DoM | DEPARTMENT of MEDICINE
Improving Lives

OBJECTIVES FOR COMMON CLINICAL PROBLEMS

Pneumonia

A. KNOWLEDGE: Students should be able to define, describe, and discuss:

1. The epidemiology, pathophysiology, symptoms, signs, and typical clinical course of community-acquired, nosocomial, and aspiration pneumonia and pneumonia in the immunocompromised host

2. The conceptualization of “typical” and “atypical” pneumonia and its limitations

3. Common pneumonia pathogens (viral, bacterial, mycobacterial, and fungal) in immunocompetent and immunocompromised hosts)

4. Identify patients who are at risk for impaired immunity

5. Indications for hospitalization and ICU admission of patient with pneumonia

6. The radiographic findings of the various types of pneumonia

7. The antimicrobial treatments (e.g. antiviral, antibacterial, antimycobacterial, and antifungal) for community-acquired, nosocomial, and aspiration pneumonia, and pneumonia in the immunocompromised host

8. The implications of antimicrobial resistance

9. The pathogenesis, symptoms, and signs of the complications of acute bacterial pneumonia including: bacteremia, sepsis, parapneumonic effusion, empyema, meningitis, and metastatic microabscesses

10. The indications for and complications of chest tube placement

11. The indications for and efficacy of influenza and pneumococcal vaccinations

12. The indications and procedures for respiratory isolation

B. SKILLS: Students should be able to demonstrate specific skills including:

1. History-taking skills: Students should be able to obtain, document, and present an age-appropriate medical history that differentiates among etiologies of disease, including:
   - The presence and quantification of fever, chills, sweats, cough, sputum, hemoptysis, dyspnea, and chest pain
   - Historical features consistent with potential immunocompromise
   - Potential tuberculosis exposure
   - Identify patients at risk for aspiration

2. Physical exam skills: Students should be able to perform a physical exam to establish the diagnosis and severity of disease, including:
   - Accurately determining respiratory rate and level of respiratory distress
   - Identifying bronchial breath sounds, crackles and wheezes
   - Identifying signs of pulmonary consolidation
   - Identifying signs of pleural effusion
   - Identifying signs of the complications of pneumonia

3. Differential diagnosis: Students should be able to generate a differential diagnosis recognizing specific history and physical exam findings that suggest a specific etiology of pneumonia and other possible diagnoses, including:

   - Common cold
   - Acute bronchitis
   - Influenza
   - Acute exacerbation of COPD
   - Asthma exacerbation
   - CHF
   - Pulmonary embolism

4. Laboratory interpretation: Order and interpret diagnostic and laboratory tests based on the differential diagnosis. These may include:
    - CBC
    - Blood cultures
    - ABG
    - Pleural fluid chemistry, cell counts and culture
    - Chest radiograph

    Students should be able to define the indications:
    - Chest CT

5. Management skills: Students should able to develop an appropriate evaluation and treatment plan for patients that includes:
    - Selecting an appropriate empiric antibiotic regimen for community-acquired, nosocomial, immunocompromised-host, and aspiration pneumonia
    - Adjusting antimicrobial treatment according to the sputum staining and culture results
    - Recognizing the complications of pneumonia