

Clerkship title:	Pulmonary and Critical Care Rotation
Sponsoring department or unit:	Department of Internal Medicine
Name of clerkship director:	Bharat Prakash MD
Location	Transmountain Hospital/ Texas Tech University (Transmountain campus)

Internal Medicine Contact Information

Faculty/ staff	Phone	Email
Dan Schuller MD Chair, Department of Medicine	Office: (915) 215-8525	Dan.Schuller@ttuhsc.edu
Bharat Prakash, MD Department of Medicine	Office: (915) 215-8525	Bharat.Prakash@ttuhsc.edu
Rebecca Aranda Clerkship Coordinator	Office: (915) 215-5034	Rebecca.aranda@ttuhsc.edu

Overview

This is a 4 week rotation at Texas Tech University Transmountain Campus/ Transmountain Hospital. It meets the fourth year Pulmonary/ critical care requirement at the PLFSOM. Students will spend an average of 6 hours per day participating in the care of patients admitted in both inpatient and outpatient settings.

Academic Success and Accessibility

TTUHSC El Paso is committed to providing equal access to learning opportunities to students with documented disabilities. To ensure access to this course, and your program, please contact the Academic Success and Accessibility Office (ASAO), to engage in a confidential conversation about the process for requesting accommodations in the classroom and clinical setting. Accommodations are not provided retroactively, so students are encouraged to register with the ASAO as soon as possible. Please note: faculty are not allowed to provide classroom accommodations to a student until appropriate verification from ASOA has been provided to the school and disseminated to the appropriate faculty member(s). For additional information, please visit the ASAO website: <https://elpaso.ttuhsc.edu/student-services/office-of-academic-and-disability-support-services/default.aspx>.

Clerkship Objectives

The primary objectives of the rotation will be exposure to Pulmonary and Medical problems in a Medical/ Surgical Intensive Care, the Pulmonary Consult Service and office based Pulmonary Medicine. The rotation is flexible and can be weighted in favor of either direction to meet the student needs. The students are closely supervised on this rotation by pulmonary medicine attending physicians. The students are provided initial responsibility for evaluating primary care patients and patients seen in consultation with careful critique of their findings and close supervision of their day-to-day clinical decisions. At least one-half of the patients seen will be in intensive care units. Students receive didactic presentations on a daily

basis and are also assigned topics for their own review and presentation. Students will be able to stand in on some routine Pulmonary and Critical care procedures that are routinely performed in ICU/Pulmonary consult service. There will be a significant emphasis on reading and online portal will be available for students to review mandatory reading material in form of review articles, book chapters, and landmark publications.

The educational goals and objectives were developed internally and are consistent with guidelines provided by the American Board of Internal Medicine and appropriate Critical Care subspecialty organizations.

MEDICAL KNOWLEDGE

GOALS:

Students will acquire basic critical care knowledge and skills while developing professional attitudes and behaviors in the care of adult patients on the Pulmonary and Critical Care service.

Each medical student will be instructed by Pulmonary/ Critical Care faculty on relevant patient care issues requiring medical knowledge of the following conditions:

- Acute Respiratory Failure
- Multiple Organ Failure
- Shock
- Hemodynamic Instability
- Metabolic Disorders
- Acute Neurological Conditions
- Hypoxia
- Asthma
- Carcinoma of the lungs
- Chronic Obstructive Pulmonary Disease
- Common Occupational Lung Diseases
- Cough
- Hemoptysis
- Interstitial Lung Diseases (Sarcoidosis, pulmonary fibrosis and others)
- Perioperative pulmonary evaluation and Postoperative Respiratory Complications
- Pleural Effusions and Empyema
- Pneumonia and “Mimics of Pneumonia”

Students will understand the etiology, diagnosis and treatment of the conditions being managed while reading necessary texts and articles.

OBJECTIVES: By participation in this rotation, the student will demonstrate an acceptable level of proficiency in the following:

- The student will identify the pathophysiology causes of hypoxemia and hypercapnia in the common types of acute respiratory failure (2.1)
- The student will recall the indications of mechanical ventilation and able to recommend adjustments in mechanical ventilation in response to patients' needs, utilizing appropriate physiologic measurements (2.2, 2.3)
- The Student will learn about different types of shock and their pathophysiology (2.2, 2.3, 2.4)
- The student will recognize the pulmonary function abnormalities that characterize restrictive and obstructive lung diseases (2.1)
- Using the data the student has obtained by physical examination, the student will identify normal and abnormal physical findings and will interpret them correctly (1.1, 2.1)
- The student will identify and recognize the clinical, radiologic, laboratory and therapeutic features of the common diseases that cause acute and chronic respiratory failure (2.1, 2.2, 2.3)
- Management of acute respiratory disorders in non-ICU hospital units (1.2)
- Evaluate their own fund of knowledge and utilize available resources to provide evidence based answers to clinical questions (3.1)

ASSESSMENT:

Clinical evaluations by faculty.

