Epinephrine – 20.130

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 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. 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. 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. 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.
H. For patients less than 70 kg in *asthma or anaphylaxis* consider starting IM doses of epinephrine at 0.3 mg.
I. 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.
May be given via ET at 2 - 2.5 times IV dose.

Allergic Reaction, Anaphylactic Shock, Laryngeal Edema, Asthma

0.5 mg 1:1,000 IM may repeat 3 times
0.3-0.5mg 1:10,000 IV/IO

PEDIATRIC DOSING:

Cardiac Arrest, Bradycardia

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

Allergic Reaction, Anaphylactic Shock, Severe Asthma

0.01 mg/kg 1:1,000 IM to a max single dose of 0.3 mg (0.3 cc) IM.
1 ml of 1:100,000 (0.1 mg in 10 ml) IV/IO *over 1 min*, and reassess. Repeat prn q 1 min.

Croup/Epiglottitis

3 ml 1:1,000 via Nebulizer.

Epinephrine (Push Dose) – 20.130

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 <50mmHg or SBP < 70 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.

CONTRAINDICATIONS:
Cardiac Arrest

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
1 ml of 1:100,000 IV/IO over 1min and reassess blood pressure until ≥ 90 systolic. Administer prior to sedation.

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.

ROUTE: IV/IO