

Nursing Station Manual	Title: Blood Collection – Venipuncture (Appendix B)
Section: General Specimen Collection Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Blood Collection – Venipuncture (Appendix B):

1.0. Purpose:

To provide instructions for the collection of multiple samples using the same collection needle and to minimize the transfer of materials from tube to tube. This order of draw is based on the use of plastic vacutainer tubes, in which some contain a clot activator. If a glass non-additive serum tube is used it may be drawn before the coagulation tube.

Closure Color	Collection Tube	Mix by Inverting Do Not Shake
N/A	Blood Culture	8 to 10 times
Navy Blue	No additives (Trace Elements)	3 to 4 Times
Blue	Sodium Citrate Coagulation: PT/INR, APTT, D-Dimer	3 to 4 times
Red (Plain)	No Additives (plastic) (Serology, Drugs)	5 times
Yellow/gold Top	SST Gel Separator (General Chemistry, Serology)	5 times
Green (with/without gel)	Heparin (Cardiac Markers, Venous Blood Gases)	8 to 10 times
Purple or Pink (Lavender)	EDTA (CBC, Blood Banking, HbA _{1c})	8 to 10 times
Yellow (ACD Solution)	Acid Citrate Dextrose (HLA)	8 to 10 times
Grey	Potassium Oxalate	8 to 10 times

2.0. Procedure Notes:

- 2.1. Allow tubes to fill until the vacuum is exhausted and blood flow ceases.
- 2.2. Tubes should fill between $\pm 10\%$ of the stated draw volume of the tube.
- 2.3. Do not fill tubes from other tubes or combine two partially filled citrate tubes.
- 2.4. If the specimen is drawn with a syringe, do not overfill the tube. Allow the tube to draw blood from the syringe. Do not force blood into tube.

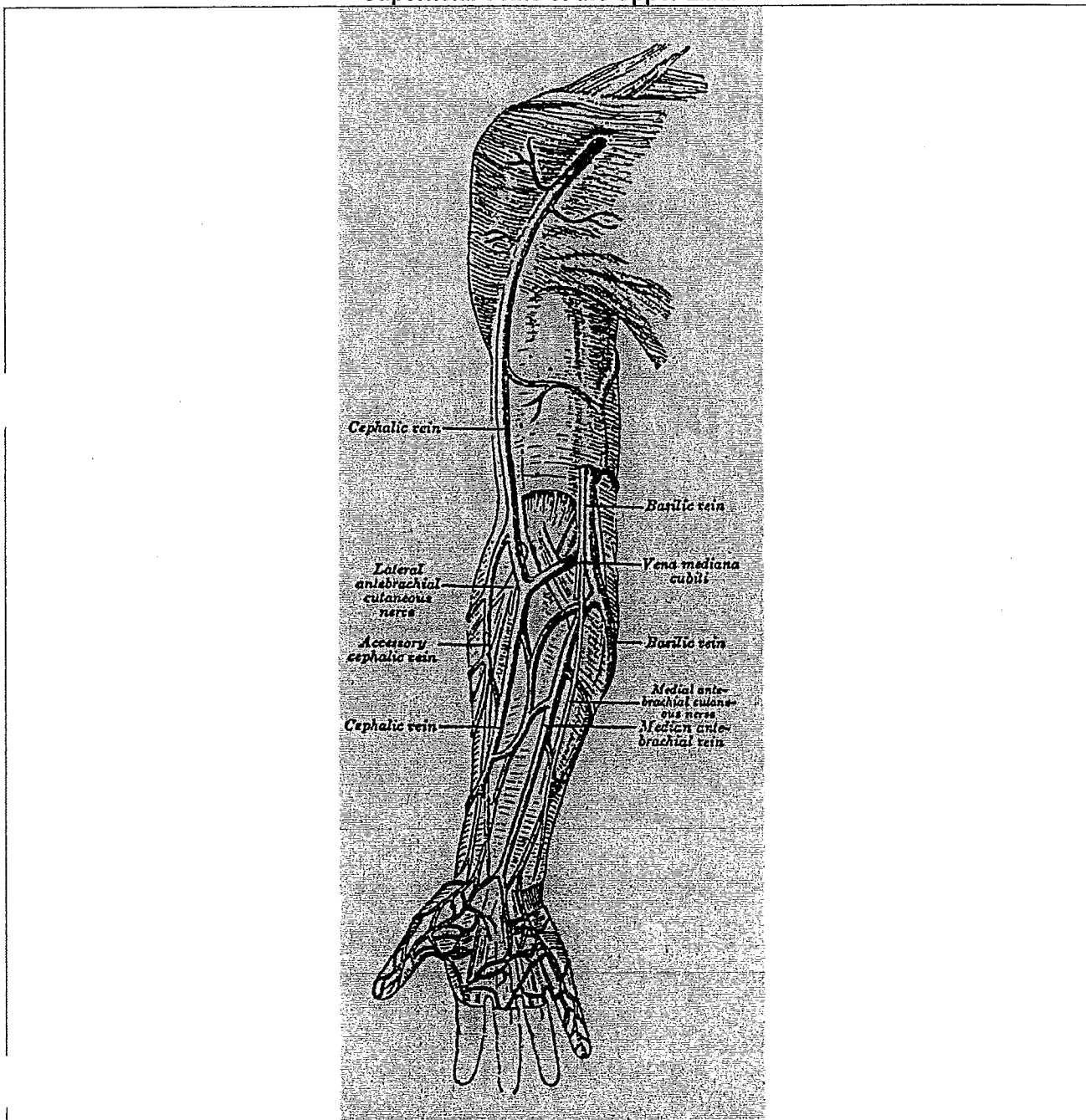
3.0. References:

- 3.1. CLSI document H1-A5, Vol. 23, No. 33. Evacuated tubes and additives for blood specimen collection; Approved Standard. 5th edition. Wayne, PA: National Committee for Clinical Laboratory Standards, 2003.
- 3.2. Product insert: BD Vacutainer® Evacuated Blood Collection System. October 6, 2004: 8012955.
- 3.3. CLSI Document H3-A5, Vol 23, No. 32. Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture. Approved Standard, 5th Edition. Wayne, PA: National Committee for Clinical Laboratory Standards; 2003.

