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About Sepsis

KEY POINTS

- Sepsis is the body's extreme response to an infection. It is a life-threatening medical emergency.
- Anyone can get an infection, and almost any infection can lead to sepsis.

What is sepsis?

Sepsis is the body's extreme response to an infection. It is a life-threatening medical emergency. Sepsis happens when an infection you already have triggers a chain reaction throughout your body.

Infections that lead to sepsis most often start in the:

- Gastrointestinal tract
- Lung
- Skin or
- Urinary tract

Without timely treatment, sepsis can rapidly lead to tissue damage, organ failure and death.

Signs and symptoms

A person with sepsis might have one or more of the following signs or symptoms:

- Clammy or sweaty skin
- Confusion or disorientation
- Extreme pain or discomfort
- Fever, shivering or feeling very cold
- High heart rate or weak pulse
- Shortness of breath

At-risk populations

Anyone can develop sepsis, but some people are at higher risk for sepsis.

Keep Reading:

[People at Increased Risk for Sepsis](#)

Causes

Infections can put you and your loved ones at risk for sepsis. When germs get into a person's body, they can cause an infection. If you don't stop that infection, it can cause sepsis.

Bacterial infections cause most cases of sepsis. Sepsis can also be a result of other infections, including viral infections, such as COVID-19 or influenza, or fungal infections.

Reducing risk

You can take specific steps to reduce your risk of sepsis.

Keep Reading:

[Preventing Infections That Can Lead to Sepsis](#)

Quick facts

- Each year, at least 1.7 million adults in America develop sepsis. [\[1\]](#)
- At least 350,000 adults who develop sepsis die during their hospitalization or are discharged to hospice. [\[1\]](#)
- 1 in 3 people who dies in a hospital had sepsis during that hospitalization. [\[1\]](#)
- Most cases of sepsis start before a patient goes to the hospital. [\[2\]](#) [\[3\]](#)
- Most people who develop sepsis have at least one underlying medical condition, such as chronic lung disease or a weakened immune system. [\[2\]](#) [\[3\]](#)
- Nearly a quarter to a third of people with sepsis had a healthcare visit in the week before they were hospitalized. [\[2\]](#) [\[3\]](#)

Diagnosis

Sepsis is diagnosed through a medical assessment by a healthcare provider.

Healthcare providers diagnose sepsis using physical findings, such as:

- Difficulty breathing
- Fever
- Increased heart rate
- Low blood pressure

Healthcare providers also perform tests that check for signs of infection or organ damage. Some of these tests are used to identify the germ that caused the infection that led to sepsis. This testing might include blood cultures looking for bacterial infections or fungal infections, or tests for viral infections, like COVID-19 or influenza.

Healthcare providers should immediately evaluate and treat people who might have sepsis.

Treatment

Research shows that rapid, effective sepsis treatment includes:

- Giving appropriate treatment, including antibiotics, as soon as possible
- Maintaining blood flow to organs

Sometimes surgery is required to remove tissue damaged by the infection.

Healthcare providers should treat sepsis with antibiotics as soon as possible.

What you should know about antibiotics

Antibiotics are critical tools for treating infections, including those that can lead to sepsis. However, as [antimicrobial resistance](#) spreads, infections are becoming more difficult to treat. Antibiotic side effects range from minor, such as rash, dizziness, nausea, diarrhea and yeast infections, to very severe health problems, such as life-threatening allergic reactions or [C. difficile](#) (also called *C. diff*) infection, which causes diarrhea that can lead to colon damage or death. However, when antibiotics are needed, the benefits outweigh the risks of side effects or antimicrobial resistance.

Improving the way healthcare providers prescribe antibiotics and the way we take antibiotics helps keep us healthy now, helps fight antimicrobial resistance and ensures that these lifesaving drugs will work for you or others when they are needed most, like for treating infections associated with sepsis.

Keep Reading:
[Clinical Care of Sepsis](#)

Related diseases

- [Healthcare-Associated Infections \(HAIs\)](#)
- [Antibiotic Prescribing and Use](#)
- [C. diff \(Clostridioides difficile\)](#)

What CDC is doing

- Understanding the epidemiology of sepsis.[\[1\]](#) [\[2\]](#) [\[3\]](#)
- Developing tools for hospitals, such as the [Hospital Sepsis Program Core Elements](#), to monitor and optimize early identification, management and outcomes.
- Working with partners, including the [CDC Prevention Epicenters](#), and other Federal agencies to develop innovative ways to improve sepsis early detection and treatment.
- Promoting early recognition and timely treatment through [Get Ahead of Sepsis](#) and appropriate [antibiotic prescribing and use](#).
- [Preventing infections](#) that can lead to sepsis in healthcare and community settings.

SOURCES

CONTENT SOURCE:
[National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\)](#)

REFERENCES

1. Rhee C, Dantes R, Epstein L, Murphy DJ, Seymour CW, Iwashyna TJ, Kadri SS, Angus DC, Danner RL, Fiore AE, Jernigan JA, Martin GS, Septimus E, Warren DK, Karcz A, Chan C, Menchaca JT, Wang R, Gruber S, Klompas M; CDC Prevention Epicenter Program. Incidence and Trends of Sepsis in US Hospitals Using Clinical vs Claims Data, 2009-2014. *JAMA*. 2017 Oct 3;318(13):1241-1249. doi: 10.1001/jama.2017.13836. PMID: 28903154; PMCID: PMC5710396.
2. Shelley S Magill, Mathew R P Sapiano, Runa Gokhale, Joelle Nadle, Helen Johnston, Geoff Brousseau, Meghan Maloney, Susan M Ray, Lucy E Wilson, Rebecca Perlmutter, Ruth Lynfield, Malini DeSilva, Marla Sievers, Lourdes Irizarry, Ghinwa Dumyati, Rebecca Pierce, Alexia Zhang, Marion Kainer, Anthony E Fiore, Raymund Dantes, Lauren Epstein, Epidemiology of Sepsis in US Children and Young Adults, *Open Forum Infectious Diseases*, Volume 10, Issue 5, May 2023, ofad218, <https://doi.org/10.1093/ofid/ofad218>
3. Fay K, Sapiano MRP, Gokhale R, et al. Assessment of Health Care Exposures and Outcomes in Adult Patients With Sepsis and Septic Shock. *JAMA Netw Open*. 2020;3(7):e206004. Doi:10.1001/jamanetworkopen.2020.6004