

### Initial Assessment

1. All patients: BP P RR O₂ Saturation Peak Flow
2. Brief history, Physical Exam (auscultation, accessory muscle use)
3. CXR if signs of PNA, PTX, or foreign body.
4. EKG if >age 50 or chest pain
5. Labs: Theophylline level if patient taking Theophylline.

#### ED Treatment

- **Peak Flow ≥ 40%**
  - Mild to Moderate
- **Peak Flow < 40%**
  - Severe

#### Impending Respiratory Arrest

- Intubation
- 100% O₂
- Nebulized Albuterol/Ipratropium
- Corticosteroids
- Consider Adjunct Therapies

**Emergency Department Treatment**

1. Saline lock for P > 120 or RR > 24
2. Supplemental oxygen to achieve SaO₂ > 90%
3. Bronchodilator Therapy
   - Albuterol 2.5 – 5 mg Q 20 minutes via Neb x 3
   - May add ipratropium 0.5 mg Q 20 minutes via neb x 3 for severe exacerbations
   - May consider 10 – 15 mg/hr continuous albuterol neb for severe exacerbations
4. Systemic Corticosteroids
   - Prednisone 40 – 80 mg PO (60 mg in average adult) or Solumedrol 125 mg IV
5. Adjunct therapies for impending respiratory failure or if poor response to treatment
   - 1 hour.
   - Magnesium Sulfate 2g IV
   - Heliox

#### Reassessment

- Patients subjective Response
  - RR, Sat, Peak Flow

- **Good Response**
  - Peak Flow > 70%
  - Minimal symptoms
  - Response sustained 60 minutes after last treatment

- **Incomplete Response**
  - Peak Flow 40 – 69 %
  - Mild to Moderate Symptoms

- **Poor Response**
  - Peak Flow < 40%
  - PCO₂ > 42 mm Hg
  - Worsening fatigue
  - Inability to speak
  - Altered mental status
  - Intercostal retraction

**Discharge Home**

1. Continue inhaled bronchodilators
2. Continue oral corticosteroids
   - Prednisone 40 – 80 mg/day for 5 – 10 d
3. Consider initiation of inhaled corticosteroid, i.e. Fluticasone
4. Patient Education
   - Review medications, including inhaler technique
   - Review action plan
   - Recommend close follow up

**Consider**

1. Admission to ward or OBS
2. Repeat Bronchodilators
3. Continue treatment 1-3 hours and make admit decision by 4 hours.

**Admit to ICU**

- Continuous Bronchodilator
- Consider adjunct therapy
- Consider intubation

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This guideline was ratified by the emergency department faculty at Maine Medical Center in June 2009. It reflects our expert opinion and is not necessarily applicable to all institutions. It is intended to be a reference for clinicians caring for patients and is not intended to replace providers' clinical judgment.

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