



CME Sponsors: American Medical Seminars, Inc.
Activity Title: Critical Care and Pulmonary Medicine: A Comprehensive Review and Update
Activity Dates: May 25-29, 2020
Presenting Faculty: Joanna P. Sta.Cruz, M.D. and Bhavna Sharma, M.D.

NARRATIVE DESCRIPTION

Following this course, the participant should be able to assess the common presentation and patient complaints for the various pulmonary disorders described; implement a diagnostic work-up appropriate for each presented disorder, considering a practical and cost-effective approach; employ a cost-effective method of treatment, follow-up and long-term care when indicated. This activity is expected to improve competence in making an appropriate diagnosis and providing effective treatment and referral or follow-up care with the overall goal of improving patient outcomes.

The emphasis will be on current guidelines and evidence-based medicine, as indicated within each topic's specific objectives, with a focus on diagnosis, treatment and when to refer. Practitioners are expected to be competent in the fundamentals of many specialized areas of medicine and rely upon the specialist only when necessary. Since the specialty of Pulmonary and Critical Care are frequently encountered in many clinical settings to include EM, FP and IM, this course was designed as a review and update for health care providers at the level of a practicing physician.

Day 1

COPD – Overview of Patient Management: Parts I & II.

COPD is a common and important clinical entity. We will review the current status of its diagnosis and treatment. Evidence-based practice parameters will be reviewed. We will review the latest GOLD guidelines during this presentation. Upon completion of this session, the participant should be able to: ^{GL COMP}

1. Describe the pathophysiology of COPD.
2. Characterize the natural history and clinical features of COPD.
3. Outline the adverse health effects of cigarette smoking and present recommendations for helping patients "kick the habit".
4. Utilize many aspects of outpatient management including long term oxygen therapy, pulmonary rehabilitation and pharmacologic treatment. We will present a treatment algorithm and discuss indications for specialist referral.
5. Assess surgical treatment options for emphysema.

What's New in Asthma: Parts I & II.

This session will review the current status of asthma diagnosis and management based on the most recent recommendations from the GINA asthma guidelines. Upon completion of this session, the participant should be able to: ^{GL COMP}

1. Characterize the pathophysiology of this inflammatory disease.
2. Evaluate different ways of diagnosing asthma including identification of atypical presentations and understanding the various modalities used to diagnose asthma
3. Develop a stepwise approach to treatment of asthma using pharmacologic and non-pharmacologic means
4. Demonstrate the proper use of the various inhalers available in asthma
5. Discuss indications, patient selection, and identify possible complications from asthma biologics

Day 2

"Nuts and Bolts" of Pulmonary Function Testing.

We will review the "nuts and bolts" of pulmonary function testing in an easy to understand fashion with an emphasis on outpatient office spirometry. American Thoracic Society Guidelines will be referenced. Upon completion of this session, the participant should be able to: ^{GL COMP}

1. Identify the components of PFTs including spirometry, lung volumes and diffusion.
2. Characterize the indications for PFTs.
3. Describe when bronchodilator and bronchoprovocation studies are useful.
4. Develop a stepwise approach to PFT interpretation and be able to distinguish common patterns.
5. Recognize different patterns of upper airway obstruction.

A variety of actual PFTs will be presented for interpretation and review.

Approach to the Patient with Chronic Cough.

Cough is a very common outpatient problem, which can be difficult to manage. An evidence-based approach to diagnosis and treatment from the ACCP will be reviewed based on the American College of Chest Physicians Guidelines. Upon completion of this session, the participant should be able to: ^{GL EBM COMP}

1. Characterize the pathophysiology and clinical aspects of the most common etiologies of cough.
2. Specify pertinent features of a focused history and physical.



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3. Develop an evidence- based and cost-effective approach to diagnosis and treatment.

Disorders of Sleep – Obstructive Sleep Apnea and Others.

