Internal Medicine Residency Program
Competency-Based Goals and Objectives
Pulmonary Disease

Academic year: 2016-2017
Site Location: El-Bershawi Medical Corporation
Assigned Residents: PGY 2

Introduction
Pulmonary medicine is the diagnosis and management of disorders of the lungs, upper airways, thoracic cavity, and chest wall. The pulmonary specialist has expertise in neoplastic, inflammatory, and infectious disorders of the lung parenchyma, pleura, and airways; pulmonary vascular disease and its effect on the cardiovascular system; and detection and prevention of occupational and environmental causes of lung disease. Other specialized areas include respiratory failure and sleep-disordered breathing. The general internist should be able to evaluate and manage cough, dyspnea, fever with infiltrates, mass or nodule on the chest radiograph, pleurisy, and pleural effusion.

EDUCATIONAL GOALS AND OBJECTIVES

Patient Care
During the course of the rotation, the PGY-2 residents should demonstrate increased clinical competency in the following:

- The ability to diagnose and manage patients with common respiratory infections
- Initiate the diagnostic evaluation of respiratory neoplasms
- Manage the initial approach to patients with respiratory failure, including those in intensive care
- Perform an adequate physical examination including:
  - Knowing extrapulmonary signs and symptoms of lung diseases
  - Abnormalities in the pattern of breathing: Kussmaul, Cheyne-Stokes, abdominal-thoracic asynchrony ("paradoxical respiration"), accessory muscle use
  - Thoracic Cage Abnormalities
  - Kyphosis, scoliosis, pectus excavatum, and cranium, straight back, barrel chest, ankylosis
  - Lung Exam
  - Inspection
  - Percussion (dullness, hyper resonance),
  - Palpation (fremitus, diaphragmatic excursions, tracheal location, subcutaneous emphysema)
  - Auscultation (crackles, rhonchi, wheezing, bronchial breathing, stridor, friction rub, decreased breath sounds, abnormal expiratory phase)
  - Cardiac Exam
  - Extremity Exam (clubbing, cyanosis, edema)

PGY-2 residents are expected to:

- Take an orderly, problem-oriented history of complaints, including but not limited to:
  - Dyspnea, nature, and severity
  - Cough
  - Wheezing
  - Stridor
  - Hemoptysis
  - History of pulmonary illness
  - History of tuberculin testing or TB exposure
Occidental history including exposures
- Previous surgical procedures including thoracic procedures
- Prior chest roentgenograms
- Family history of pulmonary disease

**Medical Knowledge**

Throughout the rotations, PGY-2 residents are expected to gain increased mastery of the following medical conditions:

- Distinguish between different causes of pleural effusion, including infectious (para pneumonic and emphysema), inflammatory, and malignant
- Identify the differences in clinical presentations of typical vs. atypical obstructive lung disease, including asthma, COPD, cystic fibrosis, bronchiectasis, bronchiolitis, and allergic bronchopulmonary aspergillosis
- Know the Microbiology of community-acquired pneumonia
- Manage an inpatient with the following conditions:
  - Community-acquired pneumonia
  - Obstructive lung disease
  - Inflammatory lung disease
  - Pleural disease
  - Lung abscess
  - Tuberculosis
  - Alveolar hemorrhage syndromes
  - Lung cancer
  - Pulmonary vascular disease, including pulmonary embolic disease,
  - pulmonary hypertension (primary and secondary), pulmonary vasculitis
  - Mediastinal disease, including infectious, inflammatory, malignant,
  - idiopathic
  - Respiratory muscle disorders
  - Thoracic cage disorders
  - Sleep disorders
  - Idiopathic disorders including alveolar proteinosis, pulmonary infiltrates
  - with eosinophilia, lymphangioleiomyomatosis, eosinophilic granuloma,
  - hemosiderosis
  - HIV-related lung disease
  - Mycotic lung disease, including histoplasmosis, blastomycosis,
  - cryptococcosis coccidiomycosis, aspergillosis, psychoses
  - Pulmonary disease in the immunocompromised

PGY-2 residents are expected to:

