

# Septicemia

# Bacteremia vs Septicemia

S.N.	Bacteremia	Septicemia
1.	Bacteremia is the simple presence of bacteria in the blood.	Septicemia is the presence and multiplication of bacteria in the blood.
2.	Bacteremia is not as dangerous as Septicemia.	Septicemia is a potentially life-threatening infection.
3.	Less amount of bacteria are present in blood.	Large amounts of bacteria are present in the blood.
4.	This may occur through a wound or infection, or through a surgical procedure or injection.	It can arise from infections throughout the body, including infections in the lungs, abdomen, and urinary tract.
5.	Toxins are not produced.	Toxins may be produced by bacteria.
6.	Bacteremia usually causes no symptoms or it may produce mild fever.	It shows symptoms like chills, fever, prostration, very fast respiration and/or heart rate.
7.	It can resolve without treatment.	Untreated septicemia can quickly progress to sepsis.
8.	Rapidly removed from the bloodstream by the immune system.	Antibiotics will be used to treat the bacterial infection that is causing septicemia.
9.	Caused by Staphylococcus, Streptococcus, Pseudomonas, Haemophilus, E. coli, dental procedures, herpes (including herpetic whitlow), urinary tract infections, peritonitis, Clostridium difficile colitis, intravenous drug use, and colorectal cancer.	Staphylococci, are thought to cause more than 50% of cases of sepsis. Other commonly implicated bacteria include Streptococcus pyogenes, Escherichia coli, Pseudomonas aeruginosa, Klebsiella species and even Candida spp.

# Septicemia vs. Sepsis

- Septicemia is an infection that happens when bacteria or other germs enter the bloodstream and spread throughout the body and Sepsis is when the body reacts to the infection.
- During sepsis, the immune system releases a lot of chemicals and causes inflammation which leads to organ damage.
- In severe cases, sepsis causes a dangerous drop in blood pressure “septic shock.” It can quickly lead to organ failure, such as your lungs, kidneys, and liver.

# Who might get Sepsis?

Anyone can get septicemia, but it's more common in people who:

- Are in the hospital or have had recent surgery (especially those who have catheters).
- Are very old or very young.
- Have had septicemia before.
- Have infections or other chronic medical conditions like diabetes or cancer.
- Have severe injuries, such as extensive burns or open wounds.
- Have weak immune systems.

# What germs can cause septicemia?

Almost any type of germ can cause septicemia. The ones most often responsible are bacteria, including:

- Staphylococcus aureus.
- Streptococcus pneumoniae.
- E. coli.

# What are the signs of septicemia?

- Fever and chills
- Hypothermia
- Peeing less than usual
- Tachycardia
- Nausea and vomiting
- Severe pain & Diarrhea
- Fatigue or weakness
- Sweating, Blotchy or discolored skin

# How is septicemia diagnosed?

Septicemia diagnosis is based on:

- Presence of septicemia symptoms.
- Blood tests to identify a bacterium, virus or fungus.

Depending on your symptoms, you might need other tests to check for damage to tissues and organs.

# How is septicemia treated?

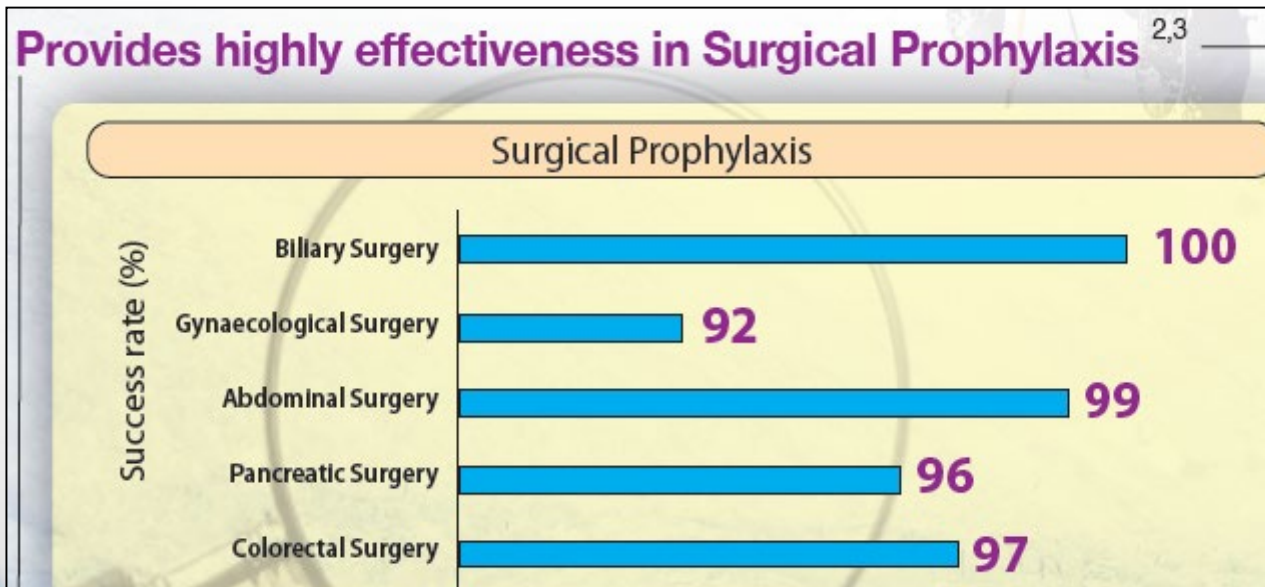
Septicemia requires immediate treatment to prevent the it from worsening to sepsis.

