

# Sepsis Education Package for Patients and Families

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# General Information

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## What is the purpose of this package?

The Sepsis Patient Information Package provides information about:

- Sepsis
- Treatment of sepsis
- Recovery from sepsis
- Supportive care for friends and family

The package provides information about sepsis to patients, their family and friends, and anyone who may be curious about sepsis.

## What is sepsis?

Usually, when you have a cut, scrape or sprain, there is scabbing and swelling in the area of the injury. The scabbing or swelling is the body's way of trying to heal. This is called the immune response.

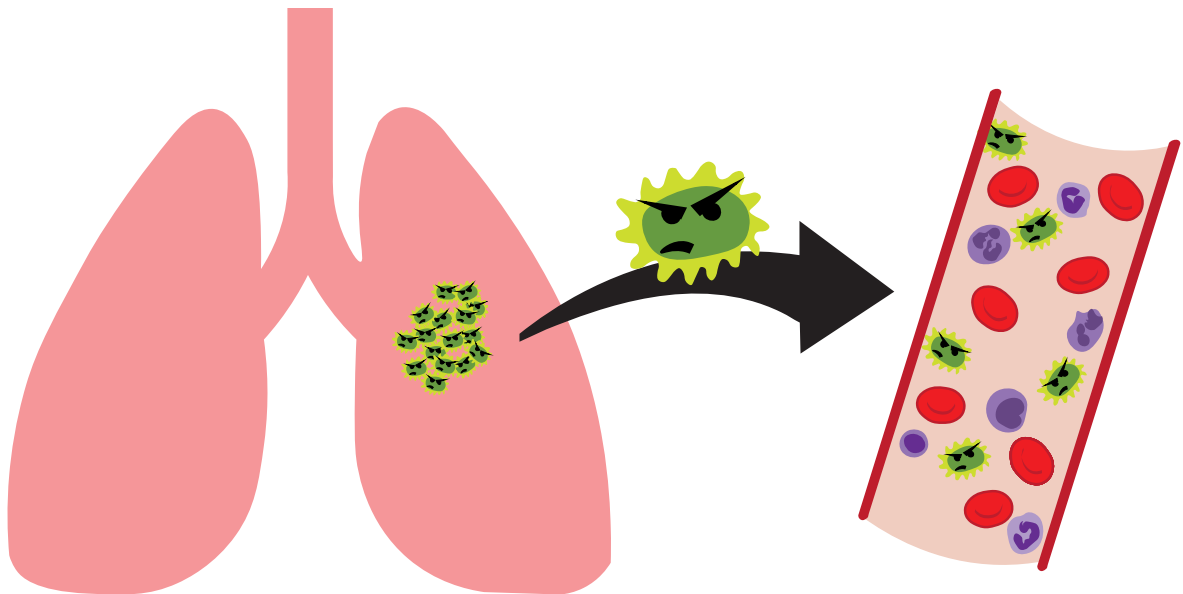
When pathogens (also known as germs, like bacteria, fungi, parasites, or viruses) enter the blood stream, the body's immune response will try to contain and destroy them. However, in the case of sepsis, the immune response goes into 'overdrive.' The immune response not only attacks the pathogens (germs) but attacks the body's tissues and organs as well. These attacks on the body make sepsis a very serious condition that can lead to limb and tissue damage (damage to the arms, legs, fingers, toes, etc.), organ damage (damage to heart, kidney, lungs, brain, etc.), organ failure, and death.

## How does sepsis happen?

Patients with sepsis may not go through all of the typical stages of sepsis. Sepsis may look different in different patients and may progress at different speeds (fast or slow).

