Appendix A: Blood Culture Procedure

Procedure: Pediatrics - please follow pediatric appendix B for volumes in this population

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplies (allows for drawing two sets of blood cultures)</td>
<td>Unit Supply</td>
</tr>
<tr>
<td>Chloraprep Frepp (2)</td>
<td></td>
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<tr>
<td>For Chlorhexidine sensitive patients use Iodine frepp (tincture of iodine) (2)</td>
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<tr>
<td>Alcohol Wipes (4 or more)</td>
<td></td>
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<tr>
<td>Culture bottles</td>
<td></td>
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<tr>
<td>Biohazard specimen bags (2)</td>
<td></td>
</tr>
<tr>
<td>Pathology 5 Microbiology – Routine requisition forms and patient identification labels OR POE labels (2)</td>
<td></td>
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<tr>
<td>Sterile gloves (2)</td>
<td></td>
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<tr>
<td>Mask</td>
<td></td>
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<tr>
<td>Additional supplies needed for 2 peripheral sticks:</td>
<td>Unit Supply</td>
</tr>
<tr>
<td>Tourniquet</td>
<td></td>
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<tr>
<td>Gauze pad 2x2 (2)</td>
<td></td>
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<tr>
<td>Band-Aids</td>
<td></td>
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<tr>
<td>Butterfly device with preattached vacutainer holder (2)</td>
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<tr>
<td>Additional supplies needed for drawing blood out of one central catheter site</td>
<td>Unit Supply</td>
</tr>
<tr>
<td>Prefilled 10 mL NSS syringe(to flush infusion port and VAD after blood draw)1 or 2 depending on catheter</td>
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<tr>
<td>Heparin Flush, if ordered (to flush infusion port and VAD after blood draw; not necessary for lines with continuous infusions)</td>
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<tr>
<td>20 cc syringe (1)</td>
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<tr>
<td>Vacutainer blood transfer device with female adapter</td>
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<tr>
<td>Needleless connector, if applicable</td>
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</tbody>
</table>

A. Preliminary steps to obtaining blood for blood culture:
   1. Gather the necessary supplies. Check the expiration date of the culture bottles. Check the bottles visually to rule out gross turbidity.
   2. For ED or outpatient areas: Determine the type of culture bottles required by the prescriber’s order (aerobic and anaerobic bottles).
   3. Verify the patient’s identification by using two patient identifiers per policy.
   4. Explain the procedure to the patient and/or their significant other if present.
   5. Mark culture bottles with a pen or marker, indicating the 10 ml fill point.
   6. Remove dust caps from culture bottles.
   7. Scrub culture bottle top surface with alcohol wipe(s). Do not use iodine.
   8. If using an isolator tube, scrub the top of the tube prior to inoculation.
   9. Leave the alcohol wipe(s) on the bottle top(s) during skin preparation.
  10. Wash or sanitize hands, and don appropriate protective equipment such as a mask and/or shield.

B. General Information:
   1. Draw blood cultures prior to obtaining other blood samples.
   2. Choose approach to be used and follow the directions below:
Appendix A: Blood Culture Procedure

C. Blood culture from peripheral vein:
1. Create a sterile field with the inside of the outer sterile glove package
2. Open and place the following on the field
   a. Gauze pads
   b. Butterfly device with preattached vacutainer holder
   c. Chloraprep Frepp 1 ml
   d. Band-aid
3. Apply a tourniquet to the extremity and identify the phlebotomy site
4. Prepare the phlebotomy site:
   a. Cleanse and scrub the site with 2-3 alcohol swabs, and allow it to dry for at least 30 seconds
   b. Don sterile gloves
   c. Squeeze the handle of the Chloraprep Frepp to release the solution and scrub the skin with the foam surface using a circular scrubbing motion for 30 seconds, starting at the phlebotomy site and working outward. A 10 cm area of the skin shall be disinfected
   d. If the patient is allergic/sensitive to chlorhexidine, use tincture of iodine. Use povidone-iodine only if the skin of a given patient cannot tolerate an alcohol-based product. The use of povidone-iodine is proven to be associated with high contamination rates compared to either chlorhexidine or tincture of iodine.
   e. Allow the site to dry at least 30 seconds before the venipuncture
5. Collecting peripheral culture
   a. Insert the needle into the vein
   b. Try to keep dominant hand sterile.
   c. Remove the alcohol pad from the top of the culture bottles
   d. Attach the vacutainer to the blood culture bottle and inoculate each culture bottle with exactly 8-10 ml of blood, using previously marked indicator line. If less than 10 ml of blood was obtained, inoculate aerobic bottle with total amount obtained.
   e. Remove the tourniquet and butterfly needle from the site and cover with a gauze dressing.
   f. Apply pressure to site as needed.

