PRECISION VASCULAR ACCESS

San Diego's Mobile PICC Nurse

VASCULAR ACCESS DEVICE DRESSING CHANGE

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EFFECTIVE: 09/2018
REVIEWED: 09/2018
REVISED: 09/2018, 05/2020

KEYWORDS: PICC DRESSING CHANGE, MIDLINE DRESSING CHANGE, PERIPHERALLY INSERTED CENTRAL CATHETER CARE, PICC CARE, MIDLINE CARE, DRESSING CHANGE, PICC MAINTENANCE, MIDLINE MAINTENANCE, VASCULAR ACCESS DEVICE CARE, VASCULAR ACCESS DEVICE MAINTENANCE, VASCULAR ACCESS DEVICE DRESSING CHANGE, DC PICC, DC MIDLINE, DC ML, DISCONTINUATION OF PICC, DISCONTINUATION OF MIDLINE

I. PURPOSE

The purpose of this policy is to describe and define guidelines for the care and maintenance of vascular access devices to prevent infectious and mechanical complications.

II. POLICY

A. A physician order is required for the care and maintenance of peripherally inserted central catheters (PICCs) and midlines (MLs), or any other vascular access device (VAD).

B. Aseptic technique is maintained in the VAD and any attached lines. Organize care to minimize entries.

C. Perform hand hygiene before and after VAD dressing changes or other catheter manipulation.

D. When administering intravenous (IV) fluids via the PICC line or ML, use an infusion control device to prevent blood backup and clot formation in the line.

E. Syringes ≥ 10 ml will be used at all times to access PICC lines or MLs.

1. Smaller syringes may cause damage to both the PICC and the patient's vein due to increased pressure per square inch (PSI).

F. All tubing connections will be secured with luer-lock devices.

1. NO TAPE should be placed at injection cap, tubing or luer-locked connections.

G. Prior to accessing any VAD, the entire access must be scrubbed with a Chloraprep pad (3.15% Chlorhexidine Gluconate and 70% Isopropyl Alcohol) for 15 seconds and allow time to dry.

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H. VADs should be secured and immobilized as appropriate. Venipuncture and blood pressure should be avoided in the extremity where a PICC line or ML is placed.

I. Midline (peripheral long line) catheters will be cared for using the same dressing and flushing procedures as PICCs. These catheters may NOT be used for central access (i.e. TPN, etc).

J. Under no circumstance, shall scissors or the use of any sharp objects, be used in the removal of the VAD for dressing changes.

K. If the patient verbalizes or displays unusual discomfort or distress, STOP the procedure immediately.

a) Assess the source of discomfort and perform appropriate nursing intervention to achieve patient comfort.

b) If the patient displays life threatening signs and symptoms of anaphylactic shock, call 911 immediately. Perform CPR, if needed, until EMS arrives. Document occurrence in EHR and notify physician and Nurse Supervisor.

III. DEFINITIONS

A. **Peripherally Inserted Central Catheter (PICC):** Catheter inserted approximately two inches or higher above the antecubital space and inserted into the basilic, brachial or cephalic vein. The tip lies in the distal one third of the superior vena cava (SVC). These catheters provide long-term venous access, generally longer than one month and up to one year. A POWER PICC is made of material that can tolerate high pressures used during injection of CT contrast materials either by hand or with power injector.

B. **Midline:** Catheter inserted approximately two inches or higher above the antecubital space and inserted into the basilic, brachial or cephalic vein. The tip lies near the axillary level. These catheters provide venous access up to 29 days. This is NOT considered a central catheter, but is cared for the same way as a PICC line.

C. **Cap:** Refers to the needleless access device at the end/hub of a catheter. This is where access for infusions, blood draws or intravenous medication administration takes place.

D. **Catheter Securement Device:** These are devices that secure and stabilize the catheter to help prevent dislodgement and mechanical phlebitis.

IV. PERSONNEL

A. Registered Nurse (RN)

V. PROCEDURES

A. VAD Dressing Removal

1. Explain the procedure to the patient and position for comfort.
2. Gather supplies:

a) Gloves
b) Mask
c) Sterile drape
d) Alcohol wipes

3. Don gloves and mask. Place sterile drape beneath patient's arm.
4. Use alcohol wipes to separate the transparent dressing from both the securement device and the chlorhexidine disc, using the stretch technique.
5. Remove the chlorhexidine (CHG) disc, if applicable.
6. Stabilize the catheter securely in one hand. Use the thumb of the opposite hand to gently lift the lower tab of the retainer door. Reposition your hands and repeat the process to open the second retainer door.
7. Carefully remove the catheter from the securement device and position in a secure location.
8. Using alcohol wipes, lift the corner edge of the anchor pad of the securement device. Continue to stroke under the surface of the pad to carefully separate the anchor pad from the patient's skin.
9. Fold the anchor pad under itself and repeat the process on the opposite side. Do not pull or use force to remove the pad. Continue process until the securement device is carefully removed from the patient's skin.
10. Assess insertion site for redness, warmth, drainage or swelling.
    a) Notify physician if a problem is observed.
    b) Document physician notification and any patient instruction in the electronic health record (EHR) in the patient's file under the notes tab
11. Take note of the external catheter measurement.
    a) For PICC lines, catheter migration more than 3 centimeters from the date of insertion needs to be reported to the physician for a follow-up Chest X-Ray to verify PICC tip position.
    b) Document physician notification and any patient instruction in the EHR in the patient's file under the notes tab.
12. Complete dressing change per protocol.

