

## **HMC CONSULTATION SERVICE**

### **Location:**

Harborview Medical Center

### **FACULTY CONTACT:**

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## **OVERALL EDUCATIONAL PURPOSE**

- A. To acquire knowledge of and have clinical experience in the management of a wide variety of problems in patients with pulmonary diseases, including obstructive lung diseases, pulmonary malignancy, pulmonary infections, occupational and environmental lung disease, acute lung injury/ARDS, complications of HIV/AIDS, and disorders of the pleura and mediastinum.
- B. To acquire knowledge of and gain clinical experience in the management of non-medical, critically ill patients, including those with burns, trauma, post-surgical complications and cardiac disease.
- C. To acquire knowledge of and ability to interpret chest x-rays, thoracic CT scans, radionuclide lung scans, and pulmonary angiograms.
- D. To develop competence in performing procedures necessary for the provision of care to both pulmonary and critically ill patients, including understanding of all modalities of mechanical ventilation, oxygen delivery devices, weaning and respiratory care techniques, management of pneumothorax, interpretation of pulmonary function tests, thoracentesis, pleural biopsy and fiberoptic bronchoscopy.
- E. To become more skilled and sensitive in interacting with patients, families and caregivers and develop clinical competence in the ethical, legal and economic aspects of critical illness.

## **TEAM STRUCTURE**

Pulmonary and Critical Care Attending

Pulmonary and Critical Care Fellow

0-1 Internal Medicine R2 or R3

0-2 Medical Students

## **PRINCIPAL TEACHING METHODS**

### *Case discussion and review*

- A. Direct supervision of patient consultation and management: Pulmonary/Critical Care Medicine  
Attending physicians provide supervision in the fellow's role as: (a) critical care medicine consultant, and (b) pulmonary consultant.

- B. Case-based discussion and review: This occurs in two settings:
1. Daily critical care work rounds at the bedside
  2. Pulmonary consult rounds at the bedside, in a small conference setting, and in the radiology viewing suite.

### *Rounds*

Team rounds on ventilated, non-medical critically ill patients occur every morning. Conjoint rounds with the Surgical Critical Care Service occur several times a week to facilitate patient care and to improve the educational opportunities for fellows on both services.

### *Didactics*

1. Radiology Rounds: new films on all patients followed are reviewed with an Attending Radiologist daily.
2. Chief-of-Medicine Rounds: weekly conference for discussion of patients on inpatient and outpatient services. Pathologic material, including autopsy findings, are presented whenever available.
3. Seattle Area Chest Grand Rounds: A case based interactive conference held at Harborview Medical Center and attended by Pulmonary and Critical Care medicine faculty throughout the University system.
4. Respiratory/Critical Care Conference: A three-year rotating curriculum in Pulmonary and Critical Care Medicine with weekly didactic lectures that is designed to prepare fellows for their board examinations.

## **EDUCATIONAL CONTENT**

### **Mix of Diseases**

Patients presenting to the Cardiac Intensive Care Unit demonstrate a broad range of cardiac emergencies including unstable angina pectoris, acute myocardial infarction, arrhythmias, and pericardial diseases.

Patients admitted to the Surgical/Trauma Intensive Care Unit have a variety of surgical, critical illnesses, but with a preponderance of severe traumatic injuries. Acute lung injury and ARDS are common in this population. HMC is the only Level I trauma center in the state of Washington and with particularly severe injuries are transferred from this entire area.

Patients with severe burns are admitted to the Burn Unit. HMC is the major burn unit in the WAMI region.

### **Pulmonary Diseases Consultations.**

The Pulmonary Consult Service sees between 2 and 5 consults per day with a wide range of pulmonary problems. Common diagnoses include pulmonary infections, including pneumonia and tuberculosis, obstructive lung diseases, pulmonary malignancy, occupational and environmental lung disease, and disorders of the pleura and mediastinum. There is a large HIV/AIDS population that provides a complete introduction to the pulmonary problems of these patients.

## **Patient Characteristics**

Patients admitted to Harborview Intensive Care Units represent a full socio-economic spectrum. The ethnic mix reflects not only that of the inner city of Seattle, but also the Pacific Northwest as a whole, particularly with regard to trauma patients.

