

Blood Cultures

Applicability QEII Hospital Microbiology Technologists

Purpose This procedure provides culture volume requirements, the daily process to verify blood cultures in the Bactec FX have been received in Meditech, and the steps to process a positive blood culture.

Procedure

Specimen	Cultural Procedure			
Blood cultures ≥10 years of age and >30 kg – Adult venipuncture	1st Set: Collect 10 mLs into an aerobic vial and 10 mLs into an anaerobic vial for a total of 20 mLs. 2nd Set: Choose a separate venipuncture site. Collect 10 mLs into an aerobic vial and 10 mLs into an anaerobic vial for a total of 20 mLs.			
Blood cultures ≥10 years of age and >30 kg Intravenous Catheter collections *	1st Set: Collected from line: Collect 10 mLs into an aerobic vial and 10 mLs into an anaerobic vial for a total of 20 mLs. 2nd Set: Collected from peripheral site: Collect 10 mLs into an aerobic vial and 10 mLs into an anaerobic vial for a total of 20 mLs.			
Pediatric: ≥ 1 month to < 10 years	Site 1	Volume of blood per vial	Site 2	Volume of blood per vial
	Peds vial	1-5 mL	Peds vial	1-5 mL
Neonates: (up to one month of age)	1.0 – 1.5 mL in a Peds plus bottle			
Blood culture for suspected cases of infectious endocarditis, a third set is required	3rd Set: Collect 10 mLs into an aerobic vial and 10 mLs into an anaerobic vial for a total of 20 mLs. This set is to be collected 1 hour after the collection of Set 1 and Set 2 which are all collected immediately before antimicrobials.			
Blood product bag	Refer to Transfusion reaction Investigation, Doc# NMMTXS00001QEII			
Blood culture received >48 hours from collection Note the time received at the region and the time received at QEII – if >48 hours, then...	<ul style="list-style-type: none"> • Smear and sub bottle(s) to BA CO2, CHOC (add Brucella on the anaerobic bottle) • Return bottle(s) to the Bactec. Internally document that bottle(s) was/were returned to Bactec in the Specimen Comments. • Document smear and sub plate results internally under Specimen Comments. 			

*Please Note: Drawing blood from indwelling intravascular catheters should be avoided whenever possible as there is an increased likelihood of a false positive result due to catheter colonization. The exception is when intravascular catheter-associated infection is suspected, when 1 set (2 vials) should be obtained from the catheter along with a second set (2 vials) from a peripheral site.

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Page 1 of 3

Procedural Notes:**Daily:**

1. Print a "loaded vials" list from the Bactec Instrument
 - Reports
 - Loaded Vials – change the "From" time to the time the report was pulled the previous day.
 - OK
 - Print
2. In Meditech create and print Blood Culture Worksheets
 - Lab Specimen Desktop
 - Worksheets
 - MIC
 - Create (CUBQE, CUBR)
 - Print
3. Compare the "loaded vials" list to the Meditech worksheets. Reconcile any discrepancies. If a bottle was scanned into the Bactec incorrectly and the load list has an incorrect Accession number, reconcile this bottle.
 - From the Bactec Status Screen, touch the "man in bed" icon
 - Vial
 - Sequence
 - Disassociate
 - Yes
 - Accession
 - Enter correct Accession number from Meditech label
 - Enter
 - Save
 - Exit
4. If a complete set was not drawn, the meditech number of the vial not drawn should be TNP'd and prexed with the comment: "MBCOPT" – Unable to collect blood culture sample from second venipuncture site. Please order another blood culture set if clinically indicated. PLEASE NOTE: to optimize microbial recovery, at least 4 vials should be collected from 2 separate venipuncture sites from adult patients (10 ml of blood each into an aerobic and anaerobic vial collected from one site, and 10 ml of blood into a second, aerobic and anaerobic vial collected from a second site).

Low volume comments will be added by collectors if less than optimal volume of blood is added to the culture vial.
"MBCLOW": Insufficient amount of blood obtained. PLEASE NOTE: For optimal recovery of organisms, 10 mL (from patients greater than 10 years old) should be collected into each vial. One culture set consists of two vials (one aerobic and one anaerobic) from each site.
5. How to extend incubation time if needed (See Notes below):
 - On the Bactec status screen, touch the "man in the bed" icon
 - Vial
 - Sequence
 - Modify the protocol (default is 5 – change number of days to 14)
 - OK
 - Save

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Page 2 of 3

6. Review any outstanding Blood Cultures ordered but not yet received at QEII.
 - Lab Specimen Desktop
 - Tracking
 - Microbiology
 - OK
 - Any blood cultures at >36 hours, contact the ordering site to resolve. Document

Notes:

If a request is made by the physician to extend the culture incubation, consult the Microbiologist on call before extending. If Microbiologist approves the culture being extended, confirm the bottle is still being processed by the BACTEC. Bottles that have been finalized by the BACTEC cannot be extended. Extend the incubation on the Bactec to 14 days (see procedure 5 above).

In Meditech, edit the requisition and order CUBEX. CUBEX will add the auto default No Growth 7 days and No Growth 14 days.

References

1. Principles and Procedures for Blood cultures: approved Guidelines CLSI M47-A (2007)
2. Lab Blood Culture Collection Document # NPSSCS00001MUL
3. Bactec user manuals, 2008 and 2019.