D. Blood culture from central venous catheter
1. Open the sterile gloves and place them near the needleless port of the catheter to be used.
2. Create a sterile field using the inside portion of the outer sterile glove package. Open the sterile glove package and place it near the needleless port/lumen of the catheter to be used for specimen collection.
3. Place the following on the the sterile field:
   a. Gauze pads
   b. Sterile vacutainer blood transfer device with female adapter
   c. 20 ml sterile luer lock syringe
   d. Needleless connector (e.g., Clave)
   e. 3-4 alcohol swabs
   f. 10 ml pre-filled NSS flush (1 or 2) - place on edge of field if not using sterile packaged NSS flush syringes
4. Tear open the alcohol swab package and lay the swab/packaging near the edge of the sterile field or remove it from the packaging and place it on the sterile field.
5. Pause infusion pump, if appropriate.
6. Clamp the catheter, if a clamp is present.
7. Don sterile gloves.
8. Hold catheter with the non-dominant hand.
9. Using the dominant (sterile) hand, scrub the catheter port/lumen or connection closest to the insertion site with the alcohol swab by twisting the swab around the catheter at least 10 times.
10. Disconnect the line, if applicable, and assure that the end of the infusion tubing is covered with a sterile cap.
11. Remove the needleless connector (e.g., Clave). Do not draw blood cultures through existing needleless connector.
12. Scrub the catheter hub with an alcohol swab by twisting the swab around the catheter at least 10 times.
13. Replace with a new sterile needleless connector (optional)
14. Attach a 20 ml sterile syringe to the catheter port and withdraw 20ml of blood.
15. Clamp catheter, if applicable using the non-dominant hand.
16. Remove the syringe and place it on the sterile field being sure to prevent any contamination of the syringe tip.
17. Scrub the hub with alcohol 10 times.
18. Flush according to the VAD protocol. Scrub the hub. Remove the sterile cap from the infusion tubing and connect to the catheter and restart the infusion pump, if applicable.
19. Attach the 20 ml syringe with blood culture specimen to the vacutainer blood transfer device
20. Remove the alcohol swabs from pre-prepped blood culture bottles.
21. Inoculate bottles, filling each culture bottle with 8-10 ml of blood.

E. Sending Specimen
1. For POE units:
   a. Label the culture bottles with a POE generated label in the presence of the patient. Indicate the time that the specimen was obtained.
   b. Do not place a label over the bar-coded area of the bottle. Indicate the site from which the blood specimen was collected using the comment section.
   c. If using a central catheter to draw the culture, and it is not indicated on label, you must indicate the type and site of central catheter in the comments section (i.e., left subclavian triple lumen).
   d. Place approved netting around each bottle to prevent breakage.
   e. Bar code scan specimens.
2. For non-POE units:
   a. Label the culture bottles with the patient’s name and history number in the presence of the patient. Indicate the time that the specimen was obtained.
   b. Complete a Pathology 5 (Microbiology-routine) lab slip.
   c. Indicate the site from which blood was collected using the comment section. If using a VAD to draw the culture, you must indicate the type and site of the VAD in the comments section (i.e., left subclavian triple lumen).
   d. Select the appropriate test (i.e., Blood Culture – 7510).
   e. Indicate the suspected diagnosis, such as rule out endocarditis.
   f. Include the date and time of specimen collection.
   g. Place approved netting around each bottle to prevent breakage.
   h. Document that the cultures were obtained on the appropriate nursing form, if applicable
3. Send the specimen directly to the Microbiology Lab as soon as possible (use the pneumatic tube). Never refrigerate blood culture specimens.