- Understand the possible need for and role of special diagnostic studies including:
  - Endotracheal intubation
  - Noninvasive mechanical ventilation
  - Negative pressure ventilation
  - BiPAP
  - Nasal positive pressure ventilation
  - Bronchoscopy
  - Bronchoalveolar lavage
  - Needle biopsy (Wang)
  - Transbronchial biopsies
  - Endobronchial biopsies
  - Protected brush biopsies
  - Bronchogram
  - Fluoroscopy
- Tomograms
- CT (including high-resolution techniques)
- Pulmonary function studies
- Transdiaphragmatic pressures
- Phrenic nerve studies
- Exercise testing
- Lung scan
- Pulmonary arteriography
- Tube thoracostomy
- Pleural sclerosis
- Pleural biopsy
- Surgical biopsy
- Thoracoscopy
- Thoracotomy
- Mediastinoscopy
- Tracheotomy

**Diagnose the following conditions:**
- Community-acquired pneumonia
- Obstructive lung disease, including asthma, COPD, cystic fibrosis, bronchiectasis, bronchiolitis, and allergic bronchopulmonary aspergillosis
- Inflammatory lung disease, including idiopathic pulmonary fibrosis, sarcoidosis, collagen vascular associated disease, Wegener’s granulomatosis, occupational lung disease, hypersensitivity pneumonitis
- Pleural disease, including pleural effusion, pneumothorax, pleural masses, and subcutaneous emphysema
- Lung abscess
- Tuberculosis (sputum analysis)
- Alveolar Hemorrhage Syndrome
- Lung cancer
- Pulmonary vascular disease
- Mediastinal disease (Chest X-ray, CT, PET, MRI)
- Respiratory muscle disorders
- Thoracic cage disorders
- HIV-related lung disease
- Mycotic lung disease
- Pulmonary disease in the immunocompromised

**Interpret the following laboratory studies:**
- Chest x-ray
- Chest CT
- Pulmonary function testing
- Spirometry (obstruction)
- Flow volume measurement (restriction, hyperinflation)
- Diffusion capacity
- Muscle pressures
- Arterial blood gases
- Pleural fluid analysis
- Cell count and differential
- Cytology
- Chemistries (pH, LDH, total protein, glucose, amylase, ANA)
- Gram stain
- Cultures
- Pleural biopsy
- Sputum analysis (bacterial, mycotic, mycobacterial, PCP)
- ACE
- Skin testing
- Sweat Chloride

**Obtain studies appropriate for the diagnosis of:**
Pleural disease (chest x-ray and CT)
Lung abscess (chest roentgenography and CT)
Tuberculosis (sputum analysis)
Mediastinal disease (chest X-ray, CT, PET, and MRI)
Respiratory muscle disorders (physiologic assessment)

Practice-Based Learning

PGY-2 residents will be evaluated based on their performance while on this rotation for the following:

- A willingness and ability to learn from errors and use them to improve individual practice and the health care delivery system.
- Maintaining an attitude of healthy skepticism and curiosity, as evidenced by thoughtful questioning, independent study, and critical analysis of published materials.
- Utilization of information technology to enhance patient education.

PGY-2 residents are expected to:

- Develop and carry out patient management plans by making informed decisions about diagnostic and therapeutic interventions
- Counsel and educate patients and their families
- Prevent health problems based on up-to-date scientific evidence

Interpersonal and Communication Skills

The expectations of the PGY-2 residents on this rotation include the following:

- Complete all dictations, letters, and consultation requests in a timely manner.
- Conduct all interviews with patients and their families in a compassionate, culturally effective, and patient-centered manner.

PGY-2 residents are expected to:

- Provide motivational interviewing for smoking cessation
- Explaining effectively to patients the steps for oxygen therapy
- Giving bad news regarding terminal illnesses
- Recognize the need for a consultation from another specialty or subspecialty and explain the reasons to patients

Professionalism

PGY-2 residents will be evaluated based on their competency in the following areas:

- Demonstrate a personal sense of altruism by consistently acting in one’s patients' best interest.
- Knowing how to inform patients and obtain voluntary consent for the general plan of medical care and specific diagnostic and therapeutic interventions.
- Providing meaningful feedback to colleagues and students regarding performance and behavior.

PGY-2 residents are expected to:

- Be an advocate for the medical needs of patients and maintain confidentiality
- Act respectful to all patients, their families, and members of the health team
- Treat all patients equally with the highest regard for their well being

Systems-Based Practice
PGY-2 residents will be evaluated based on their performance in the following:

- Applying evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management
- Interactions with and utilization of social workers, nurses, medical assistants, billing coordinators, and referral coordinators to provide effective, comprehensive patient care.

PGY-2 residents are expected to:

- Understand the role played by each member of the health team in the delivery of health care to pulmonary patients
- Be acquainted with community health care services that provide follow-up care to patients.