

CALIFORNIA HEALTH AND HUMAN SERVICES AGENCY  
DEPARTMENT OF PUBLIC HEALTH

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION	(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:  <b>050179</b>	(X2) MULTIPLE CONSTRUCTION A. BUILDING _____ B. WING _____	(X3) DATE SURVEY COMPLETED  <b>09/08/2010</b>
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NAME OF PROVIDER OR SUPPLIER <b>EMANUEL MEDICAL CENTER INC.</b>	STREET ADDRESS, CITY, STATE, ZIP CODE <b>825 DELBON AVENUE, TURLOCK, CA 95380 STANISLAUS COUNTY</b>
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(X4) ID PREFIX TAG	SUMMARY STATEMENT OF DEFICIENCIES (EACH DEFICIENCY MUST BE PRECEDED BY FULL REGULATORY OR LSC IDENTIFYING INFORMATION)	ID PREFIX TAG	PROVIDER'S PLAN OF CORRECTION (EACH CORRECTIVE ACTION SHOULD BE CROSS-REFERENCED TO THE APPROPRIATE DEFICIENCY)	(X5) COMPLETE DATE
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	<p>The following reflects the findings of the Department of Public Health during an inspection visit:</p> <p>Complaint Intake Number: CA00226350 - Substantiated</p> <p>Representing the Department of Public Health: Surveyor ID # 06869, H.F.E.N.</p> <p>The inspection was limited to the specific facility event investigated and does not represent the findings of a full inspection of the facility.</p> <p>Health and Safety Code Section 1280.1(c): For purposes of this section "immediate jeopardy" means a situation in which the licensee's noncompliance with one or more requirements of licensure has caused, or is likely to cause, serious injury or death to the patient.</p> <p>Deficiency Constitutes Immediate Jeopardy</p> <p>Title 22 Div5 Art3-70203(a)(2) Medical service General Requirements.</p> <p>(a) A committee of the medical staff shall be assigned responsibility for:</p> <p>(2) Developing, maintaining and implementing written policies and procedures in consultation with other appropriate health professionals and administration. Policies shall be approved by the governing body. Procedures shall be approved by the administration and medical staff where such is appropriate.</p>		<p>POC ACCEPTABLE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p> <p>Reviewed By: <u>Stanford</u> Name</p> <p>Name: <u>Conner Fairchild</u> Date: <u>4/28/11</u> Time: <u>9:06 AM</u> Notified By: <u>Stanford</u> Name</p> <p>Facility Notified</p> <p>1. RCA Committee met on 5/6/10 to review the case and determine actions to prevent future occurrences. 5/6/10</p> <p>2. On 6/23/10, the QA/MR/UM Committee reviewed the root cause analysis of the event. The committee felt that the physician was distracted due to problems with the 10 drill. 6/23/10</p>	
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Event ID: VBIE11      4/5/2011      9:25:53AM

LABORATORY DIRECTOR'S OR PROVIDER/SUPPLIER REPRESENTATIVE'S SIGNATURE: Conner Fairchild      TITLE: VP Patient Care      (X6) DATE: 4/19/11

Any deficiency statement ending with an asterisk (\*) denotes a deficiency which the institution may be excused from correcting providing it is determined that other safeguards provide sufficient protection to the patients. Except for nursing homes, the findings above are disclosable 90 days following the date of survey whether or not a plan of correction is provided. For nursing homes, the above findings and plans of correction are disclosable 14 days following the date these documents are made available to the facility. If deficiencies are cited, an approved plan of correction is requisite to continued program participation.

CALIFORNIA HEALTH AND HUMAN SERVICES AGENCY  
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STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION		(X1) PROVIDER/SUPPLIER/CLIA IDENTIFICATION NUMBER:  <b>050179</b>	(X2) MULTIPLE CONSTRUCTION A. BUILDING _____ B. WING _____	(X3) DATE SURVEY COMPLETED  <b>09/08/2010</b>
NAME OF PROVIDER OR SUPPLIER <b>EMANUEL MEDICAL CENTER INC.</b>		STREET ADDRESS, CITY, STATE, ZIP CODE <b>825 DELBON AVENUE, TURLOCK, CA 95380 STANISLAUS COUNTY</b>		
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	<p><b>Continued From page 1</b></p> <p>Abbreviations:</p> <p>AORN: Association of periOperative Registered Nurses CVC: Central Venous Catheter</p> <p>Based on staff interview, clinical record and administrative document review, the facility failed to develop written policies and procedures (protocols) in consultation with appropriate health professionals when a central line catheter (a tube placed in a large vein to give fluids and medications) was placed in the right femoral vein (large vein in the groin) without the benefit of written protocol. This failure resulted in a guidewire (a wire or spring used to introduce and guide the catheter into place, then removed) being left in Patient 1, and had the potential to cause physical harm from the guidewire itself and complications that could occur from a second procedure required to remove the guidewire.</p> <p>Findings:</p> <p>Patient 1's clinical record was reviewed on 9/23/10. The Emergency Department report, dated [redacted]/10, indicated Patient 1 was admitted to the facility on [redacted] 10, with diagnoses including pneumonia in both lungs and sepsis (infection throughout the body). The Emergency Department procedure note, dated [redacted] 10, indicated Medical Doctor 1 placed a central line catheter in the right femoral vein: "Under sterile technique by a Seldinger technique I did place a 16-cm triple lumen central line on the first stick without any difficulty into the right groin." The chest</p>		<p>3. ED physician states he will change his practice to "always show the team that the guidewire has been removed."</p> <p>4. ED Committee met on 6/23/10 and Dr. [redacted] discussed new practice to show the guidewire to the room members when completing central lines.</p> <p>5. Radiology peer review was conducted to address the failed notification of the guidewire in the X-ray. A memo was sent to all radiologists to review the case and to have a low threshold for query to members of the health care team when findings may or may not necessitate imminent danger to the patient.</p> <p>6. A medical staff and separate nursing policy and procedure has been revised and will be approved by Medical Executive Committee and reviewed with the Board of Directors on 4/25/11.</p> <p>7. A survey will be attached to all central line kits. The nurse in the room will collect information on adherence to the new medical staff policy and procedure. Responsible Person: Medical Director Emergency Department and Quality Department</p>	<p>6/23/10</p> <p>6/23/10</p> <p>5/13/10</p> <p>4/22/11</p> <p>4/20/11</p>

