San Mateo County Emergency Medical Services

Respiratory Distress/Bronchospasm

For COPD/asthma exacerbations and any bronchospasms/wheezing not from pulmonary edema

History
- Asthma
- COPD – chronic bronchitis, emphysema
- Home treatment (e.g., oxygen or nebulizer)
- Medications (e.g., Theophylline, steroids, inhalers)
- Frequency of inhaler use

Signs and Symptoms
- Shortness of breath
- Pursed lip breathing
- Decreased ability to speak
- Increased respiratory rate and effort
- Wheezing or rhonchi/diminished breath sounds
- Use of accessory muscles
- Cough
- Tachycardia

Differential
- Asthma
- Anaphylaxis
- Aspiration
- COPD (emphysema or bronchitis)
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pneumothorax
- Cardiac (MI or CHF)
- Pericardial tamponade
- Hyperventilation
- Inhaled toxin (e.g., carbon monoxide, etc.)

Breathing adequate? 

Yes

Apply Oxygen to maintain goal SpO₂ ≥ 92%

Airway support
Cardiac monitor
Consider, 12-Lead ECG
Consider, EtCO₂ monitoring
Establish IV/IO

Wheezing

Albuterol or Albuterol MDI with spacer or Levalbuterol

Decrease LOC or unresponsive to Albuterol/Levalbuterol, Epinephrine 1:1,000 IM

Stridor

Albuterol or Albuterol MDI with spacer or Levalbuterol

Epinephrine 1:1,000 nebulized

Other systemic symptoms
Exit to Anaphylaxis

Notify receiving facility. Consider Base Hospital for medical direction

Effective April 2024
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Pearls

• A silent chest in respiratory distress is a pre-respiratory arrest sign.
• Patients receiving epinephrine should receive a 12-Lead ECG at some point in their care in the prehospital setting, but this should NOT delay the administration of Epinephrine.
• Pulse oximetry monitoring is required for all respiratory patients.

Factors Affecting EtCO₂

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<td>Analgesia/sedation</td>
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<td><strong>CIRCULATORY SYSTEM</strong></td>
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<td><strong>MEDICATIONS</strong></td>
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<td>Bicarbonate administration</td>
<td>Cardiac arrest</td>
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<td>Pulmonary emboli</td>
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Sudden loss of waveform

- ET tube disconnected, dislodged, kinked or obstructed
- Loss of circulatory function

Decreasing EtCO₂

- ET tube cuff leak
- ET tube in hypopharynx
- Partial obstruction

CPR Assessment

- Attempt to maintain minimum of 10mmHg

Sudden increase in EtCO₂

- Return of spontaneous circulation (ROSC)

Bronchospasm ("Shark-fin" appearance)

- Asthma
- COPD

Hypoventilation

- Hyperventilation

Decreased EtCO₂

- Apnea
- Sedation