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CANCER SUPPORT

A practical guide to living with and after cancer

# CANCER TREATMENTS AND SEPSIS



# About this leaflet

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, even if you are not sure what they are. Early treatment will help prevent more serious complications.

# What is sepsis?

Sepsis (also called blood poisoning) is a serious and potentially life-threatening complication of an infection. It 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 at its lowest. The exact time can vary, so ask your healthcare team when you are most at risk.

# 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, and the people close to you, should keep your cancer or haematology team's 24-hour helpline number with you at all times.

**Do not delay – always call them sooner rather than later. Sepsis is easy to treat if it is caught early.**

These are also 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, for example who would look after your children or help you to get to hospital.
- Look out for symptoms of early infection or sepsis (see pages 7 to 8).
- Call your cancer team **urgently** if you have any symptoms of infection.

It can be difficult to know if the symptoms you have are of an infection or another treatment side effect. Do not delay contacting your team. Neither you or your doctor can tell which infections might lead to sepsis. This is why all infections people get during cancer treatment are treated urgently.

Infections do not get better on their own. Early infections can be treated easily, but delaying starting antibiotic treatment for an infection can be dangerous.

# Look after yourself

## Before treatment

You can look after yourself before treatment by doing the following:

- Talk to your doctor or nurse about getting the flu vaccine.
- Buy a thermometer, so you can check your temperature.
- Have a dental check before you start cancer treatment.



## During treatment

Do not be afraid to live your life as normal. You do not need to avoid crowded places or seeing family and friends unless specifically advised to do so by your clinical team. Infections during chemotherapy are usually caused by bacteria that are naturally present in your own body.

You can help yourself during treatment by doing the following:

- Clean any cuts or grazes straight away and cover them with a plaster.
- Clean your teeth at least twice a day.
- Avoid people who are unwell, for example people with chicken pox, shingles, diarrhoea or a fever.
- Call your hospital team's helpline if you have been exposed to people with chicken pox or shingles.
- Follow good hand hygiene.
- Wash your hands straight away after touching or removing animal waste.
- Use clean gloves for gardening and any other activities where you might cut yourself.
- Cook food properly and store it at the correct temperature.
- Follow any advice you are given about a clean diet. Not all patients need to make changes to their diet. If dietary restrictions or changes are advisable for you, you will have been told about it at the start of your treatment.

# Symptoms of an infection that may lead to sepsis

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

- You feel less well than normal or unable to get out of bed.
- 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, freezing cold and unable to get warm.
- You have a urine infection. Symptoms include:
  - pain or discomfort when you pee (pass urine)
  - peeing more often than usual
  - feeling that your bladder is not fully emptying
  - being unable to wait to empty your bladder (urgency)
  - leaking urine (incontinence)
  - pain low down in your tummy
  - urine that is cloudy or foul smelling, or that contains blood.
- You have a chest infection. Symptoms include breathlessness, a sore chest and coughing up green phlegm.
- You have diarrhoea. This means having 4 or more loose, watery bowel movements in 24 hours.

- 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.

## Later symptoms of life-threatening sepsis – call 999

If you have any of these symptoms, **call 999**:

- S** Slurred speech or confusion.
- E** Extreme shivering or muscle pain.
- P** Passing no urine in a day.
- S** Severe breathlessness.
- I** It is the worst you have ever felt.
- S** Skin 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 and you might have to stay in.

This may be an acute oncology unit, haematology department or ward or an emergency department. It is important to go to the hospital as soon as possible, so you can be seen and given treatment if needed.



## Hospital assessment

The hospital team will treat you as an emergency, but you will not usually need to be isolated in a separate room. They are likely to:

- offer you an antibiotic by injection or through a drip into your blood stream (intravenously) within 1 hour of your arrival
- 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.





### Treatment options

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

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.



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**

[www.sepsistrust.org](http://www.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.

## **Cancer Research UK**

[www.cancerresearchuk.org/about-cancer/coping/physically/fever/causes/infection/during-or-after-treatment](http://www.cancerresearchuk.org/about-cancer/coping/physically/fever/causes/infection/during-or-after-treatment)

Has information about different cancer treatments and the risk of infection.

## **Macmillan Cancer Support**

[www.macmillan.org.uk/avoidinginfection](http://www.macmillan.org.uk/avoidinginfection)

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

## **The NHS**

[www.nhs.uk/conditions/blood-poisoning](http://www.nhs.uk/conditions/blood-poisoning)

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

## Disclaimer

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## Thanks

This information has been written by Dr Catherine Oakley, in collaboration with the UK Sepsis Trust; the National Acute Oncology NHS England Group; the UK Chemotherapy Board (this includes members of The Royal College of Radiologists, The Royal College of Physicians, The British Oncology Pharmacy Association, The UK Oncology Nursing Society, The Association of Cancer Physicians (ACP) and the Royal College of Pathologists); Cancer Research UK; and Macmillan Cancer Support.

With thanks to: Dr Ernie Marshall; Dr Ron Daniels; Philippa Jones; Dr Tim Cooksley; Dr Caroline Forde; Dr Andrew Stewart; Dr Alison Young; and Jennifer Childs.

Thanks also to the people affected by cancer who reviewed this information.

We welcome feedback on our information. If you have any, please contact **[cancerinformationteam@macmillan.org.uk](mailto:cancerinformationteam@macmillan.org.uk)**

## Sources

We have listed a sample of the sources used in the publication below. If you would like further information about the sources we use, please contact us at **[cancerinformationteam@macmillan.org.uk](mailto:cancerinformationteam@macmillan.org.uk)**

European Journal of Oncology Nursing. The role of temperature in the detection and diagnosis of neutropenic sepsis in adult solid tumour cancer patients receiving chemotherapy. 37, 12–18. 2018. The UK Sepsis Trust. Sepsis: a guide for patients and relatives. 2012.

National Institute for Health and Care Excellence (NICE). Neutropenic sepsis guideline: CG151. 2012.

Oakley C, Chambers P, Board R, Gallagher C, Young E, Mansi J. National Chemotherapy Board good practice guideline: promoting early identification of systemic anti-cancer therapies side effects – two approaches. *Cancer Nursing Practice* 15(9), 19–22. 2016.

Surviving Sepsis Campaign. [www.survivingsepsis.org/about-ssc/pages/default](http://www.survivingsepsis.org/about-ssc/pages/default).



This booklet is about cancer treatments and sepsis. It is for anyone living with cancer in the UK and their carers, family and friends.

The booklet explains what sepsis is, why people might get sepsis and what people can do to help themselves. It describes the possible symptoms and what to do if you are concerned. It explains how important it is to treat sepsis urgently.

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

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