



INFORMATION

Patients with COPD & Asthma have prolonged exhalation secondary to bronchospasm, which causes air trapping resulting in hypercapnia (high levels of CO₂). Therefore, EtCO₂ guidelines should be disregarded for these patients, as it is more important to maintain SpO₂ levels at 90%. Trying to maintain normal EtCO₂ levels in these patients puts them at risk for developing Auto PEEP, which can result in a pneumothorax or hypotension. Auto PEEP occurs during assisted ventilations when air goes in before the patient is allowed to fully exhale. This causes the lungs to expand like a balloon, putting the patient at risk for a pneumothorax. In addition, increasing intrathoracic pressure decreases venous return to the heart which can result in hypotension.

COPD or Asthma patients who develop poor bag compliance or hypotension during positive pressure ventilations should have positive pressure ventilations discontinued (if intubated, disconnect BVM from ETT) for 20-40 seconds (10-20 seconds for pediatrics) to allow the patient to completely exhale before resuming positive pressure ventilations.



ADULT

- ☐ Consider differential diagnosis (i.e. CHF, allergic reaction, etc.).
- ☐ Maintain SpO₂ at 95% or 90% for COPD and asthma patients.
- ☐ Provide ventilatory support prn.
- ☐ Monitor EtCO₂ (if available).
- ☐ **CPAP** (10 cm H₂O) is indicated for moderate/severe respiratory distress, including: COPD, asthma and pneumonia patients.
 - *Contraindicated for a SBP less than 90mmHg*
 - *Contraindicated for patients without spontaneous respirations*
 - *Contraindicated for patients with a decreased LOC (lethargic)*
 - *Only for patients 30kg or above*

**IMMEDIATELY REMOVE THE CPAP FOR THE
ASTHMATIC PATIENT WHOSE CONDITION
WORSENS AFTER APPLYING THE CPAP.**

**ADMINISTER IN-LINE NEBULIZED ALBUTEROL
TO ALL INTUBATED ASTHMA PATIENTS WITH
BRONCHOSPASM.**



ADULT

BRONCHOSPASM SECONDARY TO COPD

- ☐ **ALBUTEROL:** 2.5mg via nebulizer. May be administered simultaneously with CPAP. Repeat prn for bronchospasm.

BRONCHOSPASM SECONDARY TO ASTHMA

- ☐ **ALBUTEROL:** 2.5mg via nebulizer. May be administered simultaneously with CPAP. Repeat prn for bronchospasm.
- ☐ If bronchospasm worsens or fails to improve after Albuterol Treatment:
EPINEPHRINE: **(1:1,000)** 0.3mg IM. May repeat 2x in five minutes.

FOR SEVERE ASTHMA NOT RESPONDING TO ABOVE TREATMENT

- ☐ **MAG SULFATE:** 2g IV/IO in 50 mL of Normal Saline over 10 minutes.



PEDIATRIC

BRONCHOSPASM

- ☐ Oxygenate and/or ventilate prn to maintain SpO₂ at 95% and EtCO₂ levels between 35-45 mmHg. Treatment for asthma patients is based on maintaining an SpO₂ of 90%.
- ☐ **ALBUTEROL:** 2.5mg via nebulizer. Repeat prn for bronchospasm.

IF BRONCHOSPASM WORSENS AFTER ABOVE ALBUTEROL TREATMENT

- ☐ **EPINEPHRINE: (1:1,000)** 0.01mg/kg (0.01mL/kg) IM. Max single dose 0.3mg. May repeat 2x prn, in five minute intervals.

FOR SEVERE ASTHMA NOT RESPONDING TO ABOVE TREATMENT

- ☐ **MAGNESIUM SULFATE:** 40 mg/kg in 50 mL of Normal Saline infused over 25 minutes.
- ☐ **ASSIST VENTILATIONS** via BVM prn with appropriate airway adjunct.

FOR CROUP/EPIGLOTTITIS

- ☐ **EPINEPHRINE: (1:1,000)** 3mL (**3mg total**) delivered via nebulizer.
- ☐ **DO NOT STRESS THE PATIENT!**
- ☐ **DO NOT ATTEMPT INTUBATION OR PLACE AN OPA OR NPA. VENTILATE VIA BVM AS NEEDED.**
- ☐ Expedite transport to closest approved Pediatric Emergency Facility.

CROUP

- Usually less than 3 y/o
- "Sick" for a couple of days
- Low grade fever
- Not "toxic" appearing

EPIGLOTTITIS

- Usually 3-6 y/o
- Sudden Onset
- High grade fever
- Poor general impression
- Drooling
- Tripod position

Both will have stridor and/or a "barky" cough.