

Peripheral – Short IV Catheter Insertion & Dressing

PURPOSE

To provide a safe, aseptic temporary peripheral short venous access for administration of short-term infusion therapies. (A peripheral-short catheter is one that is less than or equal to 3 inches in length.)

POLICY

1. An RN may insert a peripheral-short catheter in the alternative care setting with an authorized prescriber's order.
2. The nurse should consider replacement of the short peripheral catheter when clinically indicated and when infusion treatment does not include peripheral parenteral nutrition. The decision to replace the short peripheral catheter should be based on assessment of the patient's condition; access site; skin and vein integrity; length and type of prescribed therapy; venue of care; integrity and patency of the device; dressing; and stabilization device.
3. The nurse should not routinely replace short peripheral catheters in pediatric patients.
4. Therapies not appropriate for short peripheral catheters include continuous vesicant therapy, parenteral nutrition, infusates with pH less than 5 or greater than 9, and infusates with an osmolality greater than 600 mOsm/L. The nurse should collaborate with the pharmacist and the licensed independent practitioner to assist in selection of the most appropriate vascular access device based on a projected treatment plan.
5. If parenteral nutrition is administered via the short peripheral catheter, extreme caution must be used and consideration given to the limitations of the concentration of the solution.
6. Aseptic technique shall be maintained during the procedure.
7. Gloves shall be worn to insert all short peripheral catheters. Consideration should be given to the use of an IV start kit and sterile gloves (especially if the site is to be palpated after skin cleansing).
8. Consideration shall be given to requesting additional nursing support after two unsuccessful attempts to insert the short peripheral catheter.
9. The nurse should consider the use of methods to promote vascular distention in addition to the appropriate use of tourniquets, such as gravity, having the patient open and close his or her fist, and lightly stroking the vein downward. The use of warmth may also be considered to promote vascular dilatation. When using a

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tourniquet or blood pressure cuff to distend a vein, the radial pulse should be palpable.

10. Extension tubing shall be used with all short peripheral IV catheters.
11. Only luer-lock connections shall be used.
12. Stylets shall never be reinserted, as there is potential for severing or puncturing the catheter. The catheter shall never be withdrawn through a needle.
13. A new sterile cannula shall be used for each venipuncture.
14. Local anesthesia shall be considered based upon nursing assessment of patient condition, needs, risks, and benefits. When local anesthesia is ordered or necessary, the agent and method that is least invasive shall be considered first. Local anesthetic agents including, but not limited to, topical transdermal agents, intradermal lidocaine, iontophoresis, and pressure-accelerated lidocaine, should be considered and used according to manufacturers' directions for use. The use of a local anesthetic is encouraged with pediatric patients.
15. Device Selection:
 - The nurse should use short peripheral catheters equipped with a passive or active safety mechanism to provide sharps injury protection.
 - The catheter selected shall be of the smallest gauge and length and shall be the least invasive device needed to accommodate and manage the prescribed therapy.
 - Short peripheral catheters come in a variety of gauge sizes (14-27); a variety of lengths (1/2"-3"); and winged or nonwinged styles.
 - The use of steel winged devices should be limited to short-term or single-dose administration.
16. Site Selection:
 - For adult patients, veins that should be considered for peripheral cannulation are those found on the dorsal and ventral surfaces of the upper extremities, including the metacarpal, cephalic, basilica, and median veins.
 - Avoid the lateral and ventral surface of the wrist for approximately 4-5 inches because of the potential risk for nerve damage.
 - For pediatric patients, similar veins to consider are in the hand, forearm, antecubital area, and upper arm below the axilla, as well as the veins of the scalp, foot, and fingers in infants and toddlers.
 - Site selection should be initiated routinely in the distal areas of the upper extremities; subsequent cannulation should be proximal to the previously cannulated site.

