

MARSHALL UNIVERSITY SCHOOL OF MEDICINE PULMONARY AND CRITICAL CARE FELLOWSHIP TRAINING PROGRAM

LETTER OF AGREEMENT FOR THE COOPERATIVE TRAINING OF RESIDENTS/FELLOWS FROM MARSHALL UNIVERSITY JOAN C. EDWARDS SCHOOL OF MEDICINE (MUSOM), AND ST. MARY'S MEDICAL CENTER (SMMC)

This letter of agreement is an educational statement that sets forth the relationship between MUSOM and SMMC. This statement of educational purpose is not intended to supercede or change any current contracts and institutional affiliation agreements between the institutions.

This Program Letter of Agreement is effective from July 1, 2021, and will remain in effect for ten (10) years, unless updated, changed, or terminated as set forth herein. All such changes, unless otherwise indicated must be approved in writing by all parties.

Persons Responsible for Education and Supervision at SMMC

At MUSOM: Yousef Shweihat, M.D., Program Director,
Pulmonary and Critical Care Fellowship Program

At SMMC: Imran Khawaja, M.D., Site Director and
All current MUSOM Pulmonary and Critical Care Faculty
Members (Exhibit A) which may change due to resignation or the
addition of new faculty members

1. Responsibilities

The MUSOM faculty (Faculty) at the SMMC must provide appropriate supervision of residents/fellows (Resident/Fellows) in patient care activities and maintain a learning environment conducive to educating the residents/fellows in the AOA/ACGME competency areas. The Faculty must evaluate Resident/Fellows performance in a timely manner during each rotation or similar educational assignment and document this evaluation at completion of the assignment.

2. Content and Duration of the Educational Experiences

The content of the educational experiences has been developed according to AOA/ACGME Residency/Fellowship Program Requirements and are delineated in the attached goals and objectives for each rotation. See Exhibit B.

The Program Director, Dr. Yousef Shweihat is ultimately responsible for the content and conduct of the educational activities at all sites, including SMMC. The MUSOM Program Director/SMMC Site Director and the faculty are responsible for the day-to-day activities of the Residents/Fellows to ensure that the outlined goals and objectives are met during the course of the educational experiences.

Rotations may be in two (2) week blocks, but generally rotations are a month in duration.

The day-to-day supervision and oversight of Resident/Fellow activities will be determined by the specialty service where they are assigned. The Program Coordinator, Caitlin Rhodes, is responsible for oversight of some Resident/Fellow activities, including coordination of evaluations, arrangement of conferences, sick leave and annual leave as mandated by MUSOM.

3. Assignments

In accordance with the Affiliation Agreement between MUSOM and SMMC, MUSOM will provide to SMMC, the name of the Resident(s)/Fellow(s) assigned to the site, the service they will be training on and other relevant information.

4. Responsibility for supervision and evaluation of residents

Resident/Fellows will be expected to behave as peers to the Faculty, but be supervised in all their activities commensurate with the complexity of care being given and the Resident/Fellow own abilities and level of training. Such activities include, but are not limited to the following:

- Patient care in clinics, inpatient wards and emergencies
- Conferences and lectures
- Interactions with administrative staff and nursing personnel
- Diagnostic and therapeutic procedures
- Intensive Care unit or Ward patient care

The evaluation form will be developed and administered by the MUSOM Pulmonary and Critical Care Fellowship Program. Residents/Fellows will be given the opportunity to evaluate the teaching faculty, clinical rotation and SMMC at the conclusion of the assignment.

5. Policies and Procedures for Education

During assignments at SMMC, Residents/Fellows will be under the general direction of MUSOM's Graduate Medical Education Committee's and the MUSOM Pulmonary and Critical Care Fellowship Program's Policy and Procedure Manual as well as the policies and procedures of SMMC, including but not limited to, policies related to patient confidentiality, patient safety, medical records.