Event ID:VBIE11

4/5/2011

9:25:53AM

LABORATORY DIRECTOR'S OR PROVIDER/SUPPLIER REPRESENTATIVE'S SIGNATURE

*Cornelia L. Childs*

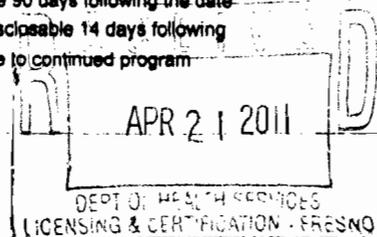
TITLE

*VP Patient Care*

(X6) DATE

*4/19/11*

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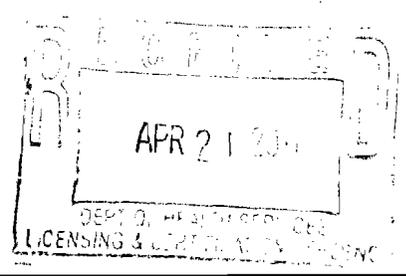


### CONFIDENTIAL NAMES

Statutes and Regulations require that the names of patients/clients jeopardized by a violation not be specified on the citation or public documents but a separate list of names be prepared. The following is a list of persons involved in the citation or report identified below.

Citation number (if applicable) <b>04-0988-0008113-S</b>	Public report issue date <b>04/05/2011</b>
Facility Name <b>EMANUEL MEDICAL CENTER INC.</b>	Facility number <b>030000125</b>

*Reference Number	Name of Person	Date of Birth (MM/DD/YYYY)	Location/Comment
PT 1	[REDACTED]		Patient



* Reference Number corresponds to the number used on the citation or public report.	
Evaluator Name <b>Shirley Campbell</b>	Date <b>04/05/2011</b>



**Medical Staff  
POLICY/PROCEDURE**

DRAFT

Effective Date: Immediately

**Title: Central Lines**

Reviewed/Revised: 04/22/11  
Replaces policy:

Approved: 04/22/11

**PURPOSE:** To set forth a procedure to that when Central Lines are placed there is appropriate asepsis *and* verification that the guide wire from Central Lines has been pulled at the end of the procedure.

**PROCEDURE:** According to the Institute of Healthcare Improvement the Central Line Bundle is a group of evidence-based interventions for patients with intravascular central catheters that, when implemented together, result in better outcomes than when implemented individually.

- A. A standardized supply kit shall be used for insertion of central and PICC lines.
- B. Aseptic technique shall be followed for the insertion and care of intravascular catheters.
- C. Hand hygiene shall be followed before and after palpating catheter insertion sites, as well as before and after inserting, replacing, accessing, repairing or dressing an intravascular catheter.
- D. Maximum Barrier Precautions:
  - 1. The proceduralist and the assistant must wear a head cover, mask, sterile gown and sterile gloves. All present in the room must wear a mask.
  - 2. The patient shall be covered from head to toe with a large sterile drape, with a small opening corresponding to the insertion site.
  - 3. A sterile field shall be maintained.
- E. Chlorhexidine Skin Antisepsis:
  - 1. Clean skin shall be disinfected with chlorhexidine-based preparation before catheter insertion and during dressing changes.
  - 2. Allow the antiseptic to remain on the insertion site and to air dry for at least two (2) minutes before catheter insertion.
- F. Catheter Site Selection: The femoral vein shall not be used unless other sites are not available.
- G. Daily Review of Line Necessity, with Prompt Removal of Unnecessary Lines: The necessity of a central line shall be reviewed daily. This shall prevent unnecessary delays in removing lines that are no longer needed for the care of the patient.
- H. Documentation:
  - 1. The central line checklist shall be completed in its entirety by the assisting nurse for every central line placed.
  - 2. A procedure note shall be completed by the proceduralist after line insertion.

APR 21  
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## Central Lines

### I. Guide wire:

Whenever a physician places a central line he or she, upon pulling the guide wire, should announce "I have the Guide wire".

The procedure may be stopped by any staff member if any violation of the protocol occurs.

A line deemed to be "dirty" will be removed within 24 hours, unless otherwise determined by the Clinical Committee Chair or designee.

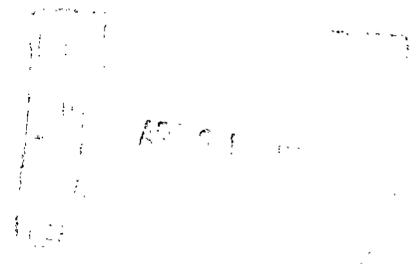
Violations will be reported to the Quality Services Department and will be referred to the appropriate peer review liaison for peer review.

