

Leamington Mennonite Home
Long Term Care

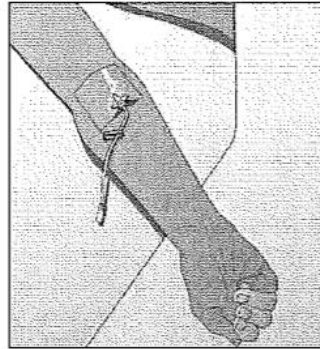
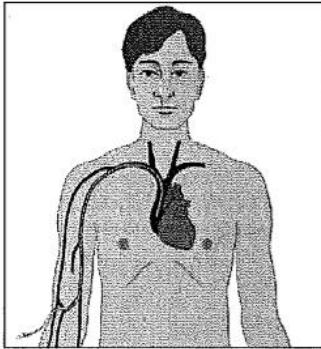
POLICY AND PROCEDURE

CATEGORY: Nursing	SUBJECT: Peripherally Inserted Central Catheter	SECTION: P POLICY: 1
DATE: August 2017	Administrator: <u>J. M.</u>	
REVISION DATES:	Director of Care: <u>Cheryl Allick</u>	

PERIPHERALLY INSERTED CENTRAL CATHETER

OVERVIEW:

A peripherally inserted central catheter (PICC) is long, slender, flexible tube that is inserted into a peripheral vein and advanced until the tip reaches a large vein in the chest near the heart to obtain intravenous access. It is similar to other central lines as it terminates into a large vessel near the heart. However, unlike other central lines, its point of entry is from the periphery of the body the extremities; typically, the upper arm is the area of choice. Similar to central lines, a PICC's termination point is centrally located in the body allowing for treatment that could not be obtained from standard periphery IV access. In addition, PICC insertions are less invasive, have decreased complication risk associated with them, and remain for a much longer duration than other central or periphery access devices.



A PICC line may requested for a variety of treatment options which include some of the following:

- Prolonged IV antibiotic treatment;
- IV access obtainable by less invasive and longer lasting methods;
- Multiple accesses obtainable with one access line;
- TPN Nutrition;
- Chemotherapy
- IV access related to physiological factors; and
- Home or sub-acute discharge for extended treatment.

PICCs are frequently used to obtain central venous access for patients in acute care, home care and skilled nursing care. Since complication risks are less with PICC lines, it is preferred over other forms of central venous catheters. PICC lines may have single or multiple lumens. This depends on how many intravenous therapies are needed. A PICC line can be used for antibiotics, pain medicine, chemotherapy, nutrition, or for the drawing of blood samples.

BENEFITS:

Long term venous access: PICC lines may remain long periods of time, up to one year, without having to change sites.

Low Risk for Infection: The risk of infection from changing sites is eliminated.

Decreased Skin Puncture for Blood Sampling: PICCs can be used to draw blood samples; therefore repeated skin pricks for blood sampling can be avoided.

Decrease hospital admissions: A PICC line can be cared for in the home. Therefore, a patient requiring, for example, a six week regimen of IV antibiotics no longer has to remain in the hospital to receive all required treatments.

Versatility: PICC lines, with their multi lumened IV access, can be used to administer antibiotics, blood and blood products, anti-cancer drugs, intravenous fluids and nutrients. It is a versatile IV access line.

RISKS:

Following are some of the complications associated with PICC lines:

Air Embolism: Air bubbles may enter the blood vessel during insertion of a PICC. This may produce symptoms such as decreased blood pressure; lightheadedness; confusion; increased heart rate; anxiety; chest pain; or shortness of breath.

Infection: It is possible for an infection to develop either inside the vessel or surrounding the insertion site where the catheter enters the vein. The symptoms include fever; chills; tachycardia; fatigue; muscle aches; weakness; decreased blood pressure; redness, swelling or purulent drainage at site; or elevated white blood cell count.

Phlebitis: This is inflammation of the vein where the catheter is inserted. The symptoms include redness; pain at access site; streak formation; palpable venous cord; or purulent drainage.

Catheter Malposition: Malposition can occur during PICC insertion or later due to changes in pressure inside the chest or from catheter migration. After the insertion of catheter, the position of its tip is confirmed via x-ray. Confirmation of proper tip placement is required before using the device as a malpositioned catheter can cause serious complications. Securing the PICC catheter is also essential to help prevent catheter dislodgment or migration. Sutures should not be used to secure the catheter to the site as these can lead to complications such as infection at the site or catheter-related bloodstream infections.

Thrombus Formation: Any catheter inserted into the vascular system increases the risk of thrombus formation, either in the vessel or in the catheter.

Difficult Removal: There may be resistance when removing the catheter and this may occur at any time during the process.

Nerve Injury or Irritation: During insertion of the catheter, nearby nerves may get injured or irritated producing symptoms such as a shooting type of pain down the arm; numbness; tingling; pins and needles effect; weakness of extremity; or paralysis.

Leakage: Occasionally leakage at the insertion site may occur. This may be caused by loss of elasticity of the skin at the site, outward migration of the catheter, or rupture of the catheter.

Catheter Breakage: Rarely, catheter damage can occur and most often it is from improper care. It may occur due to improper anchoring, using a syringe that is less than 10ml, or from applying excessive pressure when flushing the device.

POLICY:

Registered Nurses may perform the following procedures with the PICC as defined by CNO's and the Nursing Home's policy, evidence of the necessary knowledge, skills, and ability to perform such:

- Draw blood specimens
- Flush the PICC
- Administer IV medications via PICC
- Perform PICC dressing changes

If RN has not kept up to date with skill, this must be performed by an external agency that is competent to complete skill level.

Scope:

RN staff is responsible for the monitoring and use of PICC lines.