6. Authorized Signatures

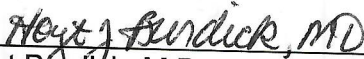
ST. MARY'S MEDICAL CENTER



Imran Khawaja, M.D.
Site Director

1/26/22

Date



Hoyt Burdick, M.D.
Chief Medical Officer

4/6/22

Date

MUSOM



Yousef Shweihat, M.D.
Program Director

12/29/2021

Date



Paulette S. Wehner, M.D., DIO
Vice Dean for GME

1/19/22

Date



Joseph Shapiro, M.D.
Dean

1/5/22

Date

Exhibit A: List of Faculty Members

Dr. Amro Al-Astal
Dr. Mohammed Al-Ourani
Dr. Mohammed AlJasmi
Dr. Imran Khawaja
Dr. Yousef Shweihat
Dr. Fuad Zeid
Dr. Tarake Aljarod
Dr. Ghassan Bandak



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OVERALL LEARNING GOALS AND OBJECTIVES

Patient Care

- a) Develop bedside skills necessary to establish a trusting relationship with patients and to obtain a history and physical.
- b) Master performance and interpretation of physical examination maneuvers.
- c) Develop skills in clinical reasoning.
 - Use historical data to generate a differential diagnosis.
 - Use subsequent questions to assign pre-test probabilities
 - Use previously published data from the medical literature (sensitivity, specificity) to calculate likelihood ratios for physical examination and laboratory tests.
 - Focus the physical examination to evaluate the diagnoses being considered
 - Use the results of a physical exam test to increase/decrease a diagnosis' post-test probability
 - Use the results of a laboratory test to increase/decrease a diagnosis' post-test probability
 - Use cost-benefit analysis to establish treatment and testing thresholds.
- d) Know how to discern and communicate the relevant features of a case
 - Structure the oral presentation to highlight relevant data
 - Adapt a presentation to different clinical scenarios
 - Structure a consultation or an admission note to highlight relevant data
 - Structure a progress note to highlight relevant data
- e) Acquire the skills for diagnosis and management of chronic or terminal disease.
- f) Understand the emotional, social and financial implications of chronic disease.

Medical Knowledge

- a) Develop the knowledge and skills needed for diagnosis and management of acute disease in ambulatory, critical and non-critical inpatient care settings.
- b) Develop proficiency in the procedures commonly performed by an intensivist/pulmonologist
- c) Acquire the skills necessary to be an effective consultant, and know when to request consultation from other services.

Practice-based learning and improvement

- a) Fellows are expected to use the medical literature to make evidence-based decisions while managing their patients. They are expected to learn how to:
 - Interpret measures of association between risk factors and disease (relative risk, odds ratios).
 - Interpret measures of disease outcomes (incidence, prevalence)
 - Define and interpret null and alternative hypotheses and the role of p-values in statistical analysis.



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- Define and compare clinical significance and statistical significance
 - Define sampling variation, compute and interpret standard error and confidence intervals.
 - Perform a t-test; understand how sample size and standard deviation affect power.
 - Know how to calculate and interpret a confidence interval.
- b) Understand the features of clinical trials
- Know the features of and how to design a descriptive study
 - Know the features of and how to design a case-control study
 - Know the features of and how to design a cohort study
 - Know the features of and how to design a randomized controlled trial
- c) Critically appraise the medical literature and use it to make evidence-based clinical decisions.
- d) Apply the principles of preventive medicine in managing patients in the pulmonary clinics. Use primary prevention, immunization, early detection of disease, and patient education to reduce the incidence and severity of disease.
- e) Accurately document patient care and treatment plans as part of daily inpatient practice of pulmonary and critical care.

Interpersonal and communication skills

- a) Develop leadership. Successfully lead a health care team comprised of nurses, respiratory therapists, physician assistants, social workers.
- b) Develop the fundamentals of medical education.
- c) Develop interpersonal skills.
- d) Identify signs of emotional distress and substance abuse in colleagues.

Professionalism

- a) Develop habits for life-long self-education and personal growth.
- b) Develop an understanding of the principles of ethical care.

Systems-based practice

- a) Understand the systems of medical care. This includes familiarity with medical economics, regulations and types of health care and health delivery.
- b) Understand the principles of medical economics
- Medicaid regulations, standards of care and billing requirements
 - Medicare regulations, standards of care and billing requirements
 - Uncompensated care provisions
 - Third-party insurance regulations, standards of care and billing requirements
- c) Gain proficiency in accurate diagnostic coding and billing.
- d) Become familiar with the principles of epidemiology, occupational medicine, and environmental medicine.