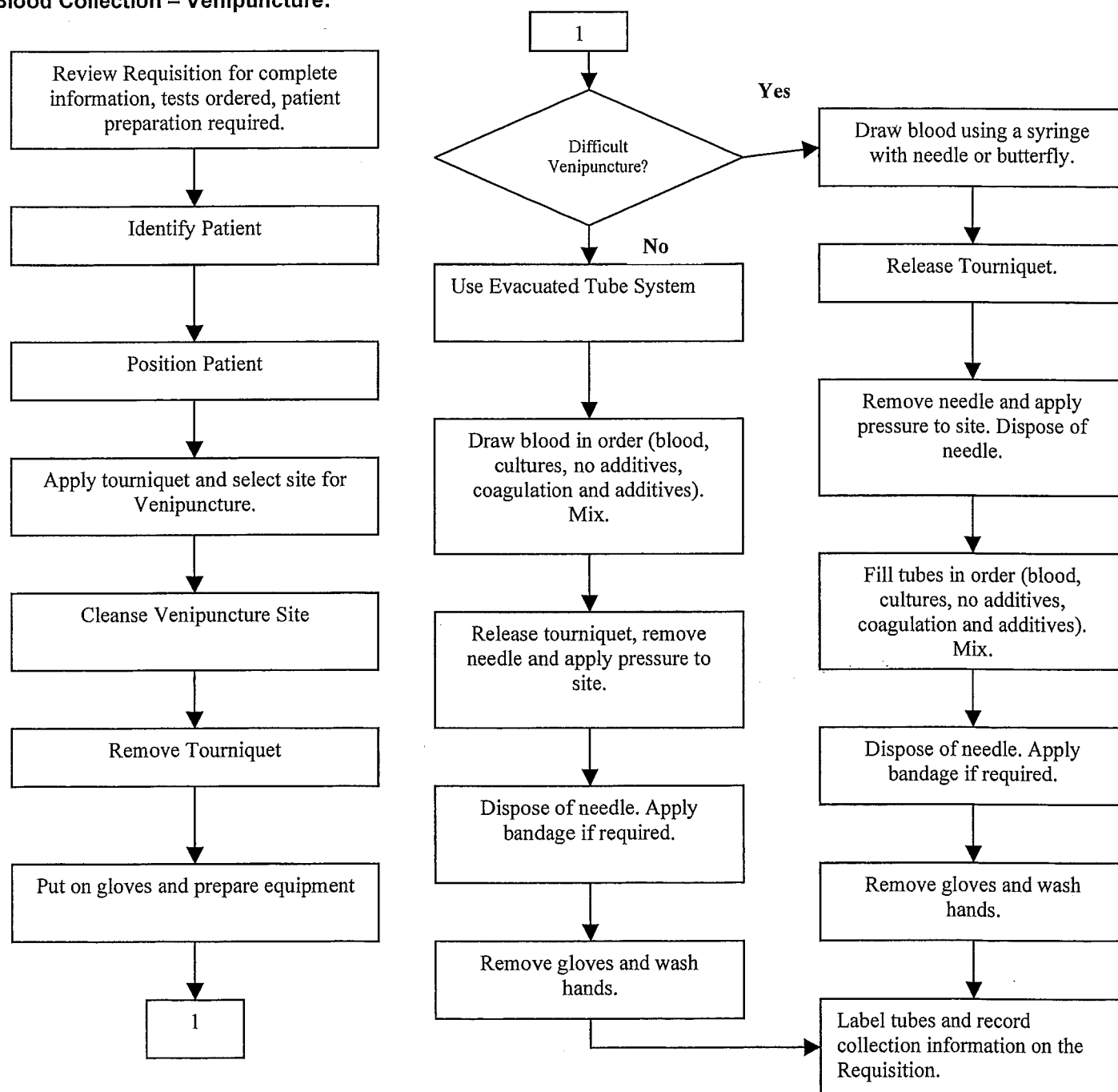
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Blood Collection – Venipuncture (Appendix A):

Superficial Veins of the Upper Limb



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Blood Collection – Venipuncture (continued):

1.0. Principle

A patient's veins are the main source of blood for laboratory testing as well as a point of entry for IV's and blood transfusions. Since only a few veins are easily accessible to both laboratory and other medical personnel, it is important that everything be done to maintain their good condition and availability.

