Infectious Disease Consult Service Curriculum

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/hospitalist 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 and PGY-2: The resident 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, PGY-3: 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; 8th Edition; Churchill Livingstone 2014
- 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:

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 (Wednesday 3:30-4:00 pm) – the faculty and fellows review and critique articles relevant to their specialty.

Microbiology Rounds Wed and Friday at 1:30 – 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
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Cancer Chemotherapy
- neutropenic fevers
Bioprosthesis Infections
Fever of Unknown Origin
Adult Immunization
Travel-Related Illness
Ophthalmologic Infections
Nosocomial Infectons
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

Central nervous system
Brain abscess
Encephalitis
Meningitis
Conjunctivitis
Endocarditis
Fever of unknown origin
Fungal (histoplasmosis, cocciidioidomycosis, 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
Follirulitis
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
Occular 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 theraphy
Toxoplasmosis

Transmission of HIV
Psychiatric Complications
Anxiety-panic disorders
Pain management
Depression
Renal
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 and Revised by: Timothy Endy MD
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