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**GRADED LEVEL OF RESPONSIBILITY AND EXPECTATIONS BY YEAR OF
TRAINING**

1st YEAR FELLOW

1. Demonstrates integrity, respect, compassion, and empathy for patients.
2. Communicates effectively with patients, families, health care professionals, other trainees, faculty and referring physicians.
3. Demonstrates ethical behavior while dealing with clinical and non-clinical issues.
4. Develops expertise as a consultant dealing with common pulmonary problems.
5. Develops expertise in managing adult patients with severe pulmonary illnesses and other serious illnesses requiring ICU treatment.
6. Demonstrates knowledge in the technical aspects and competency in the interpretations of pulmonary function testing.
7. Demonstrates knowledge and competency in performing flexible bronchoscopy and related procedures.
8. Demonstrates knowledge and competency in performing thoracentesis.
9. Demonstrates knowledge and competency in performing arterial puncture.

2nd YEAR FELLOW

1. Demonstrates integrity, respect, compassion, and empathy for patients.
2. Communicates effectively with patients, families, health care professionals, other trainees, faculty and referring physicians.
3. Demonstrates ethical behavior while dealing with clinical and non-clinical issues.
4. Maintains and enhances expertise as a consultant dealing with common and uncommon pulmonary diseases.
5. Maintains and enhances expertise in managing adult patients with severe pulmonary illnesses and a variety of other serious illnesses as well as trauma and surgery requiring ICU treatment.
6. Demonstrates knowledge in the technical aspects and competency in the interpretation of PFTs, exercise tests and sleep studies.
7. Maintains competency in procedural skills learned and develops knowledge and competency in:
 - Endotracheal intubation, including difficult airway, and airway maintenance
 - Advanced Ventilator management
 - Percutaneous pleural biopsy
 - Arterial and pulmonary artery catheters and central venous catheters placement
 - Calibration and operation of hemodynamic recording systems
 - Insertion and management of chest tubes.



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3rd YEAR FELLOW

1. Demonstrates integrity, respect, compassion, and empathy for patients.
2. Masters communication with patients, families, health care professionals, other trainees, faculty and referring physicians.
3. Demonstrates ethical behavior while dealing with clinical and non-clinical issues.
4. Maintains and enhances expertise as a consultant dealing with common and uncommon pulmonary diseases.
5. Maintains and enhances expertise in managing adult patients with severe pulmonary illnesses and a variety of other serious illnesses as well as trauma and surgery requiring ICU treatment.
6. Demonstrates knowledge in the technical aspects and competency in the interpretation of PFTs, exercise tests and sleep studies.
7. Maintains competency in procedural skills learned and develops knowledge and competency in:
 - Endotracheal intubation, including difficult airway, and airway maintenance
 - Advanced Ventilator management
 - Percutaneous pleural biopsy
 - Arterial and pulmonary artery catheters and central venous catheters placement
 - Calibration and operation of hemodynamic recording systems
 - Insertion and management of chest tubes.

KNOWLEDGE AREA, DETAILED GOALS AND OBJECTIVES

GOAL ONE

Demonstrate knowledge of physiology, pathophysiology, diagnosis, and therapy of Pulmonary and Critical Care Medicine problems.

Objective 1: (Pulmonary Medicine knowledge areas)

- A.** Learn pathophysiology and how to diagnose and manage patients with obstructive lung diseases, including:
 - Asthma
 - Emphysema
 - Chronic bronchitis
 - Bronchiectasis
 - Cystic fibrosis

- B.** Learn pathophysiology and how to diagnose and manage patients with interstitial and inflammatory lung diseases, including:
 - Sarcoidosis
 - Idiopathic pulmonary fibrosis



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- Pneumoconiosis, including:
 - Asbestosis
 - Silicosis
 - Pulmonary hemorrhagic disorders, including:
 - Wegener's granulomatosis and other vasculidites
 - Goodpasture's Syndrome
 - Collagen-vascular diseases
 - Bronchiolitis obliterans organizing pneumonia (BOOP/COP)
 - Eosinophilic granuloma
 - Allergic bronchopulmonary aspergillosis (ABPA)
 - Hypersensitivity pneumonitis
 - Drug-induced lung disease
 - Alveolar proteinosis
- C.** Learn pathophysiology and how to diagnose and manage patients with occupational and environmental lung diseases.
- D.** Learn pathophysiology and how to diagnose and manage patients with pulmonary vascular diseases, including:
 - Deep venous thrombosis (DVT)
 - Acute pulmonary embolism
 - Recurrent pulmonary embolism
 - Chronic thromboembolic disease
 - Primary pulmonary hypertension
 - Secondary pulmonary hypertension
- E.** Learn pathophysiology and how to diagnose and manage patients with lung infections, including:
 - Community-acquired pneumonia
 - Nosocomial pneumonia
 - Lung abscess
 - Aspiration pneumonitis
 - Tuberculosis, including latent infection and active tuberculosis
 - Nontuberculous mycobacterial infections
 - Fungal infections of the lung
- F.** Learn pathophysiology and how to diagnose and manage patients with pulmonary manifestations of Acquired Immune Deficiency Syndrome (AIDS) and other immunodeficiency diseases.



