EPINEPHRINE

Additional Names: Adrenaline

Classification: Sympathomimetic, Catecholamine

Indications:
Cardiac Arrest
Bradycardia
Severe Allergic Reaction, Severe Reactive Airway Disease
CHF exacerbation
Croup/Stridor, Bronchiolitis

Contraindications:
Known hypersensitivity
Hemorrhagic Shock

Dosages:

Adult:

Anaphylaxis
0.3-0.5mg IM (1:1,000), may repeat x1 after 5 min, prn
1mL IV/IO Push Dose Epi, q 3-5min, while preparing vasopressor infusion
2-20mcg/min IV/IO Infusion

Wheezing/Bronchospasm: Severe
0.3-0.5mg IM (1:1,000)

CHF/Acute Pulmonary Edema
2-20mcg/min IV/IO infusion, titrate to MAP ≥ 65mmHg

1mL IV/IO Push Dose Epi q 3-5min prn

Cardiac Arrest
1mg IV/IO (1:10,000), q 3-5min (max 3mg)

Hypothermia induced Cardiac Arrest:
1mg IV/IO (1:10,000) ONCE until temp > 86°

Post ROSC
2-30mcg/min, titrate to MAP ≥ 65mmHg
1mL Push Dose Epi q 3-5min prn

Shock
2-20mcg/min, titrate to MAP ≥ 65mmHg
1ml IV/IO Push Dose Epi, q 3-5min, prn, while preparing vasopressor infusion

Bradycardia: In peri-arrest situations
1mL IV/IO Push Dose Epi, q 2min prn to maintain MAP ≥ 65mmHg

Bradycardia/Age-appropriate hypotension persists
0.01mg/kg IV/IO (1:10,000), q 5min prn, max 1mg total

EPINEPHRINE (continued)

Dosages: (continued)

Pediatric

Anaphylaxis
< 25kg, 0.15mg IM (1:1,000), may repeat x1 after 5min, prn
≥ 25kg, 0.3mg IM (1:1,000)
0.01-0.5mcg/kg/min Infusion w/Medical Control orders

Croup/Stridor
3mg (1:1,000) in Nebulizers, repeat PRN if stridor still present at rest

Pediatric Lower Airway Obstruction: Wheezing due to Bronchiolitis
3mg (1:1,000) via Nebulizer with Medical Control orders

Asthma/Wheezing > 2yo: Severe
≥ 25kg = O.3mg IM (1:1,000)
< 25kg = 0.15mg IM (1:1,000)

Cardiac Arrest
0.01mg/kg IV/IO (1:10,000), q 3-5min, max 1mg/dose

Shock
0.01-0.5mcg/kg/min Infusion
Consider 1mL (10mcg) IV/IO Push Dose Epi

Neonatal Resuscitation
0.01-0.03mg/kg IV/IO, 0.1mg/ml (1:10,000)

Push Dose Epi:

Adults: Mix in syringe 1mL of Epi (1:10,000) with 9mL saline. Syringe = 10mcg/mL of Epi. Administer 1mL (10mcg) IV/IO, q 3-5min, prn. Consider while preparing vasopressor infusion.

Peds: 10mcg/mL (1:100,000), 1ml/1min IV/IO, not to exceed 1mL/1min. Using 1ml syringe, draw 0.1mL of (1:10,000) and 0.9mL saline = 10mcg/mL Titrate to maintain age appropriate SBP.

Epinephrine Infusion

Mix 2mg Epinephrine (1:1,000) into 250mL NS/D5W = 8mcg/ml

Infuse using microdrip (60gtt/ml) set

Dosage	2mcg/min	4mcg/min	8mcg/min	12mcg/min	16mcg/min	20mcg/min	24mcg/min	30mcg/min
gtts/sec	1gtt/4sec	1gtt/2sec	1gtt/1sec	1.5gtts/1sec	2 gets/1sec	2.5gtts/1sec	3gtts/1sec	~4gtts/1sec
gtts/min	15gtts	30gtts	60gtts	90gtts	120gtts	150gtts	180gtts	240gtts

EPINEPHRINE (continued)

Side Effects:	Sweating, dizziness, nervousness, palpitations, weakness, pale skin, headache
Physiological: Effects	An endogenous catecholamine that stimulates the α-adrenergic and β-adrenergic receptor sites in the sympathetic nervous system. The general physiologic expectation is smooth muscle relaxation of the bronchi, vasoconstriction in the arterioles of the skin and mucosa, and an increase in heart rate and blood pressure.
Additional Info:	IM administration of Epinephrine is recognized as generally safe regardless of age. Adverse cardiovascular events are most common when Epinephrine is given intravenously. Consider the risks and benefits of Epi use in patients > 60 years old or persons with a cardiac history. Contact Medical Control for use during pregnancy due to risk to fetus.