

<b>SECTION 8C: VASCULAR ACCESS DEVICES</b>	<b>POLICY: 8C.8</b>
<b>POLICY: BLOOD DRAW PRACTICES &amp; PROCEDURES</b>	<b>PAGE: 1 OF: 8</b>

## **PURPOSE**

- To ensure consistency, accuracy, and proper sample collection when obtaining blood specimens from vascular and peripheral access devices in the home care setting.

## **EQUIPMENT/SUPPLIES**

- Safety needles
- Butterfly needles
- Transfer Device
- Tourniquet
- Syringes for total amount of blood sample (and waste, if applicable)
- Specimen tubes (Check expiration dates)
- Bandages or tape
- Antiseptic wipes
- Gauze
- Sharps container
- ID labels
- Heparin flush solution (if applicable to catheter type)
- Saline flush solution (if applicable to catheter type)

## **STANDARDS**

- Wash/Sanitize hands before and after each patient collection
- Gloves are to be worn during all phlebotomies.
- Palpation of phlebotomy site may be performed without gloves providing the skin is not broken.
- Needles and hubs are single use and are disposed of in an appropriate 'sharps' container as one unit. Needles should never be recapped, removed, broken, or bent after phlebotomy procedure.
- In the case of an accidental needlestick, immediately wash the area with an antibacterial soap, express blood from the wound, and contact a Clinical Supervisor to complete appropriate follow-up documentation.

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**PROCEDURES:**

- Check patient ID and verify patient information.
- Review order and verify/gather necessary supplies.
- Explain procedure to patient and family.
- Wash/Sanitize hands and put on gloves.

**FROM A PHERIPHERAL SITE**

1. Position the patient with the arm extended to form a straight-line from shoulder to wrist.
2. Select the appropriate vein for venipuncture.
  - The larger median cubital, basilic and cephalic veins found in the upper and lower arm are most frequently used. If there are other less conventional veins available that are not located in the arm or hand, we must obtain an order from a physician. Notify the Agency for next steps.
  - At no time may the nurse perform venipuncture on an artery.
  - At no time will blood be drawn from the feet unless there is a specific order to do so.
3. Do not attempt a venipuncture more than twice. Notify your supervisor immediately for next steps once you reach two unsuccessful attempts.
4. Factors to consider in site selection:
  - Avoid extensive scarring or healed burn areas.
  - Specimens should not be obtained from the arm on the same side as a mastectomy.
  - Avoid areas of hematoma.
  - If an IV is in place, samples may be obtained below but NEVER above the IV site.
  - Do not obtain specimens from an arm having a cannula, fistula, or vascular graft.
5. Apply the tourniquet, if applicable, 3-4 inches above the collection site.
6. If a tourniquet is used for preliminary vein selection, be sure to release and remove it as soon as the sample is obtained.

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7. Clean the puncture site by making a smooth circular pass over the site with the 70% alcohol pad, moving in an outward spiral from the zone of penetration. Allow the skin to dry before proceeding.
8. Do not touch the puncture site after cleaning.
9. Perform the venipuncture:
  - Attach the appropriate needle to the hub by removing the plastic cap over the small end of the needle and inserting into the hub, twisting it tight.
  - Remove plastic cap over needle and hold bevel up.
  - Pull the skin tight with your thumb or index finger just below the puncture site.
  - Holding the needle in line with the vein, use a quick, small thrust to penetrate the skin and enter the vein in one smooth motion.
10. Holding the hub securely, insert the first vacutainer (blood tube) following proper order of draw into the large end of the hub penetrating the stopper. Blood should flow into the evacuated tube.
11. When blood flow stops, remove the tube by holding the hub securely and pulling the tube off the needle.
12. If multiple tubes are needed, the proper order of draw to avoid cross contamination and erroneous results is as follows:
  - Blood culture vials or bottles, sterile tubes
  - Coagulation tube (light blue top) (Routine PT/PTT may be performed if blue top is first tube collected. It may be desirable to collect a second tube for other coagulation assays.)
  - Serum tube with or without clot activator or silica gel (Red or Gold)
  - Heparin tube (Green top)
  - EDTA (Lavender top)
  - Glycolytic inhibitor (Gray top)
13. Each coagulation tube (light blue top) should be gently inverted 4 times after being removed from the hub. Red and gold tops should be inverted 5 times. All other tubes containing an additive should be **gently inverted** 8-10 times. **DO NOT SHAKE OR MIX VIGOROUSLY.**

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14. After all samples are obtained. Release and remove tourniquet and have patient open the palm of their hand.
15. Place a gauze pad over the puncture site and remove the needle.
16. Immediately apply slight pressure. Ask the patient to apply pressure for at least 2 minutes.
17. When bleeding stops, apply a fresh bandage, gauze, or tape.
18. Properly dispose of hub with needle attached into a sharps container.
19. Label each tube with the patient's first & last name, DOB, RN initials, and date & time of the blood draw.

