I. Educational Purpose and Goals:
All internists encounter patients with infectious diseases. The infectious diseases rotation familiarizes the resident with the appropriate evaluation and treatment of patients with infectious diseases and the appropriate evaluation of patients in whom an infectious etiology is one consideration within a broad differential diagnosis. Emphasis is placed upon the use of the history and physical exam to formulate a differential diagnosis and to identify risk factors for infectious diseases. Differential diagnostic skills are further refined through the use and interpretation of diagnostic testing, with emphasis on the microbiology laboratory. The resident will learn appropriate treatment plans for situations requiring empiric therapy and organ or pathogen specific therapy. Preventive and screening measures including public health measures and patient counseling are emphasized where appropriate.

II. Principal Teaching Methods:
1. Supervised Direct Patient Care Activities: Residents evaluate and manage patients with infectious diseases at Medical Center Hospital (MCH) and Midland Memorial Hospital (MMH) managed by faculty at both institutions. In addition, residents will participate in patient evaluation and care in the outpatient ID clinics of supervising faculty. Emphasis is placed upon a pertinent history and physical with review of laboratory, microbiology, and radiographic studies. In the inpatient setting, each patient evaluated by the internal medicine resident will be seen with the ID attending during daily management rounds. All patients evaluated by the resident in the clinic will be subsequently evaluated with the ID faculty. Thorough assessment will be performed and a management plan will be formulated by the resident and discussed with the ID attending. In the hospital setting, the rounding team will consist of the attending and the rotating Texas Tech resident(s).
2. Teaching rounds: Teaching rounds will occur after patient encounters in the hospital and during clinic period. Patients will be seen and examined by the residents, who will formulate a hypothesis and a treatment plan and present it to the attending faculty. Both the resident and the attending will examine the patient and discuss the patient’s care and the resident’s assessment.
3. Didactic Lectures: ID lectures are part of the Core Curriculum series of the Department of Internal Medicine. Residents on the ID rotation are required to attend all of the Core Curriculum lectures.
4. Learning tool: ID test is part of monthly exam series. The test is administered to assess and introduce important concepts in infectious diseases, to assess weaknesses and strengths of each resident, and to assist the faculty in tailoring topics for instruction.
5. **Self-study:** all residents are expected to read independently about patients seen in the hospitals and in clinics, on ID topics assigned by faculty, and in preparation for core curriculum lectures.

### III. Educational Content

1. **Patient characteristics:** Patients are admitted from Ector and Midland county area, as well as surrounding West Texas counties. Patients encountered reflect the diverse nature of pathology present in the area with equal exposure to men and women of multiple ethnicities and socioeconomic backgrounds. Similar population sources are reflected in the outpatient pulmonary clinics. Patients seen by the residents range from young adolescents with mild ID problems to elderly patients with advanced diseases.

2. **Disease Mix:** Diverse acute and chronic infectious disease conditions are encountered both as admissions and as consults, representing ID problems seen in common clinical practice, as well as representation of diseases more common in the southwest of the country.

3. **Learning venues, type of clinical encounters, and services:** The inpatient component of the ID rotation is based at Medical Center Hospital in Odessa and Midland Memorial Hospital, both serving as major referral centers for West Texas residents. Residents work with ID faculty at both facilities. Residents perform rounds in the hospital, where they admit patients and see new consults. Residents gain valuable insight into the indications, contraindications, and performance of commonly ordered ID-related tests. Cost-effective health issues are regularly addressed in this setting. The evaluation and care of patients with ID problems in the outpatient setting is performed through resident’s participation in the outpatient clinics of the supervising ID faculty.

4. **Procedures:** The resident is introduced to techniques used in clinical microbiology, including: proper handling, staining and interpretation of specimens; bacterial, viral and fungal culture techniques; performance and interpretation of serologic tests. The performance of other diagnostic and therapeutic procedures may be available on an irregular basis in both the inpatient and outpatient setting and are to be conducted with an attending physician. These procedures may include (but are not limited to) lumbar puncture, arthrocentesis and punch biopsy of the skin.

5. **Structure of rotation:** The ID rotation is 4 weeks. Residents see new consults and follow up patients in MMH and MCH daily with the ID attending. During the ID rotation, residents attend ID outpatient clinics as well as HIV clinics. Residents continue to attend their continuity clinic and mandatory didactics.

### IV. Principal Ancillary Educational Materials:

a. At the beginning of the rotation, each resident receives a copy of the Infectious Diseases curriculum’s Goals and Learning Objectives.


c. Mayhall CG. *Hospital Epidemiology and Infection Control*, 3rd edition 2004
Useful Infectious Diseases web sites
a. Infectious Disease Society of America IDSA  [www.idsociety.org](http://www.idsociety.org) Good collection of updated ID guidelines and items of interest.


c. Hopkins Aids Service. Excellent resource with links to many other resources, including the Hopkins Bartlett antimicrobial guidelines.  [www.hopkins-aids.edu](http://www.hopkins-aids.edu)

d. World Health Organization. Good information and worldwide perspective.  [www.who.int/home-page](http://www.who.int/home-page)

V. Methods of Evaluation

1. Resident Performance: ID faculty complete written resident evaluation forms provided by the Internal Medicine Residency coordinators. The evaluation is competency-based, and uses a detailed assessment of resident’s effort, progress and achievement on each core competency component. Faculty review the written evaluation in person with each resident and provide detailed feedback on resident’s performance. In addition, the following sources and methods of evaluation are included in assessing residents performance: a) mini-CEX and CEX. b) all other (verbal, written) evaluation comments provided to the Program Director/Associate Program Director by faculty and community physicians interacting with the resident during ID rotation are documented in writing. f) performance on the periodic Infectious Diseases exam administered as part of the monthly subspecialty exams. All evaluations are available for resident review (excluding direct review of evaluations completed by resident colleagues). All evaluations are part of the resident file and are incorporated into the semiannual performance review for directed resident feedback.