Sleep apnea is a common disorder seen in general practice. Evidence-based practice parameters will be reviewed. Upon completion of this session, the participant should be able to: EBM COMP

1. Describe the epidemiology of obstructive sleep apnea.
2. Identify the clinical presentation and how to take a thorough “sleep history.”
3. Characterize the diagnostic work-up including overnight polysomnography, HST.
4. Differentiate treatment modalities including CPAP, dental appliances, surgery & others.
5. Assess obesity hypoventilation syndrome, central sleep apnea, Cheyne Stokes breathing, narcolepsy and periodic leg movements of sleep.

Preoperative Pulmonary Assessment.

The primary care provider is commonly asked to “clear” a patient with lung disease for surgery. Evidence-based practice parameters from the ACP will be reviewed, recent anesthesia society guidelines and special consideration to thoracic surgeries. Upon completion of this session, the participant should be able to: GL EBM COMP

1. Characterize the respiratory effects of anesthesia and surgery with emphasis on patients with at-risk complications.
2. Describe the perioperative risk factors associated with post-op pulmonary complications.
3. Identify the elements of appropriate preoperative evaluation including the role of spirometry.
4. Describe preoperative and post-operative measures that can minimize postoperative respiratory complications in at-risk patients.

Day 3

Approach to Acid-Base Disturbances.

Upon completion of this session, the participant should be able to: COMP

1. Identify primary metabolic and respiratory acid- base disturbances and their compensatory mechanisms.
2. Prepare a formal, stepwise approach to the interpretation of any acid-base problem.

3. Describe the differential diagnosis of the major simple and mixed acid-base disturbances.

Several illustrative case studies will be discussed

Acute Respiratory Failure and Mechanical Ventilation.

We will provide a practical review of this exciting topic. We will cover the basics of mechanical ventilation and weaning. Evidence-based recommendations will be reviewed- we will also be referencing ARDS net study and the role of lung protective mechanical ventilation. Upon completion of this session, the participant should be able to: GL EBM COMP

1. Characterize the pathophysiology and differential diagnosis of acute hypoxemic and hypercapnic respiratory failure.
2. Identify the basic concepts of management for patients on mechanical ventilation.
3. Differentiate commonly used ventilator modes. We will also discuss the use of positive end expiratory pressure (PEEP).
4. Identify the indications for and complications of mechanical ventilation.
5. Characterize general principles and strategies for liberation from mechanical ventilation.

Shock and Hemodynamic Monitoring.

Shock is a common problem in the intensive care unit. Differentiating the type of shock is crucial in the management of the critically ill patient. Upon completion of this session, the participant should be able to: COMP

1. Define shock and describe the pathophysiology of the different types.
2. Appraise basic resuscitation techniques including volume replacement and the use of vasopressors/inotropes.
3. Describe the use and limitations of the different modalities of hemodynamic monitoring including point of care ultrasonography/echocardiography and pulse wave contour analysis.

Community Acquired Pneumonia.

We will review the diagnosis and treatment of this common disorder with emphasis on the most up-to-date evidence-based published guidelines. Upon completion of this session, the participant should be able to: GL EBM COMP

1. Differentiate patients with respect to severity of illness.
2. Develop a strategy to triage patients - outpatient therapy, hospitalize or ICU.



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3. Characterize the different pathogens that commonly cause community-acquired pneumonia.
4. Identify the current status of diagnostic work-up including the use of cultures, gram stains, serology and bronchoscopy. We will emphasize a cost-effective approach.
5. Demonstrate how to properly use antibiotics for community-acquired pneumonia.

Day 4

Lung Cancer for the Front-Line Provider

Primary lung cancer remains a major cause of morbidity and mortality, hence the Center for Medicare and Medicaid Services' approval of coverage for Low Dose Chest CT for Lung Cancer Screening to catch this deadly disease at an early stage. The Primary Care Providers or the Hospitalists are often in the front lines dealing with the various presentations and complications of lung cancer itself or its therapies. Upon completion of this session, the participant should be able to: ^{COMP}

1. Discuss patient selection for lung cancer screening
2. Identify patient and nodule risk factors for lung cancer
3. Illustrate the basic clinical aspects of lung cancer including staging, natural history, and associated extrapulmonary syndromes.
4. Prescribe current treatment options for small cell and non-small cell lung cancer.
5. Discuss the differential diagnosis of a patient with lung cancer presenting in the emergency room with respiratory distress with appropriate referral specialist

Critical Care Cases, Parts I & II.

