ROUTINE BLOOD CULTURES

Each culture will consist of an aerobic and anaerobic bottle set using aseptic technique (see below). For each episode of bacteremia, blood should be collected from two separate sites (i.e., blood culture x2). Thus, a total of 2 cultures or 4 bottles (2 sets) will be collected per episode of bacteremia. More than three sets yields little additional information. Conversely, intermittent bacteremias may be missed and positive results will be difficult to interpret if only a single set is drawn.

VOLUME: The single most important variable in detecting bacteremia and fungemia is adequate volume. Recommended volumes of whole blood:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Culture Media</th>
<th>Number of Cxs</th>
<th>Volume per Bottle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults (&gt;16 yrs)</td>
<td>aerobic &amp; anaerobic</td>
<td>2 separate sites</td>
<td>8 to 10 mls</td>
</tr>
<tr>
<td>Children (&lt;10 yrs)*</td>
<td>(see below or per prescriber)</td>
<td>2 separate sites</td>
<td>minimum 1 ml; up to 5 mls preferred</td>
</tr>
<tr>
<td>Children (&gt;10 yrs)*</td>
<td>(aerobic &amp; anaerobic or per prescriber)</td>
<td>2 separate sites</td>
<td>5 to 8 mls</td>
</tr>
</tbody>
</table>

*Kits consisting of only the aerobic bottle will be supplied to the NICU and kits with aerobic and anaerobic bottles will be supplied to the PICU. Orders of the prescriber will be most important for pediatric bacteremia because the volume collected should not exceed 1% of the patient's total blood volume. Indications for anaerobic infection should be considered along with clinical status and weight of the child.

FOR ACUTE SEPSIS, MENINGITIS, OSTEOMYELITIS, UNTREATED ACUTE PNEUMONIA OR PYELONEPHRITIS
Draw 2 samples consecutively from separate sites before therapy for adults. Follow MD order for pediatrics.

FOR FEVER OF UNKNOWN ORIGIN, SUBACUTE BACTERIAL ENDOCARDITIS, OR CONTINUOUS BACTEREMIA OR FUNGEMIA
Draw 3 samples at least 15 minutes apart.

FOR DOCUMENTATION OF CURE
Draw cultures when levels of antibiotics are lowest (trough levels).

MYOBACTERIAL BLOOD CULTURES
Draw 5 mls of whole blood into a BacT/Alert MB bottle. Only one culture bottle is necessary. Mycobacterial blood culture bottles are available in the microbiology laboratory.

FUNGAL BLOOD CULTURES
For adults draw 10 mls of blood into Isolator™ tubes. Collect 2 tubes. For pediatric patients draw 1.5 mls into pediatric™ Isolator tubes. Collect 2 tubes, if possible. Isolator tubes are available in the microbiology laboratory.

Aseptic Technique for Blood Culture Collection:
1. Apply a tourniquet 5 to 10 cm (2 to 4 inches) above the first potential venipuncture site.
2. Select first venipuncture site. Release tourniquet.
3. Perform hand hygiene and don clean gloves.
4. Clean bottle tops of vacuum tubes or culture bottles with an alcohol swab.
5. Carefully prepare proposed venipuncture site by scrubbing with chlorhexidine-based antiseptic applicator (use CHG 2% for infants < 3 months) and allowing to air dry 60 seconds.
6. Reapply tourniquet. Do not repalpate site without first donning sterile gloves.
7. Perform vein puncture using a butterfly (winged needle) device.
8. Attach butterfly needle to the blood transfer device so that the sample can be collected directly into culture bottle.*
9. Inoculate the aerobic bottle first, then anaerobic bottle by inserting bottle into the sleeve of the device.
10. Mix gently after inoculation.
11. After obtaining the specimen, release the tourniquet.
12. Apply 2 × 2-inch gauze over puncture site without applying pressure, and quickly but carefully withdraw needle from vein.

* For small children and infants, attach butterfly device to a syringe, and withdraw appropriate amount of blood.