunization
- Travel-Related Illness
- Ophthalmologic Infections
- Nosocomial Infections
- HIV/AIDS
- Illicit Drug-Related Infections

2. Procedures:
- Gram staining and interpretation
 - Culturing and interpretation
 - Lumbar puncture
 - Thoracentesis
 - Paracentesis
 - Joint Aspiration
 - PPD testing and interpretation

III. Educational Content

<i>Central nervous system</i>
Brain abscess
Encephalitis
Meningitis
Conjunctivitis
Endocarditis
Fever of unknown origin
Fungal (histoplasmosis, coccidioidomycosis, cryptococcosis)
<i>Gastrointestinal</i>
Biliary tract infection
Gastroenteritis
Infectious diarrhea
Liver abscess
Peritonitis
Viral hepatitis

<i>Genitourinary</i>
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
<i>Respiratory</i>
Acute epiglottitis, pharyngitis
Empyema
Pneumonia (community and nosocomial), bronchitis
Sinusitis
Upper respiratory infection
<i>Rheumatologic/musculoskeletal</i>
Osteomyelitis
Septic arthritis
Rocky Mountain Spotted Fever
Sepsis, septic shock syndrome
<i>Skin Infections</i>
Cellulitis
Folliculitis
Ulcers
Viral exanthems
<i>Tuberculosis</i>
Active infection
Positive tuberculin skin test
<i>Viral</i>
Cytomegalovirus
Herpes simplex infection
Influenza
Mononucleosis
Varicella zoster infection
<i>AIDS-defining malignancies</i>
Kaposi's sarcoma
Non-Hodgkin's lymphoma
Squamous cell carcinoma (cervix or anus)
<i>Cardiovascular Complications</i>
Cardiomyopathy
Myocarditis
Pericarditis
<i>Dermatologic complications</i>
Bacillary angiomatosis
H. zoster
Kaposi's sarcoma
Molluscum contagiosum

Scabies
Seborrheic dermatitis
<i>Endocrine Complications</i>
Hypoadrenalism
Hypogonadism
Hypothyroidism
Lipodystrophy
<i>Gastrointestinal complications</i>
Diarrhea
Esophageal candidiasis
Esophageal ulcer disease
Hepatomegaly, hepatitis, jaundice
Wasting syndrome
<i>General management</i>
<i>Evaluation and management of early disease</i>
Advance directives evaluation
Assessment of alternative health practices
Assessment of social support systems
Monitoring progression to AIDS
<i>Ongoing staging</i>
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)
<i>Gynecologic complications</i>
Cervical dysplasia/neoplasia
Pelvic inflammatory disease
Vaginal candidiasis
<i>Hematologic Complications</i>
Anemia
Antiphospholipid antibody
Immune thrombocytopenic purpura
Thrombotic thrombocytopenia purpura
<i>Infectious diseases (see also Preventive measures and specific organ-based complications)</i>
Cytomegalovirus disease
Mycobacterial disease
<i>Pneumocystis carinii</i> pneumonia
Syphilis (diagnosis, treatment)
<i>Neurologic complications</i>
Central nervous system mass lesions
Cryptococcal meningitis
Dementia
Myelopathy
Myopathy
Neurosyphilis
Peripheral neuropathy
Polyneuropathy
Wasting syndrome
<i>Ocular Complications</i>
Conjunctivitis

Iritis
Keratitis
Retinitis
Oral complications
Pregnancy counseling (pretest, post-test, risk factors)
<i>Ongoing staging</i>
Diagnosing AIDS-defining opportunistic infections
Functional assessment
Mental status evaluation
Nutritional assessment
Referral to case management agencies
Palliative and terminal care
<i>Preventive measures</i>
<i>Antibiotic prophylaxis</i>
<i>Pneumocystis carinii</i> pneumonia
<i>Tuberculosis</i>
Antiretroviral drug therapy
Immunizations
<i>Mycobacterium avium</i> complex
<i>Protease inhibitor therapy</i>
Toxoplasmosis
Transmission of HIV
<i>Psychiatric Complications</i>
Anxiety-panic disorders
Pain management
Depression
<i>Renal</i>
Lactic acidosis
Renal tubular acidosis

IV. Method of Evaluation

Evaluations are based on the six core competencies. All team members are expected to complete formal evaluations at the end of each rotation using the web-based E-Value evaluation software. Mid rotation verbal feedback should be sought by residents. Residents at all levels of training are evaluated by their attendings, peers and students.

V. Rotation specific Competency Objectives – link to Competency based learning objectives document

- A. Patient Care/Medical knowledge – this rotation offers concentrated learning in the areas of ID and HIV care. It also provides ICU based management of patients with infectious disease issues.
- B. Professionalism – link
- C. Interpersonal and communication skills – link
- D. Practice based learning – link
- E. Systems based practice – Residents have the opportunity to learn about coordinating long term care for HIV patients and also the use of indwelling catheters and their complications in the outpatient setting.

Reviewed 11/08 by Jad Joseph Wakim, MD