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- G.** Learn physiology, pathophysiology, and how to manage patients who have undergone lung transplantation.

- H.** Learn pathophysiology and how to diagnose and manage patients with pulmonary neoplasms, including:
 - Benign neoplasms of lung
 - Small cell cancer of lung
 - Non-small cell cancer of lung
 - Paraneoplastic syndromes of lung cancer
 - Malignancies metastatic to lung

- I.** Learn pathophysiology and how to diagnose and manage patients with disorders of the pleura, including:
 - Pleuritis
 - Pleural effusion
 - Empyema
 - Fibrothorax
 - Mesothelioma

- J.** Learn pathophysiology and how to diagnose and manage patients with disorders of the mediastinum, including:
 - Mediastinitis
 - Mediastinal tumor

- K.** Learn pathophysiology and how to diagnose and manage patients with chest trauma, including:
 - Rib fracture
 - Flail chest
 - Pneumothorax, simple and tension
 - Pulmonary contusion
 - Foreign body aspiration

- L.** Learn pathophysiology and how to diagnose and manage patients with acute lung injury due to inhalation and radiation, including:
 - Chemical pneumonitis
 - Radiation pneumonitis

- M.** Learn pathophysiology and how to diagnose and manage patients with developmental abnormalities and congenital disorders, including:
 - Azygous fissure



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— Pulmonary sequestration

- N.** Learn pathophysiology and how to diagnose and manage patients with genetic disorders, including:
- Cystic fibrosis
 - Alpha-1-antitrypsin inhibitor deficiency
- O.** Learn pathophysiology and how to diagnose and manage patients with respiratory failure, including:
- Acute respiratory distress syndrome (ARDS)
 - Acute and chronic respiratory failure in obstructive or restrictive lung disease
 - Neuromuscular disorders
- P.** Learn pathophysiology and how to diagnose and manage patients with hypersomnia and sleep disorders, including:
- Sleep disordered breathing
 - Obstructive sleep apnea syndrome
 - Nocturnal hypoxemia secondary to COPD
 - Nocturnal hypoxemia secondary to CHF
 - Periodic leg movement syndrome (PLMS)
 - Narcolepsy
 - Insomnia

Objective 2: (Critical Care Medicine knowledge areas)

- A.** Learn pathophysiology and how to diagnose and manage patients with disorders which can cause critical illness:
- Cardiovascular disorders
 - Respiratory disorders
 - Renal disorders
 - Gastrointestinal disorders
 - Genitourinary disorders
 - Neurologic disorders
 - Endocrine disorders
 - Hematologic disorders
 - Musculoskeletal disorders
 - Disorders of the immune system
 - Infectious diseases
 - Obstetric and gynecological disorders
 - Anaphylaxis and acute allergic reactions
 - Trauma



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- B.** Learn pathophysiology and how to diagnose and manage patients with disorders secondary to critical illness, including:
- Electrolyte and acid-base disorders
 - Metabolic, nutritional, and endocrine effects of critical illnesses
 - Hematologic and coagulation disorders secondary to critical illness
 - Pharmacokinetics, pharmacodynamics, drug metabolism, and drug excretion during critical illness
- C.** Learn pharmacology and clinical use of paralytic agents.

GOAL TWO:

Demonstrate practice skills necessary to diagnose and manage Pulmonary and Critical Care Medicine problems.

