

CONSIDERATIONS:

1. Patient preparation is important for successful venipuncture, especially with difficult sticks. Taking the time to prepare patient will enhance the outcome. Consider the following:
 - a. Instruct patient to hydrate prior to venipuncture
 - b. If able prior to venipuncture, have patient take a hot bath or shower or apply heat to the area for about 5 - 10 minutes to dilate the veins
 - c. Keep extremities warm prior to venipuncture, e.g., wear a long sleeve sweater, if air conditioner is on
 - d. Place extremity in a dependent position
 - e. Position patient comfortably in bed with arms resting at sides or upright in chair with arm supported on armrest or table
 - f. Assure adequate lighting
2. Determine if patient is allergic to anything that may be placed on the skin, such as latex, iodine or adhesive.
3. Vacutainer method:
 - a. Consists of a double-ended needle, one side with a rubber-tipped needle that screws into a tube holder; blood tubes fit into the holder
 - b. Do not push tube onto needle until vein accessed
4. Needles:
 - a. Needle sizes are 21 - 23 Gauge. Needles less than 23 G are likely to cause hemolysis
 - b. If a winged set is used, the first tube is discarded. This prevents air in tubing from decreasing amount of blood in tube
5. Venipuncture site preparation:
 - a. Inspect the antecubital fossa and forearm for a vein that is visible and straight. Usually, best vein is the median cubital vein. Other appropriate veins are the median and cephalic veins, extending into the forearm. Metacarpal veins in hands can be used
 - b. Apply tourniquet 3 - 4 inches above the venipuncture site and have patient make a fist several times to dilate the vein
 - c. Palpate the vein before cleansing. Do not palpate the site after cleansing with alcohol swab
 - d. Tourniquet should not occlude the vein more than two minutes to prevent hemostasis. May need to loosen tourniquet and reapply if delay in drawing blood
6. Blood tubes:
 - a. Blood tubes for different tests have different preservatives within; the tubes are color-coded
 - b. When drawing blood for multiple tubes, collection must be done in color order:
 - i. Yellow (blood culture)
 - ii. Light blue (coagulation)

- iii. Red (clot activator)
 - iv. Tiger-Top (serum separator)
 - v. Dark Green (sodium heparin)
 - vi. Light green (lithium heparin)
 - vii. Lavender (EDTA)
 - viii. Pale yellow (acid citrate)
 - ix. Gray (oxalate/fluoride)
 - c. Have at least two tubes of each kind that you will need, in case a tube's vacuum is broken
 - d. Check blood tube expiration dates
 - e. Blood tubes need to be gently inverted 5 - 10 times to mix the preservative with the blood. Do not shake
7. If not able to access vein after two attempts, alert supervisor or physician for alternate plan.

EQUIPMENT:

- Gloves
- Tourniquet
- Alcohol wipes
- Povidine/alcohol wipes (for blood cultures)
- Blood tubes, color-coded for ordered tests
- Double-ended needle
- Vacutainer tube holder
- 2 x 2 gauze sponge
- Self-adhesive bandage
- Tape
- Puncture-proof container sharps container
- Biohazard specimen bag
- Biohazard transportation bag
- Impervious trash bag

PROCEDURE:

1. Adhere to Standard Precautions (gloves needed) and explain the procedure and purpose to the patient/caregiver.
2. Assemble the equipment on a clean surface close to the patient. Assure sharps container at hand:
 - a. Screw double-ended needle into tube holder
 - b. Slip first tube into holder but do not puncture tube
3. Place patient in comfortable position, with arms supported and extended.
4. Place a paper towel under the patient's arm.
5. Assess arm for venipuncture site.
6. Apply tourniquet above selected puncture site.
7. Cleanse site with alcohol swab for 30 seconds using a circular motion. Allow to air dry.
8. Anchor vein by holding skin taut 1 inch below puncture site.
9. Remove needle cover and insert needle into vein at 15° - 30° angle with bevel facing up

10. To collect samples:
 - a. Stabilizing tube holder and needle with one hand, gently push vacutainer tube into needle so the blood enters the tube
 - b. As blood fills tube, release the tourniquet
 - c. When tube is filled, gently pull the tube out of the holder
 - d. If more tubes needed, insert appropriate color-coded tube and repeat the procedure until all samples are obtained
 - e. After specimens are obtained, place 2 x 2 gauze over puncture site
 - f. Withdraw needle slowly, applying pressure with 2 x 2. Dispose of vacutainer and needle in sharps container.
 - g. Ask patient to maintain firm pressure of puncture site until bleeding stops
11. Gently invert tubes 5 – 10 times to mix the blood with the additive. DO NOT shake the tube.
12. Apply firm pressure to puncture site until bleeding stops.
13. Apply self-adhesive bandage to puncture site.
14. Label tubes with patient's first and last names, date of birth, date and time drawn, your initials.
15. Place blood tube(s) in biohazard specimen bag.
16. Place requisition in pocket of biohazard specimen bag.
17. Place bag in biohazard transportation bag.
18. Dispose of tourniquet, gloves, used wipes and sponge in impervious trash bag.

AFTER CARE:

1. Document in patient's record:
 - a. Venipuncture and site
 - b. Blood tests ordered
 - c. Any complications, e.g., more than one stick
 - d. Appearance of venipuncture site at end of procedure
 - e. Patient's response to procedure
 - f. Name and location of laboratory where specimens taken
 - g. Any instructions given to patient/caregiver

REFERENCE:

- Clinical & Laboratory Standards Institute (2007).
Standard H03-A6: Order of Draw Using
Evacuated Blood Tubes.
- Perry, A., Potter, P. & Elkin, M. (2012). Nursing
Interventions and Clinical Skills, 5th Edition. St.
Louis: Elsevier/Mosby.
- World Health Organization (2010). WHO Guidelines on
Drawing Blood: Best Practices in Phlebotomy.
Geneva.