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| | **COUNTY OF SACRAMENTO**<br>EMERGENCY MEDICAL SERVICES AGENCY | Document # | 8026.18 |
| | PROGRAM DOCUMENT:<br>**Respiratory Distress** | Draft Date: | 03/17/98 |
| | | Effective: | 11/01/16 |
| | | Revised: | 07/25/16 |
| | | Review: | 09/01/18 |

EMS Medical Director

EMS Administrator

**Purpose:**

A. To serve as the treatment standard for patients assessed to have shortness of breath and/or respiratory distress.
B. This protocol does not require the diagnosis of a specific disease or etiology precipitating the respiratory distress. Treatment is assessment based.

**Authority:**

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

**Definitions:**

A. Mild Distress- Patient is able to speak full sentences; patient may have an elevated pulse and blood pressure; patient may be diaphoretic and weak; mental status is unaffected; no cyanosis is present.
B. Moderate Distress - Patient is able to speak a few words; patient may have an elevated pulse and blood pressure; patient may be diaphoretic and weak; mental status is unaffected; mild cyanosis of lips and digits may be present.
C. Severe Distress - Patient is unable to speak; patient may have decreased/elevated pulse and/or decreased/elevated blood pressure; mental status is altered; more central and profound cyanosis is present.

**Caveats:**

A. Patients may have several disease processes together producing shortness of breath. Wheezing may occur in diseases other than asthma, and peripheral edema may occur in settings other than congestive heart failure (CHF). Assessment should usually yield a single treatment plan. In general, commit yourself to a single assessment - you may modify this assessment based on response to therapy and as additional information becomes available.
B. Patients may have diseases producing shortness of breath that cannot be relieved with any prehospital treatments. In addition, some patients will present to the prehospital personnel so far in respiratory failure that maintenance / establishment of an airway together with expeditious transport are the only treatments possible.
C. Pulmonary Edema in the setting of CHF will usually have collaborating signs such as:
    1. A history of CHF and medications such as diuretics and/or angiotensin converting enzyme (ACE) inhibitors.
    2. Peripheral edema.
    3. Jugular venous distension (JVD).

4. Frothy pulmonary secretions.

~~In these patients, oxygen and direct vasodilators such as morphine and nitrates will be more efficacious than indirect vasodilators such as furosemide.~~

D. Continuous Positive Airway Pressure (CPAP) is highly effective at improving respiratory distress and should be attempted if available in all patients with moderate and severe respiratory distress. In general, one provider should monitor and manipulate CPAP leaving the primary provider to focus on the overall condition of the patient.

# Respiratory Distress

- Assess ABC's - limit physical exertion, reduce anxiety.
- **Supplemental O2 as necessary to maintain SpO2 > 94%. Use the lowest concentration and flow rate of O2 as possible.**
- Cardiac Monitor and SpO2, and $ETCO_2$ (continuous waveform) with advanced airways.

## Asthma/COPD

**Mild Distress**
Mild Wheezing
SOB
Cough

→ **Albuterol**
2.5 mg-5 mg via HHN, mask, or inline nebulizer.
May repeat if persistent dyspnea.

**Moderate – Severe Distress**
Cyanosis
Accessory Muscle Use
Inability to speak > 3 wds/sent
Severe Wheezing/SOB

→ **Albuterol** 5 mg via HHN, mask, or inline nebulizer.
Continuous Albuterol for persistent dyspnea.

→ **CPAP**

→ **IV Access with SL**

→ **Epinephrine**
For patients with severe asthma/bronchospasm **only:**

Epi 1:1000 0.3 mg IM

Base Hospital Order
For Pt's ≥ 40 years old and/or BP ≥ 180 mmHg

## CHF/Pulmonary Edema

**Mild Distress**
Mild Wheezing
SOB
Cough

→ If wheezes present:
**Albuterol**
2.5 mg-5 mg via HHN.
May repeat if persistent dyspnea.

→ ****Nitroglycerin:**
0.4 mg SL
q 5 minutes
Hold NTG if SBP < 90

→ **IV Access with SL**

**Moderate – Severe Distress**
Cyanosis
Accessory Muscle Use
Inability to speak > 3 wds/sent
Rales/Rhonchi, JVD,
Diaphoresis, Pedal Edema, etc.

→ If wheezes present:
**Albuterol**
2.5 mg-5 mg via HHN.
May repeat if persistent dyspnea.

→ ****Nitroglycerin:**

SBP > 200 – 1.2 mg SL
SBP > 150-200 – 0.8 mg SL
SBP > 90-150 – 0.4 mg SL

May repeat NTG q 5 minutes as above based on BP.
Hold NTG if BP < 90
Do not delay NTG due to difficult IV/IO.

**1 inch of NTP** with CPAP use.

Remove NTG paste if SBP < 90

→ **CPAP**

→ **IV Access with Saline Lock**

**Do Not Administer NTG if patient is taking PDE-5 inhibitors within last 48hrs for Erectile Dysfunction or Pulmonary HTN:

i.e Sildenafil (VIAGRA®, REVATIO), Tadalafil (CIALIS®), Vardenafil (LEVITRA®) or equivalent.

**Base Hospital Order:**
if SBP consistently < 90
**Dopamine** 10mcg/kg/min