

Infection: risk and prevention

Lymphoma can increase your risk of infection. This information is about symptoms and signs of infection to look out for so that you can ask for medical attention when you need to. It also gives tips to help prevent infection.

Lymphoma and its treatment can also lower the number of a type of white blood cell (called 'neutrophils') in your blood. This is known as **neutropenia**, and it can increase your risk of infection. We have separate information about neutropenia.

In these difficult times, with our health service dealing with the challenge of the coronavirus pandemic, we know that people are concerned about overloading the NHS. However, it is important that you don't ignore symptoms that could be serious.

If you have lymphoma and you have any signs of infection, contact your medical team straightaway.

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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.

What is infection?

Infections are caused by harmful 'bugs' or 'germs' (microbes such as bacteria, fungi or viruses). You might be exposed to them by:

- skin contact
- touching an infected surface
- eating or drinking contaminated food or water
- breathing in particles of air or water droplets that are infected
- contact with people who have an infection.

Infections and the symptoms they cause are often limited to certain parts of the body. For example, colds affect the airways and cause a runny nose. A stomach bug (gastroenteritis) affects the digestive tract, causing sickness and diarrhoea.

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, aches and pains.

Symptoms and signs of infection

An infection can be serious for people who have lymphoma. You might need antibiotic medication. In some cases, you might need treatment in hospital to fight off the infection.

Contact your GP or medical team immediately if you have any possible symptoms or signs of infection, no matter how minor or vague they seem.

Possible symptoms and signs of infection include, but are not limited to:

- fever (temperature above 38°C)
- hypothermia (temperature below 35°C)
- shivering (even if you do not have a fever, which is more likely if you're taking steroid medication)
- chills and sweating
- feeling generally unwell, confused or disoriented
- blocked nose, earache, sore throat or mouth, earache
- cough, yellow or green phlegm or snot (mucus), difficulty breathing
- redness and/or swelling of the skin, pain and redness around intravenous (IV) lines
- diarrhoea or vomiting

- a feeling of burning or stinging when you wee, or needing to wee more often than usual
- vaginal discharge or itching
- unusual and new stiffness of the neck with discomfort around bright lights
- new and increasing pain.

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 and it is best to get medical attention early.

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

Contact your GP or medical team straightaway if you notice **symptoms and signs of infection**. Don't wait to see if they get worse. If you're advised to go to hospital, go immediately. Infection can be severe and take hold quickly if you have neutropenia.

It was frustrating when I had to go back to hospital after treatment. All I wanted was to be at home with my family. But when I met someone who'd ended up in the ICU because of a fever, I realised how important it was.

Corrin, diagnosed with diffuse large B-cell lymphoma

Your medical team should give you telephone numbers to call at any time of the day or night, including at weekends. Many chemotherapy units give out cards with details about the drugs you are taking so that you can show your GP or district nurse if you need to. These cards should tell you what to do if you develop a fever or become unwell when your neutrophil count is low (**neutropenia**). If you haven't been given this information, ask your consultant or clinical nurse specialist for it.

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

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 help fight infection).

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

- **neutropenia**, which can be caused by **treatment** such as **chemotherapy** or by having lymphoma in the **bone marrow**
- had a **stem cell transplant**
- had your spleen removed (**splenectomy**), as the spleen is part of your immune system
- other long-term 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) and 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.

Lack of nutrients (malnutrition)

A **healthy diet** and regular fluid intake helps give your body nutrients to make new blood cells and fight infections.

If you struggle to **eat or drink** or you are losing weight without trying to, ask your medical team for advice. Don't take any vitamins or over-the-counter supplements without speaking to them first, as some could react with your treatment. Your medical team might offer you a referral to a dietitian, who can give you advice specific to your needs – if you're interested in this possibility, you could ask them about this

Preventing infection

It's not possible to be completely protected from infection. However, there are steps you can take to help protect yourself. **Minimise your contact with germs, keep good personal hygiene, protect your skin** and minimise contact with people who have signs and symptoms of infection.

A **healthy lifestyle** is important in helping to protect against infection. This includes taking **exercise** and **eating well**. You should also take medical advice about any **vaccinations** you should or should not have.

Keep in mind that treatment with chemotherapy temporarily lowers your neutrophil count and reduces your ability to fight infection. Your immunity might be lowered for a few days, weeks or months after treatment, and possibly for as long as right up until your next dose. Your medical team can advise you on roughly how long they expect that this is likely to be the case for you.

I tolerated chemo well but my blood counts dropped after treatment. I was worried about picking up infections. I was careful about hand hygiene and avoiding anyone who was unwell.
Owen, diagnosed with angioimmunoblastic T-cell lymphoma

Minimise contact with germs

- Keep your distance from people with infections such as a cold, flu, diarrhoea, vomiting or chickenpox.
- Avoid places where infection can spread easily, such as cinemas, busy shops, public transport during rush-hour, hot tubs and public swimming pools.
- Wear protective gloves when gardening.
- Always wash your hands after touching animals. Take care to avoid bites and scratches. Wear gloves when cleaning up after pets, or ask someone else to do it for you.
- Keep your household surfaces clean.
- Do not share cups, mugs or cutlery, or personal items such as toothbrushes or towels.

Keep good personal hygiene

- Wash your hands before meals and after using the toilet.
- Take 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 antiseptic/antibacterial mouthwash.
- Take 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.

Protect your skin

- Use lotion or oil to moisturise your skin if it becomes dry or cracked.
- Avoid shaving. If you do, consider using an electric shaver instead of a razor.
- Take care to avoid cuts when using knives or scissors.
- 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. Pat the wound dry with a clean towel and place a sterile dressing on it. Avoid picking at scabs because this can increase the risk of infection.

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. You can read the full advice on the [WHO website](#).

- **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 food 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 [safe food handling on the WHO's website](#).

The Food Standards Agency also have information about [food safety and hygiene](#), both at home and when you are out. They also have an online search tool that allows you to check the [hygiene ratings](#) of businesses such as restaurants, cafes, pubs and takeaways.

References

The full list of references for this page is available on our website. Alternatively, email publications@lymphoma-action.org.uk or call 01296 619400 if you would like a copy.

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✓	Evidence-based
✓	Approved by experts
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