PATIENT CARE

GOALS:

Medical students will be introduced to complex adult medical patients with Lung diseases and critical illnesses. The goal is for each student to:

- Be responsible for understanding his or her patients' medical conditions throughout the student's rotation
- Provide appropriate treatment and examination studies of his or her patients
- Have exposure to invasive monitoring techniques including central venous access and arterial lines
- Develop an appreciation for the intensive, around-the-clock patient care needs
- Experience and participate in end-of-life ethical issues
- Exposure to common Pulmonary conditions: Asthma, COPD, lung nodules/masses, pleural effusions

OBJECTIVES:

The student should become competent in performing and accurately recording a complete history and physical with assessment, differential diagnosis and plan.

To achieve the goals, each student will:

- The student should participate in common Pulmonary/Critical Care procedures including but not limited to central line placement, endotracheal intubation, ABGs, NG tube insertion, lumbar puncture. (1.8)
- Develop skills in ventilator management. (1.8, 1.2)
- Interpretation of lab tests as ABGs, EKGs, CXR, and electrolyte abnormalities. (1.2, 1.3)
- Learn interpretation of Basic Pulmonary Function Testing (1.3)

- The student should be able to learn effective communication skills with patients and families using simple language. (4.1, 1.6)

ASSESSMENT:

Clinical evaluations by faculty.

INTERPERSONAL AND COMMUNICATIONS SKILLS

GOALS:

Management of patients with acute illness and sometimes lung diseases requires a team approach involving multiple levels of communication. Medical students will:

- Able to provide compassionate and empathic patient care in both inpatient and outpatient settings.
- Sensitive to the diverse factors affecting patients and their health care beliefs and needs including race, culture, income and ethnicity.
- Develop effective communication skills with the staff including other physicians, nurses, respiratory therapists and social workers for better patient care delivery.

OBJECTIVES:

- During daily rounds, medical students will present their patients in the expected and accepted format. (4.2)
- Students will be expected to communicate treatment plans with a minimum of 2 patients in the MICU while under direct observation of the MICU faculty member. Students will also be seeing patients with pulmonary diseases in the wards and outpatient clinics and will be expected to communicate treatment plans in a similar fashion. (4.1, 1.6)
- Formulate and clearly communicate clinical histories and the plan of care to members of the health care team both verbally and in the form of written orders and progress notes (4.2, 4.4)
- Communicate prognosis and plan of care with patients and families using lay terms (4.1, 1.6)
- Initiate discussion of end-of-life issues and advanced directives in a culturally sensitive manner (4.1, 5.1, 5.4)

ASSESSMENT:

- Clinical evaluations by faculty.

PROFESSIONALISM

GOALS:

- Medical students will be expected to arrive in a timely fashion for all weekday rounding activities in the Intensive care Units and Clinics.
- Adequate preparation of patient information prior to rounds
- Appropriate behavior and attentiveness is expected throughout the experience on a daily basis
- Practice and respect patient privacy and confidentiality while maintaining highest standards of professionalism.
- Discuss ethical issues including end of life care.

OBJECTIVES:

- Medical students will be present and prepared a minimum of 10 minutes prior to rounds on each day. (5.7)
- All relevant Clinical data (labs, imaging) results must be presented to the Faculty by the medical student for those patients that s/he is following. (4.2, 5.6, 5.7)
- Demonstrate ethical principles related to patient privacy, autonomy, and informed consent. (5.2)
- Demonstrate sensitivity, compassion, integrity, and respect for all people (5.1)

ASSESSMENT:

Promptness and preparation for rounds will be assessed by rounding Faculty.

Clinical evaluations by faculty.

PRACTICE BASED LEARNING AND IMPROVEMENT**GOALS:**

- While on their Pulmonary/Critical Care rotation, each medical student will learn to present patient data in a coherent fashion to team members and consultants.
- Students will be instructed and educated about obtaining current best practices related to the care of their particular patients.