PROCEDURE:

Assessing Catheter Integrity:

The Registered Nurse shall assess the catheter integrity before any injection/infusion by completing the following steps.

1. Inquire or observe whether the patient has experienced any symptoms that might warn of catheter fragmentation and/or catheter embolization since the catheter was last accessed; for example, episodes of shortness of breath, chest pain, and/or cardiac arrhythmia.
2. Examine and palpate the catheter tract and insertion site for erythema, swelling or tenderness, which might indicate infection or catheter leakage.
3. Using a 10cc syringe or larger, aspirate for blood return. Difficulty in withdrawing blood may indicate catheter compression, malposition, and/or obstruction.
4. Using a 10cc syringe or larger syringe, flush the catheter with 10ml of 0.9% injectable sodium chloride to clear the catheter, taking care not to apply excessive force to the syringe. During this flush, observe the catheter tract for extravasation or swelling, and question or observe the patient to determine whether burning, pain, or discomfort is experienced. Difficulty in injecting or infusing fluid may indicate catheter compression, malposition, and/or obstruction.
5. Notify MD of any problems that occur.

Managing obstructions:

When obstructions occur, do not attempt to force fluid through the system. Notify the M.D. immediately. Further flushing could result in catheter rupture with possible embolization.

Site Care:

1. The external catheter length should be measured and documented with each dressing change. Any change in the effective external length indicates a change in the location of the catheter tip.
2. Dressing change procedure shall be performed with **sterile** technique. The dressing should be removed carefully, stabilizing the external portion of the catheter and peeling dressing **towards** the insertion site. If sterile tape or wound closure strips are used to secure the catheter, they should be removed with each dressing change so the skin underneath can be adequately cleaned.
3. Dressings shall be routinely changed at least every 96 hours along with IV administration tubing, needleless device.
4. Dressings shall also be changed any time the dressing has become loosened, wet, or soiled.
5. The injection cap shall be replaced at least every **7 days** and documented. An IV positive pressure connector shall be used on PICC lines in order to prevent back flow of blood into the catheter.

6. Scissors or other sharp instruments shall not be used when changing the dressing.
7. The site and a 3 inch diameter around the site shall be cleansed with chlorhexidine and allowed to dry prior to application of the sterile dressing.
8. Reapply sterile tape or wound closure strips to secure the catheter.
9. A sterile transparent occlusive dressing shall be applied over the sterile tape/wound closure strips and shall cover the insertion site, the lock mechanism of the catheter, and approximately one inch of the extension tubing.
10. The external portion of the catheter shall not be kinked or occluded or the bulb taped so that it will be repeatedly bent when the patient moves his/her arm. Additional tape may be added to insure an occlusive dressing or anchor external extension tubing to prevent tension.
11. Do not take blood pressure readings in this arm.

Assessment and Documentation:

The insertion site shall be assessed at least every shift with documentation to include;

- Redness
- Drainage
- Tenderness
- Catheter migration/ External length
- Condition of the site,
- Condition of the catheter
- Special measures taken
- Patient education.
- Patient tolerance for the procedure

If the catheter is being used intermittently, it shall be flushed at least every 24 hours. If not being used the catheter can be flushed once a week.

Dressing change procedure:

Action	Rational
1. Wash hands	Prevent infection
2. Assemble supplies: Clean gloves, sterile non-powdered gloves, occlusive dressing, wound closure strips/sterile tape, chlorhexidine swabs	
3. Explain procedure to the resident	Decrease resident anxiety
4. Measure external catheter length, notify M.D. if discrepancy in length.	Signifies catheter migration
5. Don clean non-powdered gloves Remove dressing and wound closure strips carefully, stabilizing external catheter and peeling towards insertion site.	To avoid accidental removal of the catheter
6. Remove gloves and wash hands.	To prevent spread of infection
7. Don sterile gloves and cleanse insertion site, including a 3 inch diameter around the site, with chlorhexidine swabs, allow to dry.	
8. Apply wound closure strips	To secure the catheter
9. Apply occlusive dressing over wound closure strips, covering the catheter lock mechanism, and one inch of extension tubing.	To protect the catheter insertion site
10. Apply additional tape as needed.	To prevent tension and help secure the external catheter
11. Remove gloves and wash hands	To prevent spread of infection
12. Assesses insertion site at least every shift for signs and symptoms of infection and any catheter migration. Document findings in the medical record, notify M.D. of untoward findings.	
13. Perform site care and change dressing weekly. IV tubing and needleless devices are changed at least every 72 hours.	

Medication and Fluid Administration (intermittent):

1. Check physicians order and eMAR	Follow 5 rights of medication administration
2. Assemble supplies: Clean gloves, IV tubing, IV pole, medication, 10cc saline flush X2, alcohol swabs	
3. Explain procedure to resident	Decrease resident anxiety
4. Wash hands don clean gloves	Prevent infection
5. Connect tubing to IV solution and prime tubing	Free tubing from air prior to use
6. Clean injection cap with alcohol	Prevent infection
7. Connect one of the 10cc saline flush syringes to the injection port. Slowly aspirate until positive blood return to confirm catheter patency. Administer 10 cc saline flush (0.9% injectable sodium chloride) before beginning infusion.	To maintain patency of the line
8. Administer medication/infusion. Check tubing for drip factor calculate drops per minute using the following formula: $\frac{\text{Volume to be infused times the drip factor}}{\text{Time in minutes}}$	Calculate correct rate of administration
9. When infusion is complete disconnect and discard tubing.	
10. Administer 10 cc Saline Flush (0.9% injectable sodium chloride) following medication using "pulsed" or start/stop technique	Maintain catheter patency
11. Remove gloves and wash hands.	Prevent spread of infection
12. Document in medical record and Medication Administration Record.	