4.1 Short Peripheral Catheter Insertion	**Revision Dates** 10/02/05; 03/19/07; 08/15/08; 07/01/12; 05/01/16
Application Licensed Nurses Providing Infusion Therapy in the LTC Facility	**Original Date** January 15, 2004

To Be Performed By:

Licensed nurses according to state law and facility policy. The nurse is responsible and accountable for obtaining and maintaining competence with infusion therapy within his or her scope of practice. Competency validation is documented in accordance with organizational policy.

Considerations:

1. The nurse should select a short peripheral catheter based on prescribed therapies, duration of treatment (usually for treatments of less than 1 week), availability of peripheral vascular access sites and known diagnosis.
2. The smallest gauge, shortest length catheter capable of accomplishing the prescribed therapy shall be used[1].
3. Veins are easier to access if the patient is warm, the extremity is dependent, and the patient's fears are eased.
4. Veins that may be considered for peripheral catheter insertion are located in the upper extremities and include:
    - 4.1 Metacarpal
    - 4.2 Cephalic
    - 4.3 Basilic
    - 4.4 Median Veins
5. Areas to be avoided for peripheral insertion include[2]:
    - 5.1 Lateral surface of the wrist for approximately 4-5 inches because of the potential for nerve damage
    - 5.2 Ventral surface of the wrist due to the pain on insertion and possible damage to the radial nerve
    - 5.3 Veins of the upper extremities on the side of mastectomy, axillary node dissection, CVA, lymphedema and renal fistulas due to altered circulation
    - 5.4 Veins in the lower extremities due to risk of embolism, thrombophlebitis and ulceration
    - 5.5 Areas of flexion and areas of pain on palpation
    - 5.6 Compromised areas and sites distal to these compromised ares, such as areas with open wounds, areas on an extremity with an infection,
    - 5.7 Veins that are compromised (e.g., bruised, infiltrated, phlebitic, sclerosed, corded or engorged); areas of valves; areas of previous infiltration or extravasation.
6. Licensed nurses caring for patients receiving infusion therapies are expected to follow infection control and safety compliance procedures.

Guidance:

1. The nurse shall confirm that the patient's or legally authorized representative's informed verbal consent was obtained for the defined procedure as identified in organizational policies, procedures, and/or practice guidelines.
2. Consent shall be obtained by the heath care provider who will perform the procedure and shall include full details of the procedure, risks and benefits, alternatives, and complications associated with the treatment or therapy, in a language that the patient can understand[3].

[1] Infusion Therapy Standard of Practice 26: Vascular Access Device (VAD) Planning
[2] Infusion Therapy Standard of Practice 27: Site Selection
[3] Infusion Therapy Standard of Practice 9: Informed Consent

3. A short peripheral catheter must be placed for a definitive therapeutic and/or diagnostic indication upon the order of a physician/licensed independent practitioner (LIP).
4. A new short peripheral catheter must be utilized for each attempt[1].
   4.1 Subsequent insertion attempts should be proximal to previous attempted vein
5. The maximum number of unsuccessful attempts by one nurse may not exceed two. Limit total attempts by facility nurses to no more than 4[1].
   5.1 After two unsuccessful attempts, the nurse will notify his or her immediate supervisor, the physician/LIP, or the pharmacy infusion department for further assistance
6. Per OSHA regulations, only safety IV catheters are to be used.
7. Short peripheral catheter sites are rotated:
   7.1 When signs or symptoms of complications are observed
   7.2 Every 24-48 hours when infusing peripheral (partial) parenteral nutrition (PPN)
8. Assessment of short peripheral catheter site is performed:
   8.1 During dressing change
   8.2 At least every 2 hours during continuous therapy
   8.3 Before and after administration of intermittent intravenous medication
   8.4 At least once every shift when not in use
   8.5 Routinely for signs and symptoms of IV related complications at a frequency based on patient condition, age, type of medication, and rate of flow
9. Assessment is to include the absence or presence of, but is not limited to:
   9.1 Erythema
   9.2 Drainage
   9.3 Swelling or induration
   9.4 Change in skin temperature at site
   9.5 Tenderness at the site or along the vein tract
   9.6 Numbness or tingling during insertion or dwell - remove catheter immediately and report to physician/LIP
10. Flow rate and condition of site will be documented at least every shift with consideration given to prescribed therapy and condition of the patient.

