MERCED COUNTY	**EMERGENCY MEDICAL SERVICES AGENCY** A Division of the Merced County Department of Public Health	**POLICY NUMBER**	**714**
SUBJECT: **ADULT TREATMENT PROTOCOLS - RESPIRATORY DISTRESS**		**Effective Date**	**07/2024**
Authority: Health and Safety Code, Division 2.5, and California Code of Regulations, Title 22, Division 9, Chapter 4, 1797.220		Initial Date: Review Date: PAGE	07/2022 07/2026 1 of 2

I. DEFINITION

Acute respiratory distress can have many causes:

- **COPD / ASTHMA / CHRONIC BRONCHITIS** – Typically present with diffuse wheezes, rhonchi, tachypnea, pursed lips, accessory muscle use (tracheal tugging, intercostal retractions, tripod positioning) and cyanosis to lips and nails.
- **CONGESTIVE HEART FAILURE (Pulmonary Edema)** – Typically presents with hypertension, rales, expiratory wheezes, and/or pink frothy sputum.
- **POSSIBLE AIRWAY OBSTRUCTIONS INCLUDING STRIDOR** – Refer to EMS **Policy #712 Adult Treatment Protocols - Airway Obstructions**

Please note that in patients who are experiencing severe bronchospasm, in both Asthma and COPD, the breath sounds may sound clear, yet diminished. This is due to a decreased tidal volume and not moving enough air to create audible wheezing, these patients need respiratory assistance.

Remember to do a complete assessment (ABC's) on all respiratory distress patients.

II. CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) UTILIZATION

Continuous Positive Airway Pressure (CPAP) Utilization

- **Indications:**
  - CHF with pulmonary edema
  - Moderate to severe respiratory distress
  - Near drowning
- **Contraindications:**
  - <8 years of age
  - Respiratory or cardiac arrest
  - Severe decreased LOC
  - Agonal respirations
  - Inability to maintain airway
  - Suspected pneumothorax
  - Systolic BP < 90 mmHg
  - Major trauma, especially head or significant chest trauma
- **Complications:**
  - Hypotension
  - Pneumothorax
  - Corneal drying

Epinephrine Administration

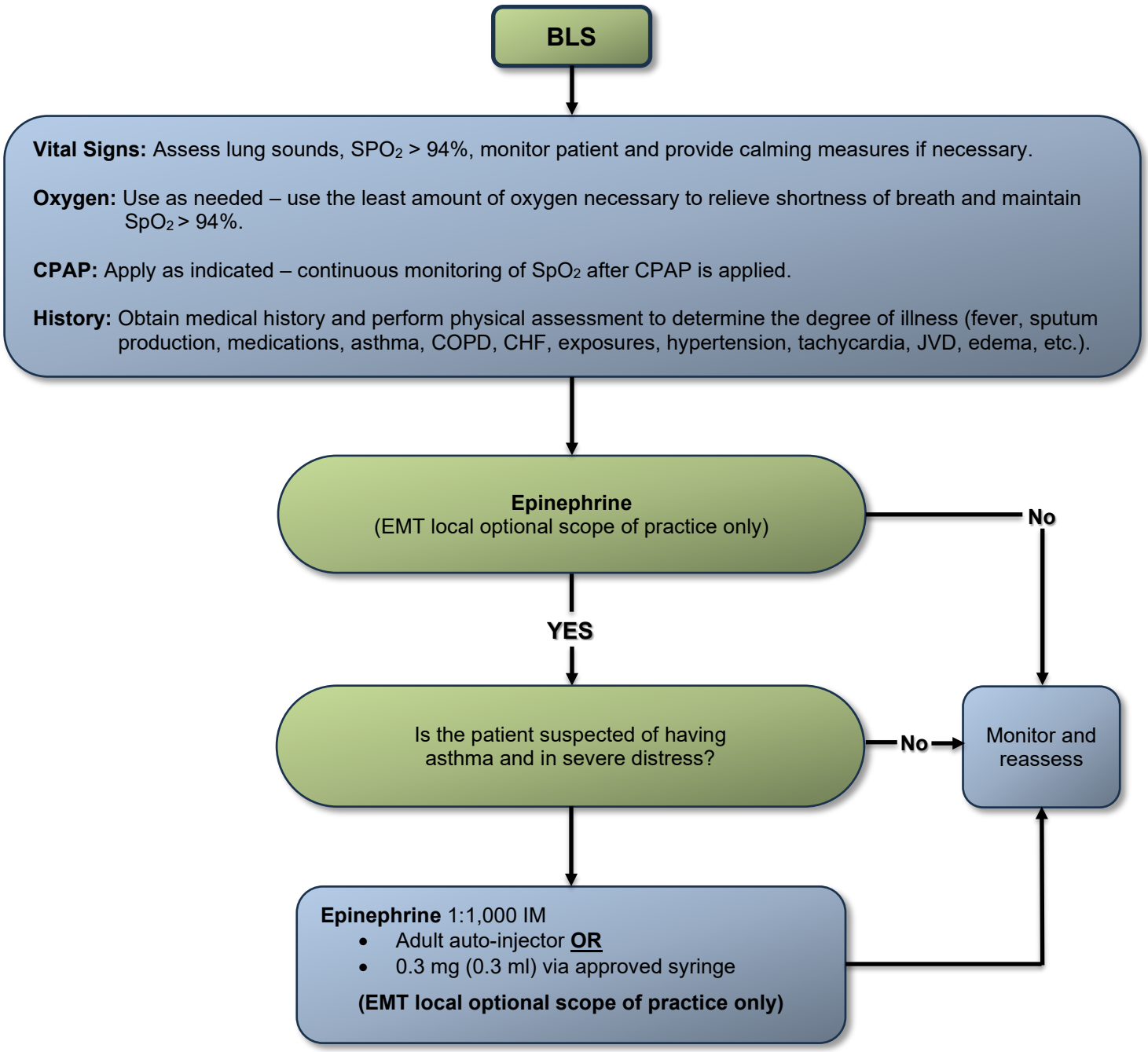
- Epinephrine is only indicated for patients with suspected asthma who are in severe distress.
- Use epinephrine cautiously **in patients > 45 years of age**, or with a history of coronary artery disease or hypertension.
- Administer via auto-injector or IM epinephrine into the lateral thigh, midway between the waist and knee.