OBJECTIVES:

- Formulate a plan for the cost-effective diagnosis of diseases commonly seen by Pulmonary and Critical Care physicians (2.3, 6.3)
- Develop a systematic approach to organizing and acting upon clinical information in a time efficient manner (1.4, 3.5)
- Students will be expected to coherently discuss their patients' conditions and relevant medical management. (4.2, 1.2, 1.3)
- Students will demonstrate the ability to access and obtain medical knowledge resources through appropriate electronic media. (3.4)

ASSESSMENT:

Clinical evaluations by faculty

SYSTEMS-BASED PRACTICE**GOALS:**

Medical students will learn:

- Typical criteria requiring ICU/ Inpatient admission of patients with acute illness and lung diseases
- the importance of discharge planning for patients and local resources that are available

OBJECTIVES:

- Each student will be expected to provide a written discharge plan for at least one patient. (4.4, 6.2)

- Students will be expected to discuss appropriateness of admissions (6.1, 4.2)

ASSESSMENT:

Critical Care Faculty will assess the written discharge plan which will be placed in the student's portfolio. Clinical evaluations by faculty.

INTERPROFESSIONAL COLLABORATION SKILLS

GOALS:

- While on their Pulmonary and Critical Care rotation, each medical student will learn to present patient data in a coherent fashion to team members and consultants.

OBJECTIVES:

- Students will be expected to understand the roles and work professionally with other health care personnel including nurses, technicians, and ancillary service personnel. (7.1, 7.2)
- Is an important, contributing member of the assigned team. (7.3)
- Responds appropriately to circumstances involving conflict with other health care professionals or team members (7.4)

ASSESSMENT:

Clinical evaluations by faculty.

PERSONAL AND PROFESSIONAL DEVELOPMENT

GOALS:

- Students will be instructed and educated about obtaining current best practices related to the care of their particular patients.

OBJECTIVES:

- Recognizes when to take responsibility and when to seek assistance (8.1)
- Demonstrate flexibility in adjusting to change and uncertainty. (8.3)
- Demonstrates the ability to employ self-initiated learning strategies when approaching new challenges, problems, or unfamiliar situations. (3.1)

ASSESSMENT:

Clinical evaluations by faculty.

Clinical Experiences and Op Log Requirements:

The selective Clerkship director is responsible for ensuring that each student is being exposed to appropriate clinical experiences. Students are expected to review the selective syllabus and to discuss expectations and procedures at the beginning of the rotation. The selective director will also meet with the student as needed to review their patient care experiences.

A minimum of 10 op log entries are required with one of each in the following categories at the level of assist or manage:

- Acute respiratory failure
- Multiple organ failure

- Hemodynamic instability
- Severe metabolic disorder
- Acute Neurological Disorders

5 op log entries are due by mid-clerkship evaluation and the remainder is due by the end of the rotation.

The selective director will devise a strategy for addressing deficiencies if a condition is not encountered. In rare circumstances it may be necessary to assign students computerized cases, simulations, or special readings to achieve objectives that are not being met through actual patient care.

Society for Critical Care Medicine Modules

Students will be required to complete the Virtual Critical Care Rounds I and II modules prior to the end of the rotation.

Mid Clerkship Feedback:

Students will have a mid-clerkship evaluation in order to assist them with progress in MICU ICU; requirements, expectations, and possible methods of remediation will be discussed at that time. This will take place after at least two weeks in the medical ICU. The exact date will be assigned by the Clerkship Coordinator.

Grading Criteria:

Assessment is based on the criteria described above under each competency. Failure of preparation for or completion of clerkship activities may result in a lower grade at the discretion of the Clerkship Director. As outlined in the Common Clerkship Requirements, it is expected that over the course of the rotation, student performance will have improved in many or all categories, based on constructive feedback and growing familiarity with the clinical discipline and patient care. The final assessment represents the student's final level of achievement. Also, please refer to the Common Clerkship Requirements, Section on Grading Policies.

Missed Events:

Please refer to the Common Clerkship Requirements.

During this ICU rotation, personal "sick days" during the week can be made up during weekends at the direction of the faculty.

Remediation:

The clerkship director will meet with students needing remediation and discuss a remediation strategy specific for objectives which are deficient. For example, if the notes are incomplete, the clerkship director can meet with the student about the note.