

# CURRICULUM ON PULMONARY MEDICINE

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## I. Educational Purpose and Goals

The purpose of the Pulmonary rotation is to expose the resident to common pulmonary problems that are frequently seen in the primary care and inpatient settings, as well as to learn more about pulmonary diseases that are more frequently seen by pulmonary specialists.

## II. Principal Teaching Methods

1. The residents will encounter patients at St. Vincent Charity Hospital. All residents are supervised and staffed by a faculty pulmonary specialist.
2. Teaching rounds will occur after each patient encounter in the hospital. 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. Pulmonary lectures are part of the core curriculum in the internal medicine program. In addition, during this rotation tutorials are held covering the topics of pulmonary function tests and interpretation, sleep study interpretation, and chest x-ray interpretation.

## III. Educational Content

1. Mix of diseases. The disease mix is quite broad and includes asthma, COPD, pulmonary hypertension, pulmonary embolism, sleep disorders, pneumonia, and restrictive lung disease among others.
2. Patient characteristics. Patients, seen by the residents, range from young adults with mild pulmonary problems to elderly patients with advanced diseases. Patients are of different racial and socioeconomic backgrounds.
3. Type of clinical encounter.
  1. Most clinical encounters are hospital consultations. The residents will also see patients in their own primary care clinic for one-half day per week. There will be two to three out-patient pulmonary clinics each month.
  2. Hospital consultations range from one to three per resident each day.
  3. First year residents will have no night call expectations while on the pulmonary rotation.
  4. Residents will spend at least one afternoon and may elect to spend a night in the sleep lab observing and/or participating in sleep scoring.
  5. Residents will spend at least one afternoon in the PFT lab.
4. Procedures and services. The residents are not required to perform procedures during the pulmonary rotation, but they are welcome to attend the procedures scheduled as their time

allows. They may perform thoracentesis and assist with bronchoscopy on the hospital service.

5. Structure of rotation. All clinical work is at St. Vincent Charity Hospital with limited activities at Kindred Gateway (a Long Term Acute Care Facility). The resident's daily schedule includes daily work rounds, teaching session and lectures with preceptors, the mandatory residency conferences, and the resident's own continuity clinic. Residents may not work more than 30 hours straight and the final 6 hours of that time may be spent only for providing continuity care and not care for new patients.

#### **IV. Principal Ancillary Educational Materials**

1. At the beginning of each rotation, the resident will be oriented by the attending. Initial meeting is held in the ICU at 8:30am on the first day of the rotation. Materials are given to each resident including detailed pulmonary learning goals and objectives, a reading list, and articles from the current literature and textbooks. The recommended texts are Current Medical Diagnoses and Treatments and Harrison's Textbook of Internal Medicine. These are supported with the current ATS, SOTA lecture series which will be provided.
2. Computerized clinical database searches (Up To Date) are available to all residents on dedicated computers in the hospital and in the primary care clinic.

#### **V. Methods of Evaluation**

1. Resident Performance: Faculty completes web-based electronic resident evaluation forms provided by the residency office. The evaluation is competency-based. The evaluation is shared with the resident, is available for on-line review by the resident at their convenience, and is sent to the residency office for internal review. The evaluation is part of the resident file and is incorporated into semiannual performance reviews for directed resident feedback.
2. Procedures: Residents submit documentation of any procedures performed during the rotation, including supervising attending, via a web-based electronic form.
3. Program and Faculty Performance: Upon completion of the rotation, the residents are asked to complete a service evaluation form commenting on the faculty, facilities, and service experience. These evaluations are sent to the residency office for review and the attending faculty physician will receive anonymous copies of aggregated evaluation results when sufficient evaluations are present to protect resident confidentiality. The Medical Education Committee reviews results on an ongoing basis.

#### **VI. Strengths and Weaknesses**

1. A highly qualified pulmonary faculty is available with a high level of technical expertise. Time spent in didactics may vary from rotation to rotation, depending upon the activity level of the service.
2. The available patient population will give the resident an excellent opportunity to learn about commonly-seen pulmonary disease and those which account for the majority of the morbidity and mortality seen in the United States.

#### **VII. Rotation Specific Competency Objectives**

1. Patient Care

1. By the end of the rotation, residents of all years must be able to complete a

comprehensive pulmonary consultation including identification, chief complaint, history of present illness, past history, review of systems, personal and social history and complete physical examination with particular focus on the pulmonary examination.

2. By the end of the rotation, the resident must be able to interpret pulmonary function tests and arterial blood gases. All residents must be able to read chest x-rays and understand the relative diagnostic features of ventilation/perfusion scans and chest CT. Residents will have the opportunity to participate in the performance and reading of sleep studies and will understand the presentation of sleep disorders as well as the indications for referral to sleep studies.
3. By the end of the rotation, residents must be able to evaluate and manage obstructive pulmonary disease, restrictive pulmonary disease, and thromboembolic pulmonary disease.
4. The resident will demonstrate skills in the clinical documentation in the medical record.

## 2. Medical Knowledge

1. By the completion of the rotation, the resident must be able to describe the physiologic features of obstructive and restrictive pulmonary disease.
2. Residents must understand the action and pharmacology of common pulmonary medications including inhaled medications, steroids, other anti-inflammatory agents, and ancillary pharmacological therapies.
3. By the completion of the rotation, residents will understand the use of invasive and noninvasive (including CPAP and NIPPV) ventilation.

## 3. Interpersonal and Communication Skills

1. The resident will develop skill at communicating with primary service teams as a consultant.
2. The resident will work with technicians who perform pulmonary testing as a team member and team leader.
3. The resident will develop skill communicating with patients who have severe and life threatening pulmonary conditions and communicate effectively with the families of very ill patients.

## 4. Professionalism

1. The resident will be able to do thorough and timely consultations that include prompt communication with other care team members.

## 5. Practice Based Learning and Improvement

1. The resident will use library resources of SVCH and CWRU to search the medical literature, critically appraise articles, and apply evidence to the care of patients.
2. When other learners are on the pulmonary service, residents will facilitate their education.

## 6. Systems Based Practice

1. Residents will understand and use disease management protocols for the care of acute and chronic pulmonary conditions.
2. Residents will utilize ancillary services such as respiratory therapy to facilitate a multidisciplinary approach to the care of patients with pulmonary disease.