From the Center for Phlebotomy Education's Educational Toolbox

Blood Collector's ATM

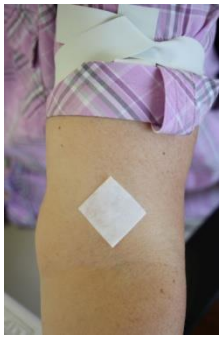
Abbreviated Teaching Modules for staff development, competency, and classroom

Blood Cultures Done Right #3208

Physicians order blood cultures on patients when they suspect bacteria in their blood is making them sick. They depend on the person collecting the blood to use proper procedure, so that the results are accurate and not influenced by contamination.

Unfortunately, preventing blood culture contamination remains one of the greatest challenges in hospitals. Why are so many blood cultures contaminated? Technique. Because of poor technique, the person collecting the blood specimen easily introduces contaminants into the sample. By following the procedure below, those responsible for collecting blood cultures will contribute to results the physician can depend on.

1. There is nothing like a good scrub to get bacteria off the surface of the skin and out of those little nooks and crannies they are hiding in. A good scrub requires 30 to 60 seconds of friction, moving the applicator up and down, back and forth, and in circles. Don't be timid about getting the skin cleansed, scrub it. The applicator should be wet with the solution your facility uses for cleansing blood culture sites. Most facilities use chlorhexidine, but others are also available. Whatever cleansing solution your facility uses, it does not kill on contact like bug spray. You must leave the solution on the skin for the amount of time recommended by the manufacturer, usually 30 seconds. Be patient. Do not dry it off with gauze, not even a sterile one. Don't blow on it. If the patient knows you are waiting for it to dry, they may try to help by blowing on it. If this happens, the site will have to be cleaned again. There are no short-cuts to the cleansing procedure.
2. Now that you have the puncture site clean, keep it that way. For those of you who have to feel for that vein just one last time before the needle slides in (you know who you are), this next rule is going to be hard: Do not touch the intended puncture site after it has been cleansed. If you have to touch the skin to relocate the vein, you have to cleanse the skin again. Also, when reapplying the tourniquet, put it on in such a way so that the ends do not flop down into the cleansed area or guess what? You will have to clean it yet again.
3. With the puncture site properly decontaminated, are you done cleaning yet? Not quite. Get all your supplies together for the collection. Mark the fill line on the side of the blood culture bottle label, then remove the seal from the blood culture bottle and wipe the rubber stopper with an alcohol prep. If using a winged collection device, leave the device in the open package until the tube holder is attached. Do not let anything touch the cleansed puncture site or the blood culture bottle stopper.
4. Okay, the puncture site is ready and the supplies are ready. Let's draw the sample. Reapply the tourniquet (watch those ends). Remove the sheath from the needle. Place your gloved thumb below the intended puncture site and pull down to stretch the skin tight, anchoring the vein. Slide the needle quickly and smoothly into the vein and hold the device in place. Do not let go of the winged collection device. It could easily be dislodged. Use your free hand to insert the tube holder down over the aerobic bottle and allow it to fill to the pre-marked fill line. Now do the same with the anaerobic bottle.
5. Fill any other tubes you need to fill during this collection (in the proper order, of course) to complete the process.
6. There you have it; a perfectly executed blood culture collection. That's great if the patient has easy-to-find veins. What about the patient whose veins are hard to find without repalpating the site? Glad you asked; keep reading.



For the difficult to locate vein: With the tourniquet on, find the vein and keep it on while you cleanse the site. The scrubbing will help the vein stand out better. As soon as the scrub is complete, place a new alcohol prep close to the puncture site with one corner of it pointing to the location of the vein. Loosen the tourniquet, being careful not to knock the alcohol pad from its location. Allow the site to dry while you prepare the supplies. When ready to obtain the specimen, reapply the tourniquet, again being careful not to dislocate the alcohol prep, and proceed with the collection as described above. The corner of the alcohol swab will point the way to the vein and insertion site.

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Test your knowledge:

1. What can happen when the collector contaminates a blood culture?
   a) the patient may receive medication they don't need
   b) additional expense for patient and facility
   c) undermines physician confidence in laboratory
   d) all of the above

2. What is the main cause of contaminated blood cultures?
   a) a malfunctioning incubator
   b) improper timing of blood culture collection
   c) errors in technique
   d) poor patient hygiene

3. What is best way to prevent a blood culture from becoming contaminated?
   a) cleanse the site properly
   b) prevent collection supplies from touching any unsterile surface
   c) re-palpate after cleansing to confirm vein location
   d) both a and b

4. Solutions used to decontaminate the skin prior to a blood culture collection kill bacteria on contact.
   a) true
   b) false

5. The tops of blood culture bottles are sterile and do not need to be cleaned.
   a) true
   b) false

6. How should the intended puncture site be cleansed prior to a blood culture?
   a) a 30 to 60 second friction scrub, wiping excess cleansing solution away with gauze
   b) wipe the site down with the cleansing solution and allow it to dry
   c) a 30 to 60 second friction scrub, allowing the cleansing solution to air dry for at least 30 seconds
   d) cleanse the site in a circular motion from inside to out then immediately perform collection

7. Who is responsible for collecting blood culture specimens correctly?
   a) the healthcare worker collecting the specimen
   b) the lab tech reporting bacterial presence in the broth
   c) the ordering physician
   d) the registration clerk

Name: _____ Date: _____

Facility/Supervisor_____ Dept: _____