A variety of Critical Care cases will be presented with audience participation. X-rays and other diagnostic studies will be shown in an attempt to emphasize some of the common problems seen in the ICU. Cases will include a variety of pulmonary as well as non-pulmonary topics and evidence-based sources will be referenced. The session will be interactive. Upon completion of this session, the participant should be able to: ^{EBM COMP}

1. Formulate a differential diagnosis for common cases in the ICU
2. Discuss basic, evidence-based approach to the management of common cases in the ICU
3. Evaluate some of the controversies that underlie management decisions of common cases in the ICU

Pulmonary Hypertension

PH hypertension is a relatively under-diagnosed condition with high morbidity and mortality. In this session we will discuss early identification, diagnosis and referral for pulmonary hypertension. We will present ERS 2015 guidelines for the diagnosis and management of pulmonary hypertension as well as latest CHEST guideline update for PAH (Pulmonary arterial hypertension). Upon completion of this session the participant should be able to: ^{GL COMP}

1. Recognize early suspicion, evaluate patient population and prescribe a basic diagnostic workup for pulmonary hypertension.
2. Identify the major categories of pulmonary hypertension.
3. Recognize PAH and evaluate the newer drugs available for treatment.

Day 5

Venous Thromboembolism.

Venous thromboembolism is very common, often difficult to diagnose problem with devastating consequences if not treated promptly. Evidence based approaches to diagnosis and treatment of DVT and PE, including ACCP guidelines, will be presented. Upon completion of this session, the participant should be able to: ^{GL EBM COMP}

1. Describe the epidemiology, risk factors, & clinical presentation of PE & DVT.
2. Identify the role of DVT and PE prevention and current recommendations to accomplish it.
3. Formulate the diagnostic work-up including V/Q scanning, lower extremity studies, CT scanning, pulmonary angiography and others.
4. Develop treatment modalities including anticoagulation, thrombolysis & vena cava filters, with special consideration to catheter based thrombolysis.

Pulmonary Cases for Review.

A wide variety of cases will be discussed in order to review some of the important points outlined during the week. We will also present some new evidence-based information that was not formally covered in the previous sessions. Upon completion of this session, the participant should be able to: ^{EBM COMP}

1. Identify and properly evaluate a patient with occupational asthma.
2. Generate a differential diagnosis and treatment algorithm for a patient with chronic cough.



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3. Recognize the causes and evaluation of a solitary pulmonary nodule.

Interstitial Lung Disease.

The focus of the discussion will be on sarcoidosis and idiopathic pulmonary fibrosis. These are two disorders a primary care provider should be familiar with. We will review the recent literature so that upon completion of this session, the participant should be able to: ^{GL COMP}

1. Characterize the spectrum of interstitial lung disease.
2. Develop a basic understanding of the diagnostic work-up, which can include high resolution CT scanning and tissue biopsy.
3. Identify the clinical and radiographic manifestations of sarcoidosis. An overview of management will be provided.
4. Illustrate the typical presentation of idiopathic pulmonary fibrosis as well as management issues.

We will present a variety of cases with x-rays, CT scans and pathology to illustrate important features. The discussion will focus on basic concepts and will include guidelines on specialist's referral.

Hemoptysis.

A common, and occasionally life-threatening, emergency. Upon completion of this session, the participant should be able to: ^{COMP}

1. Determine the causes for hemoptysis.
2. Evaluate the severity of a bleeding episode.
3. Identify the diagnostic modalities available.
4. Prescribe acute basic therapy and evaluate indications for specialist referral.