Specimen Collection Guidelines

Blood Specimen Collection and Processing

Venipuncture Procedure:

1. Approach patients with a professional and courteous attitude.
2. The most important step of phlebotomy is patient identification. Ask the patient to state and his/her name and date of birth. Check these against the requisition (paper or electronic).
3. Position the patient in a chair, sitting or lying on a bed.
4. Wash your hands in the presence of the patient if possible to reinforce commitment to patient safety.
5. Select a suitable site for venipuncture, by placing the tourniquet 3 to 4 inches above the selected puncture site on the patient. See venipuncture site selection notes below.
6. Do not put the tourniquet on too tightly or leave it on the patient longer than 1 minute.
7. Put on gloves and palpate for a vein.
8. When a vein is selected, cleanse the area in a circular motion beginning at the site and working outward. Allow the area to air dry. After the area is cleansed, it should NOT be touched or palpated again. If you find it necessary to palpate, the area needs to be cleansed again.
9. Ask the patient to make a fist, do not pump the fist. Grasp the patients' arm firmly using your thumb to draw the skin taut and anchor the vein. Swiftly insert the needle through the skin into the vein. The needle should form a 15 0 30 degree angle. Avoid excessive probing.
10. Place tubes onto the vacutainer holder in the correct order of draw (see below). Hold the vacutainer hold tightly as you place tubes on and pull off so the needle stays steady and does not move.
11. When the last tube is filling, remove the tourniquet.
12. Take the last tube off the vacutainer holder to stop the vacuum on the vein before pulling the needle out of the arm. Remove the needle from the patient's arm using a swift backward motion.
13. Immediately place gauze on the puncture site and apply pressure to avoid formation of a hematoma. After hold the gauze with pressure for 1 to 2 minutes, confirm that the bleeding has stopped. If the bleeding as not stopped continue to hold until it has stopped. Place fresh gauze and tape or bandaid over the puncture site.
14. Dispose of contaminated materials /supplies in designated containers. Contaminated needles must be disposed in a puncture resistant biohazard bucket.
15. Label all tubes at the patient bedside with Name, date of birth, date and time drawn, initials of phlebotomist.
16. Remove gloves and wash hands.

Note: The larger median cubital and cephalic veins are the usual choice, but the basilic vein on the dorsum of the arm or dorsal hand veins are also acceptable.

Fingerstick Procedure:

1. Follow steps #1 through #5 of the procedure for venipuncture.
2. The locations for fingersticks are the 3rd (middle) and 4th (ring) fingers of the non-dominant hand. Do not use the tip of the finger or the center of the finger. Avoid the side of the finger where there is less soft tissue, where vessels and nerves are located and where the bone is closer to the surface. Warm the finger if it is cold.
3. When a site is selected, put on gloves and cleanse the selected puncture site with alcohol.
4. Massage the finger toward the selected site prior to puncture.
5. Using a sterile safety lancet, make a skin puncture just off the center of the finger pad. The puncture should be made perpendicular to the ridges of the fingerprint so that the drop of blood does not run down the ridges.
6. Wipe away the first drop of blood, which tends to contain excess tissue fluid.

7. Collect drops of blood into the collection tube by gentle pressure on the finger. Avoid excessive pressure or milking that may squeeze tissue fluid into the drop of blood.
8. Cap, rotate and invert the collection device to mix the blood collected.
9. Have the patient (or designee) hold a small gauze pad over the puncture site for a few minutes until the bleeding stops. Place a bandaid over the puncture site if needed.
10. Dispose of contaminated materials/supplies in designated containers. Lancets must be disposed in a sharp proof biohazard container.
11. Label all appropriate tubes at the patient bedside.
12. Remove gloves and wash hands.

Heelstick:

1. Prewarm the infant's heel (42 degrees C for 3 to 5 minutes) which is important to increase the flow of blood for collection.
2. Wash your hands and put on gloves. Clean the site to be punctured with alcohol.
3. Hold the baby's foot firmly to avoid sudden movement.
4. Using a sterile blood safety lancet, puncture the side of the heel. Make the puncture across the heel print lines so that a drop of blood can well up and not run down along the lines of the heel.
5. Wipe away the first drop of blood with gauze. Use gentle pressure to produce a rounded drop of blood. Do not use excessive pressure because the blood may become dilute with tissue fluid or hemolysed.
6. Fill the required microtainers, cap and mix immediately when full.
7. When finished, elevate the heel, place clean gauze over the puncture site and hold pressure until the bleeding stops. Apple a band-aid if needed.
8. Dispose of lancet in sharp proof biohazard container.
9. Label containers at the bedside.
10. Remove gloves and wash hands.

Order of Draw:

Blood collection tubes must be drawn in a specific order to avoid cross-contamination of additives between tubes. The recommended order of draw for plastic vacutainer tubes is:

1. Blood culture bottles or tube (yellow acd tubes)
2. Coagulation tubes – blue top
3. Non-additive tube – Red top
4. Additive tubes in this order
    a. SST (red/grey top)
    b. Green heparin
    c. PST (light green sst)
    d. EDTA (lavender top)
    e. Gray top

Additive tubes must be mixed thoroughly. Clotting or erroneous results may be obtained when the tubes are not thoroughly mixed.

Labeling The Sample

National Patient Safety Goals require that samples be labeled at the bedside with two patient identifiers. A properly labeled sample is essential for patient safety and quality results.
Label each specimen or tube with the following:

1. Patient's name (last,first)
2. Patient's date of birth.
3. Date and time drawn.
4. Initials of the phlebotomist.

Blood Sample Handling and Processing

1. Tubes should be filled to assure the proper blood to additive ratio. Blue top tubes will be rejected if not full.
2. Do not use tubes past the expiration date.
3. Mix tubes by gentle inversion 5 to 10 times immediately after draw. This assists with the clotting process and assures complete mixing with additives.
4. Serum separator tubes should be allowed to clot for **30 minutes** prior to centrifugation to ensure complete separation or the red blood cells from the serum during centrifugation.
5. It is required that serum be physically separated from contact with the cells as soon as possible with a maximum time of 2 hours. **Tubes must be spun within 2 hours of the draw or they will be rejected.**
6. Keep caps on the tubes during centrifugation, centrifuge for 10 minutes.
7. Refer to the specimen stability chart for preserving specimens after collection.