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## I-140 Venipuncture for Blood Specimen Collection

### Purpose

Obtain a blood specimen by venipuncture for laboratory analysis using aseptic technique.

### Applies To

Registered Nurses

Licensed Practical/Vocational Nurses

Other (*Identify*): \_\_\_\_\_

### Equipment/Supplies

- Tourniquet
- Needles (21g or 22g) and syringe (10 ml) or Vacutainer, Vacutainer needles, butterfly needle, or butterfly Vacutainer set.
- Blood specimen tubes.
- Band-Aids alcohol swabs/single dose antiseptic solution.
- 2 x 2 gauze.
- Disposable non-sterile gloves.
- Labels, Laboratory slip and envelope/plastic bag.
- Container with lid for transport.
- Sharps container.

### Procedure

1. Obtain the physician's order.
2. Gather equipment and position the client for comfort.
3. Thoroughly wash hands. Refer to the Hand Washing procedure. Don clean gloves. *Goggles are to be used at the discretion of the Registered Nurse.*
4. Use aseptic technique and observe standard precautions throughout the procedure.
5. Explain the procedure to the client. Schedule with the client the day before if any special preparations are required, i.e., fasting.
6. Apply tourniquet above the site. *Antecubital Fossa site is most often the easiest to access.* Check for radial pulse. If absent, the tourniquet is too tight.
7. Select vein, looking for prominent vein without swelling or hematoma.
8. Prepare the site with single dose antiseptic solution: 2-3% aqueous chlorhexidine, 10% Povidone iodine, 70 % isopropyl alcohol, or 2% Tincture

of iodine. **Do Not** disinfect with aqueous benzalkonium-like compound or hexachlorophene.

9. Use friction - apply disinfectant in a circular motion working outward from site. Allow to dry. If using Chlorhexidine, apply with sterile water, bathe and rinse. If using Povidone-iodine do not use alcohol as second disinfectant. If using alcohol, apply for at least 30 seconds.
10. Obtain blood sample:

*Syringe and Needle Method:*

- a. Have syringe with needle securely attached. Hold syringe and needle at 5-30° angle from the client's arm with bevel up.
- b. Insert needle into vein, drawing skin taught immediately below puncture site. Hold syringe securely and pull back gently on plunger.
- c. Look for blood return. Obtain desired amount of blood, keeping needle stable.
- d. After specimen is obtained, release tourniquet.
- e. Apply a 2 x 2 gauze or alcohol swab over the puncture site without applying pressure. Quickly withdraw needle from vein and immediately apply pressure.
- f. Remove needle from syringe and stopper to lock test tube. Gently inject required blood into tube. Reapply stopper. Use needle through stopper to equalize pressure.

*Vacutainer Method:*

- a. Attach double-ended needle to Vacutainer tube.
  - b. Have proper blood specimen tube resting inside Vacutainer, but do not puncture rubber stopper.
  - c. Hold Vacutainer at 15-30° angle from site with bevel up.
  - d. Insert needle into vein, drawing skin taught immediately below puncture site.
  - e. Grasp Vacutainer securely. Advance specimen tube into needle of holder.
  - f. Note flow of blood into tube. It should be fairly rapid.
  - g. After specimen tube is filled, firmly grasp Vacutainer and remove the tube. If more than one tube of blood is needed, (change tubes slowly, taking care not to dislodge the needle.
  - h. After the last tube has been filled, release tourniquet.
  - i. Apply 2 x 2 gauze or alcohol swab over puncture site. Withdraw the needle and immediately apply pressure.
11. Gently rotate blood tubes containing additives back and forth 8 to 10 times.
  12. Inspect puncture site for bleeding and apply gauze with tape or Band-Aid.
  13. Check tubes for any external contamination of blood.

14. Label tubes properly.
15. Place in biohazard bag with lab request. Place in container for transport.
16. Dispose of sharps and other equipment as outlined in the Agency Waste Disposal Policy.
17. Wash hands. Refer to Hand Washing procedure.
18. Deliver to lab/pickup site.

### **Drawing Blood from Peripheral Venous Access Device**

This procedure should only be used at the time the device is inserted.

Do not routinely collect blood specimen from indwelling peripheral or midline catheter.

Release tourniquet and stabilize the access device.

Secure junctions and dress the site.

### **Drawing Blood from Central Venous Access Devices**

Discontinue administration of all infusions prior to obtaining sample.

Check patency by flushing with 3-5 ml of preservative free sterile saline.

When drawing from multilumen catheters, proximal lumen is preferred for obtaining specimens.

Samples may be collected by syringe or Vacutainer.

#### **Vacutainer:**

1. Clamp the catheter.
2. Attach needle or needleless connector to Vacutainer barrel holder.
3. Place the blood tube into the holder.
4. Disinfect the injection cap.
5. Remove needle cover and insert needle or needleless connector into the injection cap.
6. Unclamp the catheter.
7. Advance blood tube to activate blood flow.
8. Hold tube until blood flow ceases.
9. Discard this blood from the line - amount should be 1-2times the fill volume of the vascular access device.
10. Clamp catheter and move blood tube from holder and discard. Insert another tube, unclamp and obtain the specimen.
11. Remove the Vacutainer holder from the cap.
12. Disinfect the injection cap.

13. Flush catheter with 5-10 ml of .9% sodium chloride - preservative free.
14. Change injection cap if indicated.

**Syringe Method:**

1. Clamp the catheter.
2. Remove the injection cap and discard.
3. Disinfect the catheter hub with alcohol.
4. Attach 5 ml syringe and unclamp the catheter.
5. Withdraw 1-2 time the fill volume of the access device and discard.
6. Clamp catheter and discard the syringe.
7. Attach second syringe.
8. Unclamp and draw amount of blood needed.
9. Clamp the catheter and remove the syringe.
10. Cleanse the hub.
11. Attach a pre-filled injection cap attached to a 10ml syringe with .9% sodium chloride.
12. Unclamp catheter and flush.
13. Transfer blood to the collection tubes using the appropriate needle or needleless system.

**Drawing from Implanted Port:**

1. Access the port using Huber needle and extension set.
2. Clamp the extension set and remove the injection cap.
3. Attach empty 10ml syringe to tubing and unclamp.
4. Aspirate 3-5 ml of blood, clamp tubing, remove syringe and discard blood.
5. Attach syringe to hub, unclamp and draw blood.
6. Transfer to collection tubes.
7. Attach prefilled injection cap attached to 10ml syringe of .9 % sodium chloride and flush.
8. Clamp tube and remove syringe.
9. Attach heparin filled syringe Flush with 3-5 ml of heparin (100 units /ml).
10. Remove non-coring needle or connect to infusion device.
11. Label tubes appropriately and place in plastic bag with lab requisition. Write on lab requisition, "Obtained through (type of catheter)." Place specimen and request slip in transport container.

**Documentation Guidelines**

1. Document in the clinical record:
  - a. The procedure.
  - b. Date and time of the procedure.
  - c. Amount of blood drawn, from what site and laboratory tests requested.
  - d. Client response to procedure.
  - e. Any problems drawing from site.

**Related Procedures**

None.

**Policy History**

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