QA/MR/Infection Control: 4/21/11

Medical Executive Committee: 4/22/11

BOD: 04/25/11

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**EMANUEL MEDICAL CENTER  
DEPARTMENTAL MANUAL**

No. 17-05-01

Division: **Patient Care Services**

Routing:  
Pharmacy (Alteplase)/Heparin  
PICC Cart

Department: **Administration**

Subject: **Central Venous Access Devices**

Reference: **Policy and Procedure for Infusion in Nursing, 3<sup>rd</sup> edition, 2006**  
**Plumer's Principles and Practice of IV Therapy (5<sup>th</sup> Edition) Weinstein, 1993.**  
**The Lippencott Manual of Nursing Practice, Seventh Edition.**  
**Current Trends in Central Line Management – Third Annual Conference**  
**Genentech, Inc., Central Venous Catheter Occlusion in Adults, 5-00.**  
**Policy and Procedure for Infusion Nursing, 3<sup>rd</sup> Edition, 2006**

Supersedes: **6/1/09, 10/6/08, 8/3/08, 8/3/06, 9/13/05, 7/31/02, 7/22/92**

Approvals: **NEC P&P Review Com., 5/26/09 VP, PCS, 5/26/09**  
**Pharmacy Dir., 5/22/09**  
**Professional Practice Council, 6/4/09**

Adopted: **draft 4/18/11**

Reviewed: **10/5/10**

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**POLICY:**

Patient with central venous access devices (CVAD) require specialized care to prevent complications and assure quality care. CVADs for the purpose of this policy are defined as: tunneled, non-tunneled, PICC and implanted ports.

- A. Central line placement must be verified by a chest x-ray as soon as possible. Chest x-ray must be for central line placement and "Call Result" in comments section.
- B. Central line may be used after chest x-ray verification or in an emergent situation.

**PURPOSE:**

To provide guidelines for Central Venous Access Devices

**OUTCOME:**

To ensure safe and appropriate care of the patient with a CVAD

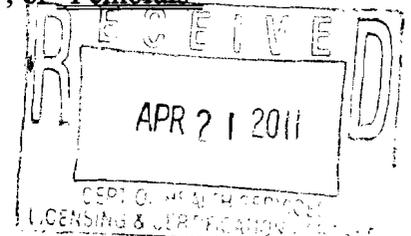
**GENERAL OVERVIEW:**

**I Types of Central Venous Access Devices**

**A. Non-Tunneled Catheter**

- 1. Percutaneously inserted short term catheters
- 2. May be single lumen or multi-lumen catheter (separate ports through one insertion site)
- 3. May be Peripherally Inserted Central Catheter (PICC) (see policy 17-08-01) – placed from a peripheral site where the length is such that the catheter tip resides in the superior vena cava.
- 4. Frequently referred to as "Subclavians", "Jugulars", or "~~Femorals~~"

**B. Tunneled Catheter**

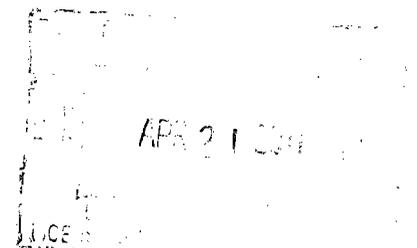


Department: **Administration**

Subject: **Central Venous Access Devices**

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1. These catheters are placed surgically through a trocar and “tunneled” through the subcutaneous tissue. The catheter is cuffed which promotes granulation of tissue formation once inserted.
  2. Frequently referred to as a “Hickman” or “Groshong”.
  3. Hickman catheters are open-ended and can be single or double lumen. Groshong catheters have a 3-position, pressure sensitive valve (Illustration #2). When not in use, the valve design restricts blood backflow and air embolism by remaining closed. The valve opens when pressure is exerted (such as when infusing with a syringe or through IV line). The tip is closed, but the valve opens and closes. The need for the anticoagulant effect of heparin is eliminated because the closed valve prevents blood from backing into the catheter tip and clotting. This Groshong valve can be found in both non-tunneled and implanted catheters as well as tunneled.
- C. **Implanted Port**
1. The catheter is placed under the skin in a surgical procedure. A subcutaneous pocket holds the port – usually on the chest wall or the antecubital fossa.
  2. Ports come in open ended and Groshong variety tips.
  3. May be single or double port.
- II **Other**
- A. Only RNs trained in the procedure may care for CVADs.
  - B. Strict aseptic technique should be followed in care of all CVADs. All lines should have luer lock connections.
  - C. **Flushing of the lines while exiting under positive pressure is imperative.**
    1. This method of flushing minimizes formation of fibrin sheath and sludge buildup in CVADs. It prevents reflux of blood into the catheter.
    2. As you are ending the flush, pull syringe out of cap before using all of the fluid and clamping at the same time.
    3. Whether flushing with NS or Heparin, use this method of exiting under positive pressure.
  - D. **Never use anything other than a 10ml-12ml syringe with a CVAD.**
  - E. In keeping with normal practice in performance of sterile procedure, ask visitors to leave until procedure complete.



Department: **Administration**

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**NON-TUNNELED CATHETERS** – See General Overview

**I. General Information**

- A. If using a triple lumen catheter, the various lumens should be utilized as follows:
  - 1. Distal lumen (largest lumen, closest to right atrium)
    - a. CVP monitoring
    - b. Blood administration
    - c. High volume or viscous fluids
    - d. Colloids
    - e. Medications
  - 2. Middle lumen
    - a. TPN
    - b. Medications (if not being used for TPN)
  - 3. Proximal lumen
    - a. BLOOD SAMPLING
    - b. Blood administration
- B. If any lumen is unused, follow routine flushing procedure (see chart # 17-05-15)
- C. When withdrawing blood samples, stop infusions through all three lumens for 2-5 minutes (5minutes preferred) to avoid contamination.
- D. Securely attach caps to all lumens
- E. Groshong catheters and non-tunneled do not require Heparin flushing. Use Normal Saline to flush lumens.

