



## Blood Culture Guidelines

Revised 2.7.24

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

### Summary Table

 <b>Do not check blood cultures</b>	 <b>Two blood culture sets</b>
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

\*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 [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>