Signatures on File

Approved By: Tim Williams
EMS Administrator

Ajinder Singh, MD
EMS Medical Director

III. BLS TREATMENT



NOTE: **Epinephrine** is only indicated for a patient with suspected or known asthma who are in **severe distress**. Use **epinephrine** cautiously **in patients greater than 45 years of age**, or with a history of known coronary disease. Administer epinephrine in the lateral thigh of the patient.

NOTE: Assist if patient has a metered-dose inhaler (MDI)

IV. ALS TREATMENT

Monitor: Treat rhythm as appropriate.
Vascular Access: IV/IO access as appropriate for patient condition.
$EtCO_2$: Use is encouraged for patients in moderate to severe distress.

Asthma/COPD

ALS

Mild Distress
- Mild wheezing
- Mild shortness of breath
- Cough

- Cardiac monitor
- Consider IV NS (may bolus up to 1000ml)

Albuterol 2.5 mg
- Nebulizer
- May repeat 2.5-5 mg for continued distress

Moderate to Severe Distress
- Accessory muscle use
- Inability to speak > 3 words
- Severe wheezing/shortness of breath
- Decreased or absent air movement

- Cardiac monitor
- IV/IO NS (may bolus up to 1000 ml)

Albuterol 5 mg
- Nebulizer/CPAP/BVM
- May repeat 2.5-5 mg for continued distress

Magnesium Sulfate
- 2 grams in 10 ml, slow IVP over 2 minutes
- May repeat once after 5 minutes