2.0. Scope and Related Policies:

2.1. Transfusion Medicine Manual, PA:00, Patient Identification and Specimen Labelling.

3.0. Supplies:

- Disposable non-latex gloves
- Vacutainer tubes
- Holder/adaptor for vacuum tubes
- Needles (choose appropriate gauge or butterfly)
- Tourniquet (latex free)
- Antiseptics (alcohol or iodine)
- Cotton balls
- Adhesive bandages
- Puncture-resistant disposal container
- Marking pens

4.0. Procedure:

4.1. Review requisition for complete patient information. For outpatients, compare the information to the health card or hospital card:

4.1.1. Patient's first and last name

4.1.2. Health Card Number (including version code if applicable)

4.1.3. Date of Birth

4.1.4. Address

4.1.5. Phone number

4.2. For inpatients, observe the outer door which may have information regarding isolation procedures, etc.

4.2.1. Review the tests ordered and if any specific collection time (related to drug levels, fasting requirements) or patient preparation is required.

4.2.2. For patients in the hospital requiring fasting tests, draw first.

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- 4.2.3. Approach and greet the patient. The phlebotomist should identify himself or herself and the purpose of the visit. The phlebotomist must not perform blood collection against the patient or guardian's consent.
- 4.3. Identify Patient. Refer to “Patient Identification” procedure.
- 4.4. Ensure that, if the patient is to be in a fasting state, the requirements have been met.
- 4.5. Do not tell patient “this won’t hurt”, but let him/her know it may be a bit painful and will be done as quickly as possible.
- 4.6. Position patient
 - 4.6.1. For patients in bed, they should lie on their back if possible where their arm will be well supported.
 - 4.6.2. If sitting, ensure that the arm is well supported.
 - 4.6.2.1. If necessary, roll up a towel or use a pillow and place under the elbow area for support.
 - 4.6.3. Ensure that arm is in a downward position.
 - 4.6.4. Ensure that the patient does not have anything in their mouth that could be swallowed or choked on if a problem is encountered.
- 4.7. Have equipment and supplies readily available.
- 4.8. To select site for venipuncture (See Appendix A).
 - 4.8.1. Do not draw blood above IV site and preferably not from IV arm at all unless IV can be shut off for a period of two (2) minutes prior to venipuncture.
 - 4.8.2. Apply tourniquet around arm approximately 3” – 4” above area where blood is to be taken. The three veins primarily used are the cephalic, basilic and median cubital – see diagram.
 - 4.8.3. Have patient make a fist – vigorous pumping should be avoided.
 - 4.8.4. Using the index finger, palpate for vein.
 - 4.8.4.1. Even if you see a vein, you should palpate to be certain of its location and direction.
 - 4.8.4.2. If difficulty is experienced in finding vein, examine other arm.
 - 4.8.4.3. It may be necessary to examine veins in forearm or hands.

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Blood Collection – Venipuncture (continued):

4.8.4.4. Do not leave tourniquet on for longer than 1 minute.

4.9. Clean venipuncture site:

4.9.1. Cleanse site with 70% alcohol swab.

4.9.2. Use Chlorohexidine iodine swab if drawing blood for diagnostic alcohol level or blood cultures.

4.9.3. Start at centre of site and, with firm pressure, working in a circular motion out to periphery.

4.9.4. DO NOT WORK BACK TOWARDS CENTRE.

4.9.5. For site preparation for blood cultures, See “Blood Culture Collection” procedure.

4.9.6. Allow site to dry – area may be fanned, but do not blow on site.

4.10. Release the tourniquet.

4.11. The evacuated blood collection system is prepared by:

4.11.1. Thread the vacutainer needle into the vacutainer holder until it is secure.

4.11.2. Select tubes and other necessary materials required.

4.11.3. Ensure tubes are not expired or broken.

4.12. As per Body Fluid Precautions, put on gloves.

4.13. Apply tourniquet.

4.14. With thumb 1” – 2” below site, pull skin on patient’s arm tight to keep vein from rolling.

4.15. If the vein is normal in size, prepare the evacuated tube system (for small veins, see Procedural Note 5.1.):

4.15.1. An evacuated tube is inserted into the holder and onto the needle up to recessed guideline.

4.15.1.1. Do not go beyond line or vacuum will be lost.

4.15.2. Inspect the tip of the needle for hooks at the end of the point and ensure the opening is free of any small particles that could obstruct blood flow.

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Blood Collection – Venipuncture (continued):

- 4.15.3. The needle bevel should be up and at an approximate 15° – 30° angle to patient's arm and in direct line with the vein.
- 4.15.4. Puncture the vein.
 - 4.15.4.1. The puncture of the skin and vein should be done, if possible, in one smooth motion.
 - 4.15.4.1.1. It is sometimes necessary with older patients to go more slowly since the vein and the skin moves very easily.
 - 4.15.4.2. As soon as the needle enters the vein, push the tube on as far as it will go.
 - 4.15.4.2.1. If multiple samples are being drawn, remove the tube as soon as the blood flow stops and insert the next tube.
 - 4.15.4.2.2. Steady the needle holder so that the needle is not inadvertently moved causing a short draw and possible re-puncturing of patient for remainder of blood needed.
- 4.16. The patient can relax their hand as soon as blood flow commences. Refer to "Order of Draw" – Appendix B.
- 4.17. The following order of draw is recommended for both glass and plastic venous collection tubes when drawing multiple specimens for clinical laboratory testing during a single venipuncture. Its purpose is to avoid possible test result error due to additive carryover. All additive tubes should be filled to their stated volumes.
 1. Blood culture tube
 2. Coagulation tube (eg, blue closure)
 3. Serum tube with or without clot activator, with or without gel (eg, red closure)
 4. Heparin tube with or without gel plasma separator (eg, green closure)
 5. EDTA tube with or without gel separator (eg, lavender closure, pearl closure)
 6. Glycolytic inhibitor (eg, gray closure)

NOTE: Plastic or glass serum tubes containing a clot activator may cause interference in coagulation testing. Glass nonadditive serum tubes or plastic serum tubes without a clot activator may be drawn before the coagulation tube.

