

General Considerations for Blood Culture Collection

Number and timing

Most cases of bacteremia are detected by using two sets of separately collected blood cultures. More than three sets of blood cultures yield little additional information. Conversely, a single blood culture may miss intermittently occurring bacteremia and make it difficult to interpret the clinical significance of certain isolated organisms.

1. **Acute sepsis**

Collect two or three sets of blood cultures from separately prepared sites prior to starting antibiotic therapy.

2. **Endocarditis**

(a) **Acute**

Obtain three sets of blood cultures with three separate venipunctures and begin antibiotic therapy.

(b) **Subacute**

Obtain three sets of blood cultures on day 1 (15 min or more apart). If all are negative 24 h later, obtain three more.

(c) **Antimicrobial therapy 1 to 2 weeks before admission**

Obtain two separate sets of blood cultures on each of three successive days.

3. **Fever of unknown origin**

Obtain two separate sets of blood cultures at least 1 hour apart. If these are negative, then 24 to 36 h later, obtain two more sets of blood cultures.

Volume of blood

The volume of blood is critical because the concentration of organisms in most cases of bacteremia is low, especially if the patient is on antimicrobial therapy. In infants and children, the concentration of organisms during bacteremia is higher than in adults, so less blood is required for culture.

1. **Children (less than 11 years of age):** 0.5 to 5 ml of blood per venipuncture
2. **Adults:** 20 ml of blood per venipuncture divided into two bottles, aerobic and anaerobic
[Blood volume less than 20 ml](#)

Culture Technique

1. Bactec liquid culture media should be used for the isolation of aerobic and anaerobic microorganisms and yeast.
2. The Isolator Lysis-centrifugation system should be used for the detection of dimorphic fungi.
3. The MB Bottle (black) or an isolator tube should be used for detection of mycobacteria (AFB).

Blood collection:

Blood for culture is best collected by venipuncture of peripheral veins. Blood collected from intravascular catheters carries a significantly higher risk of contamination with skin flora (false positive culture). *Observe standard precautions. Wear gloves.*

Blood Draw Procedure.