

Fairview Health Services
 Department Laboratory /Nursing
 Section Acute Care: Collection
 Category Provision of Care

Subject BLOOD COLLECTION FOR CULTURES (BACTERIAL, FUNGAL, VIRAL)

Purpose Ensure blood collected for cultures is free from contamination (from patient or personnel), precautions are taken for skin preparation as well as collection tube preparation.

Policy This procedure is for the additional collection of Blood Cultures. Follow the Blood Collection by Venipuncture, Vascular Access Devices (VAD), and Patient Identification and Laboratory Specimen Labeling procedures for all other steps.

- Procedure**
1. Prepare for Collection
 Complete initial steps for venipuncture or VAD collection, including identify patient, identify site/lumen, put on gloves, assemble supplies, etc.

CAUTION: Always use gloves and observe Standard Precautions when collecting biologic specimens.
 2. Additional Supplies
 - a. Chlorhexidine gluconate scrub (ChlorPrep®) **or**
 - b. Povidone-Iodine swabstix (required if patient less than 2 months of age)
 - c. Culture bottles or tubes

3. Select Appropriate Culture Bottle/Tube

		Opt (mL)	Min (mL)
BACTERIAL			
<ul style="list-style-type: none"> • Adult Do <u>not</u> substitute peds bottle for adult minimum collection 	<ul style="list-style-type: none"> • BACTEC Plus Aerobic w/resin (gray cap) bottle 	8-10	3
	<ul style="list-style-type: none"> • If indicated, BACTEC lytic anaerobic (purple cap) bottle 	8-10	3
<ul style="list-style-type: none"> • Pediatric (<18 y) 	<ul style="list-style-type: none"> • BACTEC Peds Plus Aerobic w/resin (pink cap)(first priority) bottle 	3	1
	<ul style="list-style-type: none"> • If indicated, BACTEC lytic anaerobic (purple cap) bottle 	3	3
AFB (Mycobacteria)			
<ul style="list-style-type: none"> • Adult or Pediatric 	<ul style="list-style-type: none"> • BACTEC Myco/F lytic (red cap) bottle 	5	1
FUNGAL			
<ul style="list-style-type: none"> • Adult- Routine Yeast/Fungal Do <u>not</u> substitute peds bottle for adult minimum collection 	<ul style="list-style-type: none"> • BACTEC Plus Aerobic w/resin (gray cap) bottle (routine aerobic bottle is acceptable; 2nd bottle not needed) 	8-10	3
<ul style="list-style-type: none"> • Pediatric- (<18 y) Routine Yeast/Fungal 	<ul style="list-style-type: none"> • BACTEC Plus Aerobic w/resin (pink cap) bottle (routine aerobic bottle is acceptable; 2nd bottle not needed) 	3	1
<ul style="list-style-type: none"> • Adult or Pediatric Histoplasma, Blastomyces, Coccidioides, Crypto or HIV Patients 	<ul style="list-style-type: none"> • Isolator™ (yellow/black) tube or • If less than 6 mL is available, collect SPS (liquoid yellow) tube. 	7.5-10	6
		3.3	1
<ul style="list-style-type: none"> • Infants (<11 lb or 5 kg) Malassezia/Histo/HIV 	<ul style="list-style-type: none"> • SPS (liquoid yellow) tube 	1.5	1
VIRAL			
<ul style="list-style-type: none"> • Adult or Pediatric 	<ul style="list-style-type: none"> • EDTA (purple) tube 	5	1

4. Prepare Culture Bottle/Tube
 - a. Bacterial & Routine Yeast/Fungal, Mycobacterial Culture
 - Remove protective cap from bottles and cleanse with alcohol prep pad and allow to air dry.
 - b. Viral or Fungal (Histoplasma, Blastomyces, Coccidioides, Crypto or HIV Patients) Culture
 - Cleanse top of tube with alcohol prep pad and allow to dry.

