



**El Dorado County Emergency Medical
Services Agency**
Quick Reference

Revised Date: July 1, 2020

Medication Profile

Epinephrine
(Adrenalin)

Class:

Natural Catecholamine/Sympathomimetic

Action:

Potent catecholamine with Alpha and Beta effects; Epinephrine causes vasoconstriction in the arterioles of the skin, mucosa, and splanchnic areas, and antagonizes the effects of histamine.

Alpha Effects:

Increased respiratory tidal volume and vital capacity by vasoconstriction of arterioles in lungs (↓ edema)

Vasoconstriction in skin, kidneys, stomach, intestines, liver and pancreas

Beta Effects:

Increased heart rate, force of contraction, AV-node conduction, spontaneous contraction, cardiac output, tidal volume, coronary blood flow, O₂ consumption, myocardial irritability.

Bronchodilation

Vasodilation of circulation to heart and skeletal muscle

Onset: IV/IO Immediate
SQ/IM 5-10 minutes

Peak: IV/IO 5-minutes
IM 30 minutes

Duration: Varies

Adult Administration:

- **Pulseless Arrest**
 - 1mg (1:10,000) IV/IO, repeat every 3-5 minutes if patient remains pulseless

- **Bronchospasm**
 - 0.3mg (1:1,000) IM, May repeat every ten minutes
 - **Epinephrine can be given prior to base station contact only if the patient is in extremis: low O₂ saturation, unable to speak, signs of ALOC**

- **Allergic Reaction/Anaphylaxis**
 - **Bronchospasm**
 - 0.3mg (1:1,000) IM, may repeat in 10 minutes x1
 - **Hypotension/Airway Compromise**
 - 0.3mg (1:1,000) IM every 10 minutes if there is no improvement
 - **Impending Arrest**

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- 0.1mg (1:10,000) diluted to 10mL with NS slow IV push over 5 minutes
 - Diluted dose is equivalent to (1:100,000)
- **Stridor (croup/ airway burns/ laryngeal edema, anaphylaxis)**
 - 5mL (5mg) 1:1,000 Nebulized Epinephrine over 5 minutes
 - Repeat as needed every 10 minutes.
 - This should be in addition to IM epinephrine
- **Auto Injector (Adult) patients over 30kg (66lbs)**
 - 0.3mg (0.3mL, 1:1,000) IM (Lateral thigh preferred). May repeat in 10 minutes if ALS response is delayed and condition worsens

Pediatric Administration:

- **Pulseless Arrest**
 - 0.01mg/kg IV/IO (1:10,000, 0.1mL/kg) Repeat every 3-5 min if patient remains pulseless
- **Bronchospasm**
 - 0.01mg/kg (1:1,000) Max 0.3mg, May repeat in 10 minutes x1
 - **Epinephrine can be given prior to base station contact only if the patient is in extremis: low O2 saturation, unable to speak, signs of ALOC**
- **Refractive Bradycardia**
 - 0.01mg/kg IV/IO (1:10,000, 0.1mL/kg) repeat dose every 3-5 minutes
- **Allergic Reaction/Anaphylaxis**
 - **Bronchospasm**
 - 0.01mg/kg IM (1:1,000) every 10 minutes if no improvement
 - **Hypotension/ Airway Compromise**
 - 0.01mg IM (Max 0.3mg) every 10 minutes if no improvement
 - **Impending Arrest**
 - 0.01mg/kg (1:10,000, 0.1mL/kg), diluted with NS to 10mL slow IV push over 5 minutes, Repeat every 5 minutes if no improvement
 - Diluted dose is equivalent to 1:100,000
- **Stridor (croup/ airway burns/ laryngeal edema, anaphylaxis)**
 - 0.5mL/kg (not to exceed 5mL) 1:1000 Nebulized Epinephrine.
 - For doses less than 3mL dilute in NS to 5mL to allow for nebulization
 - Repeat every 10 minutes until stridor subsides
 - This should be in addition to IM epinephrine
- **Auto Injector (pediatric) patients 15-30kg (33-66lbs)**
 - 0.15mg (0.3mL, 1:2,000) IM (Lateral thigh preferred). May repeat in 10 minutes if ALS response is delayed and condition worsens

Indications:

- Cardiopulmonary arrest: VFIB/Pulseless VT, Asystole, PEA

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- Allergic reaction/ anaphylaxis
- Asthma
- Refractory pediatric bradycardia, unresponsive to O2 and ventilation
- Stridor (croup, airway burns, laryngeal edema)

Contraindications:

- Hypertension

Side Effects:

CV: Tachycardia, palpitations, chest pain, hypertension, V-tach/V-fib

CNS: Headache, tremors, anxiety, dizziness, restlessness, convulsions

GI: Nausea, vomiting, anorexia, cramps

INTEG: Pallor, flushing, sweating, painful blanching at SQ injection sit

Pregnancy:

Category C

Notes:

- Use caution in patients with cardiac ventricular dysrhythmias, pregnancy, severe hypertension, coronary artery disease, tachy dysrhythmias, hypovolemic shock, chest pain of cardiac origin, or greater than 70-years old.