

**CLASS: A**

**CLASS B: Asthma only (>3 doses,  
>40 y/o, and/or pmhx of CAD)**

**PROTOCOL(S) USED IN:** Anaphylaxis, Cardiac Arrest - Asystole, Cardiac Arrest - PEA, Cardiac Arrest Post Resuscitation, Respiratory Distress, Cardiac Dysrhythmias - VF/VT, Cardiac Dysrhythmias – Bradycardia.

**PHARMACOLOGY AND ACTIONS:**

- A. Catecholamine with alpha and beta effects.
- B. Increased heart rate, arterial blood pressure, systemic vascular resistance, automaticity, myocardial O<sub>2</sub> consumption and myocardial contractile force.
- C. Potent bronchodilator.

**INDICATIONS:**

- A. Ventricular fibrillation
- B. Asystole
- C. Pulseless Electrical Activity
- D. Anaphylaxis
- E. Respiratory Distress
- F. Systemic allergic reactions, croup and epiglottitis
- G. Severe Asthma (> 3 doses, patients >40 years of age, and/or pmhx of CAD require OLMC)

**CONTRAINDICATIONS:**

**Use caution in patients with peripheral vascular insufficiency.**

**SIDE EFFECTS AND NOTES:**

- A. Anxiety, tremor, headache, tachycardia, palpitations, PVCs, angina and HTN
- B. Use caution in patients with peripheral vascular insufficiency.
- C. Should not be added directly to a bicarbonate infusion; catecholamine may be partially deactivated by alkaline solutions.
- D. When used for allergic reactions, increased cardiac work may precipitate angina and/or MI in susceptible individuals.
- E. Wheezing in an elderly patient is considered pulmonary edema or pulmonary embolus until proven otherwise.
- F. IV Epinephrine delivery in anaphylaxis should be only considered in special circumstances such as severely hypotensive patients, patients in respiratory arrest, or those who have failed to respond to multiple IM injections of Epinephrine.
- G. For patients less than 70 kg in asthma or anaphylaxis consider starting IM doses of epinephrine at 0.3 mg.
- H. The most ideal injection site for IM Epinephrine is the lateral thigh.

**ADULT DOSING:**

**Cardiac Arrest**

**1mg 1:10,000 IV/IO q 3 - 5 min. Every 8-10 minutes after first 3 doses.**

**Allergic Reaction, Anaphylactic Shock, Laryngeal Edema**

**0.5 mg 1:1,000 IM**

**Asthma**

**0.5 mg 1:1,000 IM. May repeat up to 3 times. OLMC for additional, use in pts with pmhx of CAD or >40 years of age.**

**PEDIATRIC DOSING:**

**Cardiac Arrest, Bradycardia**

**0.01 mg/kg 1:10,000 IV/IO q 3 - 5 min.**

**Allergic Reaction, Anaphylactic Shock, Severe Asthma**

**0.01 mg/kg 1:1,000 IM to a max single dose of 0.5 mg (0.5 cc) IM.  
May repeat 3 times prn**

**Croup/Epiglottitis**

**3 ml 1:1,000 via Nebulizer.**

**CLASS:** A

**PROTOCOL(S) USED IN:** RSI, Cardiac Arrest Post Resuscitation, Shock, Bradycardias, Respiratory Distress

**INTRODUCTION:**

Bolus dose pressors and inotropes have been used by the anesthesiologists for decades for treatment of short-lived hypotension, e.g. post-intubation or during sedation.

**INDICATIONS:**

- A. Severe shock (MAP <65 mmHg) not responsive to fluids.
- B. A bridge to drip pressors while they are being mixed.
- C. Short-lived hypotension, e.g. post-intubation or during sedation.
- D. ROSC with Hypotension.

**SIDE EFFECTS AND NOTES:**

- A. Onset is typically 60 to 90 seconds.
- B. Duration lasts around 5-10 minutes.
- C. Concentration is low enough that extravasation is not a concern.
- D. To make **Epi 1:100,000**:
  - a. Discharge 1 mL of saline from a 10 mL flush giving you 9 mL of saline.
  - b. Draw back 1 mL of Cardiac Epi (1:10,000) into the saline flush to get 10 mL of Push-Dose Epi (10 mcg/mL)
- E. Label the syringe once the medication has been diluted to avoid confusion.

**ADULT DOSING:**

**RSI with Hypotension**

**10 mcg of 1:100,000 IV/IO** over 1min and reassess blood pressure until MAP ≥ 65 mmHg. Administer prior to sedation.

**ROSC with Hypotension**

**10 mcg of 1:100,000 IV/IO** over 1 min and reassess blood pressure until MAP ≥ 65 mmHg. Repeat prn q 1 min.

**CLASS:** A

**PROTOCOL(S) USED IN:** Shock, Respiratory Distress

**INTRODUCTION:**

In undifferentiated non-hemorrhagic shock, norepinephrine infusion is the vasopressor of choice. If norepinephrine infusion is not immediately available, consider epinephrine infusion. Epinephrine infusion is first line in suspected anaphylactic shock not responsive to intramuscular epinephrine. Consider push-dose epinephrine as a bridge to vasopressor infusion.

**INDICATIONS:**

- A. Severe shock (MAP <65 mmHg) not responsive to fluids.
- B. First line in suspected anaphylactic shock not responsive to IM epinephrine.

**SIDE EFFECTS AND NOTES:**

- A. Onset is typically 60 to 90 seconds.
- B. Duration lasts around 5-10 minutes.
- C. Use proximal well established IV or IO preferentially to reduce extravasation risk.
- D. Label the bag once the medication has been prepared.

**ADULT DOSING:**

Mix 1 mg of Epinephrine 1:1,000 in a 100 ml bag. Start at **5 mcg/min** increasing by 5 mcg/min q5 minutes until MAP >65 or a max dosage of 20 mcg/min.