Epinephrine

Pharmacological Category: Sympathomimetic agent

Routes: IV/IO/IM, Nebulized

Indications:
1. Anaphylaxis
2. Bradycardia
3. Respiratory distress
4. Hypotension
5. Cardiac arrest

Expected effects:
1. Decreased wheezing
2. Increased BP
3. Increased HR

Notes:
1. This protocol does NOT apply to Epi Auto Injector (see Epi Auto Injector Protocol)
2. Note that epinephrine is not utilized in the pediatric bradycardia protocol

Preparing PUSH DOSE Epinephrine:
1. Prepare (epinephrine 10 mcg/mL)
    a. Combine 1 mL of 1 mg/10 mL epinephrine in 9mL NS

Dosing: SHOCK
Indication: Hypotension unresponsive to fluid bolus administration
Adults administer:
1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Pediatrics administer:
1. PUSH DOSE epinephrine utilizing MI MEDIC cards
2. If MI MEDIC cards are not available administer:
    a. PUSH DOSE epinephrine 1 mcg/kg (0.1 mL of epinephrine 10 mcg/mL) IV/IO. Maximum single dose 10 mcg (1 mL). Repeat every 3-5 minutes.

Dosing: ANAPHYLAXIS/ALLERGIC REACTION
Indication: Anaphylaxis/Severe Allergic Reaction
Adults administer:
1. Epinephrine (1mg/mL) 0.3 mg (0.3 mL) IM. May repeat one time after 3-5 minutes if patient remains hypotensive. Maxiumum of 2 doses total of epinephrine (including

epi pen).

Pediatrics administer EPI IM:

1. EPI IM according to MI MEDIC cards
2. If MI MEDIC cards are not available administer:
    a. For child weighing ≤ 30 kg or approx. 60 lbs.
        i. Epinephrine (1mg/mL) 0.15 mg (0.15 mL) IM. May repeat one time after 3-5 minutes if patient remains hypotensive. Maxiumum of two IM doses (including epi pen).
    b. For child weighing > 30 kg or approx. 60 lbs.
        i. Epinephrine (1mg/mL) 0.3 mg (0.3 mL) IM**.** May repeat one time after 3-5 minutes if patient remains hypotensive. Maxiumum of two IM doses total (including epi pen).

Indication: Hypotension not responsive to fluid bolus administration and/or impending arrest

Adults administer:

1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Pediatrics administer:

1. PUSH DOSE epinephrine utilizing MI MEDIC cards
2. If MI MEDIC cards are not available administer:
    a. PUSH DOSE epinephrine 1 mcg/kg (0.1 mL of epinephrine 10 mcg/mL) IV/IO. Maximum single dose 10 mcg (1 mL). Repeat every 3-5 minutes.

Dosing: ADULT RESPIRATORY DISTRESS

Indication: Impending respiratory failure and unable to tolerate nebulizer therapy

Adults administer EPI IM:

1. Epinephrine (1mg/mL) 0.3 mg (0.3 mL) IM

Dosing: CRASHING ADULT/IMPENDING ARREST

Indication: Patient in whom cardiac or respiratory arrest appears imminent and hypotension is unresponsive to fluid bolus administration

Adults administer:

1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Dosing: PEDIATRIC RESPIRATORY DISTRESS, FAILURE OR ARREST
Indication: Pediatric patient presents with stridor at rest without suspected airway obstruction.
Pediatrics administer EPI IM:

1. EPI IM according to MI MEDIC cards
2. If MI MEDIC cards are not available administer:
    a. Child weighing ≤ 30 kg or approx. 60 lbs.:
        i. Epinephrine (1 mg/mL) 0.15 mg (0.15 mL) IM
    b. Child weighing > 30 kg or approx. 60 lbs.
        i. Epinephrine (1 mg/mL) 0.3 mg (0.3 mL) IM

Indication: Severe respiratory distress
Pediatrics administer NEBULIZED EPI

1. Epinephrine (1 mg/1 mL) 5 mg nebulized

Dosing: ADULT CARDIAC ARREST
Indication: Cardiac arrest
Adults administer:

1. Epinephrine (1 mg/10 mL) 1 mg IV/IO every 3 to 5 minutes

Dosing: PEDIATRIC CARDIAC ARREST
Indication: Cardiac arrest
Pediatrics administer:

1. Epinephrine according to MI MEDIC cards.
2. If MI MEDIC cards are not available administer.
    a. Epinephrine (1 mg/10 ml), 0.01 mg/kg (0.1 ml/kg). Max dose 1 mg (10 mL). Repeat every 3-5 minutes

Dosing: ADULT BRADYCARDIA
Indication: Patients with persistent symptomatic bradycardia
Adults administer:

1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Dosing: ADULT CHF/CARDIOGENIC SHOCK
Indication: If SBP is below 100 mmHG treat for cardiogenic shock
Adults administer:

1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Dosing: ADULT ROSC
Indication: Hypotension unresponsive to fluid bolus administration
Adults administer:

1. PUSH DOSE epinephrine 10-20 mcg (1-2 mL of 10 mcg/mL) IV/IO. Repeat every 3-5 minutes. Titrate to SBP > 90 mm/Hg.

Dosing: PEDIATRIC BRADYCARDIA
Indication: If pulse remains < 60, despite oxygenation & ventilation
Pediatrics administer:

1. Epinephrine according to MI MEDIC cards.
2. If MI MEDIC cards are not available administer:
    a. Epinephrine (1 mg/10 mL) 0.01 mg/kg (0.1 mL/kg) IV/IO up to 1 mg (10 mL). Repeat every 3-5 minutes.

Dosing: PEDIATRIC ROSC
Indication: Hypotension unresponsive to fluid bolus administration
Pediatrics administer:

1. PUSH DOSE epinephrine according to MI MEDIC cards, titrating to age appropriate SBP per MI MEDIC cards.
2. If MI MEDIC cards are not available administer:
    a. PUSH DOSE epinephrine 1 mcg/kg (0.1 mL of epinephrine 10 mcg/mL) IV/IO. Maximum single dose 10 mcg (1 mL). Repeat every 3-5 minutes. Titrate to SBP > 70 mmHG + (2 x age in years) up to 100 mmHg.

Used in the Following Protocols
Shock (Section 1 General Treatment)
Anaphylaxis/Allergic Reaction (Section 1 General Treatment)
Respiratory Distress (Section 3 Adult Treatment)
Crashing Adult/Impending Arrest (Section 3 Adult Treatment)
Pediatric Respiratory Distress, Failure or Arrest (Section 4 Obstetrics and Pediatrics)
General Cardiac Arrest (Section 5 Adult Cardiac)
Pediatric Cardiac Arrest – General (Section 6 Pediatric Cardiac)
Bradycardia (Section 5 Adult Cardiac)
Pulmonary Edema/Cardiogenic Shock (Section 5 Adult Cardiac)
Pediatric Bradycardia (Section 6 Pediatric Cardiac)
Return of Spontaneous Circulation (ROSC)-Adult (Section 3 Adult Treatment)
Peds ROSC (Section 4 Obstetrics and Pediatrics)