**II. Infusion**

- A. For continuous infusion
  - 1. Prime IV tubing with IV solution
  - 2. Wash hands and don sterile gloves
  - 3. Cleanse lumen cap with alcohol wipe
  - 4. Clamp lumen that is to be used for infusion
  - 5. Attach 10-12 ml syringe to cap and flush with 10ml NS after unclamping lumen. Clamp lumen and remove syringe
  - 6. Attach IV tubing to lumen and begin infusion
  - 7. Non-used lumens should be clamped and capped when not in use
- B. Power injectable central venous catheters
  - 1. Confirm patient has power injectable central venous catheter. (This catheter is indicated for intravenous therapy and power injection of contrast media.)
  - 2. The nurse/tech in preparation of the patient will verify the following:
    - a. Contrast Procedure Consent form is signed.
    - b. Identify patient using two patient identifiers.
    - c. Patient has power injectable central line catheter.
  - 3. Flush port to be used with 10ml Normal Saline prior to injection of contrast to maintain catheter patency.
  - 4. IV contrast may be power injected into pressure injectable central venous catheter at a rate of no more than 5ml/sec. into the port labeled 5ml/sec. and no more than 10ml/sec. in the port labeled 10ml/sec.
  - 5. Immediately following injection of contrast flush port per protocol.

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III. Blood Sampling

A. Supplies

1. Exam gloves for personal protection
2. 2 Masks (one for patient and one for self)
3. Alcohol wipes
4. Clave cap
5. Sterile 2X2
6. 3 – 10ml syringes filled with NS
7. 2 – 10ml syringes empty (for blood discard and lab draw)

8. Patient labels and lab tubes

B. Procedure (do not draw blood through clave cap) This is an aseptic procedure

1. Identify the patient, explain procedure
2. Gather supplies, wash hands
3. Stop infusions through all lumens for 2-5 minutes (5 minutes preferred).
4. Place mask on patient (unless on ventilator).
5. Don mask and clean gloves.
6. Clamp proximal port line and cleanse cap junction with alcohol for 15 seconds.
7. Remove cap with sterile 2X2 and connect 10ml syringe with NS to catheter.
8. Flush with 10ml. (If drawing from a TPN line, YOU MUST FLUSH with 20ml of NS before drawing blood sample.)
9. Withdraw 5ml of blood and discard. (If drawing a PT or PTT, DISCARD 10ml of blood.) Always use a slow gentle pressure when withdrawing blood to prevent collapse of a vein or catheter.
10. Use another 10ml syringe to aspirate and obtain blood needed for lab tests.
11. After the blood is obtained, FLUSH vigorously with intermittent flush of 20ml NS and clamp. Cleanse connection site with alcohol and apply new clave cap.
12. Transfer blood to lab tubes.

IV. Cap change

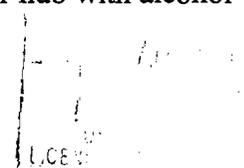
A. Injection caps, including needleless caps will be changed every 7 days and after blood draws.

B. Supplies

1. Alcohol wipe
2. Injection caps for all ports being changed
3. Sterile gloves, mask
4. Tape

C. Procedure

1. Explain the procedure to the patient
2. Prepare supplies and wash hands
3. Apply mask if patient is immunocompromised; apply sterile gloves
4. Scrub the connection between the cap and the catheter hub with alcohol for 15 seconds.



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5. Clamp the catheter
6. Have the patient turn his face away from the catheter connection
7. Unscrew the cap and discard
8. Screw the new cap on securely
9. Flush the line per flushing procedure
10. Document the cap change including the date and time

**V. Dressing Change**

A. Moisture Vapor Permeable dressings will be changed every 24 hours after initial insertion and then every 7 days or when wet or soiled.

B. Supplies:

1. Chlorhexidine swab
2. 2 – 2x2 sterile gauze pads
3. Sterile gloves
4. Plastic bag
5. Clean gloves
6. MVP dressing, i.e., Tegaderm HP
7. Biopatch
8. Tape
9. Mask

C. Procedure

1. Explain the procedure to the patient
2. Place in supine position as tolerated
3. Wash hands and prepare equipment on a sterile field
4. Don clean gloves
5. Have patient turn face away from the dressing site, the nurse should mask if the patient is immunocompromised
6. Remove the existing dressing, do not use scissors. Take care not to dislodge the catheter
7. Don sterile gloves
8. Clean insertion site with Chlorhexidine
9. Allow the Chlorhexidine to dry completely, blot excess with sterile gauze. Do not fan or blow on the site (this will cause bacterial colonization)
10. A Biopatch dressing will be placed around the catheter insertion site.
11. Remove sterile gloves and apply a MVP dressing making sure all edges are secure
12. Label the dressing with date, time and nurse's initials
13. Document dressing change including date and time

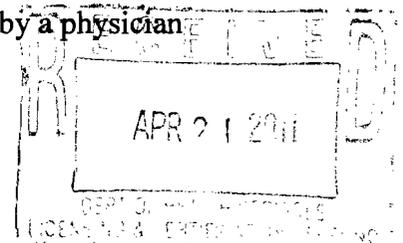
**VI. Routine Flushing – See Central Lines Flushing Protocol**

**VII. Removal of Non-Tunneled Catheter**

A. Removal of this catheter must be done by an RN as order by a physician

B. Supplies

1. Sterile 2x2 gauze



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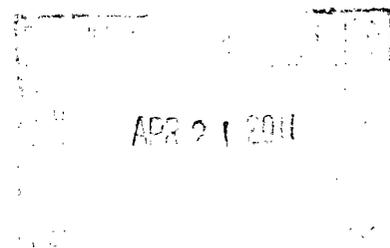
Subject: **Central Venous Access Devices**

