

Pharmacologic properties:

Epinephrine is a sympathomimetic which stimulates both Alpha and Beta adrenergic receptors. Its effects are to increase systemic vascular resistance, arterial blood pressure, coronary and cerebral blood flow, heart rate and contractility. The alpha-adrenergic effect increases vascular resistance and coronary blood flow, which may make the fibrillating myocardium more susceptible to counter-shock. The beta adrenergic effect increases heart rate and cardiac output, and induces bronchodilation.

Indications:

- Cardiac arrest (Ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT), Asystole, Pulseless electrical activity (PEA)
- Anaphylactic shock
- Pediatric bradycardia and cardiac arrest

Contraindications:

- NONE in the cardiac arrest situation

Precautions:

- Epinephrine is inactivated by alkaline solutions and should not be mixed with Sodium Bicarbonate

Adverse Reactions:

- Cerebral hemorrhage, Tachycardia, Ventricular dysrhythmias, Hypertension, Angina, Nausea and vomiting

Dosage and administration:

Adult

- Cardiac arrest
 - 1 mg boluses IVP / IO repeated every 3 – 5 minutes.
- Symptomatic bradycardia with hypotension, resistant to dopamine:
 - 2-4 mcg/min (Mix 2mg in 500 mL NS and begin at 30-60 drops/min)
- Allergic reactions
 - 0.3 - 0.5 mg (0.3-0.5 cc) IVP repeated every 3 – 5 minutes.

Pediatric

- Cardiac arrest/Bradycardia
 - Administer 0.01 mg/kg IVP / IO or 0.1 mg/kg ET followed by 0.1 mg/kg IVP / IO or ET every 3 minutes.
- Allergic reactions

0.01 mg/kg up to 0.3 mg IVP for allergic reactions