

Peripheral Short and Midline Catheter Flush

PURPOSE

To promote and maintain the patency of a peripheral-short catheter or peripheral-midline catheter; to prevent the mixing of incompatible medications and solutions and minimize risk to the patient.

POLICY

1. When appropriate, the RN shall instruct the patient or caregiver in this procedure. Physician orders shall be obtained for flushing a peripheral-short or midline catheter.
2. This is an aseptic procedure and should be done:
 - before and after each infusion
 - between cassette/bag changes on continuous infusions (if appropriate)
 - as ordered by the physician

Flushing Guidelines – Adult Patient			
Device	Frequency	Volume	Solution
Peripheral IV	Every 12 hours	Minimum 2ml	0.9% Sodium Chloride
Midline catheter	Every 12 hours	Minimum 3ml	Heparin 10 unit/ml

Flushing Guidelines – Pediatric Patient		
Device	Locked Device – Volume, Frequency and Solution	Medications: Pre- and Post-Administration
Peripheral IV	NICU patients: 1ml 0.9% Sodium Chloride every 6 hours	2 times the volume of the administration set, extension tubing or other add-on device
	Pediatrics: 1-3ml 0.9% Sodium Chloride every 8 hours	
Midline Catheter	2 French: 1ml 0.9% Sodium Chloride + 10 unit/ml heparin every 6 hours	2 times the volume of the administration set, extension tubing or other add-on device
	2.6 French & larger: 2-3ml of 0.9% Sodium Chloride + 10 unit/ml heparin every 12 hours	
Note: All 0.9% Sodium Chloride (saline) should be preservative-free.		

3. The catheter should be flushed using the push-pause technique. Positive pressure within the lumen of the catheter should be maintained to prevent the reflux of blood. Flush administration shall be stopped at the last 0.5ml, to prevent “bottoming out” of the syringe, which can create blood back-up into the catheter.

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4. It is optimal to use preservative-free 0.9% Sodium Chloride. If using preserved 0.9% Sodium Chloride, the volume should not exceed 30ml in a 24-hour period in adults. **Preserved 0.9% Sodium Chloride should not be administered to pediatric and neonate patients.**
5. Flushing with 0.9% Sodium Chloride shall be done prior to and following administration of medications which are incompatible. While flushing with 0.9% Sodium Chloride is not required if the infusate is compatible with heparin, it is generally recommended to do so.
6. The minimum volume of flush solution should be equal to at least twice the volume of the catheter and add-on devices.
7. If resistance is met or an absent blood aspirate is noted, the nurse should take further steps to assess patency of the catheter prior to administration of medications and solutions. **The catheter should not be forcibly flushed.** an upright position at a minimum of 30° during the feeding and for 1 hour afterward.

EQUIPMENT

Liquid soap and sanitizing gel

5-10ml syringe containing 0.9% Sodium Chloride flush solution, and/or

5-10ml syringe containing heparin flush solution

Alcohol swabs

Swab Cap

PROCEDURE

1. Verify physician order. Explain procedure to patient.
2. Wash hands thoroughly with soap and water. Dry with clean paper towel.
3. Arrange supplies on a clean surface.
4. Clean the needleless connector with alcohol for at least 15 seconds, and optimally for 60 seconds.
5. Slowly inject the flush solution, using a push-pause technique and stopping before the last 0.5ml of solution is injected. Attach new Swab Cap.
6. Document the procedure in the patient's record.

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RESPONSIBILITY

The Clinical Specialist has the responsibility for approval of, compliance with, and revisions to this policy.

MODIFICATION/REVISION

This policy is subject to modification or revision in part or its entirety to reflect changes in conditions subsequent to the effective date of this policy.

REFERENCES

1. Infusion Nursing Standards of Practice – Revised 2016; Journal of Infusion Nursing, Supplement to January/February 2016, Volume 39, Number 1S.
2. Infusion Nursing: An Evidence-Based Approach, Third Edition edited by Mary Alexander, Ann Corrigan, Lisa Gorski, Judy Hankins, and Roxanne Perucca.
3. INS (Infusion Nurses Society) Policies and Procedures for Infusion Nursing, 3rd Edition.