

INFECTIONS AND THE IMMUNE SYSTEM

Your immune system is what protects you from many illnesses. It's your defense system. Your immune system recognizes dangers to your body from bacteria, viruses, and other dangerous germs that might harm you.

The immune system is made up of cells, proteins, and organs throughout your body. This includes the spleen (a small organ in your abdomen, or belly), tonsils, bone marrow, and white blood cells. For most people, their immune system works well even though they still can get sick or get an infection from time to time.

Close to 7 million people in the United States have immune systems that don't work well or at all, although the number could be even higher.¹ This is called having a weakened or suppressed immune system, or being immunocompromised. If you are immunocompromised, you have a higher risk of getting infections. This then increases your risk of getting sepsis. Sepsis is the body's life-threatening reaction to infection. The only way to prevent sepsis is to prevent infections in the first place.

To help the immune system, we get vaccinations against illnesses like tetanus, measles, and polio. Vaccines trick your body into thinking it already had the illness, so you don't get it again. Other medications help your body fight infections. These include antibiotics, antivirals, antifungals, and antiparasitics.

¹Patel et al. (2020, August). Analysis of MarketScan Data for Immunosuppressive Conditions and Hospitalizations for Acute Respiratory Illness, United States. *Emerging Infectious Diseases*. <https://wwwnc.cdc.gov/eid/article/26/8/19-1493-f1>

CAUSES

There are several reasons why someone may have a weakened immune system. Being immunosuppressed can be short-term (temporary) or long-term (chronic). Here are some examples:

Short-term weakened immune systems can be caused by:

- Treatments such as chemotherapy, immunotherapy, or radiation for diseases like cancer
- Medications such as steroids to treat illnesses like Crohn's disease or rheumatoid arthritis
- Malnutrition
- Severe burns over a large part of the body
- Drinking too much alcohol
- Bone marrow transplants

Long-term can be caused by:

- Having no spleen
- Being older or very young (especially infants born prematurely)
- Organ transplants
- Diseases like AIDS, diabetes, or lupus

Preventing Infections If You Are Immunocompromised

If you have a weak immune system, this puts you at risk for getting infections. You must take extra care with infection prevention. Here are some steps you can take:

- Wash your hands well and often, for at least 20 seconds.
- If you can't use soap and water to clean your hands, use a waterless sanitizer.
- Get all recommended vaccines and boosters.
- Gently clean any breaks in your skin (cuts, scrapes, burns). Keep them dry and clean as they heal. Always wash your hands before touching the wound.
- Use antibiotic ointments on open wounds, if approved by your doctor.
- Watch for signs of infection if you have a wound. Your skin can feel warmer to touch, look red, and may have pus coming from it.
- Ask people who are sick not to visit you until they are better.
- Wear a face mask when in a crowd.

What To Do If You Have or Suspect an Infection

Ask your healthcare provider what you should do if you do become ill. You want this information before you need it so you are prepared. Some doctors want their patients to call them directly. Others may tell their patients to go to an urgent care clinic or the emergency department. Being prepared can help reduce the risk of serious infections and sepsis. 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.

Questions to ask:

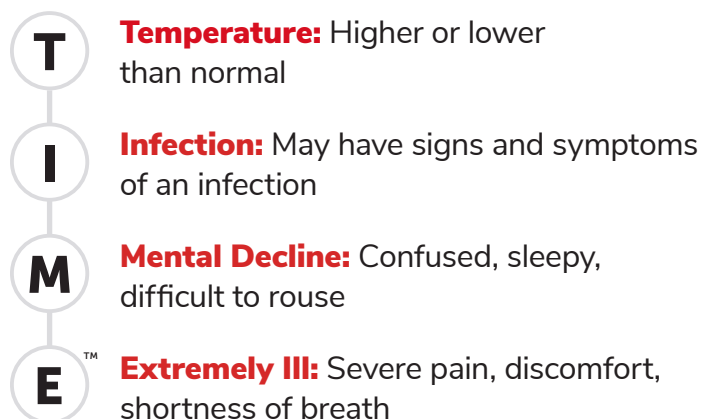
- Who do I call if I get sick?
- What is their contact information?
- What do I do if I am sick after office hours?
- If I have to leave a message, how long should I wait before following up?

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.

Signs and symptoms of sepsis

There is no single sign or symptom of sepsis. It is a combination of symptoms.



Although there is no specific test for sepsis, doctors who suspect a patient might have sepsis may order blood tests to check for an increase in white blood cell or neutrophil counts. They also check for changes in heart rate and blood pressure.

Special Notes for People with a Weakened Immune System

Sepsis can come on quickly or very slowly. Being more tired than usual, sweating or feeling chilled, can be early signs of sepsis. Call your contact person right away if you notice any signs that could be sepsis.

If you have an invasive line, like a central line, a PICC line, an intravenous tube, or urinary catheter, follow all instructions about keeping them clean. Ask your nurse what signs of infection you should watch for.

SEPSIS IS A MEDICAL EMERGENCY. IF YOU SUSPECT SEPSIS, CALL 9-1-1 OR GO TO A HOSPITAL RIGHT AWAY.



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