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2. Tape
3. Sterile gloves, clean gloves
4. Face mask
5. Suture removal kit
- C. Procedure
  1. Explain the procedure to the patient
  2. Wash hands and gather supplies
  3. Instruct the patient to turn head away from catheter site
  4. Place face mask on and arrange equipment
  5. Remove existing dressing and discard. Take care not to dislodge catheter
  6. Assess site for redness, inflammation, edema, drainage
  7. Culture purulent drainage if present
  8. Prepare supplies and don sterile glove
  9. Remove sutures if present
  10. Simultaneously withdraw catheter and apply pressure to site with sterile gauze. Have patient perform the Valsalva maneuver during the removal to prevent air embolism. Hold pressure at site for 5 minutes.
  11. Assess any signs and symptoms of bleeding
  12. Apply occlusive dressing (Tegaderm) over 2x2 gauze for 24 hours – until skin tract closes
  13. The integrity of the catheter should be ascertained upon removal
  14. If order to culture tip of catheter:
    - a. Using sterile technique, cut tip of catheter with sterile scissors and place in sterile container
    - b. Label container and send to Lab with order
  15. Document site appearance, cannula remove intact, patient's tolerance and type of dressing applied

### **Assisting the Physician with Insertion of a Non-Tunneled CVAD**

- I. General Information:
  - A. Non-tunneled CVAD catheters (“subclavians”, “jugulars”, “femorals”) are inserted for a variety of reasons and patient conditions. The procedure for inserting the catheter is the same regardless of the purpose of the line.
  - B. It is a sterile procedure.
  - C. Nursing will advise physician when catheter has been in place for 5 days.
- II. Procedure
  - A. Supplies
    1. From Materials Management:
      - a) Central Vein Catheterization Kit with #14 7FR indwelling catheter
      - b) Biopatch
      - c) Triple lumen CVD catheter expanded kit
    2. From floor stock:
      - a) MVP dressing, i.e., Tegaderm HP
      - b) Sterile gloves (for MD and for assistant)

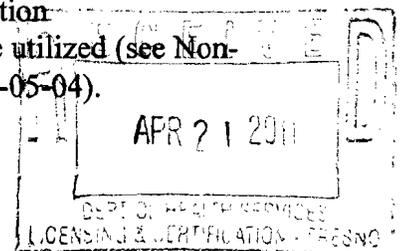


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- c) IV tubing and solution and extension tubing
  - d) IV infusion pump
  - e) Heparin flush solution (100Unit/ml)
  - f) Catheter caps (for each lumen) – if not included in set. Apply needleless system caps when appropriate.
  - g) Mask
  - h) Sterile field (around insertion site)
  - i) Gown, bouffant surgical cap, surgical mask with eyeshield
- B. Prepare the patient and supplies
- 1. Obtain written informed consent
  - 2. Wash hands and assemble all equipment
  - 3. Prepare IV solution and prime the tubing
  - 4. Provide adequate lighting and privacy
  - 5. As indicated, reinforce the physician's explanation of the procedure including:
    - a) The anticipated cool sensation of the local anesthetic
    - b) The Valsalva maneuver
    - c) Trendelenburg position
- C. Assist the physician:
- 1. Assist the patient to a supine position.
  - 2. If instructed by the physician, place the patient in a Trendelenburg position and place a rolled towel under the patient's back.
  - 3. Instruct the patient to keep his/her head turned away from the insertion site.
  - 4. Wash your hands
  - 5. Open the sterile supplies, using aseptic technique
  - 6. Assist the physician as necessary.
  - 7. Reassure the patient frequently
  - 8. Assist the patient with the Valsalva maneuver when necessary
  - 9. Assist the physician as necessary to apply a Biopatch and an occlusive dressing to the site, and attach needleless device to all ports.
    - a) The provider inserting the central line will announce to assistant that guidewire has been removed and show assistant removed guidewire.
  - 10. After x-ray confirmation or in an emergency situation physician verification, turn on the infusion pump when the catheter is placed and the tubing is connected. Remember if using three lumen catheter: Flush and Heparinize all unused lumens at insertion and every 24 hours thereafter.
  - 11. May tape intravenous tubing connections
  - 12. Assess the patient for signs and symptoms of catheter misplacement:  
ASSESS FOR PRESENCE OF BILATERAL BREATH SOUNDS
  - 13. Discard equipment or return it to the appropriate location
- D. If using a triple lumen catheter, the various lumens should be utilized (see Non-Tunneled Catheters, General Information, I., A., 1., 2., 3., 17-05-04).



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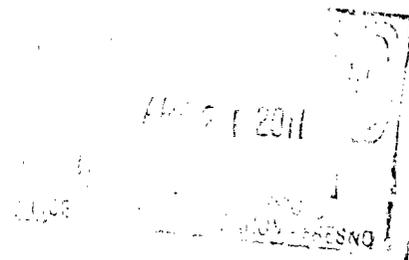
**Tunneled Catheters (Hickman, Groshong) – See General Overview**

- I. Infusion – See Non-Tunneled catheter care
- II. Blood Sampling – See Non-Tunneled Catheter care
- III. Cap Change – See Non-Tunneled Catheter care
- IV. Dressing Change:
  - A. Change dressing 24 hours after initial insertion and then every 7 days or if dressing becomes wet or soiled
  - B. After approximately 2-3 weeks, the site may be healed and the dressing may no longer be required
  - C. See Non-Tunneled Catheter care
- V. Routine Flushing
  - A. See chart # 17-05-16
  - B. If Groshong catheter use NS only for flush
- VI. Removal of Tunneled Catheter:

The removal of tunneled catheters is a medical act.

