

Medication: Epinephrine	PDN: 6930.06	Last Updated: June 27 2019	PMD: Andrew Travers*	PDC: EHS*	Page 1 of 2
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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

Indication	Scope	Order
Cardiac Arrest	ICP / ACP / CCP	Standing Order
Anaphylaxis (IM)	PCP / ICP / ACP / CCP	Standing Order
Near Death Anaphylaxis (IV)	ACP / CCP	Standing Order
Near Death Asthma	ICP / ACP / CCP	Standing Order
Croup	PCP/ICP	Clinical Support Paramedic Contact
	ACP / CCP	Standing Order
Stridor	PCP/ICP	Clinical Support Paramedic Contact
	ACP / CCP	Standing Order

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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