

**CONWAY REGIONAL HEALTH SYSTEM  
CLINICAL LABORATORY**

**Blood Culture Collection Guidelines**

The procedure for the "PERFORMANCE OF A ROUTINE VENIPUNCTURE" should be referenced. Note the following steps:

1. **PERFORM HAND HYGIENE** adhering to hospital hand hygiene guidelines. **Wear gloves.** Other PPE should be worn if appropriate.
2. **STRICT ASEPTIC TECHNIQUE SHOULD BE USED THROUGHOUT THIS PROCEDURE.**
3. **CLEAN THE CHOSEN PUNCTURE SITE.** After the venipuncture site is identified, the site should be first vigorously wiped with a 70% isopropyl alcohol pad to remove normal surface dirt and oils. Allow to dry. **Prepare the Blood Culture Bottles.** A separate alcohol pad should then be used to clean the rubber septum of the blood culture bottles after removing the lids. Then using the Chloraprep pad, scrub the chosen site by wiping in concentric circles, moving outward from the center of the site; allow the skin to completely air dry (30 - 60 seconds). This step is important in assuring that the skin has been disinfected. NOTE: for patients under the age of 2 months, a chloraprep is NOT used. Disinfect the puncture site using betadine or iodine prep. ALLOW THE SITE TO DRY.
4. **DO NOT RE-PALPATE OR TOUCH THE CHOSEN PUNCTURE SITE AFTER CLEANSING.** If the site must be re-palpated, step 3 must be repeated.
5. **DRAW THE CORRECT AMOUNT OF BLOOD.** It is very important that the correct amount of blood be obtained for a blood culture in order that optimal results will be obtained. If other lab tests are ordered, blood cultures MUST be collected first to avoid contamination. The following is to be used as a guideline:
  - 5 - 10 mL of blood should be transferred into **each** blood culture bottle. If for any reason only one bottle can be obtained, it should be the Aerobic bottle.
  - Small children and difficult draw patients: In order to assure the proper final dilution is formed for optimal recovery of pathogenic organisms, a pediatric bottle is available for Blood Culture Inoculation. This bottle is inoculated with up to 1 - 5 mL of blood.
  - If lesser amounts are inoculated, document this fact on the requisition and in the computer so that care might be exercised in the interpretation of negative results.
6. **IF DRAWING BLOOD WITH A SYRINGE,** utilizing aseptic technique, immediately change the needle to a blood transfer device, and inoculate by inserting the transfer device through the rubber stopper of the blood culture bottles. Inoculate each bottle with the required amount of blood specified in step 5.

7. **IF DRAWING BLOOD WITH AN IV START**, guidelines for cleaning the venipuncture site must be followed. In addition, if blood collection tubes are filled first **YOU MUST CHANGE THE TRANSFER DEVICE BEFORE FILLING THE BLOOD CULTURE BOTTLES** to prevent contamination to the blood culture bottle from the other tubes.
8. If poor access requires that blood for culture be drawn through a port in an indwelling catheter, the second culture must be from a peripheral site, because cultures drawn through catheters can indicate catheter colonization but may not be indicative of infection.
9. Do not draw blood from a vein into which an intravenous solution is running.
10. **WHEN MULTIPLE ORDERS FOR BLOOD CULTURES ARE RECEIVED** (Blood Cultures X 2; 3; etc) these should be drawn from different sites--preferably from different limbs.
11. **Write** the time of draw, draw site (Left AC, Right AC, etc.), and your initials and title (ex: SM, RN) on the specimen label.
12. **TRANSPORT OF SPECIMENS TO THE LABORATORY.** Blood culture bottles should be sent to the laboratory immediately. Holding bottles at room temperature is not recommended. Blood culture bottles should NEVER be refrigerated.
13. **SPECIMEN REJECTION CRITERIA FOR BLOOD CULTURE SPECIMENS.**  
  
Unlabeled or incorrectly labeled bottles  
Broken, damaged, or leaking bottles  
Bottles that have been placed in the refrigerator

THE FOLLOWING GUIDELINES MAY BE USED IN DETERMINING TIMING AND QUANTITY OF BLOOD CULTURE SETS IN VARIOUS DISEASE STATES:

- Obtain a minimum of two separate blood culture sets before use of systemic antimicrobial therapy is begun.
- For systemic or localized infection, obtain two separate blood culture sets before starting treatment.
- For fever of unknown origin, obtain two sets of blood cultures initially and then 24--36 hours later obtain two more sets.
- For infective endocarditis obtain three sets of blood cultures at three separate sites during the first 1--2 hours of evaluation for acute cases and obtain three blood culture sets on the first day at least 15 minutes apart for subacute cases.

Reference: NCCLS, Volume 10; Number 12; H18-A  
CLSI, Volume 26; Number 31; M47-P  
Isenberg's Clinical Microbiology Procedures Handbook, 2<sup>nd</sup> Edition

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