

**PROCEDURE FOR: Central Lines: Intravenous Fluid Administration (applies to Surgically-Placed, Percutaneous Central Venous Catheters and Non-Central Percutaneous Catheters)**

- POLICY:**
1. Central lines will be maintained using aseptic technique and in a manner which prevents air from entering the system. Under no circumstances should central lines be opened to air.
  2. Always clamp the line before the line is opened. Keep the line clamped until continuity of the system or system closure are reestablished.
  3. IV infusion sets/solution bags will be changed every 24 hours.
  4. IV tubing and bags must be labeled with date, time and initials of the RN.
  5. Medications may be infused through a central line only when there is a written order. Medications administered must be filtered unless there are specific contraindications because of the characteristics of the medication (e.g. Amphotericin, Insulin).
  6. The closed in-line medication system must be set up to all central lines, whether infusing or Heparin-locked, even if no medications are ordered.
  7. Chlorhexidine gluconate (CHG) is not to be used on the skin of infants.

**EQUIPMENT:** GENERAL CARE  
Mask and cap  
Central Line/Dead-end and connector  
Double T-connector (optional)  
New sterile IV infusion set  
Filter  
Chlorhexidine gluconate swabs/pads  
Package of sterile 4x4s for a sterile field  
Sterile towels for a sterile field  
Sterile gloves

**PROCEDURE:**

**ACTION**

**POINTS OF EMPHASIS**

**INITIAL SET UP OF CENTRAL LINE INFUSION**

1. Attach central line dead-end upon insertion of central venous catheters.
2. Infuse a new sterile IV set-up (including closed in-line medication system) after insertion.
2. Never infuse an IV set-up that has been running in a peripheral site or umbilical catheter into a central venous line.
  - a. Be sure all air bubbles are removed from line, especially at Y ports.

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1. Clean the counter top to be used with Sani-wipes.
  2. Place a sterile towel on the counter top.
  3. Using aseptic technique, open the packages of tubing to be used and place on the sterile towel.
  4. Apply cap, mask and sterile gloves.
  5. Connect all tubings and filter and purge the IV tubing.
    - a. To AVOID air bubbles, be sure to invert Y-site and "flick" the air out when filling the IV tubing on initial set-up.
  6. Open the sterile 4x4 gauze. Keeping the 4x4s within the package, place under the catheter hub to create a sterile field.
  7. Change gloves - don a new pair of sterile gloves.
  8. With the tubing still connected to the catheter hub, swab around the connection site with two chlorhexidine gluconate (CHG) pads. Apply each pad for 15 seconds with a friction rub.
  9. Clamp the catheter (surgically-placed only).
  10. Disconnect the old tubing while holding the last chlorhexidine gluconate pad over the connection site.
  11. Securely connect the new tubing using sterile technique.
1. A private area without interruptions is preferred for line preparation and set-up.
  2. The sterile field should be set up as close to the time of tubing change as possible.
  5. The tubings should all be connected before the bag is spiked.
  8. Squeeze excess liquid from CHG pads before use. Friction rub and allowing CHG to dry are crucial.

**REMOVAL OF AIR BUBBLES FROM THE SYSTEM**

1. Swab around the injection port closest to air bubble with 2 chlorhexidine gluconate pads, using a 15 second friction rub with each pad. Allow to dry for 30 seconds.

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2. Insert a 3 ml syringe with needle into needleless injection port and aspirate air.

**ADMINISTRATION OF MEDICATIONS**

Refer to procedure for medications: Closed IV Medication System.

**CONVERSION OF CENTRAL VENOUS LINE TO HEPARIN LOCK:**

1. Central catheters may be converted to a Heparin lock under written order.
2. The line will be flushed (through the inline closed IV medication system) with 2 ml of Heparin flush (10 units per ml) every 12 hours and followed by 2 ml of normal saline flush.
1. See Procedure For: Medications: Closed IV Medication System.

**APPROVAL:** Nursing Standards Committee

**EFFECTIVE DATE:** 1/86

**REVISION DATES:** 8/87, 12/87, 6/88, 7/89, 11/89, 5/90, 4/91, 3/92, 5/92, 11/94, 2/96, 6/99, 11/99, 7/01, 10/01, 5/03, 9/03, 12/04, 7/07, 7/09, 9/09