B. VAD Dressing Application

1. Explain the procedure to the patient and position for comfort.
2. Gather supplies:
    a) Central line dressing kit
    b) CHG disc
    c) Appropriate catheter securement device (for midlines)
    d) Mask (included in central line dressing kit)
    e) Sterile drape (included in central line dressing kit)
    f) Sterile gloves (included in central line dressing kit)

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3. Don non-sterile gloves and mask. Place sterile drape beneath patient's arm.
4. Carefully remove previous transparent dressing, CHG disc (if applicable) and securement device per protocol.
5. Assess insertion site for redness, warmth, drainage or swelling.
    a) Notify physician if a problem is observed.
    b) Document physician notification and any patient instruction in the electronic health record (EHR) in the patient's file under the notes tab.
6. Take note of the external catheter measurement.
    a) For PICC lines, catheter migration more than 3 centimeters from the date of insertion needs to be reported to the physician for a follow-up Chest X-Ray to verify PICC tip position.
    b) Document physician notification and any patient instruction in the EHR in the patient's file under the notes tab.
7. Remove gloves.
8. Drop CHG disc and securement device (if applicable) into central line dressing kit contents in a sterile manner.
9. Perform hand hygiene.
10. Don sterile gloves in a sterile manner.
11. Place sterile 4x4 over exposed catheter.
12. Perform skin antisepsis, using the sterile 4x4 for catheter manipulation, while maintaining sterile technique.
    a) Scrub the insertion site for a full 30 seconds, starting at insertion site and working outward.
    b) Allow skin to dry completely, for approximately 10 to 15 seconds.
13. Apply the provided skin protectant to the proposed dressing site, avoiding the immediate insertion site.
    a) Allow skin to dry completely, for approximately 10 to 15 seconds.
14. Apply a new securement device, positioning the catheter in a "j-loop" to redirect the pressure away from the insertion site.
    a) Orient the securement device anchor pad so the directional arrows point toward the insertion site.
    b) Place the catheter wing holes over the securement device posts, one side at a time.
    c) Place a finger beneath the anchor pad as support to close the retainer door over the wing.
    d) Hold the securement device while peeling away paper backing, one side at a time. Place on the skin.
15. Apply a new CHG disc.
    a) Place the disc, print side up (if applicable).

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b) Position the CHG disc around the catheter so that the slit is 5 degrees within the catheter lie.

c) The slit edges should come in contact with one another to assure best efficacy.

16. Apply a new transparent dressing over the VAD, ensuring the insertion site is well visualized within the window.

a) Avoid placing tape directly on the polyurethane catheter material.

17. For PICC lines, measure the arm circumference (AC) three inches above the insertion site, in centimeters.

a) An increase in AC accompanied with redness or warmth to the insertion site should be evaluated by a physician for possible thrombosis.

b) Notify physician if a problem is observed.

c) Document physician notification and any patient instruction in the electronic health record (EHR) in the patient's file under the notes tab.

18. Discard used supplies.
19. Remove gloves and discard them.
20. Perform hand hygiene.
21. Label the dressing.

a) Include date, time, initial, EC (if applicable) and AC (if applicable).

22. Document the procedure.

C. Discontinuation of PICC or ML

1. Verify order to DC PICC or ML.
2. Explain procedure to patient and position patient for comfort.
3. Place the PICC or ML arm so that the PICC exit site is at or below the level of the heart.
4. Disconnect any infusions.
5. Perform hand hygiene.
6. Don non-sterile gloves.
7. Remove the dressing and securement device.
8. Grasp the catheter at the insertion site.
9. Slowly remove the catheter by pulling it straight with gentle, constant traction in short segments.
10. If discontinuing a PICC line, instruct the patient take a deep breath and hold it when the catheter tip is near the exit site.

a) If the patient is unable to follow instructions, time the removal of the PICC line in sync with the patient's natural breathing pattern on exhale.

11. If any resistance is met, **STOP**.

a) Apply a warm pack to the area proximal to the insertion site, wait 15-30 minutes, and reattempt catheter removal.

b) May also encourage the patient to drink warm fluids to promote vasodilation of the vessel.

c) If unable to proceed with PICC line removal using the above techniques, notify Nurse Supervisor for further instruction.

12. Apply sterile gauze to the exit site and hold pressure for 1-5 minutes until bleeding has subsided.
13. Apply an occlusive sterile dressing over the sterile gauze.
    a) Instruct the patient to leave the protective dressing on for 24 hours.
14. Discard used supplies.
15. Remove gloves and discard them.
16. Perform hand hygiene.
17. Label the dressing.
18. Document the procedure.