### PURPOSE:
To obtain a blood sample from a venous central line catheter for the adult and the pediatric patient.

### DEFINITION:
None

### KNOWLEDGE BASE:
1. A Registered Nurse (RN) or Licensed Practical Nurse II (LPN II requires an initial statement of competency per the LPN Scope of Practice), previously educated, may aspirate blood from a central line catheter unless otherwise ordered by the physician.

2. These lines include peripherally inserted central catheters (PICCs), Hickman catheters, Groshong catheters, implanted vascular access ports, subclavian catheters, and jugular catheters.

3. Gloves will be worn for performing procedures involving contact with blood. Gloves may be non-sterile, except for procedures involving contact with normally sterile areas of the body.

4. When possible, lab requisitions will be marked clearly, under the COMMENTS section, to indicate that the nurse will draw blood through the line.

5. Positive patient identification is required prior to performing the procedure/labeling. Refer to SMH Policy (01.PAT.09) Patient Identification: Inpatient/Outpatient.

6. When the lab specimen is drawn, mark the specimen tube label with the source of the specimen.

7. The tunneled Groshong central venous catheter has a patented two-way slit valve near the tip. This valve opens outward during infusion and inward during blood aspiration. It closes automatically when not in use. This slit eliminates the need for heparinization and also eliminates the need for a clamp.

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**For Blood Bank Clots (use the procedure below for blood wastes and blood specimens as well as these additional steps)**

**NOTE:** When drawing a Blood Bank clot from a “low volume
area" (3NW/4NW, 6ET, 9ET (Rehab), 10ET, 6WT, 7WT, 10WT), the following steps should be taken:
  a. The nurse will contact Lab once a BBC is ordered and let them know if it’s a routine or a STAT.
  b. The nurse will identify the patient and the Lab Tech will scan the patient using Cerner bar-coding system.
  c. The nurse will draw the specimen from the central line while the Lab Tech is printing the labels.
  d. The nurse will label the specimen tube with date/time/initials.
  e. The Lab Tech will also initial the specimen and take it to the Lab.
  f. The nurse will apply the red Blood Bank ID band.

Exceptions to the above process are “high-volume” areas such as the ECC, Surgery, PAT, Pre-op, MBU (both units), LDR, Pediatrics, 7ET, 8WT, MAC, Medical Short Stay and Day Treatment Center.

NOTE: If a unit has a Cerner Bar System available, the system must be used or the specimen may be rejected.

EXCEPTION:

NICU and Nursery

For hemodialysis catheters, refer to (dhd21) Hemodialysis Temporary Catheter (Insertion, Dressing Change, Removal, Medication and Blood draws, DC of meds and IV Fluids).

EQUIPMENT:

Assemble the following:
1. Alcohol preps
2. Needleless blood transfer device OR two 12-ml sterile syringes and a luer lock adapter with a vacutainer transfer set
3. Appropriate blood specimen tubes
4. 10 ml sterile syringe filled with Normal Saline (2 or more)
5. 10 ml syringe filled with 5 mL (50 units) of 10 units/ml Heparin solution only if the catheter will not be used after drawing the blood, or 10 ml syringe filled with 5 ml (500 units) of 100 units/ml Heparin solution for an implanted vascular access port.
6. Gloves
7. Patient labels

PROCEDURE:

1. Perform hand hygiene. Don gloves.

2. Identify the patient and compare identification (ie. name and numbers) with lab specimen label. Explain procedure to patient.

3. If IV fluids are infusing, turn off the IV infusion for two
minutes. Clamp the line and remove IV tubing. Protect the sterility of the IV tubing with a sterile cap.

4. Using friction, vigorously clean the connector for 15 seconds with alcohol wipe. Allow to dry.

5. Attach saline syringe to connector. Flush with 5 ml Normal Saline. For a Hickman catheter or implanted port, flush with either 10 ml Normal Saline, 20 ml Normal Saline if blood is infusing, or 30 ml Normal Saline if TPN is infusing.

**NOTE:** Pediatric patients: flush with 3 ml Normal Saline.

**NOTE:** For a Hickman catheter, implanted port, PICC and other central lines with a history of difficult aspirations, place the patient in a known “blood drawing” position. Ask the patient which position makes aspirating easier. Aspiration may be made easier by changing position, leaning forward, lowering or raising the arm, rolling onto either side, sitting up or lying back, or deep breathing and coughing. Sometimes applying less forceful suction while aspirating will solve the problem.

**NOTE:** If blood return cannot be obtained from a central venous line, refer to the Central Venous Line Occlusion Management and De-clotting procedure cen05.

6. **To obtain a blood waste:**

   a. Obtain a needleless blood transfer device to draw blood. If unable to obtain a blood waste, may use a sterile 12-ml syringe or a vacutainer transfer set:
      - Stop the infusion for two minutes and clamp catheter
      - Attach the syringe or vacutainer transfer set to the connector.
      - If Vacutainer transfer set used, attach a plain lab tube
      - Withdraw 5 ml blood and discard. (This blood is not used for the lab).

   **NOTE:** Pediatric patients: do not use this method for children under 37 kg.

   **NOTE:** Pediatric patients: withdraw three times the administration tubing volume (ie. t-connector plus volume in the catheter, or 3-4 ml blood (whichever is less).

7. **To obtain a blood specimen:**

   a. Using the needleless blood transfer device **OR** a sterile
12-ml syringe and a luer lock adapter with the plastic needle tip to draw blood:

- Insert specimen collection tubes, as needed and obtain required specimens.
- Remove the blood transfer device.

**NOTE:** Pediatric patients: do not use vacutainer unless the entire vacutainer volume is needed.

b. Flush with a 10-ml syringe filled with Normal Saline, or 20 ml Normal Saline for an implanted port, using the push-pause method.

**NOTE:** Pediatric patients: flush with 3 ml Normal Saline using the push-pause method.

c. Vigorously swab the connector with an alcohol wipe for 15 seconds. Allow to dry.

d. Reattach the IV tubing and continue infusion or attach a 10 ml syringe with 5 ml Heparin flush solution (10 units/ml) and flush with Heparin solution, unless otherwise ordered. For an implanted port, flush with 5 ml Heparin flush solution (100 units/ml).

**NOTE:** Do not flush a Groshong catheter with heparin.

**NOTE:** Pediatric patients: if using a PRN adapter, flush with two ml (10 unit/ml) Heparin solution.

8. Label the specimen prior to leaving the patient's bedside using the bar-coded labels; add nurse initials; and if the specimen had been drawn via a heparinized line.

9. Discard syringes and gloves in appropriate containers.

**REFERENCE:**


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APPROVAL:

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