This guideline serves as a guide and does not replace clinical judgment.

Clinical Guideline

Central and Peripheral Venous Line Medication Use

CHoR – Pediatrics

Note: This guideline does not pertain to emergent / code blue situations and does not include cytotoxic medications.

Central Line Only	Central Line Preferred
Amiodarone > 2 mg/mL continuous infusion	Amiodarone > 2 mg/mL BOLUS
Ammunol (Sod. Phenylacetate/Sod Benzoate)	Arginine HCl injection
Amphotericin B conventional > 0.1 mg/mL	Dextrose 25% and 50% BOLUS
Antithymocyte globulin, equine and rabbit	Dobutamine 2000 and 4000 mcg/mL[C]
Calcium Chloride continuous infusion and bolus	Dopamine 1600 and 3200 mcg/mL[C]
Epoprostenol	Epinephrine 20 and 60 mcg/mL[C]
Esmolol 20 mg/mL	Nicardipine 0.1 and 0.2 mg/mL
Foscarnet 24 mg/mL	Norepinephrine 16 and 64 mcg/ mL[B,C]
Posaconazole [A]	Pentobarbital
Potassium Phosphate > 0.06 mmol/L	Potassium Chloride > 44-60 mEq/L continuous
Potassium Chloride 0.4 mEq/mL BOLUS	Phenylephrine 40, 80 and 200 mcg/mL[C]
Potassium Chloride > 60 mEq/L continuous	Sodium Bicarbonate 8.4% intermittent
Sodium bicarbonate 8.4% continuous	Sodium Chloride 3% bolus
Sodium Chloride 3% continuous infusion	Vasopressin (DI) < = 0.04 units/mL[B,C]
Sodium Phosphate > 0.06 mmol/mL	
Vancomycin 10 mg/mL	
Vasopressin (Shock) > 0.04 units/mL	

Footnotes:

A. First dose may be via peripheral IV.

B. Central line only for NICU/Neonatal patients.

C. Peripheral IV Line (PIV) Vasopressor Guidance

a. Order lowest standard vasopressor concentration

1. PIV Gauge Guidance[4]

I. PIV > 20 gauge (e.g., 24-gauge PIV)

- Care team should evaluate need for central access if not able to wean support after 6 hours of infusion.

II. PIV ≤ 20 gauge (e.g., 18-gauge PIV)

- Care team should evaluate need for central access if not able to wean support after 24 hours of infusion.

b. Dosing Guidance[5]

1. Care team should evaluate the need for central access if epinephrine, norepinephrine, or phenylephrine dose is ≥ 0.2 mcg/kg/min or if dopamine or dobutamine dose is > 15 mcg/kg/min and not able to wean after 12 hours of infusion.
2. Care team should evaluate the need for central access if patient requires multiple vasopressors without the ability to wean after 12 hours of infusion.[5,6]

C. Peripheral IV Line (PIV) Vasopressor Guidance[4] *Continued*

c. Operating Room

1. Central access is recommended for all patients going to the operating room (OR) on vasopressors unless transfer to OR is urgent (Immediate).

d. Obesity: Pediatric patients > 95th percentile for body mass index (BMI) for age/sex

1. Consider central access for obese pediatric patients requiring vasopressors due to increased risk of extravasation with standard length intravenous catheters.

D. Follow CHoR Extravasation guidance with infiltration concerns (see Clinical Guideline website).

DEFINITIONS:

Central Line Only:

Medication must be infused via central line due its vesicant properties.

Central Line Preferred:

These medications are venous irritants and should be administered via central line, if available. If a peripheral IV line (PIV) must be used, then care should be taken to ensure proper needle or catheter placement prior to and during infusion into a patent, high blood flow vein. Small hand, foot, or scalp veins should NOT be used for “central line preferred” medication administration.

For “central line preferred” infusions, peripheral IV line may be used short-term in emergency situations until central line access can be obtained and/or if the provider confirms that the medical need for administration via peripheral line outweighs the risk of extravasation. Central line access should be obtained as soon as possible to minimize extravasation risk for continuous infusions and/or for frequent intermittent dosing.

Executive Summary

Central and Peripheral Venous Line Medication Use Guideline

CHoR – Pediatrics

Children's Hospital of Richmond at VCU: Central and Peripheral Venous Line Medication Use Guideline Workgroup

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Retrieval website: **https://www.chrichmond.org/health-care-professionals/chor-clinical-guidelines**

Example: Children's Hospital of Richmond at VCU, Williams D, Marinello M, Cox K. Central and Peripheral Venous Line Medication Use Guideline. Available from: https://www.chrichmond.org/health-care-professionals/chor-clinical-guidelines