



# Sepsis and Immune System

Your immune system is what protects you from many illnesses. It's your defense system. Your immune system recognizes dangers to the body and fights bacteria, viruses, and other dangerous microorganisms to keep you healthy.

The immune system is made up of cells, proteins, and organs. For most people, it works well, although they still may get sick or contract an infection from time to time. This is why we get vaccinations against illnesses like tetanus, measles, and polio. Vaccines trick your body into thinking it already had the illness, making you immune to it. Other medications, like antibiotics, antivirals, antifungals, and antiparasitics help your body fight infections that do develop.

For a variety of reasons, many people are immunocompromised, which means their immune system either doesn't work well or is not working at all. People who are immunocompromised are at higher risk of contracting infections, which increases their risk of developing sepsis. These infections may also be more severe.

Sometimes incorrectly called blood poisoning by members of the general public, sepsis is the body's often deadly response to infection. Sepsis kills and disables millions and requires early suspicion and treatment for survival.

Sepsis and septic shock can result from an infection anywhere in the body, such as pneumonia, influenza, and urinary tract infections. Worldwide, one-third of people who develop sepsis die. Many who do survive are left with life-changing effects, such as post-traumatic stress disorder (PTSD), chronic pain and fatigue, organ dysfunction (organs don't work properly) and/or amputations.

## CAUSES

There are several reasons why someone may be immunosuppressed. Here are some of the more common ones:

### Cancer Treatment

Some diseases, like cancer, are often treated with chemotherapy. While chemotherapy can be quite effective in fighting the cancer cells, it can also destroy some of the body's healthy cells, including those that help fight infection. When people are undergoing chemotherapy, they must be careful not to be exposed to anything that could cause illness.

Some people with cancer and other serious illnesses require a bone marrow or stem cell transplant. This also makes it hard for your body to fight infection. To prepare people for such a transplant, they must undergo chemotherapy and sometimes radiation therapy. This will destroy cancer cells and depress the immune system, so the body doesn't reject the transplant.

### Organ Transplants

Organ transplants are occurring more often now, allowing people to live longer and to improve their quality of life. However, the body of the transplant recipient may see these new organs as invaders, so the immune system will try to fight them. To keep the body from rejecting the organ, people with organ transplants must take immunosuppressant drugs, or anti-rejection drugs. These drugs also can reduce the body's ability to fight other infections, such as colds, the flu, and more.

## Splenectomy

Your spleen is a small organ found in the upper part of your abdomen, near your stomach. It helps filter your blood and stores platelets and white blood cells, which fight infection. Certain illnesses, such as sickle cell anemia, can reduce how well your spleen works. Technically, you can live without your spleen. It may be surgically removed because it is too swollen to work properly, or it may have been damaged through trauma, such as a car accident. Occasionally, people are born without a spleen. People without spleens must be particularly careful to avoid being exposed to anything that may cause an infection.

## Medications

Some medications are very useful in helping treat illnesses, even preventing death. However, they can also have serious side effects, like making you more susceptible to developing an infection. These include medicines like corticosteroids, such as prednisone, and TNF inhibitors, which may be prescribed for rheumatoid arthritis or psoriasis.

Having an immune system that has been suppressed is a risk factor for infection, so extra care must be taken with infection prevention, such as proper hand washing, up-to-date vaccinations, and treating any infections as soon as they are noticed. If you are immunocompromised and suspect you may have an infection, mention your immunocompromised status to the healthcare professionals. This will help them with your care.

# WHAT IS SEPSIS

SEPSIS is the body's overwhelming and life-threatening response to infection, which can lead to tissue damage, organ failure, and death.

Sepsis is a toxic response to an infection. There is no single sign or symptom of sepsis. It is, rather, a combination of symptoms. Symptoms can include ANY of the following:

- S** – Shivering, fever, or very cold
- E** – Extreme pain or general discomfort (“worst ever”)
- P** – Pale or discolored skin
- S** – Sleepy, difficult to rouse, confused
- I** – “I feel like I might die”
- S** – Short of breath

## What should I do if I think a loved one or I have sepsis?

If you suspect sepsis, call 9-1-1 or go to a hospital and tell your medical professional, “I AM CONCERNED ABOUT SEPSIS.”

# SEPSIS IS A MEDICAL EMERGENCY

# IF YOU SUSPECT SEPSIS, CALL 9-1-1 OR GO TO A HOSPITAL

To learn more about sepsis,  
or to read tributes and survivor stories,  
visit us online at [Sepsis.org](http://Sepsis.org)



**SEPSIS ALLIANCE**

*Suspect Sepsis. Save Lives.™*

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