



Blood Culture Guidelines

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UCSF Clinical Laboratories, UCSF Adult Antimicrobial Stewardship, UCSF Pediatric Antimicrobial Stewardship, UCSF Healthcare Epidemiology and Infection Prevention

Summary Table

 Do not check blood cultures	 Two blood culture sets
Repeat cultures within 72 hours unless patient clinically unstable	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”)	All other patients

*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

Avoid obtaining blood cultures altogether in the following scenarios:

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

Clearance of Bacteremia recommendations

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

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Additional considerations for pediatric patients

1. Follow [BRIGHTstar collaborative guidelines for PICU](#), shared cross-bay.
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 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

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

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>