




IMPROVING PATIENT CARE WITH BLOOD CULTURES

<p>Why are blood cultures ordered?</p>	<p>Blood cultures are used to determine if the patient has a bacterial infection so the appropriate treatment or antibiotic can be provided.</p> 
<p>What's the big fuss about following the proper collection technique?</p>	<p>If the proper collection technique is not followed, the blood culture can be “contaminated” and result in a False-Positive. If not enough blood is collected and put in the blood culture bottles, a False-Negative can occur. Both of these situations can have adverse affect on the patient.</p>
<p>What are the repercussions of a <i>False-Positive</i> Blood Culture?</p>	<p>A False-Positive leads the physician to believe the patient has an infection – but really the patient doesn't. This can result in:</p> <ol style="list-style-type: none"> 1) Additional costs for testing and treatment 2) Increased length of stay for the patient 3) Unnecessary antibiotics being given to the patient 4) ED patient may have to be called back into the hospital for additional follow-up and retesting. <p><i>Statistics show that a false-positive blood culture can add 4.5 days and approximately \$8,000+ to a patient visit.</i></p>
<p>How can I cause a <i>False-Positive</i>?</p> 	<ol style="list-style-type: none"> 1) Inadequate cleansing of skin collection site, blood culture bottle tops, or line access port 2) Touching the cleansed skin or other items after cleansing 3) Collecting from a recent line where the puncture site wasn't adequately cleansed before insertion. 4) Collecting from an established port or line 5) Collecting other tubes before the blood culture bottles
<p>What are the repercussions of a <i>False-Negative</i> Blood Culture?</p>	<p>A False-Negative leads the physician to believe the patient does not have an infection, but in fact they do. The patient's anti-biotics may then be discontinued or withheld and the bacteria could grow and multiply and cause a more serious condition (or death!) for the patient later.</p>
<p>How can I cause a <i>False-Negative</i>?</p>	<ol style="list-style-type: none"> 1) Adding less than 10 ml of blood into each bottle Note: if able to only get 10 ml, put all in aerobic (blue) bottle 2) Collecting two blood culture <i>sets</i> at the same time or same venipuncture (decreases chances of finding bacteria)
<p>How is a blood culture determined to be “contaminated.”</p>	<p>It's not always easy to determine if the organisms in a blood culture come from the patient or from some other source. The lab has certain criteria to help distinguish “contaminated” from really positive blood cultures. Lab monitors monthly to verify that our facility is below the national benchmark rate of 3% for blood culture contamination.</p>
<p>Why can't both sets of blood cultures be collected at the same time? This requires the patient to be stuck <i>twice!</i></p>	<p>Bacteria aren't disseminated in the blood stream in equal amounts at all times. Collecting two or more sets enhances the possibility of finding the organism, and is especially helpful in early stages of infection. Collecting two sets at once from the same venipuncture bills the patient twice and can be construed to be fraud and abuse.</p>

Can I collect a blood culture from a line?	Yes, a line can be used if it is newly inserted and the venipuncture site was cleansed with a ChloroPrep. The access port must also be cleansed with a ChloroPrep or alcohol. When a line is used for the first collection, <i>it is preferable</i> to collect the second set from a venipuncture (if possible). If the line-drawn culture is positive and the peripheral stick is negative, this could help distinguish that the line itself was contaminated.	
How long must I wait before collecting the second set of cultures?	Wait a minimum of 5 minutes between collections.	
What should I write on the specimen label?	Initials (soon changing to Employee ID) Date and Time of collection Site of collection (“Line” or “L Arm” if venipuncture)	

Best Practice for Blood Culture Collection:

1. **Perform Hand Hygiene and put on gloves**
2. **Identify the patient; explain procedure; and gather collection supplies.**
3. **Mark bottle with target after filling with 10 ml of blood (Bottle should remain in upright position when filling)**
4. **Remove the snap cap from each bottle and clean the rubber stopper with alcohol and allow to dry.**
5. **The puncture site should be free of infection or skin disorder. Apply tourniquet to identify vein. Release tourniquet if venipuncture is delayed and reapply when necessary. To prepare the puncture site, hold the ChloroPrep horizontally with the sponge downward and squeeze the wings to activate. Use repeated back-and-forth strokes for 30 seconds. Allow the site to dry for 30 seconds.**
6. **The puncture site must not be touched again or it will be contaminated. (A gloved finger may be used to palpate the vein but only if it has been disinfected immediately prior with a ChloroPrep.) If the site is compromised by a non-sterile hand or object, disinfect the site again.**
7. **When collecting from a line, the access device’s end cap must be cleaned for 10-15 seconds with alcohol and then flushed with sterile saline. Before withdrawing a sample, the access cap must be cleaned a second time for 10-15 seconds with alcohol. Cap should be cleaned and line flushed again with saline after the blood collection. NOTE: Lines must be freshly inserted after proper prepping. MedStar lines are not appropriate collection sites if the puncture site was not cleansed for blood cultures.**
8. **Fill the bottles appropriately. If using a blood collection adapter, inoculate the aerobic (blue) bottle first. If using a syringe, fill the anaerobic (purple) bottle first. A transfer device should be used when filling bottles from a syringe.**
9. **Apply pressure to collection site and ensure bleeding stops.**
10. **Activate collection safety devices and dispose of collection supplies.**
11. **Label the blood cultures at the patient bedside. Document initials (or Employee ID #), date and time, and site of blood draw (line or stick).**
12. **Put bottles in biohazard bag, close and send to Station 15.**
13. **Remove gloves and perform hand hygiene.**

