



August 6, 2024

Dear Providers,

Due to an interruption in manufacturing, BD Life Sciences has notified Montrose Regional Health of a critical shortage of all Bactec blood culture products. BD is working on alternative solutions to resume production, however, those details have yet to be released. Last reported, they will send further communication in September 2024.

The current inventory in Montrose Regional Health Lab is in danger of becoming critically low. All providers should follow the conservation guidelines for blood culture ordering in the following summary table.

Do Not Collect or Order Blood Cultures for the Following:	Collect or Order One Blood Culture Set Only for the Following:	Collect or Order Two Blood Culture Sets for the Following:
Repeat cultures within 72 hours unless patient clinically unstable	All other patients, including neonates/pediatric patients	Patients with severe sepsis/septic shock
Pneumonia or non-severe cellulitis in immunocompetent hosts		Suspicion of endocarditis or endovascular infection*
Lower urinary tract infection (cystitis or prostatitis)		Initial presentation of patients with neutropenic fever
Isolated fever or leukocytosis in a stable patient without neutropenia		Clearance of bacteremia for specific situations below
Postoperative fever within 48 hours of surgery		Necrotizing skin/soft tissue infection
Blood cultures without a blood culture order placed ("holds")		

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*Patients at risk for endovascular infection include ICD/pacemaker, vascular graft, prosthetic valves or material used for cardiac valve repair, historic of endocarditis, valve disease in a heart transplant recipient, unrepaired congenital heart disease, or repaired congenital heart disease with residual shunt or regurgitation or in the first 6 months post-repair. For patients with a central venous catheter, the single blood culture set should be collected as a peripheral draw. If line cultures are needed, only collect from a single lumen and avoid obtaining blood cultures altogether in the following scenarios as blood cultures are rarely positive in these scenarios, and are unlikely to affect management:

- Repeat cultures within 72 hours if clinically stable
- Pneumonia
- Non-severe cellulitis in immunocompetent hosts
- Lower urinary tract infection (cystitis or prostatitis)
- Isolated fever or leukocytosis in a stable patient without neutropenia
- Postoperative fever within 48 hours of surgery
- Blood cultures without a blood culture order placed (“holds”)
- Viral syndrome in patients >60 days of age

Order one set of blood cultures only in most situations. In most scenarios, other than those detailed above and below, one set of blood cultures is sufficient. This intervention is focused on preserving supply of blood cultures for patients who need them most and in whom they are most likely to affect clinical management.

Two sets of cultures recommended:

Collect two sets of blood cultures in these specific situations

- Patients with severe sepsis/septic shock
- Suspicion of endocarditis or endovascular infection*
- Initial presentation of neutropenic fever
- Clearance of bacteremia for specific pathogens only, see below

Clearance of Bacteremia recommendations:

Ok to collect two sets of blood cultures for clearance of bacteremia for these specific infections (should be collected 48-72 hours from last blood cultures):

- patients with Staphylococcus aureus, Staphylococcus lugdunensis, and Candida bloodstream infections
- Patients with suspected endovascular infection or patients at risk for endovascular infection*
- patients with catheter related bloodstream infection awaiting catheter replacement
- concern for persistence of bacteremia in the absence of source control

*Patients at risk for endovascular infection include: ICD/pacemaker, vascular graft, prosthetic valves or material used for cardiac valve repair, historic of endocarditis, valve disease in a heart transplant recipient, unrepaired congenital heart disease, or repaired congenital heart disease with residual shunt or regurgitation or in the first 6 months post-repair.

Additional considerations for pediatric patients

1. Follow collaborative guidelines for PICU.
2. Follow guidelines for Fever in Patients Receiving Cancer Therapy and/or Hematopoietic Transplantation
3. Patient with multiple line lumens and has already had cultures at onset, that are no growth – any repeat cultures even if

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clinically indicated, only do from 1 lumen.

4. Avoid blood cultures when low likelihood of bacteremia
 - a. Fever within the expected time course for identified viral infection
 - b. Persistent fever in a patient with or without an identified bacterial non-bloodstream infection AND blood culture obtained within the last 48 hours which is negative to date
 - c. Identified non-infectious source of fever (dysautonomia, post-operative fever)
 - d. Uncomplicated infections with low risk for bacteremia such as uncomplicated community-acquired pneumonia and skin-soft tissue infections

Collection of Blood Cultures

The utility of our cultures is maximized when they are collected appropriately. This minimizes the chance of contaminants and increases the sensitivity for detection of pathogens.

1. Disinfect skin well
2. Fill blood cultures to the required volume of 10cc. Do not over or under fill
3. Body fluids other than blood (i.e. pleural or peritoneal fluid) should NOT be inoculated into blood culture bottles, use other collection media
4. Do not collect blood cultures if they have not been ordered (“holds”).

Note that the above recommendations serve as a guideline only and should not replace clinical judgement.

Thank you for your collaboration in optimizing your ordering of blood cultures to preserve our institutional supply. We will continue to communicate with you as we receive updated information from the manufacturers.

Montrose Regional Health Laboratory is working with Purchasing/Materials Management to keep inventory coming in as much as possible, as well as researching alternative testing protocols (manual blood culture methods, etc.) to continue to serve our patients. We will keep you all informed of any changes to the status of our inventory. Please reach out to the laboratory, 970-240-7349, or our pathologists with any questions or concerns. Thank you for your cooperation and patience.

References:

Valeria Fabre, Sima L Sharara, Alejandra B Salinas, Karen C Carroll, Sanjay Desai, Sara E Cosgrove, Does This Patient Need Blood Cultures? A Scoping Review of Indications for Blood Cultures in Adult Nonneutropenic Inpatients, *Clinical Infectious Diseases*, Volume 71, Issue 5, 1 September 2020, Pages 1339–1347, <https://doi.org/10.1093/cid/ciaa039>

Sincerely,

Nicholas Radovich, MD

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