

# Cancer treatment and sepsis





**“ I contracted sepsis and pneumonia and was hospitalised. During this time I had support from family, friends, colleagues and Macmillan nurses, who assisted me through my recovery. ”**

Stuart, who got sepsis during his recovery from cancer

# About sepsis

This leaflet is about cancer treatments and sepsis. It is for anyone living with cancer, and their carers, family and friends.

Having cancer and some cancer treatments can increase your risk of developing an infection and sepsis. This leaflet explains what sepsis is, when you need to contact your hospital team and what you can do to protect yourself.

It is important to contact your hospital team as soon as you have any of the symptoms we list in this leaflet. Early treatment will help prevent more serious complications.

## What is sepsis?

Sepsis may also be called blood poisoning. It is a serious and potentially life-threatening complication of an infection. Sepsis happens when the body reacts to an infection and attacks its own organs and tissues.

## Why might I get sepsis?

Having cancer and some cancer treatments can make your body unable to fight infections.

White blood cells called neutrophils help us fight infections.

Some cancer treatments temporarily reduce the number of neutrophils in the blood. This is most common if you have chemotherapy. It is less common with targeted therapies and immunotherapy.

Having a lower number of neutrophils means a minor infection can become very serious. It could become life-threatening within hours.

# When might sepsis happen?

An infection or sepsis can happen at any time. Your risk is usually highest when the number of neutrophils in your blood is low. This is called neutropenia, or being neutropenic. The timings for when neutrophil numbers drop depend on the drugs. Ask your healthcare team when you are most at risk of this happening.

## What is my risk of getting sepsis?

Your risk of infection and sepsis depends on the type of cancer drugs you are having. It also depends on the type and stage of the cancer, your age and your general health.

## Can I prevent sepsis?

Many people feel anxious or concerned about the possibility of sepsis. You cannot prevent your neutrophil count from dropping. The most important thing you can do is call your hospital team's 24-hour helpline straight away if you have any concerns. This reduces your risk of developing a serious complication from an infection.

# How can I help myself?

You should keep your cancer or haematology team's 24-hour helpline number with you at all times. Store the number in your mobile phone. You can also ask family and friends to keep a note of the number.

**Do not delay – always call your hospital team's 24-hour helpline sooner rather than later. Sepsis is easy to treat if it is caught early.**

These are other ways you can help yourself:

- Tell your family, friends and work colleagues about your risk of sepsis. Plan how you would get to hospital quickly if you needed to.
- Keep a record of the treatment you are having and when you last had it.
- Look out for symptoms of early infection or sepsis (pages 6 to 7).
- Call your cancer team **urgently** if you have any symptoms of infection.

It can be difficult to know if the symptoms you have are an infection or a treatment side effect. Do not delay contacting your team. Neither you nor your doctor can tell which infections might lead to sepsis. All infections people get during cancer treatment are treated urgently.

Infections do not get better on their own. Early infections can be treated easily. You need to start antibiotic treatment quickly as an infection can be dangerous.

# Taking care of yourself

## Before treatment

You can take care of yourself before treatment by doing the following:

- Talk to your doctor or nurse about getting the flu vaccine and coronavirus (covid) vaccine. Adults you live with should also get these vaccines.
- Buy a thermometer, so you can check your temperature at home.
- Have a dental check-up before you start cancer treatment.
- Tell your family, friends and work colleagues about your risk of sepsis.

## During treatment

Do not be afraid to live your life as normal. You do not need to avoid family and friends, unless they are unwell. Infections during chemotherapy are usually caused by bacteria that are naturally present in your own body.

You can protect yourself during treatment by doing the following:

- Avoid people who are unwell, for example people with coronavirus, chicken pox, shingles, diarrhoea or a fever.
- Call your hospital team's helpline if you have been exposed to people with an infection.
- Wash your hands regularly.

- Follow any advice you are given about what to eat or avoid eating. Not all patients need to make changes to their diet.
- Cook food properly and store it at the correct temperature.
- Clean any cuts or grazes straight away and cover them with a plaster.
- Clean your teeth at least twice a day.
- Use clean gloves for gardening and any other activities where you might cut yourself.



# Symptoms of an infection that may lead to sepsis

Contact your cancer or haematology team urgently if you have any of the following symptoms:

- You feel less well than normal.
- Your temperature goes over 37.5°C (99.5°F).
- Your temperature goes below 36°C (96.8°F).
- You have flu-like symptoms. This includes feeling shivery, cold and unable to get warm.
- You have a urine infection. Symptoms include:
  - pain or discomfort when you pass urine (pee)
  - passing urine more often than usual
  - feeling that your bladder is not empty after passing urine
  - being unable to wait to empty your bladder (urgency)
  - leaking urine (incontinence)
  - pain low down in your tummy
  - urine that is cloudy or strong smelling, or that contains blood.
- You have a chest infection. Symptoms include feeling short of breath, having a sore chest or coughing up green phlegm.
- You have diarrhoea. This means passing more stools (poo) than is usual for you or having watery or loose stools. If you have a stoma, it will be more active than usual.



