Blood Cultures - Routine Bacterial

Please note: Blood volume is the most critical factor in recovering bacterial agents in a blood culture. Make every attempt to draw the full 20 mls of blood (See Venipuncture - Specimen Collection table below).

Material Equipment

1. Sterile syringe and needles.
2. Alcohol preps -- 70%.
3. *ChloraPrep Frepps* applicator.
4. VersaTREK blood culture bottles – *obtain from North Memorial – Laboratory Services.*

For Test #1292 - Culture, Blood: 5-20 ml blood drawn (20 ml is optimal)

- *Versa TREKRedox 1* (80 ml blue) - specially formulated to support the recovery of aerobic and facultative microorganisms.
- *Versa TREKRedox 2* (80 ml red) - A highly enriched medium found to inactivate aminoglyosides antibiotics and supports the recovery of anaerobes and facultative organisms.

For Test #1020 - Culture, Blood, Aerobic (one bottle): 0.5-5 ml blood drawn

- *Versa TREKRedox 1* (80 ml blue) or
- *VersaTREK Redox 1 EZ* Draw **(40 ml silver)** – Used in NICU only.

Recommended Number and Timing of Blood Cultures for Providers to Request

1. In general it is recommended to draw two blood samples from two separate sites – 30 minutes apart before starting antibiotic therapy.** Up to three within 24 hours is acceptable. For customers with a fever of unknown origin another two blood samples may be collected after 24 to 36 hours.

   ** Drawing two sets of blood cultures 30 minutes apart is the standard recommendation, however it is also acceptable to draw one right after the other, as long as two separate sites are used and that proper aseptic collection procedure is followed for each.
2. For customers on antimicrobial therapy up to six blood samples are acceptable over 48 hours (not more than three in 24 hours still applies). It is recommended that samples be collected immediately prior to the next dose of antimicrobial agent.
3. Suspected endocarditis, continuous bacteremia of low magnitude:
   Acute: Draw 3 samples from 3 separate sites during the first 1 to 2 hours of evaluation, and begin therapy.
   Subacute: Draw three samples on day 1 (15 minutes or more apart). If all are negative on day 2, obtain 3 more.
   Endocarditis customers on antimicrobial therapy: Draw two separate samples on each of three successive days.
4. If for any reason more than three blood cultures are requested by a non-infectious disease physician within 24 hours, the information will be sent to a pathologist for review.

Procedure

Skin Preparation

1. Assemble all equipment needed and disinfect the exposed tops of the bottle stoppers using *ChloraPrep Frepps* applicator. Do Not Remove the aluminum seal or metal screw cap.
2. Apply tourniquet and palpate area for vein location. Gloves must be worn while drawing blood cultures.
3. Use a fresh *ChloraPrep Frepps* applicator to cleanse the puncture site.
   a. Vigorously rub in a back and forth motion over the puncture site.
   b. Do this in both directions, up and down and side to side, for 30 seconds.
   c. Allow to area to dry.
4. **Do Not Palpate Area After Cleaning.** If it is absolutely necessary to palpate again in order to obtain the blood sample cleanse your glove finger(s) as you did the puncture site:
   a. Vigorously rub another fresh *ChloraPrep Frepps* applicator in a back and forth motion over your gloved fingers.
   b. Do this in both directions, up and down and side to side, for 30 seconds.
   c. Allow to area to dry.

Venipuncture - Specimen Collection

1. Blood culture bottles are inoculated at the bedside.
2. Recommended / Optimal volumes: See Blood Culture Volume table below

Blood Culture Ordered	Specimen Collection Container	Volume of Blood Required	Maximum Frequency per 12-36 Hour Period
Routine **NMHH**: aerobic- blue anaerobic- red pediatric- silver	**Infant**: (body weight of less than or equal to 2.2 lbs) One (1) pediatric aerobic bottle; add or replace with anaerobic if anaerobic infection is suspected.	2 mL in one pediatric bottle *1 mL minimum	(2) sets
	Infant: (body weight between 2.2 – 9 lbs) One (1) pediatric aerobic: Add or replace with anaerobic if an anaerobic infection is suspected.	5-10 mL in one pediatric bottle * 5-10 mL total	(2) sets
	Toddler/Child (body weight between 9 – 30 lbs) One (1) aerobic and One (1) anaerobic	3 – 10 mL in each bottle * 10-20 mL total	(2) sets
	Adolescent: (body weight between 30 – 66 lbs) One (1) aerobic and One (1) anaerobic	10 mL in each bottle *20 mL total	(2) sets
	Adult: (> 66 lbs) One (1) aerobic and One (1) anaerobic	10 mL in each bottle *20 mL total	(2) sets
Fungal	Isolator microbial 10mL tube for those > 6 years Isolate microbial 1.5 mL tube for those < 6 years	Infant/Toddler Child same as routine culture volumes. Adolescent and Adult = 5 mL~~l~~ maximum	(2) sets

* This recommended amount of blood for children is only a guideline and depends more on the size of the child and difficulty to obtain than age. Blood volume is the most critical factor for a blood culture.

3. If the volume actually collected is less than recommended / optimal due to difficult draws etc.:
   a. 5.0 – 20.0 mL Split sample equally between the *Redox 1* (80 ml blue) and Redox 2 (80 ml red) bottles
   b. 0.5 – 5.0 mL Place entire sample into the *Redox 1* (80 ml blue) bottle or the *Redox 1 EZ* **(40 ml silver)** for NICU patients.
4. If other lab tests are ordered, use a butterfly and luer adapter, inoculating the blood culture bottles first.
5. After inoculating bottle(s), wipe off the tops of bottle(s) with a fresh alcohol prep to remove any blood.
6. Mix the blood and broth by inverting 4-5 times.
7. Label bottle(s) with:
   a. Customer's first and last name
   b. A second identifier such as date of birth (not room or bed number)
   c. Date and time drawn
   d. Collector's printed initials
   e. Specimen number
   f. Site drawn from (i.e. right or left arm)
   g. If drawn from a line, record the type of line on both the tube and the order.
   Note: Never draw blood cultures from a line unless specifically requested by physician.
8. Send specimen to the Laboratory ASAP. Leave specimen at room temperature. **Do Not Refrigerate**