

Sample Policy & Procedure
Exchange of a Groshong™ Peripherally Inserted Central Catheter (PICC), Peripherally Inserted Long Line (PILL), or Midline Catheter

Purpose: To outline the steps needed to exchange a Groshong™ PICC, PILL, or Midline catheter.

Level: Interdependent

Assessment: The physician or nurse will refer a patient to the IV Resource RN for assessment for exchange of a PICC, or Midline catheter. The IV Resource RN to perform the procedure should be credentialed per organizational policies and procedures in PICC insertions and have advanced training and experience in modified seldinger technique for PICC insertion and exchange of PICC and Midline catheters. The IV Resource RN will assess the patient for the need for a catheter exchange and will inform the physician and nurse of the feasibility of exchanging the line.

- A. A PICC, PILL, or midline catheter exchange is indicated in the following situations:
1. The catheter has broken and cannot be repaired.
 2. A single lumen catheter was placed. The IV therapy plan has changed and now a dual lumen catheter is requested.
 3. A dual lumen needs to be replaced by a single lumen because of a need for a slightly larger lumen.
 4. Drug precipitation or other obstruction has occurred and patency cannot be restored.
 5. Patient has no other accessible vein.
 6. PICC catheter has been inadvertently pulled out several inches so that tip is no longer in distal superior vena cava (SVC) and infusate characteristics require tip in SVC.
 7. A PILL or midline catheter was placed, and infusate characteristics require tip in SVC.
- B. Contraindications to catheter exchange include:
1. Any suspected or known infection of catheter exit site.
 2. Known ipsilateral thrombosis.
 3. Phlebitis of cannulated vein.
 4. Contamination of the broken PICC, PILL or midline has occurred or is suspected.
- C. The physician and IV resource nurse must agree that catheter exchange is preferable to placing a new catheter in a new site.

Orders: An order for exchange or replacement of a PICC, PILL, or Midline to a new site will be written by the physician and placed in the patient's chart. In lieu of a written order, a telephone order may be written by the nurse and signed off by the physician per protocol. Prior to exchange or replacement of any PICC, PILL, or Midline the IV resource nurse will verify that an order has been obtained and is in the patient's chart.

Supplies: Prior to the start of the procedure the following supplies will be gathered:

- Dressing change kit
- Securement device (or Statlock, Hubguards, Grip-Lok or other devices)
- Extension set (for midline catheters)
- Microintroducer kit (match gauge to size of new catheter)
- Suture Removal Kit (if needed for removal of catheter to be exchanged)
- PICC or Midline kit with Introducer- size will vary depending on need of patient
- Injection caps (1 for single lumen catheters, 2 for dual lumen)
- Signs - for over the bed (per facility protocol)
- Steristrips
- Sterile drape and gown
- 1-2 extra pairs of sterile gloves
- 3-4 Extra 3X3" or 4X4" gauze pads

Confirm MD order for exchange of PICC (PILL or Midline) and reason for exchange. Verify that consent has been obtained. If consent has not been obtained then the doctor or patient's nurse will obtain consent from a competent patient or designated family member. The IV Resource RN will provide appropriate pre-procedure teaching.

Assess arm, site, and situation in which breakage occurred for appropriateness of exchange of catheter. Arm chosen should not be the same side as a mastectomy; pacemaker; or AV fistula unless specified by the physician. Once a site is chosen the nurse will measure the patient for appropriate catheter length per protocol.

Prepare patient for procedure - give patient mask to wear and adjust bed height to level of comfort for performing the procedure. If patient will not tolerate wearing a mask, have patient turn head to side opposite insertion site.