**Implanted Ports – See General Overview**

- I. General Information
  - A. Ports are accessed using a non-coring needle, i.e., Huber needle. These needles “slice” rather than “puncture” the port thus preserving the life of the port. With continued use, the needle is changed every 7 days.
  - B. Ports can be either single or dual ports.
  - C. Ports with Groshong catheters need no Heparin flush, but NS is used instead.
- II. Infusion/Cannulation
  - A. Supplies
    1. 1 Chlorhexidine swab
    2. 1 package sterile gloves, 1 pair clean gloves
    3. Sterile field (may use inside of sterile glove container)
    4. Mask
    5. Sterile 4x4s
    6. Sterile 2x2
    7. MVP dressing, i.e., Tegaderm HP
    8. Non-coring needle with extension tubing
    9. NS vial
    10. 10-12 ml syringe
    11. Port kit has many of the above items included
  - B. Procedure
    1. Explain procedure to patient



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2. Wash hands and prepare supplies on sterile field and don clean gloves
3. Palpate the port and assess the site for redness, swelling and tenderness
4. Clean the port with Chlorhexidine. Allow to dry. Don sterile gloves.
5. Connect the non-coring needle with the extension tube to a 10ml syringe filled with NS. Flush the tubing with NS. Leave the syringe connected.
6. Palpate the site with the non-dominant hand; locate the port between the index finger and thumb.
7. Insert non-coring needle perpendicular into the center of the port and push needle firmly through the skin until it comes in contact with the bottom of the portal chamber. You will feel a resistance at this time.
8. To confirm placement, flush with 10ml NS and then aspirate for blood. The NS should infuse easily and the blood should return when aspirated. This confirms proper needle placement. Assess the site for subcutaneous swelling. Place Biopatch under needle and place MVP dressing over needle and part of extension tubing. Secure dressing in place.
9. If no blood is returned, or if unable to instill the priming solution, try to advance the needle further into the port. See troubleshooting guide if still unable to instill NS or aspirate blood.
10. Connect the IV solution and program IV pump. Start infusion
11. Document the site appearance, difficulties encountered during the procedure and patient tolerance in the Nurses' Notes.

### III. Blood Sampling

#### A. Supplies

1. 1 Chlorhexidine swab
2. 2 sterile gloves, 1 clean gloves
3. Mask
4. Sterile 4x4s
5. 10-12 ml syringes x 5
6. NS vial
7. Heparin flush solution (100Unit/ml x 5ml)
8. Tegaderm
9. Sterile 2x2
10. Lab tubes and patient label as needed
11. Needle to transfer blood from syringe into lab tube

#### B. Procedure

1. Explain procedure to patient
2. Wash hands and prepare sterile field with supplies and don clean gloves
3. Palpate port and assess for redness, swelling, tenderness
4. Prepare injection site. Cleanse site with Chlorhexidine swab in concentric circles. Allow to dry. Don sterile gloves.
5. Connect non-coring needle and extension tubing to 10-12 ml syringe filled with NS.
6. Flush tubing with NS and close clamp. Insert non-coring needle with sterile technique. Flush with 10ml NS to confirm placement.



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7. Withdraw 5ml blood and discard (If drawing for PT or PTT, discard 10ml blood.)
8. Withdraw desired volume of blood for ordered tests via vacutainer or syringe
9. Flush port with 20ml, using 2 – 10-12 ml syringes
10. Flush port with 5ml Heparin flush solution (100Unit/ml) using 10ml syringe. Exit under positive pressure (clamp the extension tubing while instilling the last 1/2ml of Heparin)
11. Transfer blood to lab tubes and label
12. Remove non-coring needle and cleanse site with Chlorhexidine swab and allow to dry 30 seconds while holding 2x2 pressure to site.
13. Apply transparent dressing (Tegaderm). Leave 2x2 in place under dressing if drainage exists.
14. Document the site appearance, difficulties encountered during procedure and patient tolerance.
15. If done as an outpatient lab draw – document on an outpatient lab draw nurses' notes. Attach a copy of the patient's face sheet to the nurses' notes and send to Health Information Services. (See Nurses' Notes for Implanted Port Cannulation on Outpatients, # 17-05-13)

**IV. Cap Change**

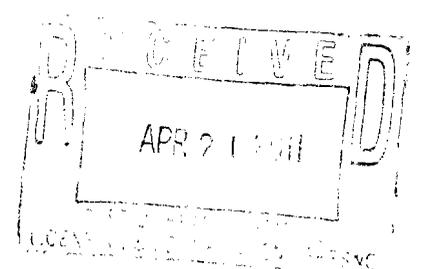
- A. If non-coring needle in place, caps will be changed every 7 days with needle change and after blood draws. This includes needleless system caps.
- B. For supplies and procedure, see non-tunneled catheter cap change.

**V. Dressing Change**

- A. Dressing change takes place every 7 days when non-coring needle is removed and replaced.
- B. If non-coring needle is in place, place Biopatch around needle and cover with MVP dressing at insertion and every 7 days.
- C. If non-coring needle is not in place, implanted ports do not usually require dressing.
- D. If port recently placed, place dressing on site until site thoroughly healed.
- E. Use sterile technique for dressing changes as you would with any surgical wound until surgical site placement healed.

