

**Medical Procedure****Date: 07/01/2023****Push-Dose Epinephrine for Hypoperfusion****Policy #7060****I. Purpose:**

- A. To establish indications, guidelines, and the standard procedure for push-dose epinephrine in the pre-hospital setting.

**II. Authority:**

- A. Health and Safety Code, Section 1797.220, 1798. Title 22, Section 100170.

**III. Policy:**

- A. The use of push dose epinephrine is limited by ALS certification skill level and requires annual maintenance and testing completion.
- B. This policy is to be used when identifying a patient with hypoperfusion per Shock Protocol. This includes:
  1. Low blood pressure
  2. Anaphylaxis, refractory to IM epinephrine and IV fluids
  3. Severe reactive airway disease, COPD or asthma exacerbations, refractory to IM epinephrine
  4. Septic shock, refractory to IV fluids
  5. Undifferentiated hypotension with evidence of hypoperfusion, refractory to IV fluids
  6. Unstable bradycardia, refractory to atropine and pacing
- C. Push-dose epinephrine is the pressor of choice for adults in Imperial County. Dopamine is the pressor of choice for pediatrics in Imperial County. Two exceptions exist:
  1. Adults with cardiac suspected etiology of hypotension, dopamine should be used, NOT push-dose epinephrine
  2. Pediatrics with anaphylaxis suspected etiology of hypotension, push-dose epinephrine should be used, NOT dopamine
- D. Relative contraindications:
  1. ACS or cardiac source of symptoms
  2. Pregnancy or active labor
  3. Elevated systolic blood pressure > 140 mmHg
  4. Trauma
- E. Absolute contraindications
  1. Poor IV or IO access
  2. Infiltration of an IV or IO line

**Medical Procedure****Date: 07/01/2023****Push-Dose Epinephrine for Hypoperfusion****Policy #7060**

## F. Potential side effects:

1. Systemic: Palpitations, tachycardia, arrhythmia, anxiety, panic attacks, headache, tremor, hypertension, acute pulmonary edema, myocardial infarction
2. Local: Localized tissue damage and/or compartment syndrome

**IV. Push-Dose Epinephrine Procedure**

- A. Take an epinephrine syringe of 1 mg of 0.1 mg/ml preparation (known also as cardiac arrest dosing of 1:10,000 Epinephrine) and waste 9 ml of epinephrine
- B. In that same syringe, draw 9 ml of normal saline using a stopcock and a preloaded normal saline syringe
  1. Mixture now provides 10 ml of epinephrine at a 0.01 mg/ml (10 mcg/ml) concentration
- C. If patient fulfill indications, and has approval from Base Hospital, by age, administer epinephrine 1.0 mL (10 mcg) IV/IO for adults, or per pediatric dosing chart, every 3 minutes
  1. Titrate to a SBP > 90 mmHg in adults, or age-specific threshold in pediatric anaphylactic shock, or as directed by the Base Hospital Physician for respiratory distress due to suspected asthma or COPD exacerbations

**V. Certification Requirements:**

- A. Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure
- B. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the Imperial EMS System
- C. Assessment should include direct observation at least once per certification cycle

APPROVED:

Signature on File

Katherine Staats, M.D. FACEP

EMS Medical Director