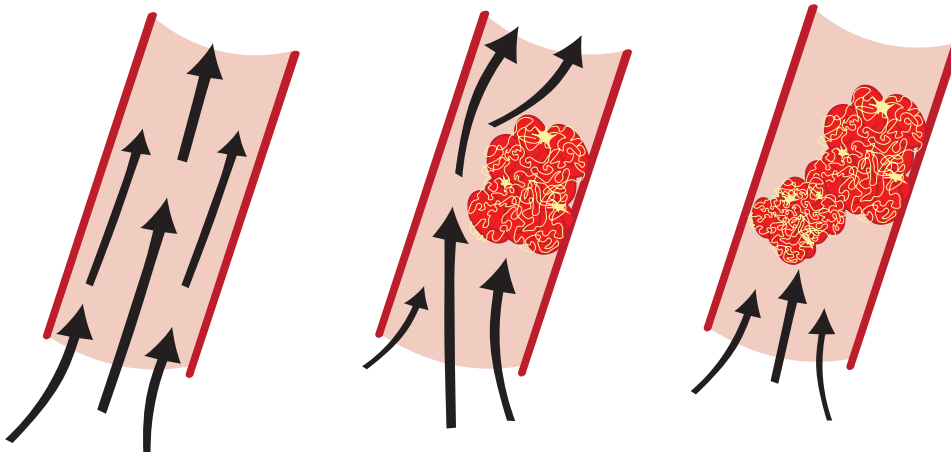
### Stage 1: Initial infection

Sepsis starts when pathogens (e.g. bacteria) from an initial infection (such as, a chest infection like pneumonia) leave the original site of infection (i.e. lungs) and enter the body's blood stream. This then triggers an abnormal (or unusual) immune response.



## Stage 2: The Abnormal Immune Response

The abnormal activation of the immune system causes very low blood pressure and a high amount of blood clotting. When you get a cut or scrape, your body makes a 'scab.' The scab is your body's way of making sure no blood escapes through your cut or scrape. This is called 'clotting.' In sepsis, clotting happens *IN* the blood stream/vessel.



## Stage 3: Organ dysfunction

Clotting is your body's way of making sure blood cannot get through. When clotting happens inside blood vessels, blood cannot travel (or travels with difficulty) to places it needs to be, like organs (e.g. heart, lungs, kidneys, etc.), and tissues (e.g. muscles and limbs). Blood carries much needed energy and nutrients to the body's organs and tissues and removes unwanted waste. Without sufficient blood flow, like that seen in sepsis, the body's organs and tissues will not be able to function properly.

## Stage 4: Septic Shock

Due to the decline in blood flow, organs will stop functioning. In septic shock, blood pressure levels drop, and organs start shutting down. Not every patient will end up in septic shock. If sepsis is recognized early, the patient may not end up in septic shock.

## **Who is at risk of developing sepsis?**

The likelihood of getting sepsis is higher for those who have a 'rundown' immune system, such as:

- Children and the elderly
- Cancer patients treated with chemotherapy drugs or radiation
- Those with other chronic diseases (like kidney failure)
- Anyone who is taking immunosuppressive medications (such as transplant patients)

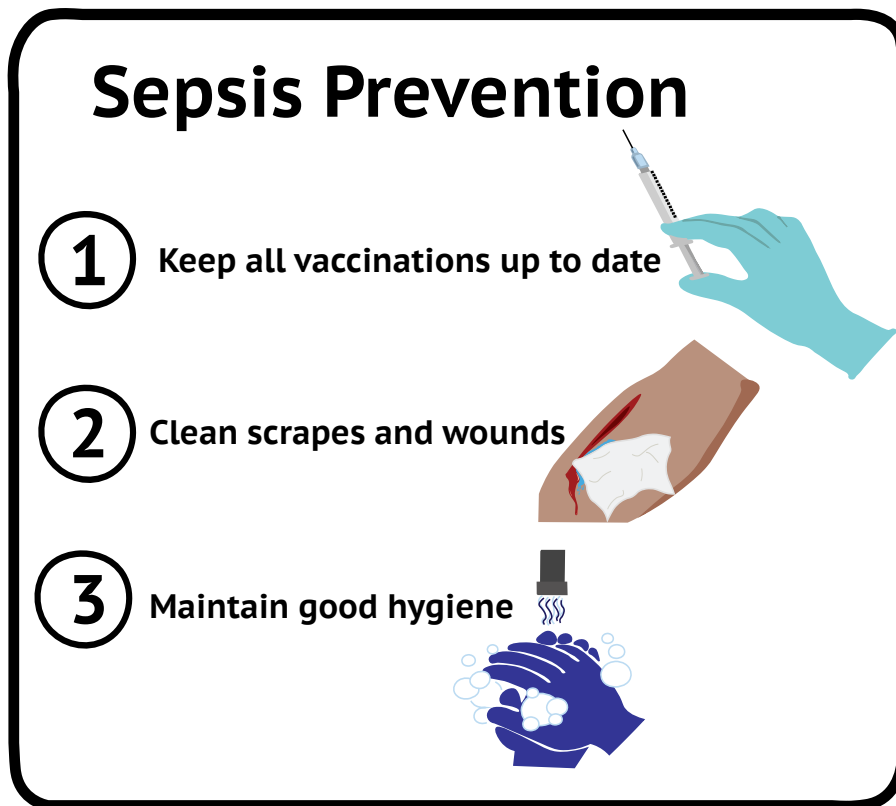
Although children and the elderly are at greater risk for getting sepsis, anyone of any age can develop sepsis.

