

Splenectomy (having your spleen removed)

If you have lymphoma, you might need to have a splenectomy (an operation to remove your spleen). Without a spleen, your body is less able to fight infections, so you'll need to take precautions to lower your risk of getting infections.

On this page

[What is a splenectomy?](#)

[Lymphoma and the spleen](#)

[Who might need a splenectomy?](#)

[Having a splenectomy](#)

[Reducing your risk of infection](#)

What is a splenectomy?

A splenectomy is an operation to remove your spleen.

The spleen is an organ that is part of your **lymphatic system**, which helps to protect your body against infection. It is about the size of a clenched fist. It lies below your diaphragm and behind your ribcage on the left-hand side of your body, just behind your stomach.

The spleen has several roles.

It helps to protect you from infection by:

- removing bacteria and viruses from the bloodstream
- making antibodies and storing several types of white blood cells.

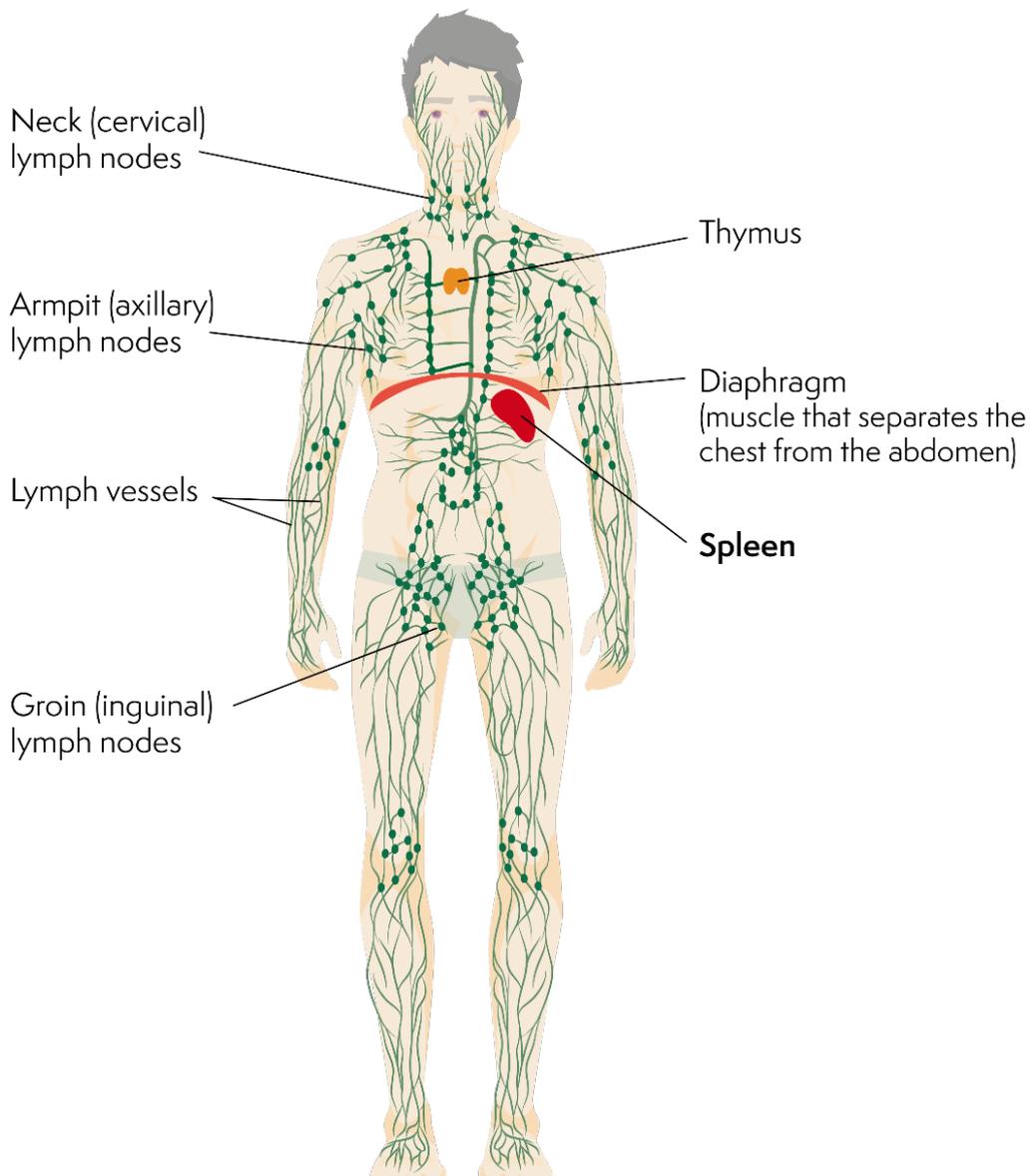


Figure: The lymphatic system, including the spleen

The spleen also:

- filters out old and misshapen red blood cells (that carry oxygen around your body) and platelets (cells that reduce bruising and bleeding) from the bloodstream
- stores a small supply of red blood cells and platelets for your body to use in an emergency
- works as a back-up site for making new blood cells if your **bone marrow** (which usually makes blood cells) is not working as it should.

