EL DORADO COUNTY EMS AGENCY
PREHOSPITAL PROTOCOLS

please see signature on file
EMS Agency Medical Director

Effective: July 1, 2015
Reviewed: May, **2022**
Revised: March 1 2023
Scope: BLS/ALS – Adult/Pediatric

BRONCHOSPASM/COPD - ADULT

PROTOCOL PROCEDURE: *Flow of protocol presumes that condition is continuing, If the patient is in distress, immediate rapid transport is preferred with treatment performed en route.*

Basic Life Support

EMT

ABCs / ROUTINE MEDICAL CARE –

- Place in position of comfort
- Assess airway and support ventilation with appropriate airway adjuncts as indicated.
- Apply escalated dosing of oxygen if pulse oximetry <94% or signs of hypoperfusion or respiratory distress.
- Allow patient to administer their own respiratory medications as prescribed by their physician, see **Field Policy: BLS Medication Administration.**
- HP-CPR as indicated

Continuous Positive Airway Pressure (CPAP)

(Contraindications: decreased LOC, no gag reflex, vomiting, facial trauma, hypotension)

- Start with valve at 7.5 cmH2O setting and 100% O_2 flow rate.
- Titrate to patient's condition. If patient's respiratory status does not improve CPAP pressure may be increased every 5 minutes, first to 10.0 cmH2O and then to a maximum pressure setting of 15 cmH2O if required.
- Monitor and record vital signs every 5 minutes.
- Be prepared for possible hypotension. If hypotension develops, decrease valve setting.

If patient continues in severe distress, consider assisted breathing with O2 and BVM

LOSOP

EMT working under Local Optional Scope

FOR EXTREMIS PROXIMATE TO BRONCHOSPASM (Low $Sp0_2$, Inability to speak, and/or ALOC):

Epinephrine Auto-injector, or; **Epinephrine 1:1000 (0.1mg/mL)** – 0.5 mg IM. Repeat after 10 minutes as needed.

Consider BVM and SGA if required

Advanced Life Support

Paramedic

FIRST LINE:

Albuterol option:	Levalbuterol (Xopenex) option:
Combine and Nebulize: **ALBUTEROL .083% (2.5 mg)** and, **IPRATROPIUM .02% (0.5mg)** followed by an additional **ALBUTEROL .083% (2.5 mg).** If symptoms persist, initiate continuous **ALBUTEROL .083% (2.5 mg)** (Max. 15 mg/hr).	Combine and Nebulize: **LEVALBUTEROL (1.25 mg)** and, **IPRATROPIUM .02% (0.5mg)** followed by an additional **LEVALBUTEROL (1.25 mg).** If symptoms persist, initiate continuous **LEVALBUTEROL (1.25 mg)** (Max. 10 mg/hr).
• If available, premixed solutions of Ipratropium and either Albuterol or Levalbuterol (i.e. DuoNeb, Combivent) may be used for the initial treatment. • Breathing treatments may be given concurrently with CPAP.	

VASCULAR ACCESS - establish an IV/saline lock.

CONSIDER:

MAGNESIUM SULFATE – 2 g in 100 mL normal saline IV/IO over 20 minutes

FOR EXTREMIS PROXIMATE TO BRONCHOSPASM (Low $Sp0_2$, Inability to speak, and/or ALOC):

EPINEPHRINE 1:1,000 (1 mg/mL) 0.5 mg IM. (*Repeat doses q 10 minutes prn*).

FOR STRIDOR: (Moderate to severe croup/airway burns/laryngeal edema/anaphylaxis)

NEBULIZED EPINEPHRINE 1:1,000 (1mg/mL) – 5 mg (5 mL) via nebulizer over 10 minutes. Repeat q 10 minutes prn.

Note: If heart rate increases > 20%, visible tremors, or increased arrhythmias/palpitations, discontinue treatment and contact Base Hospital.

BRONCHOSPASM - PEDIATRIC

PROTOCOL PROCEDURE: *Flow of protocol presumes that condition is continuing, If the patient is in distress, immediate rapid transport is preferred with treatment performed en route.*

Basic Life Support

EMT

ABCs / ROUTINE MEDICAL CARE –

- Place in position of comfort
- Assess airway and support ventilation with appropriate airway adjuncts as indicated.
- HP-CPR as indicated
- Apply oxygen if pulse oximetry <94% or signs of hypoperfusion or respiratory distress.
- Allow patient to administer their own respiratory medications as prescribed by their physician, see **Field Policy: BLS Medication Administration.**

Continuous Positive Airway Pressure (CPAP) may be utilized in patients 12 yrs or older - if mask fits appropriately

(Contraindications: decreased LOC, no gag reflex, vomiting, facial trauma, hypotension)

- Start with valve at 5 cmH2O setting and 100% O_2 flow rate.
- Titrate to patient's condition. If patient's respiratory status does not improve CPAP pressure may be increased my 2.5 cmH2O every 5 minutes, to a maximum pressure setting of 15 cmH2O if required.
- Monitor and record vital signs every 5 minutes.
- Be prepared for possible hypotension. If hypotension develops, decrease valve setting.

If patient continues in severe distress, consider assisted breathing with O2 and BVM

LOSOP

EMT working under Local Optional Scope

FOR EXTREMIS PROXIMATE TO BRONCHOSPASM (Low $Sp0_2$, Inability to speak, and/or ALOC):

Pediatric Epinephrine Auto-injector, or;

Epinephrine 1:1000 (0.1mg/mL):

- 15-30 kg (33-66 lb.): **0.15 mg IM** (lateral thigh is preferred). Repeat in 10 minutes prn.
- > 30 kg (> 66 lb): **0.3 mg IM**
- > 50 kg (> 110 lb): **0.5 mg IM**

FIRST LINE:

Albuterol option:	Levalbuterol (Xopenex) option:
Combine and Nebulize: **ALBUTEROL .083% (2.5 mg)** and, **IPRATROPIUM .02% (0.5mg)** If symptoms persist, initiate continuous **ALBUTEROL .083% (2.5 mg)** (Max. 15 mg/hr).	Combine and Nebulize: **LEVALBUTEROL (1.25 mg)** and, **IPRATROPIUM .02% (0.5mg)** If symptoms persist, initiate continuous **LEVALBUTEROL (1.25 mg)** (Max. 10 mg/hr).

- If available, premixed solutions of Ipratropium and either Albuterol or Levalbuterol (i.e. DuoNeb, Combivent) may be used for the initial treatment.
- Breathing treatments may be given concurrently with CPAP.

NORMAL SALINE – establish an IV/IO/saline lock.

FOR EXTREMIS PROXIMATE TO BRONCHOSPASM (Low $Sp0_2$, Inability to speak, and/or ALOC):

EPINEPHRINE 1:1,000 (1 mg/mL) 0.01 mg/kg IM. Maximum single dose 0.5mg. (*Repeat dose in10 minutes prn*).

FOR STRIDOR: (Moderate to severe croup/airway burns/laryngeal edema/anaphylaxis)

NEBULIZED EPINEPHRINE 1:1,000 (1mg/mL) – 0.5 mg/kg, maximum single dose of 5mg (5mL) via nebulizer over 10 minutes. Repeat q 10 minutes prn. For doses less than 3mL dilute with NS to 5mL to allow for nebulization (May repeat q 10 minutes).