

INTRAVENOUS DRUG THERAPY MANUAL

OTHER NAMES Neo-Synephrine	CLASSIFICATION Sympathomimetic	ALERTS HIGH ALERT MEDICATION INDEPENDENT DOUBLE CHECK for continuous infusion
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PREPARATION and ADMINISTRATION

Reconstitution Not applicable		
IV Direct	Intermittent Infusion	Continuous Infusion
Standard preparation 50 mcg/mL (10 mL) prefilled syringe Administer dose over 1–2 min Alternative preparation Diluent: NS Dilute 5 mg (0.5 mL phenylephrine 10 mg/mL) in 100 mL to produce a 50 mcg/mL solution; label bag or discard immediately. Withdraw solution into syringe and label. Administer dose over 1–2 min	IV Bag (large volume pump)	IV Bag (large volume pump)
	Not applicable	Standard preparation Diluent: NS 100 mcg/mL (25 mg/250 mL, 50 mg/500 mL, 100 mg/1,000 mL)
	Syringe (syringe pump)	Syringe (syringe pump)
	Not applicable	Standard preparation Diluent: NS 100 mcg/mL (5 mg/50 mL)
Requirements and Monitoring		
Blood pressure via arterial line or blood pressure via cuff and heart rate q5 min x 30 min and until blood pressure stable Cardiac monitor Central line preferred or administer in large vein Administration should be performed in the presence of a physician. If physician not immediately available, s/he must assess patient within 15 min after administration.	Not applicable	Blood pressure via arterial line Cardiac monitor Infusion device Peripheral administration, consistent with guideline, permitted for a maximum of 12 hours Peripheral Vasopressor Inotrope Guideline

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INDICATIONS

- Vascular failure in shock and shock-like states, drug-induced hypotension or hypersensitivity.
- Maintenance of blood pressure during spinal and general anesthesia.

ADVERSE EFFECTS

- Peripheral vasoconstriction, hypertension (treatment: alpha blocker), reflex bradycardia.
- Restlessness, tremor, excitability, headache, paresthesia, increased perspiration.
- Allergic reactions (may be due to preservative).
- Pallor or blanching of the skin, pilomotor response, extravasation and/or necrosis.
- If extravasation occurs, refer to [Extravasation Policy Link](#).
- Administration of excessive amounts of phenylephrine may produce hypertension, headache, convulsions, cerebral hemorrhage, palpitations, vomiting, ventricular extrasystoles, or arrhythmias, reduced blood flow to vital organs and potentially diminished urine output and metabolic acidosis.

DOSAGE

- Dosage units: continuous infusion–mcg/kg/min; bolus dose–mcg.
- Hypotensive emergencies during spinal anesthesia, IV direct: begin with a dose of 200 mcg. Subsequent doses should not exceed the previous dose by greater than 100–200 mcg. Do not administer more than 500 mcg in a single dose.
- Mild or moderate hypotension (IV direct): usual dose 200 mcg (range 50–500 mcg). Initial dose should not exceed 500 mcg. Repeat q10–15 min as required.
- Hypotension/shock, continuous infusion: Initiate at a dose of 0.25–0.5 mcg/kg/min. Increase by 0.25–0.5 mcg/kg/min q 5–10 min to achieve a mean arterial pressure (MAP) greater than 70, while maintaining adequate urine output (greater than 0.5 mL/kg/hr) and adequate peripheral perfusion. Adjust rate of infusion according to heart rate, blood pressure, tissue perfusion and urine output. A maintenance rate of 0.5–0.8 mcg/kg/min is usually adequate. For most patients, 10 mcg/kg/min may be considered the maximum infusion rate. The infusion should be tapered by 0.25–0.5 mcg/kg/min q20–30 min while assessing patient to ensure hemodynamic stability.

COMPATIBILITY, STABILITY

- Compatible at Y-site with D5W, NS.
- Continuous infusions at concentrations of 100 mcg/mL in NS may be administered for up to 24 h at room temperature.
- Solutions should not be used if they are brown.
- Phenylephrine solution contains sodium metabisulfite.
- Single use vial. Discard unused portion.
- Protect vials from light.

DOSAGE FORMS

- 10 mg/mL; 1 mL vial, 5 mL vial.

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MISCELLANEOUS

- Hypovolemia should be corrected prior to the use of phenylephrine.

LIBRARIES

- [Searchable Drug Library Document](#)

REFERENCES

McEvoy GK, editor. AHFS drug information. Bethesda (MD): American Society of Health-System Pharmacists; 2006.

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Cadario BJ, Leatham AM, editors. Drug information reference. Vancouver (BC): BC Drug and Poison Information Centre; 2003.

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Donnelly AJ, Cunningham FE, Baughman VL. Anesthesiology & critical care drug handbook. Hudson (OH): Lexi-Comp Inc; 2000.

Wittbrodt ET, Tietze KJ. Shock syndromes (PSAP module). American College of Clinical Pharmacy; 2002.

CAEP Position Statement. Vasopressor and inotrope use in Canadian emergency departments: evidence based consensus guidelines. Can J Emerg Med 2015;17(S1):1-16.

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