

BLOOD CULTURE COLLECTION PROCEDURE

1. Select appropriate vials according to the volume of blood:

NOTE: Adequate volume is the single most important factor in the lab detection of microbes in the bloodstream, thus collection methods must be chosen to maximize the volume collected.

- A. Neonates to 1 year: 0.5 to 1.5 ml per draw, although at least 1 ml is preferred.
- B. Children 1 to 10 years old: 1 ml per year of age per venipuncture for average size child.
- C. The recommended volume of blood in adults or children weighing > 80 lbs. is 20 ml per draw. The minimum volume in adults for optimum recovery of organisms is 10 ml. Realizing that some patients are very hard to draw, a volume of 5-9 ml is acceptable, however **when ≤ 3 ml is drawn from an adult, the physician should be notified of the inadequate volume.** If IV's are a problem, the physician or nurse may give permission to turn these off so that the phlebotomist can draw. Physician may request anesthesiologist to draw an arterial.

BLOOD VOLUME DRAWN	Plus Aerobic Vials	Lytic/10 Anaerobic/F
20 ml	10 ml	10 ml
16 - 19 ml	10 ml	6-9 mls
10-15ml	8 - 10 ml	3 - 5 ml
3.1 - 9 ml	entire volume	
≤ 3 ml If adult, notify physician of inadequate volume.	all into Peds Plus/F	

2. Select vein for venipuncture.

Use the following procedure (alcohol and iodine) with infants less than 2 months of age:

3. Thoroughly cleanse the area with alcohol starting in center of selected site working outward in a circular motion, not crossing or passing over already cleaned area. Allow to completely dry.
4. Swab the area concentrically starting at the center with the Sepps iodine prep (if the patient is hypersensitive to iodine, prepare the skin by using a double application with 70% alcohol preps). Use the entire volume of iodine in the ampule.
5. **Allow the iodine to dry 2 minutes.** This is a critical step. It is imperative the iodine dries completely to insure the site is adequately prepped.
6. If you must palpate the venipuncture site after disinfecting, prep your gloved finger with both alcohol and iodine as above. Proceed to step 11. After the venipuncture, remove iodine from the patient's skin with an alcohol prep.

Use the following procedure (alcohol and chloraprep) with patients greater than 2 months of age:

7. Thoroughly cleanse the area with alcohol starting in center of selected site working outward in a circular motion, not crossing or passing over already cleaned area. Allow to completely dry.

8. Pinch the barrel on the chloraprep applicator to break the ampule and release antiseptic. Do not touch applicator tip. Press the applicator tip against the treatment area until liquid is visible on the skin.
9. Use repeated back-and-forth strokes of the applicator for approximately 30 seconds. Completely wet the treatment area with antiseptic. Allow the area to air dry for approximately 30 seconds. Do not blot or wipe away. Discard applicator after single use.
10. If you must touch the venipuncture site after disinfecting, prep your gloved finger with a ChloraPrep.
11. Remove the flip off cap from the vials. Inspect the vials for cracks, contamination, excessive cloudiness, and bulging or indented septum. **DO NOT USE vial if defective.** Cleanse the top with alcohol only. Do not use iodine or ChloraPrep to cleanse the top of the bottle.
12. Draw appropriate blood volumes. When using a butterfly, the phlebotomist MUST mark the vial label at the desired fill level (10 ml) by using the 5 ml graduation marks on the vial label. If the volume is not monitored, the stated maximum amount collected may be exceeded. This condition may adversely create a "false" positive result, due to high blood background.
13. Place blood into vials in the following order dependent on butterfly draw vs. syringe draw:
 - If a butterfly needle is used, place in Plus Aerobic/F first, followed by Lytic/10 Anaerobic/F. (Air enters the Plus Aerobic/F bottle as the tubing is primed.)
 - If a syringe is used, place in Lytic/10 Anaerobic/F vial first, followed by Plus Aerobic/F. (Air enters the Plus Aerobic/F as the syringe is emptied).
14. Label the vials with patient's bar-code accession label placed vertically in the clear area of the vial. Label the request form with your initials, time drawn, and volume drawn. Also note on the requisition if the specimen was drawn by a physician (usually a neonatologist).
15. Send the vials to the laboratory. If the vials are not sent immediately, place the vials at **ROOM TEMPERATURE** until able to send to the laboratory.

Note:

1. When low volume (<10 ml) is drawn, put entire amount of blood into aerobic Bactec vial (Plus Aerobic/F or Peds Plus/F depending on volume), unless anaerobic blood cultures are ordered or the patient has a diagnosis which indicates anaerobic cultures would be appropriate, e.g. abdominal, genitourinary, or head/neck surgery.
2. Blood should be transferred to vials with a packaged and sterile Transfer Device.
3. Suggested Guidelines:
 - a. Acute Sepsis: 2-3 sets from separate sites, obtain all within 10 minutes.
 - b. Endocarditis, acute: 3 sets from 3 separate sites, obtain over 1-2 hours.
 - c. Endocarditis, subacute: 3 sets from 3 separate sites, obtain 15 minutes apart. If negative at 24 hours, obtain 3 more sets.
 - d. Fever of unknown origin: 2-3 sets from separate sites > 1 hour apart. If negative at 24 hours, obtain 2-3 more sets.
4. Chloraprep should not be used on infants less than 2 months of age.