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Blood Collection – Venipuncture (continued):

NOTE: When using a winged blood collection set for venipuncture and a coagulation tube is the first tube needed, first draw a discard tube. The discard tube must be used to prime the tubing of the collection set, which will assure maintenance of the proper anticoagulant/blood ratio in the first tube filled. The discard tube should be a nonadditive or a coagulation tube, and need not be completely filled.

- 4.18. As successive tubes are filling, tubes with additives are inverted 5-10 times to mix, except sodium citrate tubes which are mixed 3-4 times.
- 4.19. Release the tourniquet.
- 4.20. As soon as blood flow stops in last tube, pull back on tube and place dry gauze lightly on puncture site; remove needle from vein and apply pressure to site until bleeding stops.
- 4.21. Dispose of the needle in the needle disposal container. **Never Resheath Needles.** If the needle is not a Safety, Engineered Device, follow these steps for disposal.
 - 4.21.1. Insert needle into either tapered slot and move toward narrow end until hub fins are engaged.
 - 4.21.2. Twist holder counterclockwise to unthread needle.
 - 4.21.3. Slide holder toward large end of tapered slot allowing needle to drop into container.
- 4.22. Apply bandage to outpatients, with slight stretching motion, over dry gauze to maintain pressure on site. Inquire if they are allergic to the bandage brand in use.
 - 4.22.1. Inform patient that bandage can be removed after a half hour.
 - 4.22.2. Do not apply bandage to Emergency or Active patients, instead remain with patient and apply pressure until bleeding has stopped.
- 4.23. Remove gloves and wash hands with soap and water or hand sanitizer.
- 4.24. Label the tubes fully with patient's full name, ID#, date and time of collection, phlebotomist's initials.
 - 4.24.1. Specimens for Transfusion Medicine must also include the patient's health card number on the tube.
 - 4.24.2. For samples collected into microtainers, label the specimen using a permanent marker with the first and last name, and date of collection.
 - 4.24.3. The labelling must be complete before leaving the patient's bedside.

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- 4.25. On the requisition, record the "Specimen Collection" information.
 - 4.25.1. Date and time of collection
 - 4.25.2. Phlebotomist's initials
- 4.26. Before leaving the patient's room, ensure that:
 - 4.26.1. The patient's puncture site has stopped bleeding.
 - 4.26.2. All lab equipment is placed back on the cart and the needle has been discarded.
 - 4.26.3. All bed rails are in their original positions and bedside tables are within a patient's reach.
 - 4.26.4. Thank the patient.
 - 4.26.5. Remove gloves and wash hands.

5.0. Procedural Notes:

- 5.1. Performance of venipuncture using a **syringe with a needle or butterfly**:
 - 5.1.1. A syringe with a 22g needle or a 23g butterfly should be used on adults with poor veins or on young children.
 - 5.1.2. Before inserting the needle the plunger should be moved back and forth to allow free movement.
 - 5.1.3. To transfer the blood from a syringe to a blood collection tube:
 - 5.1.3.1. Stand tubes up in a rack
 - 5.1.3.2. Without touching the tubes or rack, pierce stopper and allow to fill by vacuum.
 - 5.1.3.3. Deposit first into coagulation tubes, second into remainder of tubes with anticoagulants and then tubes with no anticoagulants.
 - 5.1.3.4. Do not remove the stoppers from tubes.
 - 5.1.3.5. To avoid accidental needle stick, the tube must not be held with the hand when inserting the needle.
 - 5.1.3.6. Mix additive tubes by inversion.
 - 5.1.3.7. Label tubes

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Blood Collection – Venipuncture (continued):

- 5.2. Do not perform a venipuncture on an IV arm, if possible.
 - 5.2.1. If necessary, the IV must be turned off for a period of at least two (2) minutes by nursing staff.
 - 5.2.2. For collection of non-coagulation tests, two times the dead-space volume shall be discarded. For coagulation tests, 5ml of blood or 6 times the dead-space volume shall be discarded prior to collection.
 - 5.2.3. Draw samples.
 - 5.2.4. IV can be re-started when blood is obtained.
 - 5.2.5. **Mark requisition “Blood obtained from IV arm” in case questionable results are obtained.**
- 5.3. If a specimen must be drawn from an indwelling catheter or heparin lock, Nursing Staff must:
 - 5.3.1. Shut off the IV for at least 2 minutes.
 - 5.3.2. Disconnect the catheter from the IV line.
 - 5.3.3. The Nurse must withdraw from the catheter and discard the appropriate volumes as described in 5.2.2. Note: Lines flushed with heparin must also be flushed with 5ml of saline prior to collection.
 - 5.3.4. The Nurse can now draw the blood sample for testing.
 - 5.3.5. Indicate the contents of the IV and whether the catheter contained a heparin solution on the requisition.
- 5.4. For patients who require blood work and are in isolation:
 - 5.4.1. Read the isolation sign on the door. It will explain the type of isolation and the precautions that must be exercised.
 - 5.4.2. Check the orders and assemble the equipment needed for the patient.
 - 5.4.3. Any supplies taken into the room must be left there, or discarded. Take in an adequate amount of equipment needed. Never take collection trays into the isolation room.
 - 5.4.4. Upon entering the room, place 4 or 5 paper towels on the table and place the equipment on 1 or 2 towels that have been spread open.
 - 5.4.5. Wash hands. Put on gloves.
 - 5.4.6. Obtain blood specimens in a normal manner, avoiding any unnecessary contact with the patient or bed.

