



## A Brief Note on a Bacteremia and its Diagnosis

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### ABOUT THE STUDY

Bacteremia is a bacterial infection that has spread to the bloodstream. This is serious because it can be very harmful to the body. Another term we may have heard about Bacteremia is "Blood Poisoning," but it's not a medical term. It can spread to other organs such as the kidneys, brain and lungs. Bacteremia that spreads and damages other parts of the body is called Sepsis. They have lab tests and imaging tests. Laboratory tests include blood cultures to check for Bacteremia and they help show the type of bacteria we have. Antibiotics may be given before the results of the blood culture are known. We may have heard that bacteremia is associated with symptoms such as bloodstream and sepsis. All of these terms are closely related, but they have slightly different meanings. Bacteremia refers to the presence of bacteria in the blood stream. Bacteria can enter the blood stream by brushing teeth or performing minor medical procedure. In many healthy people, bacteremia heals spontaneously without causing any illness. However, when an infection is detected in the blood stream, this type of bacteremia is distinguished as sepsis. If left untreated, blood stream infections can cause more serious complications. One of them is sepsis, which is caused by a strong immune response to the infection. Sepsis and septic shock can lead to organ failure and even death. Bacteremia often begins with an infection in one area (local), but then spreads to the blood. Almost all types of infections can cause bacteremia. The significance of a medical history of accepting a febrile child depends on the age of the patient. Symptoms of bacteremia include,

- Fever and chills
- Decreased appetite
- Nausea or vomiting
- Dyspnea or rapid breathing
- Fast heart rate
- Dizziness or fainting
- Rash or stain
- Confusion, severe drowsiness or unconsciousness

A variety of different bacteria can cause bacteremia. Dental treatments such as regular tooth cleaning and tooth extraction,

surgery and procedures, infections that spread to the bloodstream from other parts of the body, medical devices, especially indwelling catheters and respiratory tracts, serious injuries or burns. Bacteremia can be diagnosed from blood cultures. Blood is drawn from the veins in the arm. It is then sent to the lab to test for the presence of bacteria. Depending on the suspected cause of the infection, it is recommended that doctor perform additional tests. Examples include sputum cultures when they look like respiratory infections or when using the respiratory tract, wound cultures when injured, burned, or have undergone recent surgery, samples from indwelling catheters or other devices. Imaging inspections such as harvesting, X-ray, CT scans or ultrasound. These can be used to identify potential sources of infection in the body. Clinical tests that may help test for possible bloodstreams include:

- White Blood Cell Count (WBC) - At present, this is the currently established standard screening for bacterial infections, but other screening tests may give comparable or better results.
- Absolute Neutrophil Count (ANC)
- Absolute Band Count (ABC) - This is not recommended for screening for latent bacteremia, but is used by some guidelines as part of the low risk criteria.
- Erythrocyte Sedimentation Rate (ESR) - This is currently not recommended as a screening test for latent bacteremia.
- Creative Protein (CRP) Levels - Although it is not currently an established standard screening test for latent bacteremia, screening for CRP levels in emergency department is a part of an established protocol in many medical centers.
- Procalcitonin levels - which appear to be more sensitive and specific to bacterial infections than other test values currently used as screening tests and work well in short-lived conditions.
- Urinalysis and urine culture.
- Stool test for children with diarrhea (such as *Salmonella*).
- Plasma clearance rate (meningococcal bacteremia).
- Lumbar puncture and cerebrospinal fluid (CSF) analysis.
- Blood culture.

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Immediate use of antibiotics is required to treat bloodstream. This helps prevent the occurrence of complications such as sepsis. The patient will be hospitalized during treatment. If bacteria are found in the blood, they may start with broad-spectrum antibiotics, usually via IV fluids. This is an effective antibiotic regimen against different types of bacteria. The duration of treatment depends on the cause and severity of the infection. one may need to take antibiotics for 1-2 weeks. Infusions and other medications may be given during treatment to stabilize the

condition. If left untreated, there is a risk of developing potentially life-threatening complications such as sepsis and septic shock. Sepsis is caused by a strong immune response to the infection. This reaction can cause the following changes in the body like B-Inflammation. These changes are harmful and can lead to organ damage. When septic shock occurs, blood pressure drops dramatically. Organ failure can also occur.