Clinical Laboratory Department POLICY AND PROCEDURE

POLICY NUMBER: 1084
VERSION: 3

SUBJECT: BacT/ALERT Blood Culture System

Principle

The BacT/ALERT Microbial Detection System utilizes a colorimetric sensor and reflected light to monitor the presence and production of CO2 dissolved in the culture medium. CO2 is produced by microorganisms possibly present in the patient's blood.

Supplies

1. BacT/ALERT SA Blood Culture Aerobic bottle , cat # B259789
2. BacT/ALERT SN Blood Culture Anaerobic bottle, cat #B259790
3. BacT/ALERT PF Blood Culture Pediatric bottle, cat # B259794
4. Kendall Monoject Angel Wing Transfer Device – Female FisherHealthcare cat # 22-031-353
5. Kendall Monoject Angel Wing Transfer Device – Male FisherHealthcare cat # 22-031-354
6. Chlorascrub Swab, Providone Iodine, Chloraprep, or equivalent disinfectant
7. Alcohol swabs
8. Butterfly collection set

Limitations

1. When using butterfly collection systems, always draw the AEROBIC bottle first.
2. When using needle and syringe, always inoculate the ANAEROBIC bottle first. Remember, the idea is to remove the potential of introducing air into the anaerobic bottle.
3. NEVER use Chlorascrub to cleanse venipuncture site on infants under 3 months of age. Always clean venipuncture site on infants using alcohol and Povidone Iodine or ChloraPrep.
4. If you need to draw tubes other than the blood culture tubes, always draw the blood cultures first.
5. Do not use any BacT/ALERT bottle in which the bottom indicator has turned yellow. The bottom indicator should be a muddy grey-green-blue. If the indicator is yellow it has already been exposed to CO2, and will not register any possible positive growth.

Adult Blood Culture Procedure

1. Prepare venipuncture site. Locate vein, remove tourniquet (if applied) and cleanse area with Chloraprep, or equivalent disinfectant. Use gentle repeated back and forth strokes for 30 seconds.
2. Allow to dry on skin at least 3 minutes.
3. Prepare bottles: Pop off metal flip-caps, and sterilize the tops of each bottle with sterile alcohol. Cover bottle tops with open swab to minimize airborne contamination.
4. Attach butterfly assembly to the Angel Wing transfer adapter. Remove inside insert to attach the blood culture bottle(s). Remove by pulling on outside lip of insert. DO NOT PUT YOUR FINGER INSIDE THE DEVICE to remove the insert. Puncture hazard!
5. Re-attach tourniquet, draw blood into the blood culture bottles (will draw into the bottles immediately). Draw 10 mL in each bottle. Although lower sample volumes can be used, recovery may be improved using a sample volume closer to 10 ml. Draw the AEROBIC bottle first, then the ANAEROBIC bottle, then any other tubes.
6. If more tubes are desired, re-insert the tube transfer insert after the last blood culture bottle, while the needle is still in the patient's vein. Fill as many tubes as required. Remove tubes,

release tourniquet, remove needle from arm. Apply cotton, label blood culture bottles and other tubes collected in the presence of the patient.

7. Keep the blood culture bottle at room temperature while awaiting transport the testing lab (MLK-MACC) or backup reference lab. The BacT/ALERT determines positive growth by a change in CO2 tension. If the bottles are incubated immediately, the change may have already occurred before the bottle enters the system, and the change (positive growth) may be missed.

Pediatric Blood Culture Procedure

1. This cleaning procedure is to be used on infants 3 months old and younger.
2. Prepare venipuncture site. Locate vein, remove tourniquet (if applied) and cleanse with alcohol, followed by cleansing with a betadine swab or SEPPS betadine pledget. ChloraPrep can be used instead. DO NOT USE CHLORASCRUB products on infants under 3 months old! Use a gentle repeated back and forth strokes for 30 seconds.
3. Allow to sit on the infant's skin until dry, a minimum of 3 minutes. Do not blot or wipe away.
4. Prepare bottle: Pop off metal flip-cap, and sterilize the top of the bottle with sterile alcohol swab. Cover bottle top with open swab to minimize airborne contamination.
5. Use butterfly assembly for drawing blood.
6. Re-attach tourniquet, draw blood into the Pediatric (yellow-top) blood culture bottle using the female adapter attached to the butterfly assembly (will draw into the bottle immediately). Draw up to 4 mL in the bottle. Although blood volumes lower than 4 ml can be used, recovery may be improved using a blood volume closer to 4 ml. Remove bottle, release tourniquet, remove needle from arm. Apply cotton, label blood culture bottles (and other tubes collected) in the presence of the patient.
7. Keep the blood culture bottle at room temperature while awaiting transport to testing lab (MLK-MACC). The BacT/ALERT determines positive growth by a change in CO2 tension. If the bottles are incubated immediately, the change may have already occurred before the bottle enters the system, and the change (positive growth) may be missed.

Transport to testing laboratory

1. KEEP AT ROOM TEMPERATURE!
2. Blood cultures will be ordered as usual through the Hospital Information System.
3. Barcodes will be generated and the Blood Culture bottles labeled per laboratory policy.
4. Bottles will be received and then sent per laboratory procedure to MLK.

References

1. BacT/ALERT PF Package Insert. bioMerieux, 2008.
2. BacT/ALERT SA Blood Culture Aerobic, bioMerieux, June 2008
3. BacT/ALERT SN Blood Culture Anaerobic, bioMerieux, June 2008
4. Chlorascrub Swab, Instructions, PDI.
5. ChloraPrep One-Step Instructions, CareFusion

Approved By: Brian Yee (PHYS SPEC PATHOLOGY)	
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Revised:	7/7/2010– dnb/jh – added Lab Users' Manual to distribution list; added explicit language that bottles and tubes are to be labeled in the presence of the patient; added yellow-top for Pediatric patients; corrected typo in product name 6/8/12 rlw – remove bullets 6 & 7 under "Transport to testing lab" - removed specific weekend processing language as Blood Cultures now go to MLK MACC 7days/week, 4/29/13 jh added equivalent disinfectant, clarified draw quantities, 8/5/13 jh added use of Chlora Prep, 3/28/17jh (removed reference to sending to HDH since SV transports directly to MLK, and changed approver to Dr.Yee)
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