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- 5.4.7. After mixing, place the filled tubes on a clean paper towel.
- 5.4.8. Discard the needle in the needle discard container in the room.
- 5.4.9. Remove gown and gloves and dispose of them in the proper container.
- 5.4.10. Wash hands. Turn off the faucet with a clean paper towel so that the hands are not contaminated.
- 5.4.11. Pick up the tubes from the paper towel and clean the outside with disinfectant.
- 5.4.12. Place the tubes in a plastic bag with sealable, leakproof closure.
- 5.5. To prevent a hematoma when performing a venipuncture the phlebotomist should:
 - 5.5.1. Puncture only the uppermost wall of the vein.
 - 5.5.2. Remove the tourniquet before removing the needle.
 - 5.5.3. Use the major superficial veins.
 - 5.5.4. Make sure the needle fully penetrates the uppermost wall of the vein.
 - 5.5.5. Hold the evacuated blood collection still while collecting the specimen.
 - 5.5.6. Apply a small amount of pressure to the area with the gauze pad when bandaging the arm.
- 5.6. To prevent hemolysis when performing a venipuncture the phlebotomist should:
 - 5.6.1. Avoid using a needle that is too small.
 - 5.6.2. Avoid drawing from a hematoma.
 - 5.6.3. Make sure the needle is fitted securely on a syringe to avoid frothing.
 - 5.6.4. Avoid drawing the plunger back too forcibly when using a needle and syringe.
 - 5.6.5. Gently invert the tube 5-10 times.
- 5.7. Blood should not be drawn from the feet without the permission of the physician.
- 5.8. Do not perform a venipuncture on a rational patient who refuses. Report the refusal to the nursing station.

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Blood Collection – Venipuncture (continued):**5.9. No flow of blood or loss of flow:**

- 5.9.1.** Remove tube and place new tube into holder in case vacuum in first tube is faulty.
- 5.9.2.** Pull tube off and push on again in case inner needle cover has not retracted properly when tube was pushed on.
- 5.9.3.** Move needle slightly forward or backward.
- 5.9.4.** Tighten up on tourniquet if it has been released.
- 5.9.5.** Perform new venipuncture if all else fails.

6.0. Quality Assurance:

- 6.1.** Do not attempt to stick patient more than two (2) times.
 - 6.1.1.** Notify another staff member of difficulty and he/she can make a second attempt; except in extenuating circumstances, this too should be limited to two (2) tries.
 - 6.1.2.** If still unsuccessful, the Physician should be notified of the difficulty.
- 6.2.** If venipuncture area is swelling while drawing blood, withdraw needle and apply pressure to site. Ensure tourniquet has been released.
- 6.3.** Ensure tubes have not expired.
- 6.4.** Make sure all coagulation tubes have "full draw".
- 6.5.** Ensure all tubes are labelled after performing venipuncture.
- 6.6.** Do not recap needles. Place in sharps disposal container.
- 6.7.** Do not keep tourniquet on patient arm for more than two (2) minutes.
- 6.8.** Petechiae are small red spots that appear on the patient's skin due to minute amounts of blood in the skin epithelium. This may be due to coagulation problems and should caution the phlebotomist that the patient's puncture site may bleed excessively. Nursing personnel should be notified of petechiae.
- 6.9.** Edema is swelling in patients which may be localized or diffused over a larger area of the body. Avoid collecting blood from these sites because veins are difficult to palpate and the specimens may be contaminated with fluid.