- You have a skin infection. Symptoms include redness, heat, swelling or pain, especially around a PICC line, central line, cut or wound.
- You have a tooth infection. Symptoms include:
  - throbbing pain in your tooth or gum that may come on suddenly and slowly gets worse
  - pain that spreads to your ear, jaw and neck on the same side as the affected tooth or gum
  - redness or swelling in your face.

## Symptoms of life-threatening sepsis (call 999)

If you have any of these symptoms, call 999:

- **S**lurred speech or confusion.
- **E**xtrême shivering or muscle pain.
- **P**assing no urine in a day.
- **S**evere shortness of breath.
- **I**t is the worst you have ever felt.
- **S**kin that is mottled or discoloured.

# What will happen when I call my hospital team?

## Telephone assessment

Your hospital team will ask about your symptoms and your temperature. They might ask you to go to hospital urgently. This may be to an acute oncology unit, haematology department or A&E (emergency department). It is important to go to the hospital as soon as possible, so you can be seen and treated if needed. You may have to stay in hospital for treatment.

## Hospital assessment

The hospital team will treat you as an emergency. They are likely to:

- examine you
- take some blood, including a sample to find out the number of neutrophils in your blood
- arrange other additional tests, depending on the signs and symptoms you have
- decide whether you are neutropenic and have an infection or signs of sepsis
- give you an antibiotic by injection or through a drip into your blood stream (intravenously) within 1 hour of your arrival.

## **Treatment options**

The hospital team might give you antibiotic tablets to take at home if your risk of developing complications from your infection is low. They will tell you how important it is to go back to hospital quickly if you have any problems.

Most people with sepsis need to stay in hospital for antibiotic treatment into their bloodstream.

If you need to stay in hospital, your hospital team will talk to you about what antibiotic treatment you need and for how long. They will also talk to you about how long you might need to stay in hospital for.

# Where can I find more information?

## The UK Sepsis Trust

**[sepsistrust.org](https://sepsistrust.org)**

Works to raise awareness of sepsis, encourage early diagnosis, lobby politicians to improve standards of care, and provide better support for sepsis survivors.

## Macmillan Cancer Support

**[macmillan.org.uk/avoidinginfection](https://macmillan.org.uk/avoidinginfection)**

Has information about cancer treatments and infection, and how to reduce your risk.

## NHS Choices

**[nhs.uk/conditions/blood-poisoning](https://nhs.uk/conditions/blood-poisoning)**

Has information about the symptoms, causes and treatments of sepsis.

# About our information

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

Our information has the PIF Tick quality mark for trusted health information. This means our information has been through a professional and strong production process.

## Order what you need

You may want to order more booklets or leaflets like this one. Visit **be.macmillan.org.uk** or call us on **0808 808 00 00**.

## Online information

All our information is also available online at **macmillan.org.uk/information-and-support**

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- audiobooks
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If you would like us to produce information in a different format for you, email us at **cancerinformationteam@macmillan.org.uk** or call us on **0808 808 00 00**.

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## Thanks

This booklet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by Senior Medical Editor, Prof Tim Iveson, Consultant Oncologist.

With thanks to: Dr Ruth Board, Consultant Medical Oncologist; Dawn Platt, Clinical Nurse Specialist; and Melanie Powell, Consultant Medical Oncologist. Thanks also to the people affected by cancer who reviewed this edition, and those who shared their stories.

## Sources

Below is a sample of the sources used in our sepsis information. If you would like more information about the sources we use, please contact us at **[cancerinformationteam@macmillan.org.uk](mailto:cancerinformationteam@macmillan.org.uk)**

National Institute for Health and Care Excellence (NICE) Neutropenic Sepsis Guideline CG151. 2012.

Perry, MC. The Chemotherapy Source Book (5th ed.) Philadelphia: Lippincott, Williams & Wilkins. 2012.

UKONS Acute Oncology Initial Management Guidelines Version 3, March 2018. Available from: [www.ukons.org/site/assets/files/1224/ao\\_guidelines\\_version\\_3\\_-\\_august\\_2019.pdf](http://www.ukons.org/site/assets/files/1224/ao_guidelines_version_3_-_august_2019.pdf) [accessed June 2021].

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The leaflet explains what sepsis is, when you need to contact your hospital team and what you can do to protect yourself. It explains how important it is to treat sepsis urgently.

At Macmillan, we give people with cancer everything we've got. If you are diagnosed, your worries are our worries. We will help you live life as fully as you can.

For information, support or just someone to talk to, call **0808 808 00 00** or visit **macmillan.org.uk**

Would you prefer to speak to us in another language? Interpreters are available. Please tell us in English the language you would like to use. Are you deaf or hard of hearing? Call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.

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