

Sepsis Symptoms, Causes and Recovery

Sepsis is a life-threatening illness caused by your body's response to an infection. Your immune system protects you from many illnesses and infections, but it's also possible for it to go into overdrive in response to an infection.

There are approximately 1.7 million cases of sepsis each year, according to the Centers for Disease Control and Prevention (CDC) [Trusted Source](#). In addition, this type of infection kills nearly 270,000 people in the United States every year.

What is sepsis?

Sepsis develops when an existing infection triggers an extreme immune system response in your body.

When you experience an infection, your immune system responds by releasing proteins and other chemicals to fight it. Sepsis occurs when this response gets out of control, triggering extensive inflammation.

Most infections that cause sepsis are bacterial. But other infections — including COVID-19, influenza, and fungal infections — can also lead to sepsis.

Sepsis causes fever, a rapid heart rate, and difficulty breathing, among other symptoms. It's a serious condition that requires swift medical treatment.

Severe sepsis can lead to septic shock, a medical emergency. Septic shock is associated with a significant drop in blood pressure, organ failure, and widespread tissue damage. If left untreated, it can be fatal.

Stages of sepsis

There are three stages of sepsis:

- Sepsis - An infection gets into your bloodstream and causes inflammation in your body.
- Severe – sepsis - The infection and inflammation are severe enough to start affecting organ function.
- Septic shock - Septic shock is a severe complication of sepsis that causes a significant drop in blood pressure. This can lead to many serious complications including:
 - organ dysfunction
 - respiratory or heart failure
 - stroke
 - possible death

While sepsis often occurs in hospital settings, it can also happen in other locations. In some cases, you might not even know you have an infection that could potentially lead to sepsis.

What are the symptoms of sepsis?

It's important to seek immediate medical attention if you have any symptoms of sepsis. The earlier you seek treatment, the greater chance you have of recovering.

Signs and symptoms of sepsis

It's possible to mistake some symptoms of sepsis for those of other conditions like pneumonia, COVID-19, or cancer. Symptoms of sepsis can include:

- fever and/or chills
- confusion or disorientation
- difficulty breathing
- fast heart rate or low blood pressure (hypotension)
- extreme pain
- sweaty skin

In addition, sepsis symptoms can be particularly hard to identify in infants, children, and people with:

- communication challenges
- learning disabilities
- dementia

It's best to seek medical assistance right away if you suspect sepsis. A health professional can examine you or the person you care for to make a diagnosis.

Signs and symptoms of severe sepsis

Severe sepsis is characterized by organ failure. You must have one or more of the following signs to be diagnosed with severe sepsis:

- difficulty breathing
- bluish discoloration of the skin, especially lips, fingers, toes
- chills due to a drop in body temperature
- decreased urination
- dizziness
- changes in mental ability
- extreme weakness (asthenia)
- low platelet count (thrombocytopenia)
- abnormal heart functions
- unconsciousness

Signs and symptoms of septic shock (septicemia)

Sepsis can advance very quickly to severe sepsis and septic shock. As it transitions, it becomes more life threatening. Some severe sepsis and septic shock symptoms can overlap, like severe difficulty breathing, acute confusion, and bluish skin. Another key symptom of septic shock is very low blood pressure.

What causes sepsis?

Any infection can trigger sepsis, but the following types of infections have a higher risk of causing sepsis:

- pneumonia
- abdominal infections
- kidney infections
- blood poisoning

According to the National Institute of General Medical Sciences Trusted Source, the number of sepsis cases in the United States increases every year. Possible reasons for the increase include:

- an aging population, due to the fact that sepsis is more common in seniors
- an increase in antibiotic resistance, which happens when an antibiotic medication loses its ability to resist or kill bacteria
- an increase in the number of people with illnesses that weaken their immune systems

Seniors and sepsis

The immune system tends to weaken with age. According to a 2017 review, around 40 to 50 percent of all bacteremia cases occur in older adults, which can lead to sepsis. But age isn't the only factor that puts seniors at an increased risk. Older adults are also more likely to have existing chronic illnesses, like diabetes, kidney disease, cancer, or high blood pressure.

Other risk factors pertinent to seniors include increased use of medication, malnutrition, and imbalances in intestinal microbiota.

Older adults can contract sepsis from common infections, like pneumonia or urinary tract infections (UTIs). Infections from pressure sores can also lead to sepsis. Finally, sepsis symptoms like confusion and disorientation may be particularly difficult to identify in older adults with dementia.

How is sepsis diagnosed?

