

Southern Illinois Regional EMS System

JJ-11 EPINEPHRINE

Class:

- Sympathomimetic.

Description:

- Epinephrine is an endogenous catecholamine that directly stimulates alpha-, beta₁-, and beta₂ adrenergic receptors in dose-related fashion.
 - Alpha: vasoconstriction
 - Beta₁: increased inotropic, chronotropic, and dromotropic effects
 - Beta₂: bronchodilation

Indications:

- Acute allergic reactions.
- Cardiac arrest.
- Asystole.
- Pulseless electrical activity.
- Ventricular fibrillation and pulseless ventricular tachycardia unresponsive to initial defibrillation.
- Profound symptomatic bradycardia.
- Acute bronchospasm

Contraindications:

- Hypovolemic shock:
 - As with other catecholamines, correct hypovolemia before use.
- Coronary insufficiency:
 - Use with caution.

Adverse Reactions:

- Headache
- Tachycardia
- Anxiety
- Ventricular dysrhythmias
- Hypertension
- Precipitation of angina pectoris

Drug Interactions:

- MAO inhibitors may potentiate the effect of epinephrine.
- Beta-adrenergic antagonists may blunt inotropic response.
- Sympathomimetics and phosphodiesterase inhibitors may exacerbate response.
- May be deactivated by alkaline solutions like furosemide and sodium bicarbonate.

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JJ-10 EPINEPHRINE (ADRENALIN) (continued)

Dosage and Administration:

- Profound Bradycardia or Hypotension:
 - Adult:
 - 2-10 mcg/min IV infusion, titrate to response
 - Pediatric:
 - 0.01 mg/kg IV/IO
 - If continuous infusion is needed:
 - 0.1-1 mcg/kg/min IV infusion
- Pulseless Arrest:
 - Adult:
 - 1 mg IV/IO every 3-5 minutes
 - ET dose: 2 mg - 2.5 mg
 - Pediatric:
 - 0.01 mg/kg IV/IO every 3-5 minutes, max dose 1 mg.
 - ET dose: 0.1 mg/kg of 1:1000 concentration, until IV/IO access achieved.
- Anaphylactic Reaction or Bronchoconstriction:
 - Adult:
 - 0.3-0.5 mg IM/SQ
 - Pediatric:
 - 0.01 mg/kg IM
 - Max single dose of 0.3 mg

Special Considerations:

- Pregnancy Category C.
- Do not use prefilled syringes for epinephrine infusions.
- Syncope has occurred following epinephrine administration to asthmatic children.
- Epinephrine may increase myocardial oxygen demand.

Note:

- Complications of IV administration of epinephrine are significant and include:
 - The development of uncontrolled systolic hypertension.
 - Vomiting.
 - Seizures.
 - Dysrhythmias.
 - Myocardial ischemia.
 - This route should be used only in patients with a critical life-threatening condition.
 - IV administration of epinephrine rarely is performed in conscious patients.
 - IV administration is performed with extreme caution in rare circumstances and only with authorization from medical direction.