

**NEWYORK-PRESBYTERIAN HOSPITAL
DIVISION OF NURSING**

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**PROTOCOL: PHENYLEPHRINE INFUSION FOR ALDESLEUKIN RELATED
HYPOTENSION**

PURPOSE: To delineate the management of patients receiving Phenylephrine (Neo-Synphrine) for Aldesleukin induced hypotension.

APPLIES TO: Adult inpatients at CUMC

POLICY STATEMENT:

1. The MD/NP/PA may order a phenylephrine infusion when the patient's systolic blood pressure cannot be maintained above 80 mm/Hg, despite administration of 1-2 Liters of crystalloid, such as 0.9% sodium chloride.
2. Phenylephrine may only be prescribed by Surgical/Medical Attending and Fellows. **During titration periods MD/NP/PA must be present.** All orders must be written in microgram/kg/minute and ml/hour.
3. Phenylephrine may only be administered in Critical Care and 6 HN at CUMC by a RN with the appropriate training.
4. Phenylephrine may only be administered through a central venous catheter.
5. If infused via an implanted port, the patient must be evaluated for possible extravasation. Refer to Pharmacy Policy for [Treatment of IV Infiltrations of Vesicant Medications \(Extravasations\)](#).
6. Patients must be on continuous telemetry monitoring.
7. Phenylephrine is administered using a standard drip constitution and will be mixed by pharmacy. (100 mg/250 ml 0.9% sodium chloride = 400 microgram/ml)
8. Phenylephrine must be maintained as a continuous, uninterrupted infusion. Upon hanging a new bag of Phenylephrine, the nurse will contact the pharmacy to order the next bag, to ensure its immediate availability on the patient care unit.
9. Patients receiving a Phenylephrine infusion may not leave the floor.
10. Do not flush or piggyback other medications through this line.
11. Phenylephrine is incompatible with alkaline solutions, iron salts, phenytoin (Dilantin), and thiopental (Pentothal).
12. Notify MD/NP/PA. of any adverse/side effects. Possible side effects include: headache, mild tremor, anxiety, apprehension, bradycardia, hypertension, tingling of extremities, ventricular tachycardia, and vertigo.

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13. If the patient is receiving phenylephrine outside of a critical care area, the MD/NP/PA will consider transferring the patient to Critical Care for the following side effects: ventricular tachycardia, symptomatic bradycardia, or persistent hypotension (defined as a systolic blood pressure <80, despite the Phenylephrine infusion at a maximum rate of 2 microgram/kg/minute).

SUPPORTIVE DATA:

1. Phenylephrine is a sympathomimetic, acting on alpha-adrenergic receptors. It constricts blood vessels, increasing total peripheral resistance, resulting in increased systolic blood pressure.
2. Phenylephrine is a potent, long-lasting vasoconstrictor, unique in that it slows heart rate and increases stroke volume. Phenylephrine constricts pulmonary, renal and coronary arteries; it may increase pulmonary pressure and may decrease venous return to the heart.
3. Onset of effect of Phenylephrine occurs within seconds. The peak effect is achieved within 15 minutes.
4. A Phenylephrine infusion is used for patients with high dose Aldesleukin induced hypotension.
5. Hypotension can be a dose-limiting side effect of Aldesleukin treatment. The purpose of the Phenylephrine infusion is to maintain a systolic blood pressure >80, in order to maximize the number of doses of Aldesleukin a patient receives during each cycle of therapy.

NURSING ASSESSMENT AND CARE:

A. ADMINISTRATION:

1. At the initiation of Phenylephrine infusion: Confirm order for Phenylephrine. Review indications with MD/NP/PA. Contraindications for Phenylephrine infusion include hypertension, hypersensitivity to Phenylephrine, hypovolemia, unstable dysrhythmias and acidosis.
2. Ensure adequate venous access by verifying blood return from central venous line.
3. For Aldesleukin induced hypotension, the usual dose of Phenylephrine ranges from 0.1 to 2 microgram/kg/minute. Dosage is based on patient's admission dry weight.
4. Initiate a 2nd IV line of N.S., to run at 30cc an hour. Piggyback the phenylephrine drip into this line.

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B. MAINTENANCE AND MANAGEMENT:

1. Initiation and Titration of Phenylephrine as ordered:
 - a. All Phenylephrine infusions will start at the rate of 0.1 microgram/kg/minute, and will be titrated up until the systolic blood pressure >80, up to a maximum rate of 2 microgram/kg/minute.
 - b. The Phenylephrine will be increased by 0.1 microgram/kg/minute every 15 minutes, until the systolic blood pressure >80. -If the systolic blood pressure remains < 80, despite the maximum rate of Phenylephrine of 2 microgram/kg/minute, the Aldesleukin will be discontinued.
 - c. **Two RN's are required to change the pump setting to: micrograms/kilograms/minute (mcg/kg/min).**

2. **Blood pressure monitoring:**
 - a. At the initiation of Phenylephrine infusion, monitor BP every 5 min for the first hour or until systolic blood pressure is >90 on three consecutive measurements. Then monitor BP every 15 min for 1 hour. Continue to monitor BP every 30 minutes for the duration of the infusion. Aldesleukin dosing will continue while patient is receiving Phenylephrine, provided the systolic blood pressure is >90.

3. **Discontinuation and Titration of Phenylephrine:** The Phenylephrine infusion will be weaned slowly once the Aldesleukin therapy has been discontinued by MD/NP/PA. The Phenylephrine infusion will be decreased by 0.1 microgram/kg/minute every 15-30 min, provided the systolic blood pressure is >80.
 - a. If systolic blood pressure is <80, the infusion should continue at current rate until the systolic blood pressure is >80 for 30 minutes. After 30 minutes, resume the weaning schedule.
 - b. Monitor BP every 15 minutes until the Phenylephrine infusion is discontinued. Monitor BP every 30 minutes for two hours once the phenylephrine infusion has been discontinued.
 - c. RN must ensure that infusion pump setting is changed back to cc/hour.

PATIENT TEACHING:

1. Explain the purpose of the phenylephrine infusion to the patient/family.
2. Discuss the need for frequent monitoring and possible side effects with the patient/family.

DOCUMENTATION:

1. Document the patient's response to treatment.
2. Document vital signs.
3. Document patient teaching.
4. Document medication continuous drip.

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**Approved by the Standards Integration Council for use at all
NewYork-Presbyterian Hospital sites**

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