	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	9003.18
	PROGRAM DOCUMENT: **Pediatric Respiratory Distress: Reactive Airway Disease, Asthma, Bronchospasm, Croup, or Stridor**	Initial Date:	04/25/95
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Signature on File	Signature on File
EMS Medical Director	EMS Administrator

Purpose:

A. To establish a treatment standard for pediatric patients assessed to have respiratory distress and a history of asthma, bronchospasm, or reactive airway disease.
B. To establish a treatment standard for pediatric patients assessed to have respiratory distress with no history of asthma, bronchospasm, or reactive airway disease but are wheezing and tachypneic.
C. To establish a treatment standard for pediatric patients assessed to have a slow onset of respiratory distress, barking cough, with a history of fever and respiratory stridor.

Authority:

A. California Health and Safety Code, Division 2.5
B. California Code of Regulations, Title 22, Division 9

Protocol:

A. **Asthma/Bronchospasm - Mild or Moderate**:
The patient presents with intercostal retractions, nasal flaring, and capillary refill > 2 seconds.

BLS
1. Supplemental O_2 as necessary to maintain $SpO_2 \geq 94\%$. Use the lowest concentration and flow rate of O_2 possible. 2. Assess vital signs, including SpO_2, when available. 3. Assess lung sounds. 4. Consider Noninvasive Ventilation (NIV), when appropriate, for moderate to severe distress (patients≥ twelve (12) years of age only). 5. Begin immediate transport.
ALS
~~1. **Albuterol**: 2.5 mg (3 ml unit dose):~~ ~~• Nebulizer (HHN) or mask; reassess after the first treatment. May be repeated as needed, based on reassessment.~~ Mix 2.5 mg Albuterol & 0.5 mg Atrovent via HHN, mask or inline nebulizer. May repeat up to three doses of this mixture. 2. Pulse Oximetry, when available, may be used to titrate oxygen saturation to a $SpO_2 \geq 94\%$. 3. Cardiac monitor. 4. Consider vascular access.

B. **Asthma/Bronchospasm - Condition is severe**: Immediate transport.
The patient is unable to speak, and patient may have decreased/elevated pulse and/or decreased/elevated blood pressure; mental status is altered.

BLS
1. Basic Life Support (BLS) airway interventions as needed. 2. Supplemental O_2 as necessary to maintain $SpO_2 \geq 94\%$. Use the lowest concentration and flow rate of O_2 as possible. 3. Assess vital signs, including SpO_2, when available. 4. Consider NIV, when appropriate, for moderate to severe distress (patients≥ twelve (12) years of age only). 5. Consider administering an Epinephrine auto-injector if needed: • > 30 kg Epinephrine Auto-Injector 0.3 mg IM. No repeat. Record the time of injection. • 15-30kg Pediatric Epinephrine Auto-Injector 0.15 mg IM. No repeat. Record the time of injection. 6. Begin immediate transport in the position of comfort.
ALS
1. Airway management as per PD# 8837- Pediatric Airway Management. 2. Pulse Oximetry, when available, may be used to titrate oxygen saturation to a $SpO_2 \geq 94\%$. 3. Mix 2.5 mg Albuterol & 0.5 mg Atrovent via HHN, mask or inline nebulizer. May repeat up to three doses of this mixture. 4. **Epinephrine:** 0.01 mg/kg of 1:1,000 (1 mg/ml) solution Intramuscular (IM) up to a maximum dose of 0.3 ml. 5. Initiate vascular access. Titrate to a minimal Systolic Blood Pressure (SBP) for the patient's age. Vascular access shall not take precedence over the administration of Albuterol or Epinephrine. 6. For moderate to severe exacerbations, administer magnesium sulfate 50 mg/kg to a maximum dose of 2g IV/IO in 250 NS, infusion over 10 minutes. 7. Cardiac Monitor.

C. **Croup/Stridor - Condition is mild to moderate**:
Slow onset of mild to moderate respiratory distress, barking cough, fever and respiratory stridor. Unilateral stridor may be due to bronchial foreign body.

BLS
1. Basic Life Support (BLS) airway interventions as needed. 2. Supplemental O2 as necessary to maintain $SpO_2 \geq 94\%$. Use the lowest concentration and flow rate of O_2 as possible. 3. Assess vital signs, including SpO_2, when available. 4. Begin immediate transport in the position of comfort.
ALS
1. Saline: 3ml HHN reassess after first treatment.

D. **Croup/Stridor - Condition is severe:**

The patient is unable to speak. The patient may have decreased/elevated pulse and/or decreased/elevated blood pressure/ mental status is altered. Unilateral stridor may be due to bronchial foreign body.

BLS
1. Basic Life Support (BLS) airway interventions as needed. 2. Supplemental O_2 as necessary to maintain SpO2 ≥ 94%. Use the lowest concentration and flow rate of O_2 as possible. 3. Assess vital signs, including SpO_2, when available. 4. Begin immediate transport in the position of comfort.
ALS
1. Airway management as per PD# 8837 2. Pulse oximetry, when available, will be used to titrate oxygen saturation to SpO2 ≥ 94%. 3. **Epinephrine**: 2.5mg 1:1000 via nebulizer or 0.01 mg/Kg of 1:1,000 (1mg/ml) solution IM up to a maximum dose of 0.3 ml. 4. Initiate vascular access. Titrate to a minimal Systolic Blood Pressure (SBP) for patient's age. Vascular access shall not take precedence over the administration of Epinephrine. 5. Cardiac Monitoring.

Cross Reference: PD# 8837 – Pediatric Airway Management
PD# 8829 – Noninvasive Ventilation (NIV)