5. Apply Tourniquet
Apply tourniquet to locate vein. Release tourniquet.

6. Cleanse the Site
 - a. Cleanse vein site to **destroy microorganisms on the skin and prevent microbial contamination of specimen. Failure to carefully disinfect the venipuncture site can introduce skin surface bacteria into the blood culture bottles and interfere with interpretation of results.**
 - b. The following do NOT require a ChloroPrep or Povidone-Iodine triple prep:
 - Viral cultures (use routine alcohol prep)
 - Blood culture specimens from vascular access devices
 - c. If the patient is less than 2 months of age, triple prep vein site with Povidone-Iodine swabsticks.
 - Scrub site for 60 seconds with Povidone-Iodine swabstick in concentric outward-moving circles.
 - Repeat application with 1-2 additional Povidone-Iodine swabsticks.
 - Povidone-Iodine may be removed with alcohol pad if color interferes with vein location.
 - If the puncture site must be touched prior to venipuncture, cleansing steps should be repeated. A gloved finger used to palpate just above the puncture site should first be cleansed in same manner as site.
 - d. For all patients more than 2 months of age, prep the site with ChloroPrep.
 - Pinch the wings on the applicator to break the ampule to release the antiseptic. Do not touch the pad.
 - Gently press the sponge against the selected site until liquid is visible on the skin.
 - Apply the ChloroPrep with side to side strokes and scrub for at least 30 seconds.
 - Allow to air dry for 30 seconds. Do not blot or wipe away.
 - If the puncture site must be touched prior to venipuncture, cleansing steps should be repeated. A gloved finger used to palpate just above the puncture site should first be cleansed in same manner as site.

7. Re-Apply the Tourniquet
Reapply tourniquet being careful not to contaminate site.

8. Perform the Collection
Perform venipuncture or vascular access device collection using one of the following methods:
 - a. Evacuated system, collecting blood directly into culture bottle(s) or tube(s); or
 - b. Syringe system; proceed to step 9.

9. Fill the Bottles/Tube
If blood is collected using syringe system, transfer blood by attaching syringe to multi-sample transfer set. Insert blood culture bottle(s)/tube(s) and allow vacuum to fill.

10. Label the Bottles/Tube
 - a. Label bottles/tube appropriately.
 - b. Identify each specimen container with appropriate body site.

11. Multiple Collection Sets
When more than one set is ordered for collection at the same time, the second set should be obtained from a separately prepared site on the opposite arm. However, in

cases where the "second site" blood culture cannot be obtained from the opposite arm, cleanse and collect two different sites on the same arm/hand, using a different vein if possible. The second collection is to substantiate the credibility of any positive and aid in interpretation of the results by showing that two different collections gave the same result.

CLSI states that the timing of the collection may be performed simultaneously (or over a short time frame) unless indicated by the physician. Collection of blood at intervals is only indicated when it is necessary to document continuous bacteremia in patients with suspected infective endocarditis or other endovascular (e.g. catheter-related) infections. The physician will indicate by ordering the collections at a timed sequence.

- References
1. McCall RE, Tankersley CM. *Phlebotomy Essentials*, 4th edition. Lippincott Williams and Wilkins, 530 Walnut Street, Philadelphia, PA 19106. 2008.
 2. Strasinger SK, Di Lorenzo MA. *The Phlebotomy Workbook*, 2nd edition. FA Davis Company, 1915 Arch Street, Philadelphia, PA 19103. 2003.
 3. Chloraprep® One-step Training Manual. Medi-Flex Hospital Products, Inc. 8717 W. 110th Street, Overland Park, KS 66210-1129. 9/01.
 4. CLSI: *Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture*; Approved Standard-6th edition. CLSI document H3-A6, Wayne, PA, Clinical and Laboratory Standards Institute; 2007.
 5. *CLSI. Principles and Procedures for Blood Cultures; Approved Guideline*. CLSI document M47-A. Wayne, PA : Clinical Laboratory Standards Institute; 2007.

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