BLOOD CULTURE BEST PRACTICES IN ADULTS

2023 Update | UNC Hospitals

Indications for Blood Cultures

- Suspected sepsis
- New fever in ICU patient
- Suspected endocarditis
- Fever in a neutropenic patient
- Suspected bacteremia/fungemia

- "Test of cure" >48 hours after the initiation of appropriate antimicrobial therapy is routinely recommended for patients with the following pathogens:
  - Carbapenem-resistant Enterobacteriaceae
  - *Enterococcus* species
  - *Candida* species
  - *Staphylococcus aureus* (MRSA or MSSA)
  - *Staphylococcus lugdunensis*
- For patients with other pathogens who are clinically improving, evidence is weak that a test of cure improves outcomes.

Think Twice

Blood cultures may not be needed in conditions with low probability for bacteremia (such as post-op fever within 48 hours in clinically stable patients, isolated fever, patients with non-severe cellulitis, or non-severe pneumonia). Cultures in these cases are generally negative.

In a neutropenic patient, routine serial blood cultures in a stable patient with persistent fevers is not evidence-based and therefore not recommended.

DO

- **Use two peripheral venipunctures** for the lowest rate of false positive cultures.
- Use strict aseptic technique.
- Always obtain at least 2 sets of blood cultures, filling each bottle to the recommended 8-10 ml for accurate results.
- Obtain blood cultures PRIOR to initiating antibiotic therapy.

DO NOT

- Obtain blood cultures via a peripheral intravenous catheter (PIV) or arterial catheter, even when the catheter is newly placed. This is associated with false positives.
- Obtain a single blood sample and then split the blood among multiple blood culture sets.
- Obtain blood cultures in an asymptomatic patient unless the cultures are being obtained as a "test of cure" for an indicated pathogen as listed above.
- Obtain blood cultures via central venous catheter if possible (higher risk for contamination). If not feasible to obtain two sets of blood cultures by separate peripheral venipunctures or if trying to salvage the line, obtain one set from the peripheral venipuncture and one from the central line.

UNC Medical Center's Stop Healthcare-associated Infections in Everyone (SHINE - 984-974-7500) & the Carolina Antibiotic Stewardship Program (pager 216-2398). View the guideline: https://go.unc.edu/bloodcx

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