

# Wheezing/Bronchospasm

Consider pulmonary & non-pulmonary causes: pulmonary edema ("cardiac asthma"), MI, pneumonia, pulmonary embolism, pneumothorax

Obtaining a history is critical to identifying the cause of wheeze and severity of illness – if patient says they have been intubated in the past...  
**BE PREPARED!**

Routine Medical Care  
including SpO<sub>2</sub> and EtCO<sub>2</sub> monitoring

COPD patients not in respiratory distress should have a goal SpO<sub>2</sub> of >90%; however, do not withhold oxygen if patient c/o SOB or appears dyspneic

Give high-flow oxygen & dual therapy via nebulizer:

- **Albuterol Sulfate** 5mg
- **Ipratropium Bromide** 500mcg (i.e. 0.5mg)

Determine Level of Distress

Mild

Moderate

Severe

Give **Albuterol** 5mg prn via nebulizer, may repeat x 1

- Give **Albuterol** 5mg nebulized prn
- Give **Methylprednisolone** 125mg IV/IM/IO or

- Look for tension pneumothorax if you haven't done so already
- Give CPAP early (max 5cm H<sub>2</sub>O)

- Give **Albuterol** 5mg nebulized prn
- Give **Methylprednisolone** 125mg IV/IM/IO or
- Consider **Magnesium Sulfate**<sup>2</sup> 2g IV/IO over 10 min (mixed in 100 ml NS or D5W)
- Consider **Epinephrine** 1mg/ml (1:1000) 0.3 mg – 0.5mg IM<sup>3</sup>

Contact **Medical Control** for additional orders or consultation

## Signs of Respiratory Distress

- SpO<sub>2</sub> <90%
- Nasal flaring
- Unable to speak sentences
- Supraclavicular/intercostal/subcostal retractions
- Absence of wheezing with obvious SOB
- Apprehension, combativeness, anxiety
- Cyanosis
- Lethargy

<sup>1</sup> Bronchospasm will cause the EtCO<sub>2</sub> (capnography) waveform to have a "shark-fin" appearance. The more pronounced the shark fin and the higher the EtCO<sub>2</sub>, the greater the risk of respiratory failure. Treat aggressively, but manage airway in the least invasive way possible.

Remember, corticosteroids will not have an immediate effect – they will help resolve bronchospasm over hours and decrease hospital length of stay.

<sup>2</sup> Magnesium Sulfate may cause hypotension; be prepared to give patient a fluid bolus if needed. Consider the risk and benefits of its use prior to administering Magnesium Sulfate to patients with renal failure.

<sup>3</sup> IM administration of epinephrine is recognized as generally safe. Adverse cardiovascular events are most common when Epi is given IV. Consider the risks & benefits of Epi use in patients >60yo or persons with a cardiac history. Consult **Medical Control** if you need guidance.