PULMONARY MEDICINE

Overview

On this rotation residents gain experience in pulmonary medicine in each of two settings: The inpatient pulmonary consult service, and pulmonary clinic. The educational purpose of the pulmonary medicine rotation is for residents to acquire the knowledge and skills necessary to become competent in the evaluation and care of patients with common acute and chronic pulmonary conditions. During this rotation residents will work closely with an assigned pulmonary attending, and will be exposed to the major areas of pulmonary medicine which should be mastered by a competent general internist. Residents will have the opportunity to improve proficiency in the interpretation of arterial blood gases, chest x-rays, and pulmonary function tests. Consultation services will be provided for patients in the Emergency Department, inpatient units, or Intensive Care Units at Saint John Medical Center. Services available to assist in the care of patients with pulmonary diseases include respiratory therapists, interventional and no-interventional radiology, and a full service pulmonary lab and bronchoscopy suites.

Goals

(All PGY levels)

- To teach residents the degree of pulmonology necessary to be a competent internist.
- To teach residents the ability to recognize when an internist should consult a pulmonologist.

Objectives

(All PGY levels)

Patient Care

- To learn to interview and examine patients with pulmonary symptoms/diseases, in an effective, efficient and sensitive manner.
- To accurately elicit and recognize exam findings indicative of pneumonia, pleural effusion, and obstructive airway disease.
- To identify specific physical signs and their possible disease associations.
- To obtain all necessary medical information by chart review, discussion with the requesting service and through contact with the patient's primary care physician as necessary and appropriate.
- To formulate an appropriate differential diagnosis based upon symptoms, exam findings, and initial diagnostic tests.
- To appropriately select and interpret diagnostic tests in the evaluation of patients with pulmonary symptoms.
- To be familiar with the use of office based spirometry.
• To use the results of pulmonary function tests and ABG’s to guide further evaluation and care of the patient with pulmonary symptoms/disease.
• To understand the utility of standard radiography in the care of patients with pulmonary disease.
• To competently perform thoracentesis.
• To determine the severity and stability of both new and old medical conditions, especially as they may contribute or relate to pulmonary symptoms/conditions.
• To educate patients about their pulmonary disease.
• To identify and recommend/implement appropriate treatment strategies for a variety of pulmonary diseases.
• To learn the priorities of medical management that will help to forestall progression of pulmonary disease.

Medical Knowledge

• To expand knowledge of the basic and clinical sciences underlying pulmonary diseases.
• To broaden knowledge in the pathophysiology of common pulmonary syndromes.
• To improve understanding of the clinical presentation, diagnosis, and treatment of common acute and chronic pulmonary diseases/conditions.
• To understand the radiographic findings of common pulmonary disorders and when to use other imaging techniques including CT and MRI.
• To interpret the laboratory analysis of pleural fluid.
• To interpret arterial blood gas results.
• To gain proficiency in the interpretation of pulmonary function testing.
• To understand the indications, use, interactions and side effects of medications commonly employed in the treatment of pulmonary diseases.
• PGY-2/3 To access and critically evaluate current medical information and scientific evidence relevant to the care of patients with a given pulmonary disease.
• PGY-2/3 To develop a depth of understanding and appreciation for pulmonary diseases that allows one to capably teach selected topics in pulmonary medicine to interns and students.

Practice-Based Learning and Improvement

• To develop a logical and organized approach to the most common pulmonary syndromes.
• To identify deficiencies in one's knowledge, skills and attitudes in the care of the patient with pulmonary diseases.
• To develop strategies for correcting deficiencies in one's knowledge, skills and attitudes in the care of the patient with pulmonary disease.
• To review outcomes of patients cared for by the pulmonary service.
• To evaluate reasons for readmission or transfer to a higher acuity setting to determine why previous management strategies may have failed.
• To evaluate patient satisfaction with care provided by the pulmonary service.
To evaluate the requesting physician's satisfaction with the service provided by the pulmonary consult service.
PGY-2/3 To role model reflective practice and facilitate the learning of interns and students.

Interpersonal Skills and Communication

To communicate, in a sensitive and effective manner, with patients with pulmonary disease.
To communicate clearly and effectively with physicians who have requested consultation to confirm the reason for the consult, and the specific clinical question(s) to be addressed.
To communicate with the patient's primary care physician early and as often as necessary.
To complete a concise consultation note with clear, detailed recommendations.
To document completely and legibly the necessary information for daily progress (SOAP) notes, including and assessment of the patient's condition and response to therapy, and a plan for ongoing care.
To ensure that all questions asked by the consulting/requesting team have been satisfactorily answered.
PGY-2/3 To communicate effectively with the nursing staff and other members of the patients' health care team to ensure that the plan of care is understood and implemented.
PGY-2/3 To be able to present topics informally and formally to a group.