If you have sepsis symptoms, your doctor will order tests to diagnose and determine the severity of your infection. One of the first tests is a blood test. Your blood is checked for complications like:

- infection
- clotting problems
- abnormal liver or kidney function
- decreased amount of oxygen
- an electrolyte imbalance, which affects the amount of water in your body and the acidity of your blood

Depending on your symptoms and the results of your blood test, your doctor may order other tests, including:

- a urine test (to check for bacteria in your urine)
- a wound secretion test (to check an open wound for an infection)
- a mucus secretion test (to identify germs responsible for an infection)

If your doctor can't determine the source of an infection using the above tests, they may order an internal view of your body using one of the following:

- chest x-rays to view the lungs
- CT scans to view possible infections in the appendix, pancreas, or bowel area
- ultrasounds to view infections in the gallbladder or ovaries
- MRI scans, which can identify soft tissue infections

How is sepsis treated?

Sepsis can quickly progress to septic shock and death if it's left untreated. Doctors use a number of medications to treat sepsis, including:

- intravenous (IV) antibiotics to fight the infection
- medications to increase blood pressure
- insulin to stabilize blood sugar
- corticosteroids to reduce inflammation
- pain relievers to help with discomfort

Severe sepsis may also require large amounts of IV fluids and a respirator for breathing. Dialysis might be necessary if the kidneys are affected. Your kidneys help filter harmful wastes, salt, and excess water from your blood. With dialysis, a machine performs these functions.

In some cases, surgery may be needed to remove the source of an infection. This may include draining a pus-filled abscess or removing infected tissue.

Treatment options may vary slightly for older adults, depending on their risk factors.

According to a 2016 review Trusted Source, older adults may be more sensitive to medications that increase blood pressure and antibiotics. Additionally, seniors are more likely to develop delirium in the ICU and should be regularly screened for sepsis symptoms.

Is sepsis contagious?

Sepsis isn't contagious. But the pathogens responsible for the original infection, like viral pneumonia or COVID-19, can be contagious.

Sepsis spreads within a person's body from the original source of infection to other organs through the bloodstream.

Recovery from sepsis

Recovering from sepsis depends on the severity of your condition and any pre-existing health issues you might have. While many people make a full recovery, others report lasting effects.

The UK Sepsis Trust reports that it can take up to 18 months before people who've had sepsis start feeling like their usual selves again.

According to the Sepsis Alliance, around 50 percent of sepsis survivors deal with a condition called post-sepsis syndrome (PSS). This condition includes long-term effects like:

- damaged organs
- insomnia
- nightmares
- disabling muscle and joint pains
- fatigue
- poor concentration
- lowered cognitive functioning
- lowered self-esteem

Sepsis prevention

You can reduce your risk of sepsis by preventing the spread of infection. In the current COVID-19 pandemic, this is more important than ever.

Severe COVID-19 infections cause symptoms similar to sepsis. In addition, contracting COVID-19 puts you at an increased risk of developing another infection. A 2021 review Trusted Source reported that up to 17 percent of people admitted to the ICU with COVID-19 had additional infections.

You can help prevent both COVID-19 and other infections by taking the following precautions:

- **Stay up to date on your vaccinations.** Get vaccinated for COVID-19, the flu, pneumonia, and other common infections.
- **Keep your distance from people outside your household.** Avoid non-essential travel and activities and stay six feet away from people you don't know.
- **Wear a mask.** Masks help protect you and others from respiratory infections. Wear a mask in indoor public spaces, like grocery stores and movie theaters.
- **Practice good hygiene.** This means practicing proper [wound care](#), [hand-washing](#), and bathing regularly.
- **Get immediate care if you develop signs of infection.** Every minute counts when it comes to sepsis treatment. The sooner you get treatment, the better the outcome.

Sepsis complications

Sepsis symptoms can range from mild to severe. Complications are more likely in severe cases. These complications can include:

- blood clots
- an increased risk of infection
- tissue death (gangrene)
- organ damage
- organ failure, particularly the kidneys, heart, and lungs

Severe cases of sepsis can be fatal. A 2020 review Trusted Source found that the mortality rate for sepsis after 90 days was 32.2 percent. The mortality rate for septic shock after 90 days was 38.5 percent.

The bottom line

Sepsis is a life-threatening illness caused by your body's response to an infection. Sepsis occurs when your body's immune system response gets out of control, triggering extensive inflammation.

Sepsis isn't contagious. But bacterial, viral, and fungal infections that can trigger sepsis can be spread from person to person. COVID-19 is an example of one such infection that can lead to sepsis. Those at the highest risk of sepsis include newborns, seniors, and people with pre-existing health conditions.

Among other symptoms, sepsis causes fever or chills, a rapid heart rate, confusion, and difficulty breathing. Sepsis is a medical emergency.

Seek immediate medical attention if you suspect that you have sepsis, especially if you have a known infection.