### **FROM A PHERIPHERAL SITE: UTILIZING A SYRINGE**

1. Place a sheathed needle or butterfly on the syringe.
2. Remove the cap and turn the bevel up.
3. Pull the skin tight with your thumb or index finger just below the puncture site.
4. Holding the needle in line with the vein, use a quick, small thrust to penetrate the skin and vein in one motion.
5. Draw the desired amount of blood by pulling back slowly on the syringe stopper.
6. Release the tourniquet.
7. Immediately apply pressure. Ask the patient to apply pressure to the gauze for at least 2 minutes.
8. When bleeding stops, apply a fresh bandage, gauze, or tape.
9. Transfer blood drawn into the appropriate tubes as soon as possible using a needleless BD Vacutainer Blood Transfer Device or blunt tip needle<sup>3</sup>, as a delay could cause improper coagulation.
10. Gently invert tubes containing an additive 5-8 times.
11. Dispose of the syringe and needle as a unit into an appropriate sharps container.
12. Label each tube with the patient's first & last name, DOB, RN initials, and date & time of the blood draw.

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### **FROM A PHERIPHERAL SITE: INFANT/CHILD PHLEBOTOMY**

- Secure patient for stabilization if child is unable to sit upright on their own.
- Assemble the required supplies
- Select the collection site and proceed as routine phlebotomy. If the child is old enough, collect blood as in an adult.

### **TROUBLESHOOTING TIPS FOR PHERIPHERAL BLOOD COLLECTION**

If a blood sample is not attainable from the peripheral site:

- Reposition the needle.
- Ensure that the collection tube is completely pushed onto the back of the needle in the hub.
- Use another tube as vacuum may have been lost.
- Loosen the tourniquet.
- Probing is not recommended. In most cases, another puncture in a site below the first site is advised.
- After 2 attempts discussion should be had with patient/family to determine if additional attempts should be made. Call Clinical Supervisor as necessary for guidance.

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**FROM A CENTRAL VENOUS CATHETER / PICC LINE / IMPLANTED PORT**

1. **Note:** the proximal lumen of a multi-lumen catheter is the preferred lumen for drawing blood. For ports, use and extension set attached to access needle with a needleless valve attached.
2. Check patient ID and verify patient information.
3. Review order and verify/gather necessary supplies.
4. Explain procedure to patient and family.
5. Turn off fluids infusing into other lumens. If turning off IV fluids would be life threatening, a peripheral stick for blood **must** be taken.
  - If specimen is to be drawn from a central venous access device that has a continuous infusion running, the infusion should be paused for ~15 minutes prior to drawing the waste and sample with the exception of a cardiac drug.
  - If the patient is receiving a cardiac medication, blood specimens should be drawn peripherally unless specific orders are given to obtain it from the central access device.
6. Wash hands and don gloves.

**For Blood Cultures:**

1. Immediately prior to blood collection: Remove “flip off” caps from culture bottles. Scrub the top of the blood culture bottles with a new alcohol swab. Allow the alcohol to dry. DO NOT clean with Betadine or other disinfectant on the blood culture bottles.
2. Clamp central venous access catheter (if applicable).
3. Remove needleless connector.
4. Cleanse Luer lock connection with alcohol thoroughly for 30 seconds, allow to dry for 30 seconds.
5. Expel air and attach a Luer lock 10 ml – 20 ml syringe (adults/pediatrics) or a 3 ml syringe (neonates) directly to the catheter, release clamp, withdraw total amount of blood indicated on culture vial(s) being used.

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**6. Acceptable volumes are:**

- Adult aerobic bottles: 8-10 ml
- Adult anaerobic bottles: 8-10 ml
- Pediatric: 2-4 ml
- Neonate: 1 ml

Optimum results are obtained when acceptable volumes are collected.

7. Clamp catheter, withdraw syringe, and attach new, sterile needleless connector.
8. Using a blunt tip needle or needle-less adapter, place the appropriate, maximum amount of blood in the blood culture bottle(s).
9. It is important not to allow air to enter the anaerobic culture bottles. This can be improved by expelling all air from the syringe and/or filling the aerobic bottle ahead of the anaerobic bottle.

**For Non-Culture Specimens:**

1. Insert a 10-30 ml syringe (adults) or 3 ml syringe (neonates) into needleless valve.
2. Open clamp, flush with 5 ml normal saline and then withdraw 5 ml waste blood. Remove and discard. (May omit if blood cultures of adequate volume have been drawn.)
3. Insert new 10-20 ml syringe (adults) or 3 ml syringe (neonates) into needleless valve. Withdraw amount of blood needed for all lab studies ordered.
4. Withdraw syringe from needleless valve and attach a blunt needle to the syringe.
5. Transfer blood sample to specimen tube(s).

**TROUBLESHOOTING TIPS FOR BLOOD COLLECTION FROM CENTRAL VENOUS CATHETER / PICC LINE / IMPLANTED PORT**

If unable to obtain specimens through the needleless valve:

1. Remove syringe from needleless valve.
2. Clamp catheter lumen and remove needleless valve.
3. Attach syringes directly to catheter hub.
4. Change needleless valve if indicated.

Policies & Procedures



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8. Flush lumen(s) as appropriate to catheter type.
9. Resume all infusions.
10. Label tubes/vials accordingly, in the presence of the patient, noting site of collection, date/time, initials, and note peripheral or central.
11. Discard used supplies appropriately.
12. Remove gloves and wash hands.
13. Document specimens obtained, any problems encountered, and administration of heparin flush, if applicable, in progress notes.