PROCEDURE

NURSING ACTIONS

1. Evaluate condition of existing catheter, and all other factors that would indicate need for a catheter exchange.
2. Discuss with physician continued need for a PICC, PILL or Midline catheter, and reasons for a catheter exchange.
3. Obtain MD order for PICC, PILL or Midline exchange.
4. Chest X-ray must be ordered per protocol to confirm tip placement for PICC placement once procedure is done.
5. Check for any allergies, especially to:
 - a. Latex - Obtain latex-free supplies per protocol
 - b. Lidocaine – use Bacteriostatic Normal Saline. Draw up 0.1 to 0.2 ml bacteriostatic NS in a small syringe.
6. Prepare a clean work area and gather supplies. Clean work area surface with antiseptic spray, antiseptic wipes, or soap and water. Allow surface to dry.
7. Remove existing dressing per protocol (including removal of any tapes, steristrips, hubguards, or statlock devices).
8. Wash hands and don sterile gloves, place large sterile drape under patient's arm.
9. Use sterile dressing kit, prep skin around site cleanse insertion site per facility's PICC insertion protocol. Example: cleanse with 3 alcohol swabsticks followed by 3 povidone iodine swabsticks, or one Chloraprep applicator. Allow to air dry 2 minutes if povidone iodine is used, 40 seconds if Chloraprep is used.
10. Pull out existing catheter about 10 cm or more. Ensure by catheter measurement markings or external measurement with tape measurer that catheter tip is well in proximal arm distal to axillary area at deltoid area or below. Place small sterile drape from dressing kit over large drape and to the side of the arm.

Place excess catheter on the small sterile drape.
11. Prep skin around site per PICC insertion protocol a second time follow step number 9 above. Use the supplies provided in the PICC (PILL or Midline) insertion kit.
12. Discard gloves. Put tourniquet on patient's arm high under axilla.

KEY POINTS

CXR recommended for PILL placement, CXR not needed for midline placement.

Anesthetic is for patient comfort, twisting motion used to insert introducer can be painful. However, procedure may also be done without local anesthetic as no new venipuncture will be made and patient may not require skin nick.

Utilize waterless hand cleaner to avoid leaving procedure area.

Two minutes allows for full antimicrobial action of povidone iodine. 40 seconds allows for full antimicrobial action of Chloraprep.

Use of the tourniquet in later step will not compress or damage the existing catheter. The existing catheter will remain under the top fenestrated drape and off the exit site until the end of the procedure.

Same as step 9.

NURSING ACTIONS

13. Wash hands and don another pair of sterile gloves.
14. Carefully place a fully opened, sterile fenestrated drape over the exit site, leaving only the exit site and a portion of the catheter exposed.
15. Inject 0.1 ml to 0.2 ml lidocaine 1% or bacteriostatic normal saline creating a small intradermal bleb right next to the PICC exit site on each side.
16. Remove inner metal needle from introducer, taking care to avoid splitting sheath.
17. Slowly pull out another 5 to 10 cm of catheter.
18. Grasp catheter with non-dominant hand at exit site, then cut, leaving at least 5 cm external catheter.
19. Pick up the introducer sheath for the new PICC (PILL or Midline) with dominant hand and slide over catheter. Hold traction over the skin at the insertion site and gently work sheath over the catheter, through the skin and into the vein. It may require keep skin somewhat taut and some twisting motion of the sheath to advance it into the vein.
21. Prior to use of the new introducer, a small skin incision may be required. A skin incision may be made if a larger gauge or French size catheter is to be inserted, or if there is difficulty advancing the introducer into the vein.

Utilize the scalpel provided in the Microintroducer kit to make a small skin incision no more than 3mm. Face the scalpel blade away from the catheter at all times. The skin incision is made at the exit site next to the existing catheter.
22. Once the sheath is firmly seated in the vein, remove the remainder of the existing catheter and discard.
23. Insert the new PICC (PILL or Midline) catheter into the introducer and advance slowly to the pre-measured distance.
24. Continue remainder of insertion procedure and documentation per facility policy for insertion of PICC, PILL, or Midline catheters.

KEY POINTS

- Utilize waterless hand cleaner to avoid leaving procedure area.
- Total length of catheter must be known. Observe catheter markings to ensure catheter is not removed at this point.
- Hold catheter to prevent it from moving back into vein and becoming an embolus.
- Enter skin and vein at a shallow 15 to 20 degree angle as would be done with a regular venipuncture.
- A skin incision may not be required for all patients.
- The skin incision allows for smooth passage of the introducer through the skin and into the vein.
- There may or may not be good blood return.