Equipment:

- IV catheter of appropriate gauge and length
- Needleless connector
- Extension set (if not integral to the catheter)
- Prescribed flushing agent(s) in 10mL or larger barrel diameter syringe
- Sharps container
- Securement device (if not integral to the catheter or transparent dressing)
- Hand sanitizer
- IV Start Kit (or equivalent):
  – Tourniquet

[1] Infusion Therapy Standard of Practice 33: Vascular Access Site Preparation and Device Placement

- Antimicrobial solution
- Sterile tape
- 2 x 2 sterile gauze pad
- Transparent dressing
- Label
- Clean gloves

Procedure:

1. Verify physician/LIP order.
2. Identify patient using appropriate identifiers.
3. Explain procedure to patient/significant other and obtain verbal consent.
4. Perform hand hygiene.
5. Assemble equipment and supplies on clean work surface.
6. Position patient for comfort and ease of catheter insertion. Place tourniquet 4-6 inches above intended insertion site.
   - 6.1 Avoid putting tourniquet over areas of flexion
   - 6.2 Place extremity in dependent position if possible
7. Release tourniquet after determining site for placement.
8. Clip hair if needed (never shave).
9. Vigorously cleanse intended site with antimicrobial solution according to the manufacturer's guidelines. Allow to air dry.
10. Perform hand hygiene. Don gloves.
11. Prime needleless connector with extension set, if applicable, using prescribed flushing agent. Leave syringe attached.
12. Reapply tourniquet.
13. Remove catheter from packaging and inspect for flaws or contamination. Prepare catheter per manufacturer's instructions.
14. Apply traction to skin and vein with non-dominant hand. Lower extremity to dependent position if possible.
15. Using dominant hand, insert catheter bevel up at an angle appropriate to the vein (5-30 degree angle) either just beside or directly over the vein. Direct the needle toward the vein and stop advancing when blood appears in the flashback chamber.
16. Lower the catheter/needle parallel with the skin and advance approximately 1/16th inch.
    - 16.1 Verify that blood continues to flow into flashback chamber or integral extension set
17. Holding the needle steady, use index finger or non-dominant hand to gently slide catheter over needle and into vein up to the hub:
    - 17.1 Follow manufacturer's instructions for catheter advancement/activation of safety feature
    - 17.2 Stop immediately if resistance is met or the patient complains of severe pain
18. Remove tourniquet.
19. If applicable, with non-dominant hand, apply digital pressure over the vein beyond the tip of the catheter to control bleeding (will be approximately ½ to 1-¼ inches proximal to hub).
20. Remove needle from catheter hub activating safety mechanism as indicated per manufacturer's instructions.

21. Attach primed needleless connector or extension set with needleless connector.
22. Aspirate the catheter to obtain positive blood return to verify vascular access patency. Flush with prescribed flushing agent.
23. Apply **transparent dressing**, according to manufacturer's instructions. Smooth around the catheter starting at the insertion site and moving to the periphery. Remove syringe.
    - 23.1 Apply securement device if not integral to the dressing.
    - 23.2 If patient allergic to transparent dressing, apply sterile gauze directly over insertion site and secure with sterile tape in an occlusive manner.
    - 23.3 Secure needleless connector and extension set with tape
    - 23.4 Remove syringe, if still attached.
24. Dispose of used supplies per facility policy.
25. Remove gloves.
26. Perform hand hygiene.
27. Label dressing with:
    - 27.1 Date and time
    - 27.2 Catheter gauge and length
    - 27.3 Nurse's initials
28. Instruct patient/significant other on signs/symptoms of IV related complications and report immediately to nurse.
29. Documentation in the medical record includes, but is not limited to:
    - 29.1 Date and time
    - 29.2 Catheter type
    - 29.3 Gauge and length
    - 29.4 Site location
    - 29.5 Site assessment
    - 29.6 Dressing type
    - 29.7 Patient response to procedure and/or medication
    - 29.8 Patient/significant other teaching