Objective 1: (Pulmonary Medicine practice skills)

- A.** Learn how to obtain a thorough history relevant to pulmonary problems, including:
- Dyspnea, on exertion and at rest
 - Cough and expectoration
 - Wheezing and stridor
 - Hemoptysis
 - Chest pain
 - History of known pulmonary diseases
 - Occupational history and history of exposure to dusts
 - History TB skin tests
 - History of past chest roentgenograms
 - History of previous surgical procedures
- B.** Learn how to perform a thorough, systematic physical examination relevant to pulmonary problems. Learn to recognize and understand the significance of pulmonary and extra pulmonary signs of pulmonary diseases, including:
- Abnormal patterns of breathing, including:
 - Kussmaul breathing
 - Cheyne-Stokes breathing
 - Thoracic-diaphragmatic dyscoordination
 - Abnormal chest and diaphragm movement
 - Use of accessory respiratory muscles
 - Chest wall abnormalities, including:
 - Kyphosis
 - Scoliosis
 - Pectus excavatum



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- Pectus carniatum
 - Straight back
 - Barrel chest
 - Ankylosis
 - Adventitious lung sounds
- C.** Learn how to interpret laboratory data relevant to pulmonary problems, including:
- Sputum cultures and microscopic examination for bacteria, mycobacteria, fungi, and Legionella
 - Sputum cytology
 - Oxygen saturation (by pulse oximeter)
 - Arterial blood gas (ABG)
 - TB skin test
 - Skin test for delayed hypersensitivity
 - Sweat chloride test
 - Pleural fluid analysis, including cytology, chemistry, Gram's stain, and culture for bacteria, fungi, and mycobacteria
 - Transthoracic needle aspirate (fluoro- or CT-guided) and biopsy
 - Lung biopsy
- D.** Learn how to interpret physiologic data relevant to pulmonary problems, including:
- Pulmonary function tests
 - Simple spirometry
 - Spirometry before and after bronchodilator
 - Inhalation challenge studies
 - Lung volumes
 - Diffusing capacity
 - Exercise tests
 - Sleep studies
- E.** Learn how to interpret radiologic imaging studies relevant to pulmonary problems including:
- Chest roentgenogram
 - Fluoroscopy of the chest
 - Bronchogram
 - Computerized axial tomography (CT) of chest
 - Radionuclide lung (V/Q) scan
 - Non-invasive leg studies
 - Compression ultrasonography
 - Impedance plethysmography (IPG)



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- Pulmonary arteriogram
- Positronic Emission Tomogram
- Bedside Critical Care Ultrasonography

Objective 2: (Critical Care Medicine practice skills)

- A. Learn how to obtain a thorough history on critically ill patients in an efficient manner.
- B. Learn how to perform and thorough physical examination on critically ill patients in an efficient manner.
- C. Learn how to interpret laboratory data relevant to critically ill patients.
- D. Learn how to interpret radiologic data relevant to critically ill patients.

GOAL THREE:

Demonstrate technical skill using specialized equipment and performing specialized procedures to diagnose and manage problems pertinent to Pulmonary and Critical Care Medicine.

Objective 1: (Technical skills with specialized equipment)

- A. Learn indications, contraindications, complications, and proper use of specialized equipment for managing patients with pulmonary and critical care problems, including:
 - Management of airway
 - Conscious Sedation
 - Establishment of airway
 - Maintenance of open airway in non-intubated, unconscious, paralyzed patients
 - Oral and nasotracheal intubation
 - Management of breathing and ventilation
 - Ventilation by bag or mask
 - Mechanical ventilation using pressure-cycled, volume-cycled, and negative pressure mechanical ventilators
 - Use of reservoir masks and CPAP masks for delivery of supplemental oxygen, humidifiers, nebulizers, and incentive spirometry
 - Weaning from mechanical ventilation
 - Respiratory care techniques
 - Management of pneumothorax
 - Maintenance of circulation
 - Oxygen saturation by pulse oximeter
 - Arterial blood gas analysis
 - Basic and advanced cardiopulmonary resuscitation
 - Cardioversion
 - Pulmonary function tests
 - Simple spirometry
 - Spirometry before and after bronchodilators



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- Inhalation challenge studies
- Lung volumes
- Diffusing capacity
- Exercise tests
- Calibration and operation of hemodynamic monitoring and recording systems, including utilization, zeroing, and calibration of transducers, and use of amplifiers and recorders.
- Parenteral nutrition

B. Learn to analyze specialized data pertaining to Pulmonary and Critical Care problems, including:

- Cardiac output determinations by thermodilution and/or other techniques
- Evaluation of oliguria
- Management of massive transfusions
- Management of hemostatic defects
- Interpretation of antibiotic levels and sensitivities
- Monitoring and assessment of metabolism and nutrition
- Calculation of oxygen content, intrapulmonary shunt, and alveolar-arterial gradients
- Pharmacokinetics

