

## FAQs for Blood Cultures in Critical Care

1. Review the decision tree for blood cultures for obtaining [blood cultures](#)

2. **What does an order for blood cultures mean?**

An order for blood cultures requires a minimum of 2 sets of cultures (each set includes one aerobic and one anaerobic bottles).

Each set must be obtained from a separate draw. Separate draws increase the chance of growing organisms and help to rule-out contaminants.

If two different draws cannot be obtained, DO NOT collect more than one sample from the same draw (this can lead to incorrect interpretation if results are assumed to be separate sites). If a second sample cannot be obtained, document the reason for the single sample.

Collect 10 ml for each volume to increase the likelihood of growing an organism.

3. **Should I include the discard sample when collecting blood cultures from an indwelling line?**

When drawing blood from an indwelling line, the initial 10 ml draw should include the discard sample. The discard volume is added to the first bottle (aerobic) **UNLESS THE LINE IS BLOCKED WITH CITRATE** as citrate may provide antiseptic properties (e.g. dialysis catheters).

4. **How long should I wait before starting antimicrobials?**

When sepsis is suspected, blood cultures should be collected STAT and antimicrobials initiated as quickly as possible (within 30 minutes). Ideally, cultures should be drawn before starting antimicrobials to increase the potential to grow organisms. However, if a patient is in shock, do not delay starting antimicrobials.

Ask for help (ask a colleague to draw blood cultures or initiate your antimicrobials). It takes more than one person to meet optimal timeframes. Once hypotension develops, mortality increases 8% for every hour that antimicrobials are delayed.

5. **How do I order blood cultures?**

Label each sample in a very detailed way. Identify the exact site (e.g., distal lumen of R SC triple-lumen). Be sure to identify the age of the line (6 days old, or inserted April 6). If the line is brand new and the blood culture will be the first sample drawn from this line, you can label it "peripheral". Do not use the label "blood"; identify the type of line (e.g, arterial, peripheral) or choose "peripheral". The more information

provided, the easier it is to interpret subsequent results.

#### **6. Do I always need to send a peripheral blood culture sample?**

One peripheral blood culture should be obtained each time blood cultures are ordered.

A peripheral blood culture is not required if the culture is the first draw from a newly established line.

Positive blood cultures that are drawn from a newly established line suggests and existing infection.

#### **7. What is a CAB (Catheter Associated Bacteremia) assessment?**

A CAB assessment is done when a patient has an existing central venous or arterial line, to help determine whether a blood stream infection is likely due to an infected vascular line or due to another source.

During a CAB assessment, blood cultures are drawn from the indwelling line(s) AND a peripheral venipuncture at the same time. If both samples grow the same organism, and the indwelling line culture becomes positive by > 2 hours before the peripheral blood culture, the line is the likely source of the infection. If the peripheral culture becomes positive first or within 2 hours of the indwelling line, the patient has a bacteremia that is less likely due to an infected line.

A CAB assessment is only indicated to evaluate infection in a patient with an existing line. Do not request a CAB assessment unless the patient has at least one preexisting line (this could include a PICC, dialysis line, chemotherapy line, or any other central line), and the line is not being removed at the time of culture.

#### **8. How do I order a CAB assessment?**

To order a CAB, draw a set of blood cultures from each indwelling line PLUS one peripheral culture. All cultures should be obtained within ~15 minutes.

Be sure to request a CAB assessment in the “comments” section of each sample. All blood culture bottles must be sent to the lab together. Place each set in a lab specimen collection bag. Place all of the cultures into one large plastic bag to ensure that the sample arrive together. Place a blank white sticker on the outside of the bag and record “CAB” on the outside.

The lab WILL NOT perform a CAB assessment unless a peripheral blood culture is obtained along with the line culture. If the patient has a preexisting line, and a CAB assessment is desired, please make every effort to obtain a peripheral culture. Blood drawn from a newly inserted line that has never been previously used for blood

drawing can be called a “peripheral sample” for the initial sample. If you call this a “newly established arterial line”, the lab WILL NOT perform a CAB assessment (Note that CAB assessment is not indicated if all lines are newly established as a blood stream infection will to be “catheter associated”).

**9. How do I obtain cultures if I am removing an indwelling line?**

If a line is being removed, obtain cultures from the indwelling line AND send the catheter tip for culture. If the tip has a colony count > 15 AND the blood culture grows the same organism, we can diagnose CAB. **Do not request a CAB assessment if the tip is being sent.**

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