

# Infections: risk and prevention

Lymphoma and its treatments can increase your risk of infections. Infections are more likely if you have **neutropenia** (low neutrophils – a type of white blood cell that helps to fight infections).

This information lists symptoms and signs of an infection so that you can seek medical attention if needed. It also gives tips to help prevent infections.

We have separate information about **neutropenia** (low neutrophils – a type of white blood cell that helps to fight infection).

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We have separate information about the topics in **bold font**. Please get in touch if you'd like to request copies or if you would like further information about any aspect of lymphoma. Phone 0808 808 5555 or email [information@lymphoma-action.org.uk](mailto:information@lymphoma-action.org.uk).

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## What is infection?

Harmful germs (microbes such as bacteria, fungi, yeast or viruses) can cause infections and make you unwell.

## How might I come into contact with germs that cause infection?

You might come into contact with these germs by:

- being near to someone who has an infection
  - touching an infected surface
  - eating or drinking contaminated food or water
  - breathing in particles of air or water droplets that are infected.
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## What are the signs and symptoms of infection?

The exact symptoms infections cause are often limited to the parts of the body that are affected. For example, colds affect the airways and cause a runny nose. A stomach bug that affects the digestive tract (gastroenteritis) causes sickness and diarrhoea.

We outline some of the [common signs and symptoms of infection](#) below. Your medical team can advise you about any that you should be particularly aware of, including any that are not listed below.

Contact your GP or a member of your medical team immediately if you have any possible symptoms or signs of infection, even if you think they might be minor. This is because infections can become serious for people who have lymphoma, and you might need urgent medical attention.

## Common signs and symptoms of infection

Common symptoms and signs of infection include, but are not limited to any one or more of the following symptoms:

- temperature above 38°C/100.4°F (fever)
- temperature below 35°C/95°F ([hypothermia](#))
- pain, redness, discharge, swelling or heat at the site of a wound or [intravenous \(IV\) line](#) such as a chemotherapy central line or PICC line
- chills and sweating

- shivering (even if you don't have a fever, which can be more likely if you're taking **steroid** medication)
- feeling generally unwell, confused or disoriented
- blocked nose, earache, sore throat or mouth, earache
- cough, yellow or green phlegm or snot (mucus), difficulty breathing
- diarrhoea
- vomiting
- a feeling of burning or stinging when you wee, or needing to wee more often than usual
- vaginal discharge or itching
- headaches or unusual and new stiffness of the neck, with discomfort around bright lights
- new and increasing pain anywhere in the body.

Keep a thermometer so that you can easily check your temperature. Seek medical advice promptly if you have a raised temperature, especially if you have other symptoms of infection as well. Remember that some of the symptoms could be caused by your lymphoma or its treatment, but it is **important to seek medical attention early**.

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**If you are in doubt, it is important to speak to your specialist nurse or another member of your medical team early – don't ever worry about disturbing them.**

Professor Nagesh Kalakonda, Haemato-oncology Consultant

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Some infections can cause more serious problems by getting into the bloodstream. This is known as sepsis and affects the whole body. It causes symptoms such as fever, tiredness, headaches, aches and pains. You can learn more about **sepsis symptoms, who can get it and how it is treated on the NHS website** and on the **Sepsis Alliance website**.

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## **What is a medical card?**

You might be given a card that outlines:

- **any medication or drugs you are taking or given** so that you can show your GP, district nurse or other medical staff (such as in Emergency Departments or other hospitals) if you need to

- **what to do if you develop a fever or become unwell**, including details of who to contact
- **if you are at risk of neutropenia**, so that any health professionals treating you are aware of your increased risk of infection.

If you haven't been given this information and you think it might apply to you, you can ask your consultant or clinical nurse specialist for it. It is a good idea to carry any medical cards you're given with you at all times.

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**If you need to go to hospital, take any medical cards you've been given with you. This can help to ensure appropriate and prompt medical attention.**

*Kathleen, diagnosed with non-Hodgkin lymphoma*

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## **What should I do if I think I might have an infection?**

Contact your GP or a member of medical team immediately if you have any possible symptoms or signs of infection, even if you think they might be minor. Don't wait to see if they worsen. This is because infection can be serious for people who have lymphoma. The risk is further heightened if you have **neutropenia**. You might need urgent medical attention so seek medical attention as soon as you can.

### **Why is it important to seek medical attention quickly?**

If you're advised to go to hospital, go immediately.

Prompt medical attention means you can get any tests and treatment such as antibiotics that you might need quickly. This can prevent any issues from becoming more serious and potentially life-threatening.

Your medical team should give you telephone numbers to call at any time. This includes during the night and over weekends. If you haven't been given this information, ask your consultant or clinical nurse specialist for it.

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## How can I lower the risk of infections?

While you can't protect yourself completely from infection, you can help lower your risk by:

- [keeping good personal hygiene](#)
- [minimising your contact with germs](#)
- [protecting your skin.](#)

As a general guide, a [healthy lifestyle](#) is important in helping to protect against infection. This includes taking [exercise](#), [eating well](#) and getting enough rest. You should also take medical advice about any [vaccinations](#) you might need or should not have.