- Infections caused by bacteria are treated with Broad-spectrum antibiotics initially then based on the type of bacteria antibiotics are selected.
- If the infection is caused by a virus or fungus, treatment will include an antiviral or antifungal medication.
- Often vasopressors are prescribed to improve blood pressure.
- Corticosteroids to fight inflammation or insulin to keep control of your blood sugar.
- In severe cases, ventilator or kidney dialysis are required. Or you may need surgery to drain or clean out an infection.



# Initial Antibiotic administration

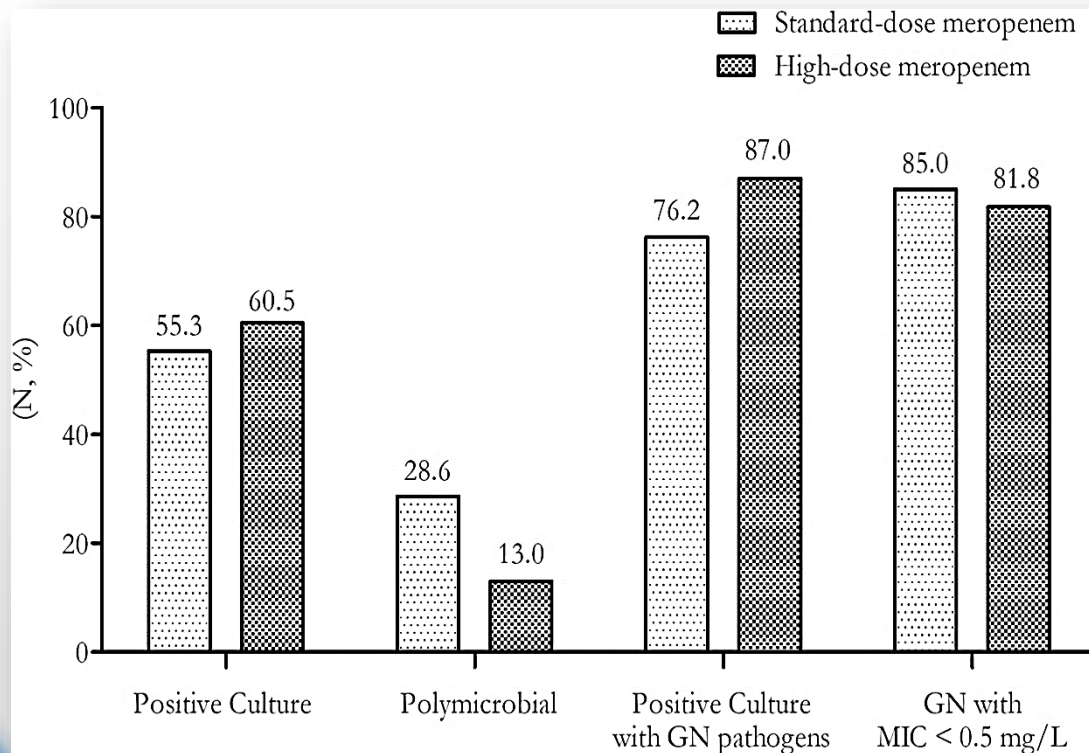
According to meta analysis and multiple studies, it states that:



“Ceftriaxone is generally recognized as safe and effective when used as a single drug in the therapy of septicemia, other serious infections involving bacteremia and surgical prophylaxis in both adults and children”

# In severe cases

In April 2020, an article was published in Journal of Intensive Care states that:



“Empirical therapy with the high-dose meropenem presented comparable clinical outcomes to the standard-dose meropenem in sepsis and septic shock patients. Besides, subgroup analysis manifested superior microbiological cure rate in sepsis or septic shock patients admitted from ED”

Ref.

DOI: <https://doi.org/10.1186/s40560-020-00442-7>

# Sepsis Complications

- As sepsis gets worse, it causes more problems throughout your body. These may include:
- Kidney failure
- Dead tissue (gangrene) on fingers and toes, leading to amputation
- Lung, brain, or heart damage
- A higher risk of infections over time

Sepsis can be deadly in between 25% and 40% of cases.

# Sepsis Prevention

Preventing infection is the best way to prevent sepsis. Take these steps:

- Wash your hands often with soap and water for at least 20 seconds each time.
- Keep up with recommended vaccines for things like flu and chickenpox.
- Keep control of any chronic health conditions.
- If you have an injury that's broken your skin, Keep it clean and covered as it heals.
- Treat any infections. Get medical care right away if they don't get better,



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**THANK YOU**