

**RESPIRATORY DISTRESS/RESPIRATORY FAILURE
STATEWIDE BLS PROTOCOL****Criteria:**

- A. Shortness of breath or difficulty breathing.
 - 1. Conditions which produce SOB from bronchoconstriction that may respond to bronchodilators. These conditions generally are associated with wheezing.
 - a. COPD (emphysema, chronic bronchitis)
 - b. Asthma
 - c. Allergic reaction
 - d. Respiratory infections (pneumonia, acute bronchitis)
 - 2. Conditions which produce SOB without bronchoconstriction that **do not** respond to bronchodilators. These conditions usually are not associated with wheezing.
 - a. CHF
 - b. Pulmonary embolism

Exclusion Criteria:

- A. None.

System Requirements:

- A. Only an EMT that has completed the bronchodilator module through the EMT curriculum or continuing education may assist the patient with administration of a bronchodilator.
- B. CPAP may only be administered by an EMT that has completed the DOH BLS CPAP training and has been approved to administer CPAP by the service medical director.
- C. **[Optional]** BLS services may carry CPAP devices for use by the service's EMTs.
 - 1. These services must assure that all EMTs using CPAP have completed the DOH BLS CPAP training and have been approved by the service medical director.
 - 2. These services must carry a CPAP device that has a manometer (or other means to provide specific CPAP pressure) and meets any other specifications required by the DOH.
 - 3. These services must be approved to carry pulse oximeters – See Protocol #226.
 - 4. The service medical director must oversee the CPAP training, use of CPAP, and quality improvement audits.

Treatment:

- A. **All patients:**
 - 1. Initial Patient Contact – see Protocol # 201.
 - a. Consider call for ALS if available. See Indications for ALS Use protocol #210
 - 2. If allergic reaction is suspected and patient meets criteria, proceed with Allergic Reaction / Anaphylaxis protocol #411.
- B. **Pediatric patients:**
 - 1. **NOTE:** If child is sitting in a tripod position with excessive drooling this may be epiglottitis, **transport immediately.** Do not lay the patient flat and do not attempt to visualize the throat.
- C. **All patients:**
 - 1. Apply high concentration oxygen. If necessary, assist respirations with a bag-valve-mask, but avoid overzealous hyperventilation.
 - 2. Monitor pulseoximetry¹ [OPTIONAL – MANDATORY IF USING CPAP]
 - 3. Assist patient with his/ her bronchodilator inhaler [EMT ONLY] for conditions associated with wheezing^{4,5,6}
 - a. Must be a “short-acting” rapid onset, **bronchodilator**^{7,8}
 - 4. Continuous Positive Airway Pressure (CPAP) [OPTIONAL]:
 - a. Apply CPAP to adult patient if patient does not have any contraindication to CPAP² AND has **at least TWO** of the following after high concentration oxygen:
 - 1) Pulse oximetry < 90%
 - 2) Respiratory rate > 25 bpm
 - 3) Use of accessory muscles during respiration
 - b. If CPAP is applied³:
 - 1) Titrate pressure up until either improvement or **maximum of 10 cm H₂O pressure.**
 - 2) Remove CPAP if respiratory status deteriorates and assist with BVM ventilation if needed.
 - 5. Transport and reassess enroute

6. Contact medical command if EMT is unclear whether the patient’s inhaler is a “short-acting” bronchodilator or if EMT has assisted with bronchodilator inhaler administration.⁹

Possible Medical Command Orders:

- A. May order additional doses of patient’s bronchodilator.

Notes:

1. See Pulsoximetry Protocol #226. Pulsoximetry may only be used by BLS services and personnel that meet DOH pulsoximetry requirements. If used, pulsoximetry must not delay the application of oxygen. Record SpO₂ after administration of oxygen. If pulsoximetry is used and patient does not tolerate NRB mask, may switch to nasal cannula as long as SpO₂ remains >95%.
2. CPAP is not indicated if patient:
 - a. has altered mental status and/or cannot follow commands.
 - b. ≤ 14 y/o, unless ordered by Medical Command
 - c. has respiratory rate < 10 **OR** apnea **OR** is unable to maintain an open airway.
 - d. has chest trauma or is suspected of having a pneumothorax.
 - e. has a tracheostomy.
 - f. is actively vomiting or has upper GI bleeding.
3. If CPAP is used:
 - a. Oxygen supply may be depleted rapidly, especially if prolonged transport times. Monitor supply to avoid complete depletion.
 - b. Assure that ALS has been requested, if available, and advise responding ALS service that CPAP is being used.
 - c. Notify hospital of CPAP use ASAP to assure that CPAP device is available on arrival. Transport patient into hospital on CPAP and do not remove until hospital therapy is ready to be placed on patient.
 - d. Watch for gastric distention, which can result in vomiting.
 - e. CPAP can be used on patient with Do-Not-Resuscitate order.
 - f. Vital signs (including pulse oximetry), must be obtained and documented every 5 minutes.
4. An EMT may assist with the medication **ONE TIME ONLY** prior to contacting Medical Command. Any subsequent administration requires direction from a medical command physician.
5. Bronchodilator inhaler must be prescribed for the patient, and EMS must identify and administer the prescribed dose (“one” or “two” inhalations) for the specific patient.
6. If unsure of the appropriate action, contact Medical Command for further direction.
7. If unable to contact medical command, may repeat previous dose of bronchodilator inhaler 20 minutes after initial dose.
6. The following are commonly prescribed short-acting, rapid-onset, beta-2 agonist inhalants that the EMT may assist with administration:

Brand Name	Generic Name
Alupent	Metaproterenol Sulfate
Brethaire	Terbutaline Sulfate
Bronkometer	Isoetharine Mesylate
Combivent	Albuterol and Ipratropium
Duo-medihaler	Isoproterenol Hydrochloride/Phenylephedrine Combo
Isuprel Mistometer	Isoproterenol Hydrochloride
Maxair	Pirbuterol Acetate
Medihaler-Iso	Isoproterenol Sulfate
Metaprel	Metaproterenol
Proventil	Albuterol
Tornalate	Biotolterol Mesylate
Ventolin	Albuterol

7. The following are drugs that **SHOULD NOT** be used:

Long-acting, Delayed-Onset, Bronchodilators	
Brand Name	Generic Name
Serevent	Salmeterol Xinafoate
Corticosteroids	
Brand Name	Generic Name
Aero-bid	Flunisolide
Azmacort	Triamcinolone Acetonide
Beclovent	Beclomethasone Dipropionate
Decadron Respihaler	Dexamethasone Sodium Phosphate
Dexacort Respihaler	Dexamethasone Sodium Phosphate
Flovent	Fluticasone Propionate
Vanceril	Beclomethasone Dipropionate
Anticholinergics	
Brand Name	Generic Name
Atrovent	Ipratropium Bromide
Non-Steroidal Anti-inflammatories	
Brand Name	Generic Name
Intal	Cromolyn Sodium
Tilade	Nedocromil Sodium
Over-the-counter Drugs	
Brand Name	Generic Name
Primatene Mist	Epinephrine

Performance Parameters:

- A. Review every case of EMT **CPAP use or** EMT-assisted bronchodilator inhaler administration for documentation for appropriate indication, appropriate medication, and appropriate contact with medical command.
- B. Consider benchmark of on scene time < 15 minutes if ALS not on scene.

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