

ASTHMA

Asthma involves bronchospasm with reversible airflow limitation and an abnormal airway inflammatory response. The Healthcare Cost and Utilization Project (HCUP) estimates 130,000 hospital discharges for asthma in 2002. The mean length-of-stay was 2.8 days, with mean charges of \$8,000 per patient. When viewed as part of the Diagnosis Related Group (DRG) for Chronic Obstructive Pulmonary Disease, the data is slightly different. These patients accounted for 85,000 discharges with mean charges of almost \$14,000 per patient. The mean length-of-stay was 4.6 days in this group, with an in-hospital mortality of 0.6%. Hospitalists use evidence based approaches to optimize care of patients with asthma exacerbation. Hospitalists lead multidisciplinary teams to develop institutional guidelines or care pathways to improve efficiency and quality of care and to reduce readmission rates.

KNOWLEDGE

Hospitalists should be able to:

- Define asthma and describe the pathophysiologic processes that lead to reversible airway obstruction and inflammation.
- Identify precipitants of asthma exacerbation.
- Recognize and differentiate the clinical presentation of asthma exacerbation from other acute respiratory and non-respiratory syndromes.
- Describe the role of diagnostic testing, including peak flow monitoring, used for evaluation of asthma exacerbation.
- Describe evidence based therapies for the treatment of asthma exacerbations, which may include bronchodilators, systemic corticosteroids, and oxygen.
- Explain indications, contraindications and mechanisms of action of pharmacologic agents used to treat asthma.
- Explain the indications for invasive ventilatory support.
- List the risk factors for disease severity and death from asthma.
- 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 triggers of asthma and symptoms consistent with asthma exacerbation.
- Perform a targeted physical examination to elicit signs consistent with asthma exacerbation, differentiate findings from other mimicking conditions, and assess severity of illness.
- Select and interpret appropriate diagnostic studies to evaluate severity of asthma exacerbation.
- Recognize impending respiratory failure and coordinate intubation when indicated.
- Prescribe appropriate evidence based pharmacologic therapies during asthma exacerbation, using the most appropriate route, dose, frequency and duration of treatment.

ATTITUDES

Hospitalists should be able to:

- Communicate with patients and families to explain the natural history and prognosis of asthma.
- 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 modification of environmental exposures, 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 of proper inhaler and peak flow techniques.
- Differentiate for patients and families the indications and appropriate use of daily use inhalers and rescue inhalers for asthmatic control.
- Communicate with patients and families to explain symptoms and signs that should prompt emergent medical management.
- Recognize indications for specialty consultation, including pulmonary and allergy medicine.
- Promote prevention strategies including smoking cessation and indicated vaccinations.

- Employ a multidisciplinary approach, which may include pulmonary medicine, respiratory therapy, nursing and social services, to the care of patients with asthma exacerbation.
- Collaborate with primary care physicians and emergency physicians in making the admission decision.
- Document treatment plan and discharge instructions, and communicate with the outpatient clinician responsible for follow-up.
- Provide and coordinate resources for patients to ensure safe transition from the hospital to arranged follow-up care.
- Utilize evidence based recommendations for the treatment of patients with asthma 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 asthma 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 staff on the importance of smoking cessation counseling and other prevention measures.
- Lead, coordinate or participate in multidisciplinary initiatives, which may include collaborative efforts with pulmonologists, to promote patient safety and optimize cost-effective diagnostic and management strategies for patients with asthma.