**VI. Removing a Non-Coring Needle**

- A. Supplies
  1. Sterile gloves
  2. Transparent dressing
  3. Sterile 2x2
  4. Chlorhexidine swab
  5. NS vial
  6. Heparin Flush solution (100Unit/ml)
  7. 10-12 ml syringes



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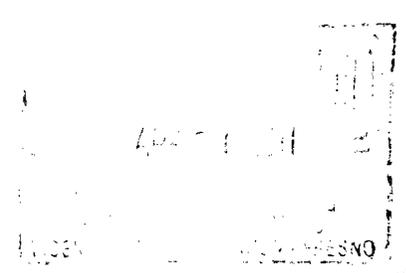
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**B. Procedure**

1. Explain the procedure to the patient
2. Prepare supplies, wash hands and apply sterile gloves
3. Flush the port per policy (see chart #17-05-16)
4. Remove the dressing and discard
5. Remove the non-coring needle
6. Cleanse the site with Chlorhexidine and hold pressure to site with 2x2
7. Cover with transparent dressing (with 2x2 in place if drainage present)

Removal: The removal of an implanted port is a medical procedure done by a physician



NURSES' NOTES FOR IMPLANTED PORT CANNULATION OF OUTPATIENTS

DATE \_\_\_\_\_ TIME \_\_\_\_\_ PATIENT NAME \_\_\_\_\_

MR# \_\_\_\_\_ RN SIGNATURE \_\_\_\_\_ ORDERING MD \_\_\_\_\_

YES NO\*

1.	Explain procedure to patient.		
2.	Wash hands with bacteriostatic agent for 2 minutes		
3.	Prepare sterile field with supplies		
4.	Palpate port/assess for redness, swelling, and tenderness		
5.	Don mask and clean gloves		
6.	Prepare injection site: Cleanse site with Chlorhexidine swab and allow to dry 30 seconds. Don sterile gloves.		
7.	Connect porta-cath tubing and needle to 10ml syringe filled with normal saline		
8.	Force air out of tubing and close clamp		
9.	Insert Huber needle with sterile technique		
10.	Flush with 5ml NS to confirm patency		
11.	Withdraw 5ml blood and discard		
12.	Withdraw desired volume of blood via vacutainer or syringe		
13.	Flush with 20ml NS, using two 10ml syringes		
14.	Flush with 5ml of Unit/100 heparin lock flush solution. Clamp the tubing while instilling the last 1/2 ml of heparin lock flush solution.		
15.	Remove non-coring needle.		
16.	Cleanse injection site with 1 Chlorhexidine swab and allow to dry 30 seconds.		
18.**	Document the site appearance, difficulties encountered during procedure and patient tolerance		

Site appearance: \_\_\_\_\_

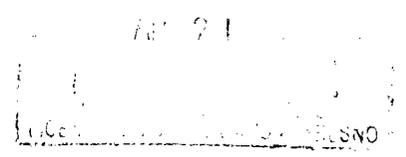
Difficulties encountered during insertion: \_\_\_\_\_

Patient tolerance of procedure: \_\_\_\_\_

Additional comments: \_\_\_\_\_

\* If there is a "NO" response to any step, document in the comments section the rationale for the response. Example: "Huber needle unable to be inserted x 2 attempts. Troubleshooting Guide of this policy #17-05-01 followed without success. MD notified. Patient instructed....", etc.

\*\* Outpatient lab draws will be documented on an outpatient lab draw nurses' note. Attach a copy of the patient's face sheet to the nurses' note and send to Health Information Services.



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**Troubleshooting**

- I. Difficult to infuse or inability to obtain blood:
  - A. Assure that the line is not clamped or kinked at any point
  - B. Request patient take a deep breath or cough
  - C. Request the patient change body positions: side lying, supine to upright position or put hands over head.
  - D. For the implanted port, assure that the needle is hitting the back of the port
  - E. Flush the line with 10ml NS in a start/stop mode
  - F. If these techniques are unsuccessful, notify the physician. Alteplase may be ordered by the physician to open the catheter.
  - G. Document problems encountered with the catheter, procedures employed and any patient reactions to the procedures

- II. If sharp chest pain, cyanosis, or extreme anxiousness observed, suspect air embolus and position the patient in Trendelenburg position on the left side. Administer O<sub>2</sub> and notify physician immediately.

**I. CVC Occlusion**

General Information - Alteplase (Cathflo-Activase) may be used for the treatment of occluded central venous catheter clearance. This use is based on the recommendation of a multidisciplinary Advisory Panel on Catheter-Directed Thrombolytic Therapy organized by the Society of Cardiovascular and Interventional Radiology 2000.

**II. Supplies**

- A. 10 ml syringes x 3
- B. Alcohol prep
- C. Catheter caps
- D. 2mg/2mL Alteplase per each occluded lumen - obtained from Pharmacy (will come in prefilled syringe)
- E. NS vial
- F. Heparin Flush solution (100Unit/ml)

**III. Procedure**

- A. Prior to administration:
  1. Confirm catheter obstruction by aspirating catheter and following troubleshooting guide in the CVAD standard. Catheter obstruction is usually due to position, foreign body, medication precipitate, or blood clot formation.
  2. Obtain physician order and written informed consent from patient.
  3. Use sterile technique
- B. Instillation of Alteplase
  1. Cleanse site of syringe insertion to occluded lumen with alcohol.



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2. Instill 2ml of Alteplase gently and slowly (approx. 1 minute - this will coat the walls of the catheter). If medication does not flow in easily, you may apply a gentle piston motion to the syringe. Because of the geography of the occlusion, the full 2ml may now flow in. **DO NOT FORCE THE ALTEPLASE.**
3. Clamp the catheter and allow the Alteplase to remain in the catheter undisturbed for 2 hours. Catheter to be labeled Do Not Access for those 2 hours.
4. Reconnect the syringe and attempt to aspirate. If able to aspirate blood, aspirate 5ml and discard. Obtain 10ml syringe NS and flush catheter time 2 (20ml total). If Heparin flush is necessary (all catheters except Groshong tip), flush catheter with 5ml Heparin Flush sol. (100Unit/ml), exiting with positive pressure.
5. If lumen remains occluded, obtain second dose of Alteplase and repeat steps 1 through 3.
6. If catheter remains occluded after second Alteplase instillation, malpositioning may need to be investigated.
7. Following successful catheter clearance, document procedure time, date, medication administration, outcome and patient tolerance.
8. Patients should be observed for any signs of allergic reaction, bleeding, fever, dyspnea, catheter migration/dislodgement.

