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# Sepsis

## What is sepsis?

Sepsis is your body's overactive and extreme response to an infection [<https://medlineplus.gov/infectiousdiseases.html>] . Sepsis is a life-threatening medical emergency. Without quick treatment, it can lead to tissue damage, organ failure, and even death.

## What causes sepsis?

Sepsis happens when an infection you already have triggers a chain reaction throughout your body. Bacterial infections [<https://medlineplus.gov/bacterialinfections.html>] are the most common cause, but other types of infections can also cause it.

The infections are often in the lungs, stomach, kidneys, or bladder. It's possible for sepsis to begin with a small cut that gets infected or with an infection that develops after surgery. Sometimes, sepsis can occur in people who didn't even know that they had an infection.

## Who is more likely to develop sepsis?

Anyone with an infection could get sepsis. But certain people are more likely to develop it:

- Adults 65 or older
- People with chronic (long-lasting) conditions, such as diabetes [<https://medlineplus.gov/diabetes.html>] , lung disease [<https://medlineplus.gov/lungdiseases.html>] , cancer [<https://medlineplus.gov/cancer.html>] , and kidney disease [<https://medlineplus.gov/kidneydiseases.html>]
- People with weakened immune systems [<https://medlineplus.gov/immunesystemanddisorders.html>]
- Pregnant women
- Children younger than one

## What are the symptoms of sepsis?

Sepsis can cause one or more of these symptoms:

- Rapid breathing and heart rate
- Shortness of breath [<https://medlineplus.gov/breathingproblems.html>]
- Confusion or disorientation
- Extreme pain or discomfort
- Fever [<https://medlineplus.gov/fever.html>] , shivering, or feeling very cold
- Clammy or sweaty skin

It's important to get medical care **right away** if you think you might have sepsis or if your infection is not getting better or is getting worse.

## What other problems can sepsis cause?

Severe cases of sepsis can lead to septic shock, where your blood pressure drops to a dangerous level and multiple organs can fail.

## How is sepsis diagnosed?

To find out if you have sepsis, your health care provider:

- Will take your medical history, which includes asking about your symptoms
- Will do a physical exam, which includes checking vital signs [<https://medlineplus.gov/vitalsigns.html>] (your temperature, blood pressure, heart rate, and breathing)
- Will likely order lab tests that check for signs of infection or organ damage
- May order imaging tests [<https://medlineplus.gov/diagnosticimaging.html>] such as an x-ray [<https://medlineplus.gov/xrays.html>] or a CT scan [<https://medlineplus.gov/ctscans.html>] to find the location of the infection

Many of the signs and symptoms of sepsis can also be caused by other medical conditions. This may make sepsis hard to diagnose in its early stages.

## What are the treatments for sepsis?

It is very important to get treatment right away. Treatment usually includes:

- Antibiotics [<https://medlineplus.gov/antibiotics.html>] .
- Maintaining blood flow to organs. This may involve getting oxygen [<https://medlineplus.gov/oxygentherapy.html>] and intravenous (IV) fluids.
- Treating the source of the infection.
- If needed, medicines to increase blood pressure.

In serious cases, you might need kidney dialysis or a breathing tube. Some people need surgery to remove tissue damaged by the infection.



## Can sepsis be prevented?

To prevent sepsis, you should try to prevent getting an infection:



- Take good care of any chronic health conditions that you have
- Get recommended vaccines [<https://medlineplus.gov/vaccines.html>]
- Practice good hygiene [<https://medlineplus.gov/germsandhygiene.html>] , such as handwashing
- Keep cuts clean and covered until healed


*NIH: National Institute of General Medical SciencesCenters for Disease Control and Prevention*

## Start Here

- About Sepsis [<https://www.cdc.gov/sepsis/about/>] (Centers for Disease Control and Prevention)  
Also in Spanish [<https://www.cdc.gov/sepsis/es/about/>]
- Sepsis [<https://www.cdc.gov/sepsis/>] (Centers for Disease Control and Prevention)
- Staying Safe From Sepsis: Preventing Infections and Improving Survival [<https://newsinhealth.nih.gov/2021/01/staying-safe-sepsis>]  (National Institutes of Health)  
Also in Spanish [<https://salud.nih.gov/recursos-de-salud/nih-noticias-de-salud/como-evitar-la-sepsis>]
- What Is Sepsis? [<https://www.nigms.nih.gov/education/fact-sheets/Pages/sepsis>]  
 (National Institute of General Medical Sciences)

## Diagnosis and Tests

- Bacteria Culture Test [<https://medlineplus.gov/lab-tests/bacteria-culture-test/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-cultivo-de-bacterias/>]
- Lactate Test [<https://medlineplus.gov/lab-tests/lactate-test/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-lactato/>]

