CONSIDERATIONS:

1. Short peripheral catheters are an appropriate vascular access device when infusion therapy is anticipated to be less than a week and solution does not require central access.
2. Short peripheral access device characteristics:
   a. Available in multiple gauges, 14 - 27 G
   b. Available with one or two lumens
   c. Lengths vary from 1 to 3 inches
   d. Steel-needled winged devices are only recommended for a single short infusion
3. Site selection:
   a. Usually placed in the metacarpal, cephalic, basilic or median veins
   b. Avoid areas around the wrist, where nerve damage is a risk
   c. Most distal accessible vein in the non-dominant hand is usually the most appropriate site
   d. Use visualization technologies, if available, to find suitable veins
   e. Use distension techniques:
      i. Keep extremity lower than heart
      ii. Ask patient to open and close hand in a fist
      iii. Lightly stroke vein downward
      iv. Use tourniquet
      v. Warm extremity
4. Recommendation for site rotation of a peripheral catheter is based on clinical indications, rather than a specific time frame. While the nurse assesses the site with each home visit, patient education is critical and must address the importance of regular (every 4 hours) site assessment and what to report.
5. Site preparation:
   a. Use aseptic no-touch technique
   b. Wear non-sterile gloves (If site will be touched after prep, must be done with sterile gloves.)
   c. Prep with alcohol rub, keeping site wet, for 1 minute
   d. Allow site to air-dry without blotting
6. Gauze dressing or Transparent Semipermeable Membrane (TSM) dressing:
   a. Gauze dressings preferred for:
      i. Bleeding or oozing anticipated at site
      ii. Diaphoretic or very moist skin
   b. TSM dressings preferred for:
      i. Easy visualization of site
      ii. Decreased need for "opening" dressing
7. Flushing recommendations:
   a. Frequency:
      i. Pre and post medications
      ii. At least once a day
   b. Flushing solutions:
      i. Flushing solutions are preservative-free normal saline and heparin 10 units/mL
      ii. Flushing may be with saline alone, or saline and heparin solution depending on manufacturer's instructions and physician's orders
      iii. Flushing may require "positive fluid displacement" (flushing while locking) depending on manufacturer's instructions
      iv. When medications are administered, a saline flush must be administered immediately pre- and post-medication, to prevent drug incompatibility with heparin
   c. Usual flush orders:
      i. Normal saline: 5 mL
      ii. Heparin 10 units/mL: 3 mL
      iii. Prefilled syringes reduce contamination risk
   d. Procedure for SASH:
      S – Saline
      A – Administer drug/solution
      S – Saline
      H – Heparin
   e. Aspirate to confirm blood return prior to first saline flush:
8. Removal of catheter:
   a. Decision to remove is based on:
      i. Type and length of therapy
      ii. Site and vein integrity
      iii. Type of dressing
      iv. Degree of stabilization
      v. Patient's report of pain/discomfort
   b. When removing:
      i. Apply digital pressure until hemostasis
      ii. Apply dry sterile dressing
9. Common complications:
   a. Phlebitis:
      i. Assess for signs and symptoms every day: pain, tenderness, redness, warmness, swelling, induration, purulent drainage
      ii. Stop infusion. Pull catheter. Restart at new site
      iii. Rate phlebitis on standardized scale
      iv. Notify physician
      v. Monitor site for 24 - 48 hours to assure resolution
   b. Infiltration:
      i. Assess for signs and symptoms during flushes and infusion therapy: pain, induration, coolness
      ii. Intervention:
         1. Stop infusion
         2. Attach 3 cc syringe and withdraw
         3. Remove catheter
         4. Estimate amount of fluid that infiltrated
         5. Elevate extremity above the heart
         6. Notify physician

7. Monitor for 24 - 48 hours assuring resolution.
8. Pull catheter
9. Restart at new site

10. Patient Education: Teach patient/caregiver to:
    a. Check site for drainage, bleeding, redness, and swelling every four hours during waking hours
    b. Report pain, soreness, swelling or tenderness
    c. Report any pain or discomfort during infusion of IV solution and stop infusion
    d. Always use meticulous aseptic technique when administering medications or performing flushes
    e. the agency 24-hour contact number
11. Per Joint Commission recommendations, all tubes and catheters should be labeled to prevent the possibility of tubing misconnections. Staff should emphasize to all patients the importance of contacting a clinical staff member for assistance when there is an identified need to disconnect or reconnect devices.

EQUIPMENT:

Gloves
Tourniquet
Short peripheral cannula (appropriate gauge)
3 - 5 mL syringes (2)
Sterile needles, 25-gauge 5/8 inch or needle less adapters (2)
Normal saline
Heparin solution (10 units/ mL, or as prescribed)
Alcohol 70% wipes or swabs
2 x 2 gauze sponge, sterile
Transparent dressing
Tape
Extension tubing
Injection port
Puncture-proof container
Impervious trash bag

PROCEDURE

1. Check orders for IV therapy and for flush solutions.
2. Explain the procedure and purpose to the patient/caregiver.
3. Adhering to Standard Precautions, position patient in a place where:
    a. Patient is comfortable and relaxed
    b. Site on arm is located
    c. Lighting is good
4. Assemble the equipment on a clean surface close to the patient. Put sharps container “at hand” and open it
5. Assess veins in the selected hand/arm, choosing site.
6. Cleanse the site:
    a. Clean skin with an 3 alcohol applicators (wipes or swabs) or 1 chloroprep ampule
    b. Use a circular motion, work from the inside out
    c. Allow to air dry. DO NOT blot
7. Apply tourniquet.
8. Don gloves.
9. Perform venipuncture:
    a. Remove the needle guard on catheter
    b. Check the position of the bevel (bevel facing upward)
    c. Perform venipuncture, observing for flashback of blood through the tubing
10. Advance the catheter:
    a. Carefully advance the needle tip approximately 1/8 - 1/4 inches further
    b. While holding the needle, advance the catheter. Remove stylet and place in biohazard container. Never reinsert stylet into catheter.
11. Flush line:
    a. Attach a saline syringe to the line
    b. Aspirate to check for blood return
    c. Flush the catheter with 3 mL of saline
    d. Disconnect the syringe
    e. Connect primed needleless cap to line
12. Secure the catheter with the sterile tape or Steri-strips.
13. Apply TSM dressing.
14. Administer heparin flush or attach IV tubing for infusion.
15. Discard soiled supplies in appropriate containers.

AFTER CARE:

1. Document in patient's record:
    a. Procedure and observations
    b. Time and date of procedure
    c. Catheter size, length and brand
    d. Location of insertion site; vein site
    e. Site appearance and surrounding skin condition
    f. Catheter status after insertion: blood return and ease of flushing
2. Patient's response to procedure.
3. Instructions given to patient/caregiver.

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Revised/Approved Policy Committee 05/14
Adopted VNAA; Approved Policy Committee 09/13