### **Pediatric CVAD**

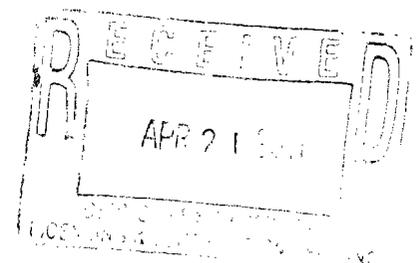
For the care of CVADs in children, you must obtain specific and individualized orders per physician. Routine flushing solution amounts including NS and Heparin flush usage, blood sampling procedure (whether to re-inject aspirated blood or to discard), and other aspects of care vary from one physician to another. All aspects of care should be ordered by the physician.

When using NS for flush for the neonate or infant, use NS that does not contain preservative

#### **Forms:**

17-05-12 – Nurses Notes for Implanted Port Cannulation on Outpatients, #018

17-05-16 – Central Lines Flushing Protocol, #2146



## GUIDELINES FOR MAINTENANCE OF VENOUS ACCESS DEVICES

\*\*\* Use only 10ml syringes with Central Venous Access Devices

Device	*Routine Flush	Frequency of Routine Flush	* Flush Following Medication Administration	Blood Sampling	*Flush Following Blood Sampling	Cap Change	Frequency of Dressing Change
Peripheral	2ml NS	Every 8 hours	2ml NS	-----	-----	Every 96 hours with site change	Every 96 hours with site change - Bandaid
** PICCs and Midlines	10ml NS use 10 or 12ml syringe (only) 1ml Heparin flush 100 units/ml each port	Every 12 hours with 10ml NS Followed by 1 ml Heparin 100 Unit/ml or prn	10ml NS	Flush with 10ml NS; discard 5ml blood, obtain necessary blood sample. Remove clamp caps prior to obtaining blood.	20ml NS and replace clamp caps followed by 1ml heparin each clamp 100 units/ml	Every 7 days and after blood draw	Every 7 days (or if wet or soiled) Biopatch and moisture vapor permeable dressing (MVP) i.e., Tegaderm HP
Tunneled Catheters Hickmans Broviacs Groshong**	3ml NS followed by 3ml Heparin 100 Unit/ml	Every 24 hours	3ml NS followed by 3ml Heparin 100 Unit/ml	Flush with 10ml NS; discard 5ml blood, obtain necessary blood sample	20ml NS followed by 3ml Heparin 100 Unit/ml	Every 7 days and after blood draw	24 hours after insertion and then every 7 days (or if wet or soiled) (MVP and Biopatch until healed)
Non-Tunneled Catheters – Subclavians Jugular	3ml NS each port	Every 24 hours	3ml NS each port	Flush with 10ml NS; discard 5ml blood, obtain necessary blood sample. Use proximal port for blood draw	20ml NS	Every 7 days and after blood draws (all ports)	24 hours after insertion and then every 7 days (or if wet or soiled) (MVP and Biopatch)
Implanted Port Hickman Groshong** PAS-PORT	20ml NS followed 5ml Heparin 100 Unit/ml	Monthly	20ml NS followed by 5ml Heparin 100 Unit/ml	Use non-coring needle to access port, flush with 10ml NS, discard 5ml blood, obtain necessary blood sample	20ml NS followed by 5ml Heparin 100 Unit/ml	-----	If non-coring needle in place every 7 days when needle changed. (MVP and Biopatch) If no needle and site healed, no dressing

\* Exit site under positive pressure

\*\* If Groshong PICC, non-tunneled, tunneled catheter or implanted catheter, use NS only

\*\*\* Use 10ml syringe. Small bore syringes (3ml, 5ml) are not used as they can exert pressure that may cause complications resulting in loss of product integrity, such as catheter separation and/or rupture. Larger syringes (20ml) do not exert enough pressure and fail to properly flush catheter.

\*\*\*\* If drawing for PT or PTT, discard 10ml blood

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APR 21 2011

**Allergies**  None Known  Yes:

Date/Time/Int

- Tunneled Catheters: Hickmans, Broviac, Groshong\*\***
  - Routine flush  
Flush with 3 ml Normal Saline followed by 3 ml Heparin 100 units/ml every 24 hours
  - Flush following medication administration:  
Flush with 3 ml Normal Saline followed by 3 ml Heparin 100 units/ml
  - Flush following blood sampling:  
use 20 ml Normal Saline followed by 3 ml Heparin 100 units/ml
  
- Non Tunneled Catheters: Subclavians, Jugular**
  - Routine flush  
Flush with 3 ml NS each port every 24 hours
  - Flush following medication administration:  
Flush with 3 ml Normal Saline each port
  - Flush following blood sampling:  
Use 20 ml Normal Saline
  
- Implanted Port: Hickman, Groshong\*\*, PAS-PORT**
  - Routine flush  
Flush with 20 ml Normal Saline followed by 5 ml Heparin 100 units/ml monthly
  - Flush following medication administration  
Flush with 20 ml Normal Saline followed by 5 ml Heparin 100 units/ml
  - Flush following blood sampling:  
Use 20 ml Normal Saline followed by 5 ml Heparin 100 units/ml

\*\*If Groshong PICC, tunneled catheter or implanted catheter, use Normal Saline only

When flushing, always exit under positive pressure. Use 10 ml syringe.

Date/Time	Signature	M.D.	Print Name	M.D.
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**EMANUEL**  
MEDICAL CENTER

**Central Lines Flushing Protocol**

Form #2146 (6/08)

Patient Identification

Original - Chart

Fax to Pharmacy