## **How common is sepsis?**

Sepsis is a common, yet very serious world health problem. It remains the first cause of death from infection worldwide, making up 10% of all intensive care unit (ICU) admissions. In lesser developed countries, sepsis is the number 1 cause of death. Sepsis is also deadly in North America, with 1 out of 4 deaths in Canada caused by sepsis. Sepsis can affect any age group, from babies to adults.

## Sepsis Prevention

The best way to prevent sepsis, is to prevent the initial infection that leads to sepsis. To prevent the initial infection, follow the three steps below:



## Signs of Sepsis

In addition to those seen below, signs of sepsis may vary due to the initial infection (i.e., skin rashes, vomiting, sore throat, fever and chills, etc.). Sepsis appears differently in everybody. You may not have all of the signs outlined below. But, *if you have an infection and are feeling very unwell, be sure to seek medical attention and to ask, “could this be sepsis?”*

### Signs of Sepsis Checklist

<input type="checkbox"/>	 Difficult or Rapid Breathing	<input type="checkbox"/>	 Confusion
<input type="checkbox"/>	 Dizziness	<input type="checkbox"/>	 High Heart Rate
<input type="checkbox"/>	 Low Blood Pressure	<input type="checkbox"/>	 Low Urine Output

These signs may come on very rapidly or slowly; signs of sepsis may come at different speeds depending on the patient. If you are experiencing one or more of these signs, it does not mean you have sepsis. However, if sepsis is suspected, seek medical attention immediately.



**If you have an infection and are feeling very unwell, seek medical attention and be sure to ask, “could this be sepsis?”**



## **How is sepsis diagnosed?**

Doctors, physician assistants, or nurse practitioners will identify sepsis using the signs above, together with blood tests. The blood tests check for signs of the initial infection and to look for how many organs (heart, liver, lungs, etc.) are not working properly.

## **How is sepsis treated?**

A variety of methods are used to treat sepsis, some of which include administering medication, supportive care, and possible surgery.

### **Medications:**

The medications used aim to treat the initial infection, help raise low blood pressure, and decrease pain. Respiratory therapy and other treatments may be used to remove the initial cause of infection.

### **Supportive Care:**

The amount and type of supportive care given is determined by the seriousness of the patient's condition. Supportive care can include oxygen (breathing machine), fluids given by vein, blood transfusions, dialysis to support kidneys, a urinary catheter, insulin, and nutritional additions. Patients may be transferred to the ICU (intensive care unit) if additional support is needed.

### **Surgery or Radiology:**

Surgery may be needed to remove areas of infection, or for draining purposes.

## **Are there any long-term effects of sepsis?**

Approximately 50% of sepsis patient develop post-sepsis syndrome (PSS). PSS includes any long-term physical, mental, or emotional effects caused by sepsis, such as one or more of the following: sleeplessness, chronic muscle and joint pain, extreme tiredness, poor concentration, lower mental (cognitive) function, mood disorders, amputation, and organ damage. However, given that each cause of sepsis is different for each patient, it is difficult to predict if a patient will develop PSS. For an individualized response, talk to your health care professional before discharge. Keep in mind that sepsis takes a huge toll on the body and it can take 1 to 2 years, or longer, to completely recover.

