HCA Healthcare | Clinical Services Group

Medications with Preferred Administration via Central Line

Purpose: The purpose of this document is to provide guidance for medications with preferred administration via a central line when possible.

Preference for administration via central line: Some medications when administered peripherally may cause soft tissue irritation, inflammation, and potential necrosis may occur with extravasation or infiltration of vesicants and irritants. Use of a central line may decrease extravasation or infiltration. Certain situations may require a medication to be administered peripherally (e.g., emergency, awaiting central line placement, or very short planned duration). Administration through a peripheral vein may lead to loss of vascular access or damage to the vein and/or surrounding tissue. Other factors that may influence the risk include: vein size and location, infusion rate, catheter dwell time, and catheter size and location. Monitor closely for signs and symptoms of infiltration and/or phlebitis if given peripherally. Always monitor closely for extravasation.

Medication Name	Supporting Comments
Adenosine	• Inject into the most proximal injection site or central venous line
Amiodarone (Cordarone)	• If central access if available, run centrally • Central line recommended for infusions greater than 24 hours • Central line preferred for concentration (conc.) greater than 2 mg/mL
Amphotericin B Conventional (Fungizone)	• Central line recommended if concentration is greater than or equal to 0.25 mg/mL
Angiotensin II (Giapreza)	
Antithymocyte Globulin Equine (Atgam)	• Vesicant
Antithymocyte Globulin Rabbit (Thymoglobulin)	• Peripheral administration in transplant only. Must dilute rTAG in 500 mL, add heparin & hydrocortisone and infuse over 6 hours.
Arginine (R-Gene 10)	• Vesicant
Busulfan	
Calcium Chloride	• Peripheral administration may cause severe tissue necrosis
Conavaptan	• Non-formulary or restricted but sometimes used
Dantrolene (Revonto, Ryanodex, Dantrium)	• Vesicant
Dextrose in Water	• Central line is preferred for infusion concentrations ≥10%

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Dobutamine	• Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway. • Peripheral administration should include q15 site checks. • Rate should be less than 2 mg/kg/min.
Dopamine	• May use conc. of 1600 mcg/mL (400 mg/250 mL) at doses less than or equal to 3mcg/kg/min peripherally • Central line recommended for infusions >12 hours
Doxorubicin	• Central line required for continuous infusion
EPINEPHrine (Adrenalin)	• Central line is preferred. • Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway. • Peripheral administration should include q15 site checks.
Epoprostenol	• Central line required for continuous infusion; may give peripherally on a temporary basis until central line placed.
Esmolol (Brevibloc)	• Central line is preferred for concentrations >10 mg/mL • Central line recommended for all concentrations if administering greater than 72 hours • Do not administer in small vein or via butterfly catheter
Foscarnet (Foscavir)	• For peripheral administration, solution must be diluted to a final concentration not to exceed 12 mg/mL • Undiluted (24 mg/mL) solution can be administered without further dilution when using a central venous catheter for infusion
Hemin (Panhematin)	• Administer through a large vein or central line to prevent phlebitis
Mannitol (Osmitrol)	• Central line is preferred. • Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway.
Melphalan	• Infuse via a central venous line to avoid extravasation
Methylene blue	• Central line is recommended for a prolonged or continuous infusion
Micafungin	• Infuse via central line for concentrations more than 1.5 mg/mL
Nicardipine (Cardene)	• Central line required for concentrations greater than 0.5 mg/mL • Concentrations of 0.2 mg/mL may be run peripherally. • Administer as a slow continuous infusion via central line or through a large peripheral vein.

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	• Peripheral venous irritation may be minimized by changing the site of infusion every 12 hours
Norepinephrine (Levophed)	• Central line is preferred. • Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway. • Peripheral administration should include q15 minute site checks
Pentobarbital	• Avoid extravasation, parenteral solutions highly alkaline and tissue necrosis may occur. • If central access available, run centrally
Pentamidine (Pentam)	• Vesicant
Phenylephrine	• Central line is preferred. • Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway. • Peripheral administration should include q15 minute site checks
Phenytoin (Dilantin)	• Avoid extravasation. Severe tissue necrosis may occur. • Vein size at least as large as the antecubital fossa, preferably accessed with a catheter size 20 gauge or larger • In the absence of good venous access, fosphenytoin should be considered as an alternative to phenytoin
Posaconazole	• Administer as slow IV infusion via central line • First dose only peripheral if pending placement of a central line or if a central line is being replaced.
Dilutions of concentrated potassium salts [Potassium Chloride, Potassium Phosphate, Potassium Acetate	• Maximum rate of peripheral administration is • 10 mEq potassium/hour • Central line required for concentrations greater than 0.1mEq/mL of potassium
Promethazine	• MUST BE DILUTED PRIOR TO ADMINISTRATION • Administer only through a large-bore IV preferable via a central venous catheter • Do not administer in a hand or wrist vein
3% Sodium chloride infusions (Hypertonic Saline)	• Administer only through a large-bore IV preferable via a central venous catheter • Do not administer in a hand or wrist vein
Sodium phenylacetate/sodium benzoate	•
Thiotepa	• Infuse 5 mg/kg via central line
TPN	•
Treprostinil	• Usually given SQ but IV if no SQ access

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Vasopressin (Vasostrict)	• Peripheral administration via a large bore IV may be used for less than 4 hours while prep for a central line is underway. • Peripheral administration should include q15 minute site checks
Commonly used antibiotics that may be given via a peripheral venous access device	• IV Ceftriaxone • IV Ertapenem • IV Cefepime • IV Imipenem • IV Daptomycin • IV Levofloxacin • IV Vancomycin can be given peripherally if concentration is 4mg/mL or less
Commonly used antibiotics that may prompt consideration of a PICC or central line for prolonged infusions	• IV Ciprofloxacin • IV Acyclovir • IV Nafcillin • IV Oxacillin • IV Tobramycin • IV Caspofungin • IV Vancomycin at concentrations above 4mg/mL

For specific dilutions of other Concentrated Electrolytes and Antineoplastic Medications, please see facility-specific policies.

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