Professionalism

To be professional in all interactions with patients, families, colleagues and all members of the health care team.
To demonstrate caring and respectful behaviors toward patients, families, colleagues, and health care workers.
To maintain a professional appearance at all times.
To be punctual for rounds, clinics, scheduled meetings and conferences.
To demonstrate adherence to ethical principles.
To ensure patient understanding of their disease and consent to their treatment plans.
To demonstrate respect for alternative, but appropriate treatment plans other than those recommended by the pulmonary service.
PGY-2/3 To role model professional behaviors and to facilitate professionalism among interns and students

Systems-Based Practice

To assist the requesting service in the coordination of patient care.
To assist with scheduling of any tests, treatments or physician appointments to ensure the patient's proper medical care is accomplished.
To use evidence-based, cost conscious strategies in the medical care of patients. To assist the requesting service in the coordination of patient care.
• To remain patient focused while considering practice guidelines and managed care strategies.
• To advocate for consult service patients.
• PGY-2/3 to recognize how different insurance types affect one's hospital reimbursement.

Knowledge to be assessed

The resident should have knowledge and understanding of the following medical illnesses/states (though not exclusively):

<table>
<thead>
<tr>
<th>Acute respiratory distress syndrome</th>
<th>Pulmonary mycoses</th>
<th>Pneumothorax</th>
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</thead>
<tbody>
<tr>
<td>Airways disease</td>
<td>Tuberculosis</td>
<td>Prevention</td>
</tr>
<tr>
<td>Asthma</td>
<td>Interstitial disease</td>
<td>Avoidance of respiratory</td>
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<tr>
<td>Bronchiectasis</td>
<td>Collagen vascular disease</td>
<td>irritants, allergens</td>
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<tr>
<td>Bronchitis</td>
<td>Drug-induced</td>
<td>Immunization</td>
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<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>Eosinophilic pneumonia</td>
<td>Pulmonary carcinogens (radon, passive smoking)</td>
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<tr>
<td>Upper airway obstruction</td>
<td>Hypersensitivity</td>
<td>Smoking cessation</td>
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<tr>
<td>Aspiration pneumonia</td>
<td>Idiopathic pulmonary fibrosis</td>
<td>Pulmonary disease in pregnancy</td>
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<tr>
<td>Congenital lung disease</td>
<td>Sarcoidosis</td>
<td>Sleep-disordered breathing</td>
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<tr>
<td>Alpha1-antitrypsin deficiency</td>
<td>Neoplasia (see also Oncology)</td>
<td>Vascular lung disease</td>
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<tr>
<td>Cystic fibrosis</td>
<td>Confirmed lung cancer</td>
<td>Pulmonary hypertension</td>
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<tr>
<td>Dysmotile cilia syndrome</td>
<td>Mediastinal masses</td>
<td>Cor pulmonale</td>
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<tr>
<td>(Primary ciliary dyskinesia)</td>
<td>Solitary nodule</td>
<td>Primary</td>
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<tr>
<td>Infection (see also Infectious Disease)</td>
<td>Occupational asthma</td>
<td>Thromboembolism</td>
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<tr>
<td>Atypical mycobacteria</td>
<td>Pneumothorax</td>
<td>Vasculitis (Wegener’s, pulmonary/renal syndromes)</td>
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<td>Emphyema</td>
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<td>Lung abscess</td>
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<tr>
<td>Pneumonia</td>
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<tr>
<td>Community-acquired</td>
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<tr>
<td>Hospital-acquired</td>
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<td>In immunosuppressed patient</td>
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Procedural skills

Arterial puncture
Thoracentesis

Methods of achieving objectives

Principal teaching methods

• Direct patient care under the supervision of the pulmonary attending (consult rounds and pulmonary clinic).
• Attending management and teaching rounds (pulmonary consult service)
• Didactic (teaching) sessions with the pulmonary attending (consult service and clinic).
• Core Noon Conference series

Educational Materials

• Selected articles on pertinent topics (provided by pulmonary attending).
• Harrison’s Principle’s of Internal Medicine - Pulmonary section
• Murray and Nadel's Principles of Respiratory Medicine
• OU-Tulsa library electronic databases and computerized resources
• SJMC library collection of textbooks and key pulmonary journals

Assessment tools

• The supervising pulmonary attending will evaluate each resident’s history and physical examination of patients daily.
• The supervising pulmonary attending will review and critique resident consult notes daily.
• The supervising pulmonary attending will critique each resident’s assessment and plan pertaining to the pulmonary problem being addressed.
• The pulmonary attending will monitor all aspects of a resident’s performance in pulmonary clinic.
• The pulmonary attending will assess and monitor each resident’s skill in the interpretation of spirometry/PFTs/CXRs and other diagnostic data.
• The supervising pulmonary attending will monitor each resident’s interaction with patients, the primary service, and other health care team members while serving as a consultant.
• The supervising pulmonary attending will assess and monitor each resident’s self-directed learning efforts.
• The supervising pulmonary attending will assess resident fulfillment of the objectives detailed above.

Evaluation process

• Faculty and resident will review the goals and objectives at the beginning of the rotation. Each resident will sign an attestation statement verifying review of the goals and objectives.
• The supervising attending will provide verbal feedback throughout and at the completion of the inpatient rotation.
• The supervising pulmonary attending will complete a formal evaluation through MyEvaluations.com at the conclusion of the rotation.
• Each resident will acknowledge review of their final evaluation through MyEvaluations.com.
• Each resident will enter procedures performed in MyEvaluations.com to be signed off by the supervising pulmonologist.
**Teaching Faculty**

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This document was reviewed by the faculty of the Department of Medicine OUCMT 9/06 who approve and support the contents.