# Recovery

## Recovery from Sepsis: In Hospital

<b>Experience</b>	<b>Explanation/Examples</b>	<b>Steps health care workers will take</b>
<b>Tiredness and weakness</b>	Unable to bring a cup of water up to lips.	Physiotherapy will be provided to ensure you continue to get stronger.
<b>Discoloration</b>	Limbs may have turned black or purple.	Assess limb's ability to recover.
<b>Numbness and weakness</b>	May have difficulty moving, and lower sensation (feeling) in a particular body part.	Over time, you will eventually recover. You will be given exercises so you can train your nerves and muscles back to normal.
<b>Sore throat</b>	If you have had a breathing tube your voice may feel hoarse and you may experience trouble swallowing.	This will disappear soon, if not automatically. Your health care provider will monitor.
<b>Nausea, loss of appetite</b>	You may not feel hungry or feel the urge to eat.	Your health care provider will monitor your food intake and provide supplements as needed.

<p><b>A behavior change called delirium</b></p>	<p>You may forget where you are, feel confused, unsettled, and feel you are in situations that you are really not.</p>	<p>Hospital staff will assess and manage this as needed.</p>
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## **Recovery from Sepsis: Out of Hospital**

After leaving the hospital, you may experience some of the following:

- dizziness
- loss of appetite (not hungry)
- a change in bowel habit (diarrhea or constipation)
- muscle aches and joint pain
- exhaustion
- depression and/or anxiety
- peeling and itching of skin
- hair loss
- sleeplessness
- weight loss
- bed sores

If you notice any of the above symptoms, meet with your health care professional to come up with an appropriate management plan.

## **Transitioning from Hospital to Home**

The hospital may set up visits to your home from personal support workers, physiotherapists, and nurses. In addition, you may need to install certain safety measures around the house (seat in bath, bar in shower, wheelchair etc.). If you saw any specialists (surgeons, etc.) while you were in hospital, they may follow up with you after you have been discharged. If any issues arise for you (e.g. some outlined in the chart above) we encourage you to call your family doctor. If you feel like your health issues are becoming serious, is declining in any way, do not hesitate to go to the emergency room.

## **Medications**

Medications you took prior to hospitalization may be changed. We encourage you to review new medications with your pharmacist.

# Information for Friends and Family

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**How can I help my friend or family member (who has sepsis)?**

## **Talk to them**

Even if patients are unconscious, it will be comforting to hear a familiar voice. If you run out of things to say, read a book or newspaper aloud. Keep talking, let them know you are present.

## **Do small comforting things**

Brush the hair out of their face and hold their hand, even if unconscious. Ask the nurses for permission and instructions on how to use a damp sponge to keep their mouth moist or to massage their hands and feet with lotion.

## **Be there**

Be present for you relative or friend. Be able to listen to what they have to say, and truthfully answer any questions they have. Be prepared to reassure them. If you are unable to tell them that “everything will be fine,” say “The doctors and nurses are doing everything in their power to help you.” They may experience some short-term memory loss or confusion. If so, be ready to soothingly re-orient them. Remind them where they are and why.

## **Have a positive attitude**

This is undoubtedly very hard and stressful for you; however, it is important to have a strong face for your relative or friend. If you feel you are going to cry, go cry outside. Crying in front of your family member or friend can be very scary for them. They may feel there is something else wrong that no one is telling them.

## **Hospital care**

Your family member may be unable to tell their concerns (due to breathing tubes, etc.) to the hospital staff. Take time to make a list of things that your family member or friend does and does not like, in order to help the hospital take better care of them.

## **Who can I speak with when I have questions?**

The nurses who look after the patient have detailed information and can also arrange for you to speak to doctors or other staff that are involved in your relative's or friend's care. However, due to confidentiality rules, only certain relatives are permitted to receive information about the patient's condition. It is suggested to have a 'point person' (also known as a 'substitute decision maker') who is in charge of getting information from the hospital staff and sharing it with friends and family. This way, the nurses and doctors are able to focus on the care of your friend or family member.

## **More Information**

For more information, please visit:

<https://www.global-sepsis-alliance.org/sepsis/>

<https://www.cdc.gov/sepsis/>

<https://rorystauntonfoundationforsepsis.org/>

<https://www.sepsis.org/>

<https://www.youtube.com/watch?v=LmTMrdrKMjU>

<https://kidshealth.org/en/parents/sepsis.html>

<https://canadiansepsisfoundation.ca/resources/index.html>