Procalcitonin Test [<https://medlineplus.gov/lab-tests/procalcitonin-test/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-procalcitonina/>]





## Specifics

- Bacteremia [<https://www.merckmanuals.com/home/infections/bacteremia-sepsis-and-septic-shock/bacteremia>]  
(Merck & Co., Inc.)  
Also in Spanish [<https://www.merckmanuals.com/es-us/hogar/infecciones/bacteriemia-sepsis-y-choque-s%C3%A9ptico/bacteriemia>]
- Toxic Shock Syndrome [<https://www.mayoclinic.org/diseases-conditions/toxic-shock-syndrome/symptoms-causes/syc-20355384?p=1>] (Mayo Foundation for Medical Education and Research)

## Statistics and Research

- Group B Strep Surveillance and Trends [<https://www.cdc.gov/group-b-strep/php/surveillance/>]  
(Centers for Disease Control and Prevention)

## Clinical Trials


- ClinicalTrials.gov: Bacteremia [<https://clinicaltrials.gov/search?cond=%22Bacteremia%22&aggFilters=status:not%20rec>]  
 (National Institutes of Health)
- ClinicalTrials.gov: Sepsis [<https://clinicaltrials.gov/search?cond=%22Sepsis%22&aggFilters=status:not%20rec>]  
 (National Institutes of Health)
- ClinicalTrials.gov: Septicemia [<https://clinicaltrials.gov/search?cond=%22Septicemia%22&aggFilters=status:not%20rec>]  
 (National Institutes of Health)
- ClinicalTrials.gov: Shock, Septic [<https://clinicaltrials.gov/search?cond=%22Shock,+Septic%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

## Journal Articles

### References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Therapeutic effects of curcumin and piperine combination in critically ill patients... [<https://www.ncbi.nlm.nih.gov/pubmed/40514680>]
- Article: Evaluation of Bovine Lactoferrin for Prevention of Late-Onset Sepsis in Low-Birth-Weight... [<https://www.ncbi.nlm.nih.gov/pubmed/40507041>]
- Article: Investigating the effect of oropharyngeal colostrum in the prevention of late-onset... [<https://www.ncbi.nlm.nih.gov/pubmed/40389508>]
- Sepsis -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Sepsis%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

## Find an Expert

- National Institute of Allergy and Infectious Diseases [<https://www.niaid.nih.gov/>] 

## Children

- Blood Culture [<https://kidshealth.org/en/parents/labtest3.html>] (Nemours Foundation)
- Sepsis [<https://kidshealth.org/en/parents/sepsis.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/sepsis-es.html>]

## Teenagers

- Toxic Shock Syndrome (For Teens) [<https://kidshealth.org/en/teens/tss.html>] (Nemours Foundation)

Also in Spanish [<https://kidshealth.org/es/teens/tss.html>]

## Patient Handouts

- Blood culture [<https://medlineplus.gov/ency/article/003744.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003744.htm>]
- Group B streptococcal septicemia of the newborn [<https://medlineplus.gov/ency/article/001366.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001366.htm>]
- Neonatal sepsis [<https://medlineplus.gov/ency/article/007303.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007303.htm>]
- Sepsis [<https://medlineplus.gov/ency/article/000666.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000666.htm>]
- Septic shock [<https://medlineplus.gov/ency/article/000668.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000668.htm>]
- Septicemia [<https://medlineplus.gov/ency/article/001355.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001355.htm>]
- Toxic shock syndrome [<https://medlineplus.gov/ency/article/000653.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000653.htm>]



## MEDICAL ENCYCLOPEDIA

Blood culture [<https://medlineplus.gov/ency/article/003744.htm>]

Group B streptococcal septicemia of the newborn [<https://medlineplus.gov/ency/article/001366.htm>]

Lactic acidosis [<https://medlineplus.gov/ency/article/000391.htm>]

Neonatal sepsis [<https://medlineplus.gov/ency/article/007303.htm>]

Sepsis [<https://medlineplus.gov/ency/article/000666.htm>]

Septic shock [<https://medlineplus.gov/ency/article/000668.htm>]

Septicemia [<https://medlineplus.gov/ency/article/001355.htm>]

Toxic shock syndrome [<https://medlineplus.gov/ency/article/000653.htm>]

## Related Health Topics

Bacterial Infections [<https://medlineplus.gov/bacterialinfections.html>]

National Institutes of Health

The primary NIH organization for research on *Sepsis* is the National Institute of Allergy and Infectious Diseases  
[<http://www.niaid.nih.gov/>]

NIH MedlinePlus Magazine

What Is Sepsis? [<https://magazine.medlineplus.gov/article/what-is-sepsis>]

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