VASOPRESSOR CONTINUOUS INFUSION *(ADULT PATIENTS ONLY)*

Description

Epinephrine: Preferred vasopressor for all indications

Endogenous catecholamine alpha, beta-1, and beta-2 adrenergic receptor agonist. Causes dose-related increase in heart rate, myocardial contractility and oxygen demand, peripheral vasoconstriction and bronchodilation.

Dopamine: may be used as an alternative vasopressor for indications of hypotension or bradycardia, but not for anaphylaxis or status asthmaticus.

Endogenous catecholamine chemically related to epinephrine and norepinephrine. Increases blood pressure through combination of dopamine, alpha and beta receptor effects leading to increased heart rate, contractility and peripheral vasoconstriction.

Indications

Epinephrine (Adrenalin) — EMT - I

- Severe Allergic Reaction/Anaphylaxis
- Hypotension with poor perfusion refractory to adequate fluid resuscitation (typically 20 ml/kg crystalloid)
- Bradycardia with signs of poor perfusion
- Post-arrest support

Dopamine (Intropin) — Paramedic

- Rate dependent hypotension with poor perfusion refractory to adequate fluid resuscitation (typically 30 ml/kg crystalloid)
- Bradycardia with signs of poor perfusion

Norepinephrine (Levophed) — Paramedic

- Hypotension (secondary to volume correction)
- Septic and Neurogenic Shock
- Beta-blocker overdose
- Calcium Channel blocker overdose
- Tri-cyclic toxicity (use with caution)

Contraindications

- **Do not use vasopressor infusion in Pediatric patients (age less than 12 years)**

Adverse Reactions

- Dysrhythmia
- Hypertension
- Anxiety
- Angina

Drug Interactions

- Do not add to sodium bicarbonate or other alkaloids as epinephrine will be inactivated at higher pH.

VASOPRESSOR CONTINUOUS INFUSION *(Continued)*

Dosage and Administration

Epinephrine

- **Dirty Epi Drip:** 2-10mcg/min titrated to effect. Mix 1mg Epi (1:10,000 or 1:1000) into 1000ml NS, connect 15gtt set (or IV Pump set), run at 1gtt/second (equals 4mcg/min) titrate to effect. Aim for >90mmHg Systolic or >65mmHg MAP. IV Pump use recommended.

—OR—

- **Push-dose Epi:** 5-20mcg (0.5-2ml) every 2-5min. Mix 1ml of **1:10,000 Cardiac Epi** into 9ml NS flush syringe; makes concentration of 10mcg/ml; give 0.5-2ml every 2-5min titrated to effect.[1]

Dopamine

- **Mix**: 400 mg in 250 ml NS or 800 mg in 500 ml NS to produce concentration of 1600 mcg/ml. Use micro drip set (60 gtt set)
- **Adult IV/IO**: 5-20 mcg/kg/min. Start at 5 mcg/kg/min, titrate dose up 5 mcg/kg/min every 5 minutes to a max of 20 mcg/kg/min to desired hemodynamic effect.

Norepinephrine (

- **Adult:** Infusion (4 mg/250 D5W):
  - Starting Dose: 0.5 micrograms/min
    - Increase by 0.5mcg increments q2 min. until desired BP/MAP achieved
    - Target BP: >90 mmHg systolic
    - Target MAP: > 65 mmHg
- **Pediatric:** Infusion (4 mg/250 D5W):
  - Starting Dose: 0.1 micrograms/min
    - Increase by 0.1mcg increments q2 min. until desired MAP achieved
    - Target MAP: 45-55 mmHg
- **Note: Ensure patent line and monitor line; extravasation causes massive tissue necrosis. If extravasation occurs inject 10ml NS at site to dilute concentration. Antidote is 5-10mg Phentolamine (adrenergic blocker) to the site.**

Special Considerations

- May increase myocardial oxygen demand and angina pectoris. Use with caution in patients with known or suspected CAD.

[1] This protocol was updated to include the two Epi pressor forms consistent with the update to the Epi medication protocol.