PROGRAM Standard Operating Procedure – Laboratory Services

Title: MIC71100 – BACTEC FX Maintenance	Policy Number:
Program Name: Laboratory Services	
Applicable Domain: Lab, DI and Pharmacy Services	
Additional Domain(s): NA	
Effective Date:	Next Review Date:
Issuing Authority: Director, Laboratory and Diagnostic Imaging Services	Date Approved:
Accreditation Canada Applicable Standard: NA	

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GUIDING PRINCIPLE:
The BACTEC FX Instrument is used with BACTEC culture vials to detect sepsis and bacteremia in patients. Maintenance is performed to ensure accuracy and precision of the various components of the BACTEC FX Instrument.

PURPOSE/RATIONALE:
This standard operating procedure describes the daily, monthly and as-required maintenance requirements for the BACTEC FX Instrument.

SCOPE/APPLICABILITY:
This standard operating procedure applies to Medical Laboratory Technologists (MLTs) processing specimens using the BACTEC FX Instrument.

REAGENTS and/or MEDIA:
- BACTEC internal thermometers
- BACTEC silver filter
- BACTEC black filter
- 10% sodium hypochlorite solution
- Clorox bleach wipes
- 70% isopropyl alcohol

EQUIPMENT:
- BACTEC FX Instrument
- EpiCenter computer
- Printer

SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials or cultures:

- Ensure that appropriate hand hygiene practices be used
- Lab gown must be worn when performing activities with potential pathogens
- Gloves must be worn when direct skin contact with infected materials is unavoidable
- Eye protection must be used when there is a known or potential risk of exposure of splashes
- All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC)
- The use of needles, syringes and other sharp objects should be strictly limited

All patient specimens are assumed to be potentially infectious. Routine Practices must be followed. Since viable micro-organisms are used, all cultures must be handled with appropriate precautions. All equipment in contact with cultures should be decontaminated by appropriate methods.
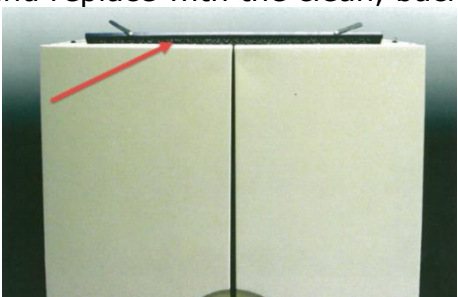
QUALITY CONTROL:

- Refer to MIC60010-Microbiology Quality Control for quality control procedures
- Record all actions and results of maintenance checks on MIC71110-Maintenance Record-BACTEC FX

PROCEDURE INSTRUCTIONS:

Step	Action
Daily BACTEC FX Maintenance	
1	**Record drawer A & B digital temperatures:** • From the Status display, select the Maintenance tab • View and record the temperature displayed below the Drawer Temperature and Status
2	**Record drawer A & B internal temperatures:** • Open drawer A and press the on/off button on the temperature probe • Record the internal temperature • Turn the probe off before closing the drawer • Close Drawer A and repeat process for Drawer B **NOTE:** Ensure the probe is turned off before closing the drawer
3	**Record drawer A & B station indicators:** • From the Status display, select the Maintenance tab • Open drawer A and select Station LEDs button • Select the Red button and view the red station indicators at each station • All the stations should glow red. Wait 5 seconds, lights will turn off • Repeat for both the yellow and green buttons • Close Drawer A and repeat process for Drawer B

Title: MIC71100-BACTEC FX Maintenance
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4	**Check the Alarm function:** • From the Status display, select the Maintenance tab • Select the alarm button to ensure the alarm is working and the volume is turned on
5	**Check System Status Indicators:** • From the Status display, select the Maintenance tab • Select the Status button • Both sides of all the indicators (yellow, red, and green) should illuminate on the front of the instrument
6	**Check current inventory:** • From the Status display, select the Reports tab • Select Current Inventory from the Reports: drop down menu • Select print on the bottom, right hand side • Review the Current Inventory report that prints and ensure each vial on the list has information in all the columns • If a vial is missing information in one of the columns, troubleshoot to determine the error

Step	Action
Monthly BACTEC FX Maintenance	
1	**Change silver air filter:** • Lift the left access panel • Remove filter and replace with the clean, backup filter: • Rinse filter with tap water and place on towel to dry • Return the clean, dry filter to the EpiCenter cart
2	**Change black air filter:** • Use a stool to reach the black air filter at the top of the instrument • Remove the filter and replace with the clean, backup filter: • Rinse filter with tap water and place on towel to dry • Return the clean, dry filter to the EpiCenter cart

3	**Clean exterior components:** • Dampen a gauze square with a 10% sodium hypochlorite solution (or use a Chlorox wipe) and wipe the instruments external surfaces (instrument top, sides, back, doors and computer and keyboard) **NOTE:** Do NOT use Accel TB to clean the BACTEC FX Instrument • Dampen a gauze square with 70% isopropyl alcohol and wipe the instrument surfaces • Repeat a second time with a new gauze square dampened with 70% isopropyl alcohol

Step	Action
	As-Required BACTEC FX Maintenance

1	**Blocking stations:**
	• Stations should be blocked if either station indicator fails to light during daily maintenance or if the station does not correctly detect vial removals and insertions:
	  ➢ Open the drawer for the station that is affected
	  ➢ Select the Maintenance tab, ensure the Test tab is selected
	  ➢ Select the Block/Unblock button
	  ➢ The Block/Unblock display appears
	  ➢ Select the station to block in the display
	  ➢ Repeat for any additional stations to be blocked
	  ➢ Remove any vial from the station
	  ➢ Insert a station plug located in the drawer of the BACTEC FX stand

CROSS-REFERENCES:
- MIC71110-Maintenance Record-BACTEC FX

REFERENCES:
1. Becton Dickinson and Company. (2016-12). *BD BACTEC FX Instrument User Manual*, 8005110(07)

APPROVAL:

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Date

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Director, Laboratory and Diagnostic Imaging Services

REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	06 Nov 17	Initial Release	L. Steven
2.0	29 Mar 19	Updated to reflect removal of DVD updating in EpiCenter	L. Steven
3.0	18 Aug 21	Procedure reviewed and added to NTHSSA policy template	L. Steven
4.0	01 Oct 24	Procedure reviewed	L. Steven