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- Veins in the lower extremities should not be used routinely in the adult population due to risk of tissue damage, thrombophlebitis and ulceration.
 - Site selection should be initiated routinely in the nondominant arm. Areas of flexion, bruising, infiltration, phlebitis and valves should be avoided.
 - Veins in the upper extremity should be avoided on the side of breast surgery with axillary node dissection, after radiation therapy to that side, or with lymphedema, or the affected extremity from a cerebrovascular accident. A physician should be consulted and an order obtained if it is necessary to utilize these sites.
17. Site preparation:
- If the intended insertion site is visibly soiled, clean area with soap and water prior to the application of antiseptic solution.
 - Clipping should be performed to remove excess hair at the insertion site; shaving may cause microabrasions which increase the risk for infection.
 - Chlorhexidine solution is preferred for skin antisepsis. Povidone-iodine and 70% alcohol may also be used. Chlorhexidine is not recommended in infants under 2 months of age.
 - The nurse should consider using visualization technologies that aid in the vein identification and selection.
18. Routine site care and dressing changes are not performed on short peripheral catheters unless the dressing is soiled or no longer intact.
19. Consideration should be given to the use of preservative-free 0.9% sodium chloride to ensure and maintain patency of intermittently used peripheral IV catheters. 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.**

EQUIPMENT

Liquid soap and sanitizing gel

1 pair of gloves or IV start kit with gloves

IV catheter of appropriate gauge and length

Tourniquet or blood pressure cuff

Extension tubing (primed with 0.9% sodium chloride)

Pre-filled syringe with 0.9% sodium chloride

Needleless positive pressure cap Swab Cap

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Skin disinfectant (chlorhexidine, povidone-iodone, alcohol – in IV start kit)

1-inch tape

1 small transparent dressing or 2x2

Goggles (optional)

PROCEDURE

1. Verify order with physician.
2. Explain procedure to patient.
3. Wash hands thoroughly with soap and water. Dry with clean paper towel.
4. Arrange supplies on a clean surface, prime injection cap and extension tubing with 0.9% sodium chloride.
5. Patient may be in a sitting or supine position. Apply the tourniquet or blood pressure cuff and select your IV site. Once site is identified, release the tourniquet while disinfecting the skin.
6. Scrub the IV site with soap and water and dry with a clean paper towel.
7. If using a transdermal analgesic cream, apply following the manufacturer's recommendations. The cream requires a physician order.
8. Using firm pressure and friction, scrub the IV site over an area the size of the transparent dressing. Follow manufacturer's recommendations for the antiseptic solution chosen.
9. Let skin antiseptic solution dry thoroughly before proceeding.
10. Wash hands with soap and water or sanitizing gel.
11. Reapply tourniquet or blood pressure cuff. Confirm that a pulse is easily palpable distal to the tourniquet placement.
12. Wash hands with either soap and water or sanitizing gel.
13. Check the IV catheter for any manufacturing defects. Follow manufacturer's recommendations for insertion.

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14. Stabilize the vein below the intended venipuncture site with non-dominant hand.
15. Insert the catheter into the vein at a 10 to 30 degree angle or per manufacturer's instructions. **Do not attempt more than one venipuncture per device.** Confirm vein entry by observing a flashback of blood in the catheter or device. Advance the catheter and needle together approximately 1/8" of an inch further.
16. Stabilize the catheter by holding the stylet, and keep the catheter parallel with the skin. Push the catheter off the stylet and into the vein until the catheter hub is against the skin.
17. Remove the tourniquet or blood pressure cuff.
18. Occlude the tip of the catheter by pressing a finger of the non-dominant hand over the vein (past the tip of the catheter). This will prevent leaking of blood when removing the needle and prior to attaching the extension set and cap.
19. Activate the safety mechanism to remove the needle from the insertion device. Dispose of in sharps container.
20. Attach the primed extension tubing and needleless connector. Attach a saline filled syringe and aspirate the IV catheter to observe for blood return to verify placement. The catheter should flush easily and no swelling should be visible around the site.
21. If the IV is to be used for intermittent therapy, flush with 0.9% sodium chloride solution, per physician's order. Slowly inject flush solution, following manufacturer's recommendations for maintenance of positive pressure as appropriate within the needleless device. Attach new Swab Cap.
22. Clean the IV site if necessary, and cover with a transparent or occlusive gauze dressing.
23. Tape the IV catheter and edge of dressing to secure the catheter.
24. Secure the IV extension tubing with tape; use gauze for cushioning the IV catheter hub if needed. A catheter stabilization device may be used if desired. If gauze is used under the transparent dressing, the dressing must be changed in 2 days.
25. Discard equipment, remove gloves and wash hands.

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26. Document the procedure on the IV insertion flow sheet or in the progress notes. The documentation should include the IV site (vein specific), date, time, and the number of attempts, gauge and length, and brand of catheter. Document any problems with insertion. Document the patient response to the insertion procedure.

RESPONSIBILITY

The Clinical Specialist has 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.