# EPINEPHRINE DRIP 1 mcg/mL (1 mg/1000 mL) (Adrenalin)

**Classification:** Sympathomimetic agent (catecholamine)

**Actions:**
- Increases cardiac output due to increased inotropy, chronotropy, dromotropy (β1 effect)
- Relaxes smooth muscles of the respiratory tract (β2 effect)
- Increases systolic blood pressure due to increased cardiac output (β1 effect) and vasoconstriction (α effect)

**Indications:**
1. Symptomatic adult bradycardia refractory to other therapies
2. ROSC with persistent hypotension
3. Distributive shock (septic or neurogenic) unresponsive to fluid resuscitation
4. Cardiogenic shock with signs/symptoms of CHF or not responding to fluid resuscitation

**Contraindications:** There are no absolute contraindications in a life-threatening situation

**Precautions:**
- Hypovolemia: correct volume depletion prior to administration
- Cardiac disease and ischemia

**Adverse Effects (select list):**
- CNS: Excitability, dizziness, drowsiness, disorientation, headache, exacerbation of Parkinson's, paresthesia, cerebral hemorrhage
- Resp: **Dyspnea, pulmonary edema**
- CV: Angina, cardiac ischemia, HTN, vasoconstriction, palpitations, **tachyarrhythmia, supraventricular and ventricular dysrhythmias, CVA**
- Metabolic: hyperglycemia, hypoglycemia, hypokalemia, acidosis
- GI: Nausea and vomiting
- Other: Tremor, pallor, erythema, diaphoresis, piloerection
- Tissue necrosis at injection site

**Administration:** Mix 1 mg (10 mL) of cardiac epinephrine 1:10,000 (0.1 mg/mL) with a full 1 L bag of Normal Saline. Mixture now provides 1000 mL of epinephrine at a 1 mcg/mL concentration.

**LABEL BAG** with “Epinephrine 1 mcg/mL”

**ADULT DOSE**
Base station order only: up to 10 mcg/min IV/IO infusion
Start infusion at 10 mcg/min (see drip chart)
- Titrate down to minimum rate to maintain SBP >90 mmHg, or other indicators of response
**PEDIATRIC DOSE**

Base station order only: 1 mcg/kg, not to exceed 10 mcg/min, IV/IO infusion

- Start infusion at recommended dose (see drip chart)
- Titrate down to maintain age appropriate minimum SBP mmHg, or other indicators of response

**Pharmacology:**

- **Onset:**
  - Immediate
- **Steady state during infusion:** 10-15 min

**Duration:**

- **Half-life <5 min**

**Notes:**

- Attempt to correct hypovolemia with IV fluid bolus prior to administration of any vasopressors.
- Consider requesting epinephrine drip if multiple doses of Push-Dose epinephrine have been required, particularly for extended transport.
- Use macro drip tubing (10 or 15 gtt/s) for epinephrine drip.
- Consider using metronome to help set drip rate.
- Ensure solution of mixed epinephrine is labelled appropriately – “Epinephrine 1mcg/mL”
- Do NOT use IV tubing running epinephrine drip as primary IV line, piggyback onto IV line or start second line.

- **Anaphylactic shock and pediatric bradycardias** with circulatory collapse, refer to Protocols #611 and #644. Base physician may order epinephrine drip at their discretion.

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<th>Dose (mcg/min)</th>
<th>Drops/min</th>
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<td><strong>If using 15 drop tubing (Gtt/s)</strong></td>
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