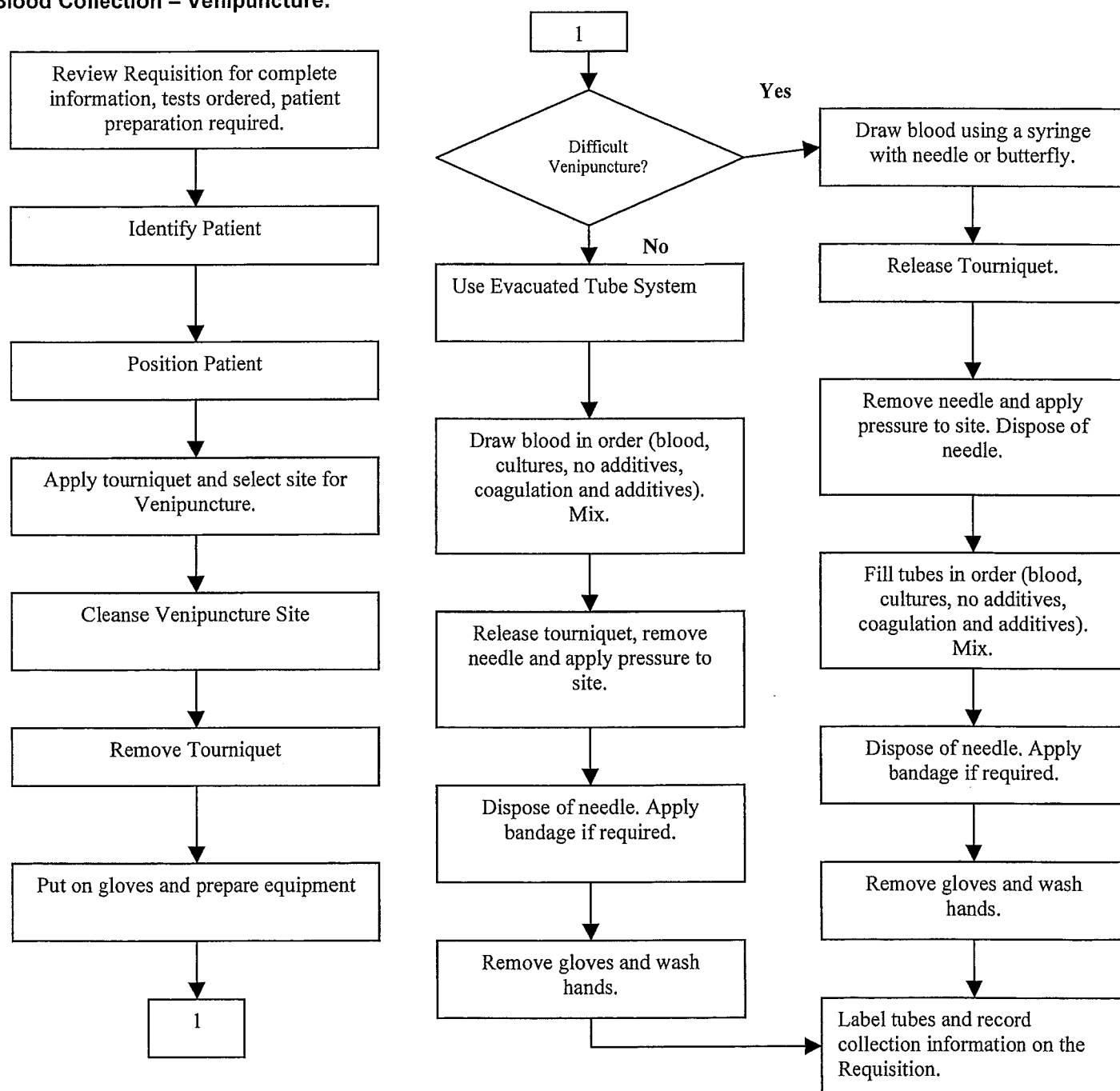
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7.0. References:

- 7.1.** CLSI H3-A4, Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture, 4th Edition.
- 7.2.** Riverside Health Care Facilities Inc., Departmental Procedure, Guideline for Blood Collection by Skin Puncture or Venipuncture.

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3.0. Supplies:

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- Vacutainer tubes
- Holder/adaptor for vacuum tubes
- Needles (choose appropriate gauge or butterfly)
- Tourniquet (latex free)
- Antiseptics (alcohol or iodine)
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4.0. Procedure:

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4.1.2. Health Card Number (including version code if applicable)

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4.2. For inpatients, observe the outer door which may have information regarding isolation procedures, etc.

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- 4.5. Do not tell patient “this won’t hurt”, but let him/her know it may be a bit painful and will be done as quickly as possible.
- 4.6. Position patient
 - 4.6.1. For patients in bed, they should lie on their back if possible where their arm will be well supported.
 - 4.6.2. If sitting, ensure that the arm is well supported.
 - 4.6.2.1. If necessary, roll up a towel or use a pillow and place under the elbow area for support.
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4.15.4.2.1. If multiple samples are being drawn, remove the tube as soon as the blood flow stops and insert the next tube.

4.15.4.2.2. Steady the needle holder so that the needle is not inadvertently moved causing a short draw and possible re-puncturing of patient for remainder of blood needed.

4.16. The patient can relax their hand as soon as blood flow commences. Refer to "Order of Draw" – Appendix B.

4.17. The following order of draw is recommended for both glass and plastic venous collection tubes when drawing multiple specimens for clinical laboratory testing during a single venipuncture. Its purpose is to avoid possible test result error due to additive carryover. All additive tubes should be filled to their stated volumes.

1. Blood culture tube
2. Coagulation tube (eg, blue closure)
3. Serum tube with or without clot activator, with or without gel (eg, red closure)
4. Heparin tube with or without gel plasma separator (eg, green closure)
5. EDTA tube with or without gel separator (eg, lavender closure, pearl closure)
6. Glycolytic inhibitor (eg, gray closure)

NOTE: Plastic or glass serum tubes containing a clot activator may cause interference in coagulation testing. Glass nonadditive serum tubes or plastic serum tubes without a clot activator may be drawn before the coagulation tube.

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Blood Collection – Venipuncture (continued):

NOTE: When using a winged blood collection set for venipuncture and a coagulation tube is the first tube needed, first draw a discard tube. The discard tube must be used to prime the tubing of the collection set, which will assure maintenance of the proper anticoagulant/blood ratio in the first tube filled. The discard tube should be a nonadditive or a coagulation tube, and need not be completely filled.

