

Department:	Laboratory and Blood Bank (Microbiology)		
Document:	Internal Policy and Procedure		
Title:	Blood Culture		
Applies To:	All Laboratory Staff		
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1. PURPOSE:

- 1.1 To establish system and set responsibilities for processing Blood Culture.

2. DEFINITIONS:

- 2.1 A blood culture is a test that checks for foreign invaders like bacteria, yeast, and other microorganisms in blood.

3. POLICY:

- 3.1 At least 2 sets and no more than 3 sets of blood cultures should be collected from a patient with suspected bacteraemia prior to the initiation of antimicrobial therapy.
- 3.2 Any positive result should be notified to the requesting physician.

4. PROCEDURE:

- 4.1 The Blood culture bottles are received and registered (refer to sample reception and rejection policy).
- 4.2 Blood culture bottles should be incubated in the Bactec Alert/ Bactec 9120 (refer to Bactec System policy).
- 4.3 Interpretation of Bactec Blood Culture Bottles: The Bactec System will continuously scan all blood culture bottles for evidence of growth. The machine will automatically flag any positive blood cultures. Process the blood culture bottles as follows:
 - 4.3.1 Negative cultures: Routine blood cultures: Discard all negative bottles after 5 days incubation.
 - 4.3.2 Positive cultures: When the bottle has been flagged positive by the Bactec, process it as follows:
 - 4.3.2.1 Gram stain (from charcoal free bottles).
 - 4.3.2.2 Sub-culture onto the following culture media: Blood Agar (BA), Chocolate Agar (CHOC) and MacConkey's Agar (MAC).
 - 4.3.2.3 The Gram stain may indicate the need for additional media or a change in the incubation conditions.
 - 4.3.2.3.1 Gram positive cocci in pairs and chains, use Optochin disc.
 - 4.3.2.3.2 detection of Yeast, add Sabouraud agar.
 - 4.3.2.3.3 For anaerobic samples, all plates are incubated in anaerobic jar.
- 4.4 Processing of Sub-cultures: Examine plates daily for 2 days.
- 4.5 Identification should be attempted as soon as there is adequate growth on a sub-cultured plate.
- 4.6 Identify organisms as per routine.
- 4.7 If both bottles of one set of blood cultures grow morphologically identical organisms, workup only from one bottle of the set.
- 4.8 If multiple bottles from the same patient collected within 72 hours of each other are positive and growing morphologically identical organism(s), then perform complete Identification and susceptibility testing from one set of sub-culture plates.
- 4.9 Reporting results:

- 4.9.1 2 Negative reports: "No growth after 48hrs & after 5 days incubation".
- 4.9.2 Positive report: Report organism with corresponding antibiotic susceptibility results (as appropriate).

5. MATERIAL AND EQUIPMENT:

- 5.1 Blood cultures bottle sets
- 5.2 Microbiology culture media
- 5.3 BACTEC/ ALERT 3D Instrument
- 5.4 BACTEC 9120 Instrument

6. RESPONSIBILITIES:

- 6.1 Assigned Technician for Microbiology
- 6.2 Clinical Pathology Specialist/ Consultant

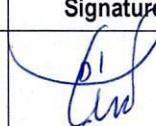
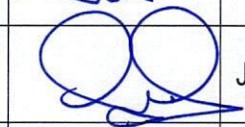
7. APPENDICES:

- 7.1 N/A

8. REFERENCES:

- 8.1 Procedure Manual, Toronto Medical laboratories / Mount Sinai Hospital, department of microbiology, P.R. Murray, E.J. Baron, M.A. Pfaller, R.H. Yolken. 2003.
- 8.2 Manual of Clinical Microbiology, 8th ed. ASM Press, Washington, D.C. H.D. Izemberg. 2003.
- 8.3 Blood Cultures-General Detection and Interpretation, p.3.4.1.1-3.4.1.19 In Clinical Microbiology Procedures Handbook, 2nd ed. Vol.1 ASM Press, Washington, D.C. 8.4.
- 8.4 Guidelines for Routine Processing and Reporting of Blood Cultures for Bacteriology. 2003. QMP-LS.

9. APPROVALS:

	Name	Title	Signature	Date
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