

**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

Chronic obstructive pulmonary disease (COPD) involves progressive pulmonary airflow limitation that is not completely reversible, and is associated with an abnormal airway inflammatory response. COPD affects over 11 million Americans and is the fourth most common cause of death in the United States and Canada. COPD exacerbation is defined as an increase in the usual symptoms of COPD and can often result in hospitalization. The Diagnosis Related Group (DRG) for COPD had 652,000 discharges in 2002, according to the Healthcare Cost and Utilization Project (HCUP). Mean charges for these patients were \$13,000 per patient and the mean length-of-stay was 4.7 days with in-hospital mortality of 1.7%. Hospitalists use evidence based approaches to optimize care, and can lead multidisciplinary teams to develop institutional guidelines or care pathways to reduce readmission rates and mortality from COPD exacerbation.

**KNOWLEDGE**

*Hospitalists should be able to:*

- Define COPD and describe the pathophysiologic processes that lead to small airway obstruction and alveolar destruction.
- Describe potential precipitants of exacerbation, including infectious and non-infectious etiologies.
- Recognize and differentiate the clinical presentation of COPD exacerbation from other acute respiratory and non-respiratory syndromes.
- Describe the role of diagnostic testing used for evaluation of COPD exacerbation.
- Distinguish the medical management of patients with COPD exacerbation from patients with stable COPD.
- Describe the evidence based therapies for treatment of COPD exacerbations, which may include bronchodilators, systemic corticosteroids, oxygen and antibiotics.
- Explain indications, contraindications and mechanisms of action of pharmacologic agents used to treat COPD.
- Describe and differentiate the means of ventilatory support, including the outcome benefits of non-invasive positive pressure ventilation in COPD exacerbation.
- List the indicators of disease severity.
- Explain goals for hospital discharge, including specific measures of clinical stability for safe care transition.

**SKILLS**

*Hospitalists should be able to:*

- Elicit a focused history to identify symptoms consistent with COPD exacerbation and etiologic precipitants.
- Perform a targeted physical examination to elicit signs consistent with COPD exacerbation, differentiate it from other mimicking conditions, and assess severity of illness.
- Diagnose patients with COPD exacerbation using history, physical examination, and radiographic data.
- Select and interpret appropriate diagnostic studies to evaluate severity of COPD exacerbation.
- Select patients with COPD exacerbation who would benefit from use of positive pressure ventilation.
- Recognize symptoms, signs and severity of impending respiratory failure and select the indicated evidence based ventilatory approach.
- Prescribe appropriate evidence based pharmacologic therapies during COPD exacerbation, using the most appropriate route, dose, frequency, and duration of treatment.
- Evaluate COPD in perioperative risk assessment, recommend measures to optimize perioperative management of COPD, and manage post-operative complications related to underlying COPD.

**ATTITUDES**

*Hospitalists should be able to:*

- Communicate with patients and families to explain the natural history and prognosis of COPD.
- Communicate with patients and families to explain the goals of care plan, including clinical stability criteria, the importance of prevention measures such as smoking cessation, and required follow-up care.
- Communicate with patients and families to explain discharge medications, potential side effects, duration of therapy and dosing, and taper schedule.
- Ensure that prior to discharge patients receive training on proper inhaler techniques and use.

- Recognize indications for specialty consultation, which may include pulmonary medicine.
- Promote prevention strategies including smoking cessation, indicated vaccinations and VTE prophylaxis.
- Recognize the potential risks of supplemental oxygen therapy, including development of hypercarbia in patients with chronic respiratory acidosis.
- Employ a multidisciplinary approach, which may include pulmonary medicine, respiratory therapy, nursing and social services, to the care of patients with COPD exacerbation, beginning at admission and continuing through all care transitions.
- Establish and maintain an open dialogue with patients and/or families regarding care goals and limitations, including palliative care and end-of-life wishes.
- Address resuscitation status early during hospital stay; implement end of life decisions by patients and/or families when indicated or desired.
- Collaborate with primary care physicians and emergency physicians in making the admission decisions.
- Document treatment plan and discharge instructions, and communicate with the outpatient clinician responsible for follow-up.
- Provide and coordinate resources for patients to ensure the safe transition from the hospital to arranged follow-up care.
- Utilize evidence based recommendations for the treatment of patients with COPD exacerbations.

### SYSTEM ORGANIZATION AND IMPROVEMENT

*To improve efficiency and quality within their organizations, Hospitalists should:*

- Develop educational modules, order sets, and/or pathways that facilitate use of evidence based strategies for COPD exacerbation in the emergency department and the hospital, with goals of improving outcomes, decreasing length of stay, and reducing re-hospitalization rates.
- Lead efforts to educate patients and staff on the importance of smoking cessation and other prevention measures.
- Lead, coordinate or participate in multidisciplinary initiatives, which may include collaboration with pulmonologists, to promote patient safety and cost-effective diagnostic and management strategies in the care of patients with COPD.