### Keeping good personal hygiene

Take care of your body and keep it clean:

- [Wash your hands well](#) before preparing and eating food, and after using the toilet.
- Have a warm bath or shower every day. If you have a [PICC or central line](#) in place, ask your medical team for advice on bathing and showering.
- Keep good dental hygiene. Use a soft toothbrush and an alcohol-free antibacterial mouthwash.
- Take an alcohol-based sanitiser or antibacterial wipes with you when you go out. Use these if there isn't water and soap available to clean your hands when you need to.

Good hand washing is important to lowering your risk of infection. Use liquid (not bar) soap and warm water, and dry your hands well. The [NHS has guidance about how to wash your hands](#).

It's particularly important to wash your hands before preparing and eating food, after using the toilet and after touching animals.

If you are using a public toilet, use paper towels to do this if they are available. Take an alcohol-based sanitiser or antibacterial wipes with you when you go out. Use these if there isn't water and soap available to clean your hands when you need to.

## Minimising your contact with germs

Think about ways of minimising your contact with germs that could cause you to become unwell:

- Keep household surfaces clean, using a disinfectant before preparing food.
- Avoid places where infection can spread easily, such as cinemas, busy shops, public transport during rush-hour, hot tubs and public swimming pools.
- Keep your distance from family, friends and others with infections such as a cold, flu, diarrhoea, vomiting or chickenpox.
- Do not share cups, mugs or cutlery, or personal items such as toothbrushes or towels.
- Wear protective gloves when gardening, cleaning, and clearing up after [pets](#) – if possible, see if someone else can help with these tasks.

## Protecting your skin

Avoid giving germs a way into your body:

- Moisturise your skin with a lotion if your skin if it becomes dry or cracked.
- Take care to avoid cuts when using knives or scissors.
- If you shave, consider using an electric shaver instead of a razor.
- Wear shoes outdoors. Avoid walking barefoot, even indoors.
- Don't squeeze spots or scratch scabs.

If you cut, scratch or graze yourself, wash your hands and clean the wound with tap water. Use a clean towel to pat the wound dry and place a sterile dressing on it. Avoid picking at scabs because this can increase the risk of germs spreading into the body. The NHS website has more information about [cuts and grazes](#).

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## How can I ensure good food safety and hygiene?

Food poisoning (foodborne illness) can happen if you eat or drink food that's contaminated, for example with a virus or bacteria. The World Health Organization (WHO) gives five key steps to food safety, summarised below.

- **Keep clean** – wash your hands thoroughly and make sure that food preparation surfaces and utensils are clean.

- **Separate** – separate raw meat, raw poultry and raw seafood from other foods. Use separate utensils to prepare them. Wash your hands thoroughly before and after preparing these foods.
- **Cook your food thoroughly** – this is especially important when cooking meat, eggs and seafood. Make sure that foods like soups or stews are warmed to at least 70°C. Reheat cooked food thoroughly.
- **Store foods at safe temperatures** – generally, this means below 5°C for cold or perishable food and above 60°C for hot food. Once food is cooked, don't leave it at room temperature for more than 2 hours; put it in the fridge.
- **Use safe water and raw ingredients** – wash fruit and vegetables before eating them, choose pasteurised (heat-treated) ingredients and do not eat or drink products that have passed their expiry date.

You can read more about [promoting safer food handling on the WHO's website](#). The Food Standards Agency also have information about [food safety](#). They also have an online search tool that allows you to check the [hygiene ratings](#) of businesses such as restaurants, cafes, pubs and takeaways.

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When I was receiving treatment, I was advised not to purchase food from delicatessen counters, which could have been opened several times for cutting or weighing. I was advised instead to always purchase such items in wrapped and sealed packaging.  
Sheila, diagnosed with non-Hodgkin lymphoma

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## How does lymphoma increase risk of infection?

There are a number of ways that lymphoma can increase your risk of developing an infection:

- **Lowered immunity.**
- **Having an intravenous (IV) line in place between treatments.**
- **Lack of nutrients (malnutrition).**

### Lowered immunity

Lymphoma affects your [immune system](#). It stops [lymphocytes](#) from working properly (a type of white blood cell that helps fight infection).

Your ability to fight infection is further lowered if you have:

- **neutropenia**, which can be caused by **treatments** (**chemotherapy** or immunotherapy) or by having lymphoma in the **bone marrow**. Your medical team might prescribe courses of growth factor injections to prevent, this especially after treatments
- had a **stem cell transplant** or cellular therapies
- had your spleen removed (**splenectomy**), as the spleen is part of your immune system
- other conditions such as diabetes, or a condition that needs regular medication such as **steroids**.

### **Having an intravenous line (IV) in place between treatments**

Having a peripherally inserted central catheter (**PICC line**) or tunnelled **central line** in place between treatments makes it easier to do regular blood tests and give you intravenous treatments. However, it can also give germs a way to get into your bloodstream, which can lead to infection.

To reduce the risk of infection, a member of your medical team regularly cleans (flushes) your line and changes the dressing. How often they do this depends on the type of line you have and on the policies at your hospital. If you notice any signs of infection around the line before your next check, contact a member of your medical team.

### **Lack of nutrients (malnutrition) and dehydration**

Good **diet and nutrition** and drinking enough fluids helps give your body nutrients to fight infections.

We have more information about **healthy diet**, including addressing some **frequently asked questions about diet and nutrition**.

## **References**

The full list of references for this page is available on our website. Alternatively, email [publications@lymphoma-action.org.uk](mailto:publications@lymphoma-action.org.uk) or call 01296 619409 if you would like a copy.

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