

## Norepinephrine (Levophed) – 20.285

**CLASS: A**

**PROTOCOL(S) USED IN: Cardiac Arrest Post Resuscitation, Cardiac Dysrhythmia Bradycardia, Respiratory Distress, Shock**

**PHARMACOLOGY AND ACTIONS:**

Norepinephrine stimulates alpha receptors in the peripheral vasculature, producing vasoconstriction related increase in systemic blood pressure. Concurrent beta receptor stimulation may produce increases in heart rate and mild bronchodilation.

**INDICATIONS:**

Obstructive, cardiogenic and distributive shock unresponsive to fluid administration.

**CONTRAINDICATIONS:**

**Hypovolemic shock**

**PRECAUTIONS:**

- A. Norepinephrine should be given in a large, patent vein (i.e. antecubital or larger). Do not administer through a hand or leg vein, as these are more likely to be affected by vaso-occlusive diseases and more prone to ischemic complications.
- B. Extravasation of norepinephrine into tissue may cause necrosis. The IV should be checked for patency prior to administration and monitored continuously.
- C. Norepinephrine is a potent vasoconstrictor and may cause hypertension. The rate of flow should be carefully monitored and blood pressures checked often.
- D. Consider hypovolemia and treat this with appropriate fluids before administration of norepinephrine.

**SIDE EFFECTS AND NOTES:**

- A. Symptoms may include headache, palpitations, tachycardia, chest pain and eventual hypertension.
- B. Reflex bradycardia can result from an increase in blood pressure.

**ADULT DOSING:**

Infusion rate should start at **4 mcg/min IV/IO**. If no response, increase every 5 minutes in 4 mcg/min increments to max of 12 mcg/min. Goal is a systolic blood pressure of  $\geq 90$  mmHg.

**PEDIATRIC DOSING:**

Begin at 0.1 mcg/kg/min. If no response in 5 minutes, increase to 0.2 mcg/kg/min. If still no response after 5 more minutes, may increase to 0.4 mcg/kg/min. Goal is age appropriate systolic BP.

**MIXING/ADMINISTRATION:**

Add one 4 mg ampule or vial to 500 ml of NS or LR, or two 4 mg ampules or vials to 1000 ml of NS or LR for a concentration of 8 mcg/ml. Administer via 60 drop/mL infusion set.

**Adults (8 mcg/ml concentration)**

Mcg/min	4	8	12
Drops/min	30	60	90