- 4.18. As successive tubes are filling, tubes with additives are inverted 5-10 times to mix, except sodium citrate tubes which are mixed 3-4 times.
- 4.19. Release the tourniquet.
- 4.20. As soon as blood flow stops in last tube, pull back on tube and place dry gauze lightly on puncture site; remove needle from vein and apply pressure to site until bleeding stops.
- 4.21. Dispose of the needle in the needle disposal container. **Never Resheath Needles.** If the needle is not a Safety, Engineered Device, follow these steps for disposal.
 - 4.21.1. Insert needle into either tapered slot and move toward narrow end until hub fins are engaged.
 - 4.21.2. Twist holder counterclockwise to unthread needle.
 - 4.21.3. Slide holder toward large end of tapered slot allowing needle to drop into container.
- 4.22. Apply bandage to outpatients, with slight stretching motion, over dry gauze to maintain pressure on site. Inquire if they are allergic to the bandage brand in use.
 - 4.22.1. Inform patient that bandage can be removed after a half hour.
 - 4.22.2. Do not apply bandage to Emergency or Active patients, instead remain with patient and apply pressure until bleeding has stopped.
- 4.23. Remove gloves and wash hands with soap and water or hand sanitizer.
- 4.24. Label the tubes fully with patient's full name, ID#, date and time of collection, phlebotomist's initials.
 - 4.24.1. Specimens for Transfusion Medicine must also include the patient's health card number on the tube.
 - 4.24.2. For samples collected into microtainers, label the specimen using a permanent marker with the first and last name, and date of collection.
 - 4.24.3. The labelling must be complete before leaving the patient's bedside.

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Blood Collection – Venipuncture (continued):

- 4.25. On the requisition, record the "Specimen Collection" information.
 - 4.25.1. Date and time of collection
 - 4.25.2. Phlebotomist's initials
- 4.26. Before leaving the patient's room, ensure that:
 - 4.26.1. The patient's puncture site has stopped bleeding.
 - 4.26.2. All lab equipment is placed back on the cart and the needle has been discarded.
 - 4.26.3. All bed rails are in their original positions and bedside tables are within a patient's reach.
 - 4.26.4. Thank the patient.
 - 4.26.5. Remove gloves and wash hands.

5.0. Procedural Notes:

- 5.1. Performance of venipuncture using a **syringe with a needle or butterfly**:
 - 5.1.1. A syringe with a 22g needle or a 23g butterfly should be used on adults with poor veins or on young children.
 - 5.1.2. Before inserting the needle the plunger should be moved back and forth to allow free movement.
 - 5.1.3. To transfer the blood from a syringe to a blood collection tube:
 - 5.1.3.1. Stand tubes up in a rack
 - 5.1.3.2. Without touching the tubes or rack, pierce stopper and allow to fill by vacuum.
 - 5.1.3.3. Deposit first into coagulation tubes, second into remainder of tubes with anticoagulants and then tubes with no anticoagulants.
 - 5.1.3.4. Do not remove the stoppers from tubes.
 - 5.1.3.5. To avoid accidental needle stick, the tube must not be held with the hand when inserting the needle.
 - 5.1.3.6. Mix additive tubes by inversion.
 - 5.1.3.7. Label tubes

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Blood Collection – Venipuncture (continued):

- 5.2. Do not perform a venipuncture on an IV arm, if possible.
 - 5.2.1. If necessary, the IV must be turned off for a period of at least two (2) minutes by nursing staff.
 - 5.2.2. For collection of non-coagulation tests, two times the dead-space volume shall be discarded. For coagulation tests, 5ml of blood or 6 times the dead-space volume shall be discarded prior to collection.
 - 5.2.3. Draw samples.
 - 5.2.4. IV can be re-started when blood is obtained.
 - 5.2.5. **Mark requisition “Blood obtained from IV arm” in case questionable results are obtained.**
- 5.3. If a specimen must be drawn from an indwelling catheter or heparin lock, Nursing Staff must:
 - 5.3.1. Shut off the IV for at least 2 minutes.
 - 5.3.2. Disconnect the catheter from the IV line.
 - 5.3.3. The Nurse must withdraw from the catheter and discard the appropriate volumes as described in 5.2.2. Note: Lines flushed with heparin must also be flushed with 5ml of saline prior to collection.
 - 5.3.4. The Nurse can now draw the blood sample for testing.
 - 5.3.5. Indicate the contents of the IV and whether the catheter contained a heparin solution on the requisition.
- 5.4. For patients who require blood work and are in isolation:
 - 5.4.1. Read the isolation sign on the door. It will explain the type of isolation and the precautions that must be exercised.
 - 5.4.2. Check the orders and assemble the equipment needed for the patient.
 - 5.4.3. Any supplies taken into the room must be left there, or discarded. Take in an adequate amount of equipment needed. Never take collection trays into the isolation room.
 - 5.4.4. Upon entering the room, place 4 or 5 paper towels on the table and place the equipment on 1 or 2 towels that have been spread open.
 - 5.4.5. Wash hands. Put on gloves.
 - 5.4.6. Obtain blood specimens in a normal manner, avoiding any unnecessary contact with the patient or bed.