Objective 2: (Technical skills performing specialized procedures)

A. Learn indications, contraindications, complications, and proper technique for performing procedures relevant to pulmonary and critical care problems, including:

- Sputum induction
- Sputum Gram's stain
- TB skin tests
- Arterial puncture for arterial blood gas (ABG)
- Insertion of arterial catheter
- Insertion of central venous catheter
- Insertion of pulmonary artery balloon floatation catheter
- Thoracentesis
- Pleural biopsy
- Endotracheal intubation
- Flexible fiberoptic bronchoscopy, including:
 - Bronchial washing
 - Bronchial brushing
- Collection of samples with protected bronchial brush
- Bronchoalveolar lavage
- Endobronchial biopsy
- Wang needle aspirate and biopsy of pre-carinal lymph nodes
- Transbronchial biopsy



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- Transbronchial needle aspiration
- Insertion of thoracostomy (chest) tube
- Fluoro- or CT-guided transthoracic needle aspirate/biopsy of lung nodules/masses
- Pleurodesis

B. Learn indications, contraindications, and complications of - and may gain practical experience in performing - other procedures relevant to Pulmonary and Critical Care problems, including:

- Pericardiocentesis
- Transvenous pacemaker insertion
- Peritoneal dialysis
- Peritoneal lavage
- Aspiration of major joints
- Percutaneous needle aspiration and/or cutting lung biopsy
- Endobronchial laser therapy
- Intracranial pressure monitoring

GOAL FOUR:

Demonstrate ability to apply knowledge, practice skills, and technical skills to diagnose and manage patients with problems pertinent to Pulmonary and Critical Care Medicine.

Objectives (Clinical application of knowledge and skill)

A. Learn how to diagnose and manage patients with symptoms and signs of pulmonary disease, including:

- Dyspnea
- Cough
- Hemoptysis
- Solitary pulmonary nodule
- Lung mass
- Localized pulmonary opacity
- Diffuse pulmonary opacities
- Atelectasis
- Pleural effusion
- Pneumothorax

GOAL FIVE:

Demonstrate ability to provide cognitive and technical advice and expertise as a consulting Pulmonary and Critical Care Physician.



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Objectives (Providing consultation, use of consultation)

- A.** Learn the referral-consultant relationship for managing or co-managing patients with pulmonary problems or critically ill patients.
- B.** Learn when to refer patients for procedures to be performed by a thoracic surgeon or other specialist, including:
- Thoracoscopy
 - Open lung biopsy
 - Scalene node biopsy
 - Mediastinoscopy
 - Mediastinotomy
 - Lung resection
 - Lung transplant
 - Pleural decortication
 - Rib resection and open pleural drainage
 - Tracheostomy
 - Radiation therapy of lung

GOAL SIX:

Demonstrate knowledge of how the care of problems pertinent to Pulmonary and Critical Care Medicine fit into patients' overall health plan.

Objectives: (Attitudes, values, and habits about long-term care)

- A.** Learn the importance of preventive medicine in the long-term management of patients with pulmonary problems, including:
- Smoking cessation
 - Influenza vaccine
 - Pneumococcal vaccine
- B.** Learn the long-term impact of treating patients who are severely and critically ill.

GOAL SEVEN:

Demonstrate attitudes, values, and habits of a dedicated sub-specialist in Pulmonary and Critical Care Medicine.

Objectives: (Life-long attitudes, values, habits and contributions)

- A.** Teaching: learn to take an active role in teaching common problems pertinent to Pulmonary and Critical Care Medicine to medical students, residents, and practicing physicians in CME programs.
- B.** Management of resources and services. Learn to monitor and supervise special services relevant to Pulmonary and Critical Care Medicine, including:



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- Pulmonary function laboratories
- Respiratory care services
- Respiratory physical therapy and rehabilitation services
- Intensive Care Units

C. Societal considerations. Learn the impact of pulmonary and critical care illnesses on society, including:

- The ethical, economic, and legal aspects of pulmonary and critical illnesses
- Smoking
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Occupational lung diseases
- Sleep disorders
- Occupational Safety and Health Administration (OSHA) regulations and universal precautions for protection of health care workers.
- Personal impact of pulmonary and critical illnesses on patients and patients' families.

D. Coping skills: learn constructive coping skills for physicians and other health care professionals who care for chronically ill pulmonary patients and for critically ill patients. will be used in the selection process.