REGIONAL ADULT PARENTERAL DRUG MONOGRAPH

GENERIC NAME

norepinephrine

HIGH ALERT DOUBLE CHECK

Effective Date: Dec 2011 **Revised Date:** Dec 2022	CLASSIFICATION **Sympathomimetic Vasopressor**	OTHER NAMES **Noradrenalin, Levophed Levarterenol**	PAGE 1 of 3

ADMINISTRATION POLICY:

IV Infusion – Administration restricted to nurses experienced in ED/CARDIAC ROOM/ICU/PACU

IV Bolus – Not recommended

IM Injection – Not to be administered

RECONSTITUTION/DILUTION/ ADMINISTRATION:

Available as: 1 mg/mL – 4 mL vial, 4 mg/250 mL premixed bag (0.016 mg/mL), 8 mg/250 mL premixed bag (0.032 mg/mL)

Administer via central venous access device for continuous infusion. Peripheral administration is only to be used as an interim measure until central venous access is established, using norepinephrine 4.

IV Infusion: Pump Library: *Premixed solution preferred when available*

Norepinephrine 4 *(premixed bag)*

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore4	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
4 mg premixed	250 mL premixed bag	250 mL	0.016 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

Norepinephrine 4 *(when using the vial)*

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore4	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
4 mg (4 mL of 1 mg/mL)	250 mL NS or D5W (remove 4 mL)	250 mL	0.016 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

Norepinephrine 8 *(premixed bag)*

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore8	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
8 mg premixed	250 mL premixed bag	250 mL	0.032 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

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Norepinephrine 8 *(when using the vial)*

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore8	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
8 mg (8 mL of 1 mg/mL)	250 mL NS or D5W (remove 8 mL)	250 mL	0.032 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

Norepinephrine 16

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore16	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
16 mg (16 mL of 1 mg/mL)	250 mL NS	266 mL	0.06 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

Norepinephrine 32

Drug Library	**Dose Rate**	**Short Name**	**Care Unit**
Yes	mcg/kg/min	nore32	Critical Care
Drug	**Diluent**	**Final Volume (VTBI)**	**Final Concentration**
32 mg (32 mL of 1 mg/mL)	250 mL NS	282 mL	0.114 mg/mL
Clinical Advisory: High Alert			
Soft Low Dose Limit: 0.01 mcg/kg/min		Soft High Dose Limit: 1 mcg/kg/min	

DOSAGE:

Usual dose: Initial: 0.01- 0.1 mcg/kg/minute
Increase by 0.02 to 0.05 mcg/kg/minute every 3 to15 minutes **titrating** until desired patient response

Maximum rate: 2 mcg/kg/minute

Maximum concentration: 1 mg/mL

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STABILITY/COMPATIBILITY:

Stability of Final Admixture: 24 hours at room temperature

Compatibility: Compatible in normal saline, D5W, combination dextrose-saline solutions, Lactated Ringer

POTENTIAL HAZARDS ADVERSE REACTIONS:

- Use with caution in patients on MAO inhibitors, tricyclic antidepressants, methyldopa or antihistamines. All these drugs may potentiate the hypertensive effect of norepinephrine and cause prolonged and excessive hypertension.
- Hypertension, reflex bradycardia, arrhythmias, increased peripheral vascular resistance, decreased cardiac output
- Ventricular arrhythmias, tachycardia, hypotension
- Headache, nausea, vomiting
- Ischemic injury due to potent vasoconstrictor action and tissue hypoxemia. Use with caution in patients with mesenteric or peripheral vascular thrombosis.
- **Early signs of overdose:** Photophobia, intense sweating, vomiting, retrosternal or pharyngeal pain, severe hypertension, cerebral hemorrhage and seizures.

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- Administer via central venous access for continuous infusion. Peripheral administration may be used **only as an interim** measure until central venous access is established, using the lowest concentration available (4 mg/250 mL). If a high concentration is needed, placement of a central line is imperative.
- Continuous cardiac monitoring required
- Patient should never be left unattended while receiving norepinephrine
- Recommended monitoring for continuous administration: non-invasive blood pressure until invasive blood pressure monitoring can be established (preferred), heart rate
- Monitor urine output
- Correct hypovolemia before using in hypotensive patients
- Do not stop drug abruptly because of the danger of a sudden drop in blood pressure
- Do not infuse into lower extremity – may cause gangrene
- Extravasation of peripherally administered drug can cause serious local irritation and skin necrosis. Stop infusion and consider phentolamine, and only apply warm compresses if extravasation is present. The injection site should be checked frequently for signs of extravasation i.e. blanching of veins
- Onset of action: 1 to 2 minutes. Duration of action: 1 to 2 minutes once infusion discontinued
- Elderly patients: norepinephrine should be started at lower doses