

CLASS: A

PROTOCOL(S) USED IN: Anaphylaxis, Cardiac Arrest - Asystole, Cardiac Arrest - PEA, Cardiac Arrest Post Resuscitation, Respiratory Distress, Cardiac Dysrhythmias - VF/VT, Cardiac Dysrhythmias - Bradycardia, Naloxone, IM Access and Infusion, Shock

PHARMACOLOGY AND ACTIONS:

- A. Catecholamine with alpha and beta effects.
- B. Increased heart rate, arterial blood pressure, systemic vascular resistance, automaticity, myocardial O₂ consumption and myocardial contractile force.
- C. Potent bronchodilator.

INDICATIONS:

- A. Ventricular fibrillation
- B. Asystole
- C. Pulseless Electrical Activity
- D. Anaphylaxis
- E. Respiratory Distress
- F. Post Cardiac Arrest

CONTRAINDICATIONS:

None

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. To make **Epi 1:10,000**: take a prefilled 10 mL saline flush and eject 1 mL of saline. Draw up 1 ml of 1:1000 Epi. Use for cardiac arrest only. Do not store, Epinephrine is susceptible to sunlight and will break down.
- G. To make **Epi 1:100,000**: remove 9 ml of 1:10,000 Epinephrine and refill syringe with 9 ml of normal saline (0.1 mg in 10 ml).
- H. 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.
- I. For patients less than 70 kg in asthma or anaphylaxis consider starting IM doses of epinephrine at 0.3 mg.
- J. The most ideal injection site for IM Epinephrine is the lateral thigh.

ADULT DOSING:

Cardiac Arrest

1 mg 1:10,000 IV q 3 - 5 min.

ROSC with hypotension

1 ml of 1:100,000 IV/IO *over 1 min* and reassess blood pressure until ≥ 90 systolic. Repeat prn q 1 min.

Allergic Reaction, Anaphylactic Shock, Laryngeal Edema, Asthma,

0.5 mg 1:1,000 IM up to 3 doses

<70kg Consider starting dose at 0.3 mg 1:1,000 IM

1 ml of 1:100,000 IV/IO *over 1 min* and reassess, after at least 1 dose of 1:1000. Repeat prn q 1 min.

Intubation, RSI with hypotension

1 ml of 1:100,000 IV/IO *over 1 min* and reassess. Repeat prn q 1 min. Optimize physiologic parameters.

Bradycardia

If no response to Atropine consider 1 ml of 1:100,000 IV/IO *over 1 min* and reassess blood pressure until ≥ 90 systolic. Repeat prn q 1 min

Shock states (Obstructive, Cardiogenic, Distributive)

While Norepi drip is being set up, consider push dose epinephrine. 1 ml of 1:100,000 IV/IO *over 1 min* and reassess blood pressure until ≥ 90 systolic. Repeat prn q 1 min

PEDIATRIC DOSING:

Cardiac Arrest, Bradycardia

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

ROSC

May consider **Epi 1:100k** while Norepi drip is being set up. See Handtevy

Allergic Reaction, Anaphylactic Shock, Severe Asthma

0.01 mg/kg 1:1,000 IM to a max single dose of 0.3 mg (0.3 cc) IM. Max 3 doses.

1 ml of 1:100,000 (0.1 mg in 10 ml) IV/IO *over 1 min* and reassess, after at least 1 dose of 1:1000. Repeat prn q 1 min. Reassess age appropriate Bp (See Handtevy)

Croup/Epiglottitis

3 ml 1:1,000 via Nebulizer.

Intubation, RSI with hypotension

1 ml of 1:100,000 IV/IO *over 1 min* and reassess. Repeat prn q 1 min. Optimize physiologic parameters. < 1 yr old 1 mcg/kg Repeat prn q 1 min. See Handtevy Drips