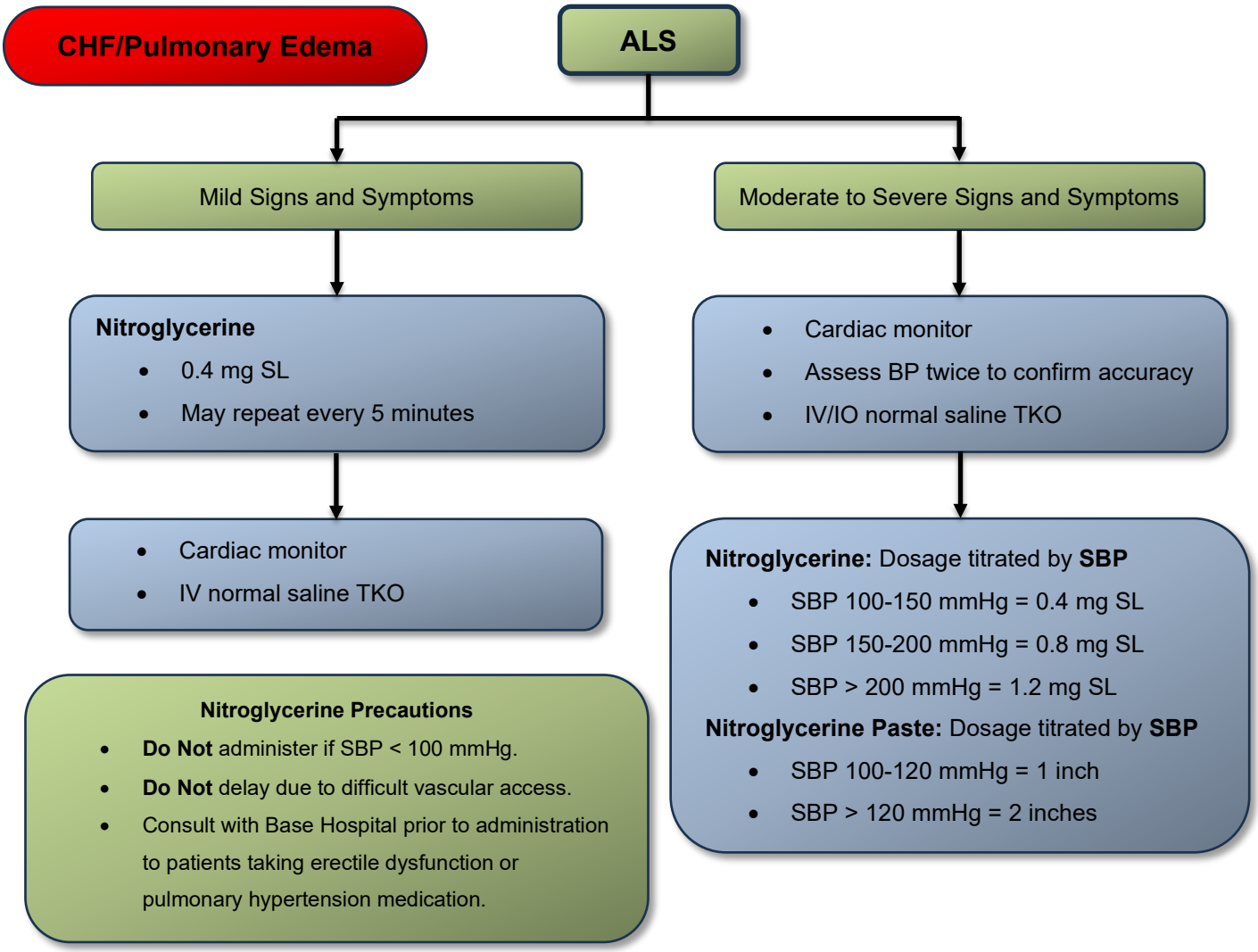
History of asthma with severe distress only

Epinephrine 1:1,000
- 0.01 mg/kg IM (max dose: 0.5 mg)
- May repeat after 20 minutes

NOTE: Use **epinephrine** cautiously in **patients > 45 years of age**, or with a history of coronary artery disease.

ALS TREATMENT CONTINUED

Monitor: Treat rhythm as appropriate. 12-Lead ECG for CHF/pulmonary edema patients.
Vascular Access: IV/IO access as appropriate for patient condition.
$EtCO_2$: Use is encouraged for patients in moderate to severe distress



NOTE: PATIENTS WITH SBP < 90 MMHG AND PULMONARY EDEMA

- PUSH DOSE **EPINEPHRINE** – 10 mcg (1 ml) IV/IO slow push every 15 minutes for SBP less than 90 mmHg

Push Dose Epinephrine Mixing Instructions

- Epinephrine 1:10,000 solution (1 mg/10 ml)
- Waste 9 ml of solution from preload
- Using the same preload, draw up 9 ml of normal saline
- Shake well
- Solution is now 10 ml of fluid with a concentration of 10 mcg/ml (0.01 mg/ml)
- Label syringe "**Epinephrine 10 mcg/ml"**

Use EXTREME caution when administering epinephrine via IV Push