## **Types of Clinical Encounters**

All ventilated patients (excluding those on the MICU and the Neurosurgical Critical Care Service) are seen by the fellow and attending daily. Initial consultation on these patients may be performed by the resident or student with fellow supervision.

Pulmonary consultation is initiated by the primary service. Again, the initial consultation may be performed by the resident or student, who then presents the case to fellow and attending.

The fellow will also see patients for scheduled outpatient procedures such as thoracentesis and fiberoptic bronchoscopy.

## **Procedures**

Procedures performed during this rotation include:

- fiberoptic bronchoscopy and related procedures
- endotracheal intubation
- thoracentesis,
- pleural biopsy
- tube thoracostomy placement (in Medicine patients)
- placement of central venous catheters, arterial lines, and Swan-Ganz catheters.

## **Services**

Harborview Medical Center has a full range of services available for participation in patient care. The emergency room has the highest volume of any in the State and is staffed 24 hours by attending physicians and a full mix of surgical and subspecialty consultative services.

The Respiratory Care Department has a national reputation for both patient care and clinical research.

The Pulmonary Function Laboratory is fully staffed and operates 5 days a week.

A Respiratory Patient Care Coordinator aids fellows faculty in the outpatient management of consult and clinic patients, including home oxygen and sleep studies, making clinic appointments and coordinating care with visiting nursing and respiratory therapy services, and with other services.

## **Rotation Specific Schedule**

### **Monday**

**Tuesday**

**Wednesday**

**Thursday**

**Friday**

**Call and Weekend Responsibilities**

There is no in-house call during this rotation. The Pulmonary fellow will take call from home, but the need to return to the hospital is extremely uncommon. The fellow will have at least 24 hours free from all clinical responsibilities every seven days, with most fellows accomplishing this with every other weekend off.

## **Principle Educational Materials Used Recommended Readings**

Selected cardiology, critical care, internal medicine, and Pharmacology texts are kept in the MICU and CCU. Fellows have access to literature searching via the computer terminals in the ICUs and on the wards. Photocopying can be done at any number of locations 24 hours daily. Residents have 24 hour access to the KK Sherwood Library, located in Harborview Hall (across the street from the Medical Center), which has a complete selection of medical textbooks and journals.

The Fast Eddy Miller Memorial Pulmonary and Critical Care Medicine Library represents the largest holding of purely pulmonary and critical care materials in the State of Washington. Fellows have free access to this resource, as well as to a collection of reprints of articles and chapters authored by HMC Pulmonary and Critical Care Medicine faculty. The Division syllabus of recommended reading is also maintained here.

### **Pathologic materials**

All pathologic materials obtained in the care of patients (e.g. pleural biopsy, transbronchial biopsy) are reviewed by the fellow and attending with the consulting pathologist.

### **METHODS USED IN EVALUATING RESIDENT AND PROGRAM PERFORMANCE**

At the end of the rotation, the fellow is evaluated in writing and their performance reviewed with them verbally by every attending he or she has interacted with for a significant amount of time. The evaluator rates the resident on a nine-point scale in each component of clinical competence (i.e. patient care, medical knowledge, practice based learning improvement, interpersonal and communication skills, professionalism, system based learning, educational attitudes, leadership, overall clinical competence).

The fellow is asked to evaluate in writing the quality of the curriculum and the extent to which the educational goals and objectives of the rotation have been met. The resident also evaluates the teaching competence of each attending and fellow with whom s/he has interacted for a significant amount of time.

### **EXPLICIT LINES OF RESPONSIBILITY FOR CARE OF PATIENTS ON THIS SERVICE**

The activities of fellows while on the clinical rotation at Harborview Medical Center are carried out under the supervision or direction of the assigned attending staff physician. The assigned attending staff physician makes daily attending rounds and is on-call twenty-four hours per day. All procedures are done under the direct supervision of the attending physician, unless the procedure is one the fellow has been certified for performing independently, after performance is directly observed on an adequate number of occasions (this only refers to procedures required for ABIM certification such as central line placement). All fiberoptic bronchoscopies and chest tube placements will be directly supervised. The fellow is expected to use clinical judgment regarding the timing of consultation with the attending physicians on clinical decision; i.e., whether reviewing a decision can wait until daily rounds the following day, or should be

discussed immediately. The fellow provides direct supervision of the resident and/or medical student(s) on the service.