VI. Institutional Resources: Strengths and Limitations:

[add or change for specifics in this category per Dr. Mocherla]

1. Strengths:
   I. The available patient population will give the resident an excellent opportunity to learn about commonly-seen infectious diseases and those which account for the majority of the morbidity and mortality seen in the United States.

2. Limitations:
   I. The hospitals do not have a transplant program. Residents do not evaluate acute infections in the transplant setting.

VI. Rotation Specific Competency Objectives

1. Patient Care:
   I. By the end of the rotation, the resident must be able to complete a comprehensive history and physical with particular focus paid to history of immunizations, previous infections, travel/sexual history and history of pet/animal exposure.

   II. By the end of the rotation, the resident must demonstrate ability to recognize and interpret physical findings seen in infectious diseases including:

   a. Skin rashes, cellullities, conjunctivitis
   b. Animal bites
   c. Retinal/ocular abnormalities, conjunctivitis
   d. Lymphadenopathy
e. Pharyngitis and mucosal abnormalities  
f. Neck stiffness and neurologic abnormalities  
g. Adventitious pulmonary sounds  
h. New or changing heart murmurs or rub  
i. Abdominal or flank tenderness, organomegaly  
j. Joint or limb swelling, tenderness  
k. Urethral or vaginal/cervical discharge  

III. The resident will be able to interpret Gram stains, fungal stains, acid-fast stains, KOH preps, serologic antigen and antibody testing for viral, bacterial and fungal diseases, antibiotic sensitivity testing, anaerobic and aerobic culture results and their relevance in the appropriate clinical setting.  

IV. The resident will demonstrate skills in accurate, clear and organized clinical documentation in the medical record of all aspects of data gathering, interpretation management plans and counseling.  

2. Medical Knowledge:  
I. By completion of the rotation, the resident must be able to demonstrate understanding of standard evaluation and management of common infections including community-acquired and nosocomial pneumonia, urinary tract infections, meningitis, cellulitis and other common soft tissue infections, intra-abdominal infections, endocarditis, osteomyelitis and other bone and joint infections, sepsis syndromes, tuberculosis and sexually transmitted diseases. The resident should demonstrate understanding of methods of recognition of HIV diseases, initial evaluation and management of HIV diseases, symptoms/signs of common opportunistic events, and management of opportunistic events.  
II. Residents will demonstrate satisfactory understanding of the use of antimicrobial agents, including commonly used antibiotics and antifungal medications, their spectrum of antimicrobial activity, clinical indications, and their side effects.  

3. Practice Based Learning and Improvement  
I. The resident will be able to locate, critically appraise, and assimilate evidence from scientific studies and apply to own patients’ health problems.  
II. They will be able to use information technology to manage information, access on-line medical resources, and support self-education, patient care decisions and patient education.  
III. The residents will be able to apply the principles of antimicrobial chemotherapy learnt in this rotation to their clinical practice.  
IV. The residents will be able to recognize costs of nosocomial infections in terms of mortality and morbidity and steps to improve patient safety by better infection control and steps to minimize hospital acquired infections.  

4. Interpersonal and Communication Skills  
I. Residents are expected to demonstrate professional communication skills throughout their interactions with pulmonary patients and their families, ID attending and other clinicians and non clinical staff involved in patients’ care. Residents will productively and cooperatively participate in Multidisciplinary Treatment Planning.
II. Residents will actively work with the ID support staff and microbiology technicians and demonstrate the ability to work well in a team setting.

III. The resident will create and sustain a therapeutic and ethically sound relationship with patients and their families.

IV. The resident will demonstrate ability to communicate effectively and demonstrate caring, compassionate, and respectful behavior in all patient encounters including those with individuals of different sexual orientations.

5. **Professionalism**
   I. Throughout the rotation, residents are expected to exhibit reliability in their clinical duties, as well as integrity and respect in their interactions with patients, their family members, colleagues, and all other members of the healthcare team.
   II. Residents will be able to demonstrate appropriate consultative principles of communication and responsiveness to professional consultative requests.

6. **Systems Based Practice**
   I. The resident will be able to recognize costs of antimicrobial therapy and be able to use the most cost-effective therapy on an individual basis.
   II. The resident will be able to recognize the role and utility of outpatient intravenous antibiotic therapy in the current healthcare setting.
   III. The resident will learn about the utility and impact of personal HIV case managers in improving care of these individuals, and role of Government funded HIV drug programs in providing HIV care.