EPINEPHRINE

1.0 Classification
   • Adrenergic
   • Sympathomimetic

2.0 Mechanism of Action
   • Epinephrine is a naturally occurring catecholamine which increases heart rate, cardiac contractility, electrical activity, vascular resistance, and systolic blood pressure while also decreasing airway resistance

3.0 Indications
   • Cardiac arrest
   • Anaphylaxis
   • Near-death asthma
   • Croup
   • Stridor

4.0 Contraindications
   • No contraindications in the emergency setting

5.0 Precautions
   • Epinephrine can be deactivated by alkaline solution (e.g. sodium bicarbonate)

6.0 Route
   • May be given IM, SubCut, IV/IO, ETT, or nebulized (route often depends on indication for use)

7.0 Dosage
   Adult
   • For cardiac arrest: 1 mg of 1:10 000 IV (or 2 mg ETT), repeated q 4 minutes as needed
   • For anaphylaxis/near-death asthma: 0.3-0.5 mg of 1:1000 IM, repeated q 5-20 minutes as needed.
   • For near-death anaphylaxis: 0.1 mg of 1:10 000 IV (1 mL from 1:10 000 pre-loaded syringe) over 1 minute
   • For stridor: 5 mg (5 mL) of 1:1000 nebulized, repeat as needed

   Pediatric
   • For cardiac arrest: 0.01 mg/kg (0.1 mL/kg) of 1:10 000 IV/IO OR 0.1 mg/kg (0.1 mL/kg) of 1:1000 ETT mixed with 3 mL sterile saline q 4 minutes as needed
   • For anaphylaxis/near-death asthma: 0.01 mg/kg (0.01 mL/kg) of 1:1000 IM (maximum of 0.3 mg), repeated q 5-20 minutes as needed
   • For croup or stridor: 0.5 mg/kg (0.5 mL/kg) of 1:1000 nebulized (maximum of 5 mg) mixed with normal saline to a maximum of 5 mL total volume, repeat as needed
8.0 **Supplied**
- 1 mg/10 mL preloaded syringe (1:10 000 concentration)
- 1 mg/1 mL ampoule (1:1000 concentration)

9.0 **May Be Given By**

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10.0 **Adverse effects**
- Arrhythmias
- Palpitations
- Tachycardia
- Myocardial ischemia
- Nausea/vomiting
- Tremors

11.0 **Special notes**
- Pregnancy category C [if the patient will benefit from a Category C drug, it is generally used]

12.0 **References**
- Cardiac Arrest Adult Clinical Practice Guideline
- Respiratory Distress Clinical Practice Guideline
- Allergic Reactions Clinical Practice Guideline
- Compendium of Pharmaceuticals and Specialties (CPS)

*Electronically Signed
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