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- 5.4.7. After mixing, place the filled tubes on a clean paper towel.
- 5.4.8. Discard the needle in the needle discard container in the room.
- 5.4.9. Remove gown and gloves and dispose of them in the proper container.
- 5.4.10. Wash hands. Turn off the faucet with a clean paper towel so that the hands are not contaminated.
- 5.4.11. Pick up the tubes from the paper towel and clean the outside with disinfectant.
- 5.4.12. Place the tubes in a plastic bag with sealable, leakproof closure.
- 5.5. To prevent a hematoma when performing a venipuncture the phlebotomist should:
 - 5.5.1. Puncture only the uppermost wall of the vein.
 - 5.5.2. Remove the tourniquet before removing the needle.
 - 5.5.3. Use the major superficial veins.
 - 5.5.4. Make sure the needle fully penetrates the uppermost wall of the vein.
 - 5.5.5. Hold the evacuated blood collection still while collecting the specimen.
 - 5.5.6. Apply a small amount of pressure to the area with the gauze pad when bandaging the arm.
- 5.6. To prevent hemolysis when performing a venipuncture the phlebotomist should:
 - 5.6.1. Avoid using a needle that is too small.
 - 5.6.2. Avoid drawing from a hematoma.
 - 5.6.3. Make sure the needle is fitted securely on a syringe to avoid frothing.
 - 5.6.4. Avoid drawing the plunger back too forcibly when using a needle and syringe.
 - 5.6.5. Gently invert the tube 5-10 times.
- 5.7. Blood should not be drawn from the feet without the permission of the physician.
- 5.8. Do not perform a venipuncture on a rational patient who refuses. Report the refusal to the nursing station.

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5.9. No flow of blood or loss of flow:

- 5.9.1. Remove tube and place new tube into holder in case vacuum in first tube is faulty.
- 5.9.2. Pull tube off and push on again in case inner needle cover has not retracted properly when tube was pushed on.
- 5.9.3. Move needle slightly forward or backward.
- 5.9.4. Tighten up on tourniquet if it has been released.
- 5.9.5. Perform new venipuncture if all else fails.

6.0. Quality Assurance:

- 6.1. Do not attempt to stick patient more than two (2) times.
 - 6.1.1. Notify another staff member of difficulty and he/she can make a second attempt; except in extenuating circumstances, this too should be limited to two (2) tries.
 - 6.1.2. If still unsuccessful, the Physician should be notified of the difficulty.
- 6.2. If venipuncture area is swelling while drawing blood, withdraw needle and apply pressure to site. Ensure tourniquet has been released.
- 6.3. Ensure tubes have not expired.
- 6.4. Make sure all coagulation tubes have “full draw”.
- 6.5. Ensure all tubes are labelled after performing venipuncture.
- 6.6. Do not recap needles. Place in sharps disposal container.
- 6.7. Do not keep tourniquet on patient arm for more than two (2) minutes.
- 6.8. Petechiae are small red spots that appear on the patient's skin due to minute amounts of blood in the skin epithelium. This may be due to coagulation problems and should caution the phlebotomist that the patient's puncture site may bleed excessively. Nursing personnel should be notified of petechiae.
- 6.9. Edema is swelling in patients which may be localized or diffused over a larger area of the body. Avoid collecting blood from these sites because veins are difficult to palpate and the specimens may be contaminated with fluid.

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7.0. References:

- 7.1. CLSI H3-A4, Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture, 4th Edition.
- 7.2. Riverside Health Care Facilities Inc., Departmental Procedure, Guideline for Blood Collection by Skin Puncture or Venipuncture.

Blood Culture Collections - Instruction Sheet

Direct Draw Method

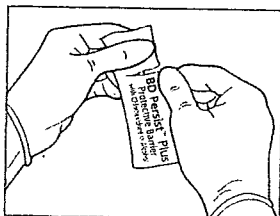
WARNING

"Universal Precautions" should be followed in handling all items contaminated with blood or other body fluids.

Prior to use, inspect all vials and discard any vials showing evidence of contamination, damage or deterioration.

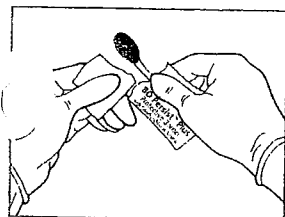
REQUIRED MATERIALS

- BD BACTEC™ Media
- BD Persist™ Plus Protective Barrier (Chlorhexidine in Alcohol)
- BD Safety-Lok™ Blood Collection Set
- BD Stretch™ Tourniquet latex free
- BD Vacutainer™ One Use Stackable Needle holder
- Gloves, Alcohol Swab (70% Isopropyl), Gauze

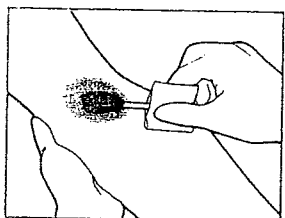


STEP 1 — SKIN PREPARATION

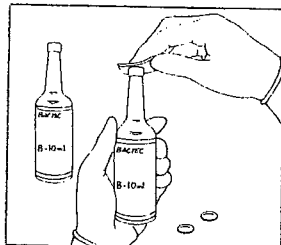
- Open the BD Persist™ Plus package by tearing completely through at the side notches and twisting.



- Leave the package over the end of the swabstick to prevent gloves from becoming covered with solution.

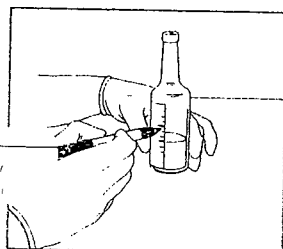


- Apply BD Persist™ Plus solution by beginning at the intended venipuncture site, working in a circular motion with friction, covering an area of 2-3 inches in diameter.
- Allow BD Persist™ Plus solution to air dry.
- DO NOT touch or palpate the area after cleansing.



STEP 2 — PREPARE BACTEC VIALS

- Remove flip-off caps from BD BACTEC™ culture vial(s).
- Wipe tops of vials with single alcohol swab only and allow to dry.



- Mark BD BACTEC™ culture vial label(s) at desired fill level.
- Optimal fill for adult bottles
- 8-10ml
- Optimal fill for pediatric bottles - 1-3 ml



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