Lymphoma and the spleen

Lymphoma can affect your spleen in several ways:

- Lymphoma cells can build up inside your spleen, making it swell. Sometimes, this might be the only sign that you have lymphoma. An enlarged spleen (also called 'splenomegaly') can occur in several types of lymphoma, including **Hodgkin lymphoma, chronic lymphocytic leukaemia, diffuse large B-cell lymphoma, mantle cell lymphoma, hairy cell leukaemia, splenic marginal zone lymphoma,** and **Waldenström's macroglobulinaemia.**
- Lymphoma can make your spleen work harder than normal. For example, if your lymphoma causes **autoimmune haemolytic anaemia** or **immune thrombocytopenia,** your spleen has to work hard to destroy the antibody-coated red blood cells or platelets. If you have lymphoma in your bone marrow, your spleen may try to help make new blood cells. Working harder than usual can make your spleen swell.
- If your spleen is swollen, more red blood cells and platelets than usual fit inside it and it removes red blood cells and platelets from the bloodstream more quickly than it should. This reduces the number of these cells in your bloodstream and can cause **anaemia** (low red blood cell count) or **thrombocytopenia** (low platelet count) – or worsen these conditions if you already have them.

What symptoms might I have if my spleen is enlarged?

You might not have any symptoms. However, you might experience:

- pain or a sense of fullness in the top left side of your tummy
- feeling full soon after eating
- feeling very tired
- feeling short of breath, particularly when doing physical activity
- getting more infections than usual
- bleeding or bruising more easily than usual.

Tell your doctor if you experience any of these symptoms.

If your spleen is very enlarged, your doctor might be able to feel it when they examine you.

Who might need a splenectomy?

If you have lymphoma, you might need a splenectomy:

- to examine your spleen in the laboratory in order to work out which type of lymphoma you have
- if you have anaemia or thrombocytopenia and you haven't responded to other treatments.

In the past, splenectomies were used to help **stage** Hodgkin lymphoma. Nowadays, **PET-CT scans** are usually used instead.

If your spleen is enlarged due to your lymphoma, doctors generally advise trying chemotherapy to shrink the spleen. In some cases, though, especially in **splenic marginal zone lymphoma**, a splenectomy can be used as a treatment for the lymphoma instead of chemotherapy.

Your medical team will discuss your individual case. They will recommend a splenectomy if they consider it the best option for you.

Having a splenectomy

A splenectomy is quite a straightforward operation and people usually recover well. The operation can be performed either as laparoscopic surgery (keyhole or minimally invasive surgery) or open surgery. Both operations are carried out under general anaesthetic. Your consultant will talk to you about what the surgery involves, why it might be a suitable treatment option, and about the possible risks.

Before your operation

Unless your splenectomy is an emergency, you should have some vaccinations a few weeks before your operation to lower your risk of infections afterwards.

These include:

- the Hib (haemophilus influenza B) vaccine
- meningitis vaccines
- pneumococcal vaccine against pneumonia.

Before your operation, you have **blood tests** and an electrocardiogram (ECG; a heart function test that records the rhythm and electrical activity of the heart) to make sure you are well enough to have surgery. The anaesthetist talks to you about your anaesthetic and the pain relief you might need afterwards.

Laparoscopic (keyhole) surgery

Laparoscopy is a type of surgery that allows your surgeon to see inside your abdomen (tummy) without making a large incision (cut).

If you have your spleen removed by laparoscopic surgery, your surgeon makes three or four small incisions in your abdomen. They are usually smaller than 1.5cm long (just over half an inch).

One of the cuts is used to insert a laparoscope (mini camera) to capture images of the inside of your abdomen. The images are magnified and sent to a television screen to help guide your surgeon.

The other cuts are used to insert the tools the surgeon needs to remove your spleen. The surgeon also pumps gas into your abdomen to make it easier to operate. The gas is let out after the operation.

At the end of the splenectomy, all of the incisions are stitched up and covered with dressings. The stitches are dissolvable so you don't need to have them taken out. Sometimes, you can go home later the same day, but usually you stay in hospital at least overnight to ensure your recovery from surgery.

Laparoscopic surgery takes a bit longer than open surgery but it generally causes less bleeding and pain. You usually recover faster and can go home sooner than with open surgery.

Occasionally, your surgeon might not be able to remove your spleen using keyhole surgery (for example, if your spleen is too large or it bleeds too much). Open surgery might be planned for you from the start, or your surgeon might have to switch to open surgery during a keyhole operation. They will discuss this possibility with you before your surgery.

Open surgery

Open surgery is a bigger operation than laparoscopic surgery.

During open surgery, your surgeon makes a cut. This might be underneath the bottom of your ribcage on the left, or straight down the middle of your abdomen.

The cut allows the surgeon to see inside your body and remove your spleen. At the end of the operation, the cut is stitched up and covered with a dressing. When you wake up, you might have a drain (a thin plastic tube coming out of your left side to drain away any blood or fluid), a catheter (a thin plastic tube coming out of your bladder to drain your wee) and a drip going into your arm.

You have to stay in hospital for a few days to recover. Depending on how your incision was closed, you might need to have your skin clips or stitches removed after a week or two.

After your operation

You are likely to feel some pain or discomfort after your operation. Your doctor will prescribe pain relief medication. How you have this medication depends on the type and complexity of the surgery you had. You might be given it in tablet form, into a drip in your arm, through a small plastic tube next to the wound, or through a small plastic tube in your back.

Tell your doctor or nurse if you are still in pain after taking your medication. They might prescribe a different type of pain relief or a higher dose.

Usually, you should be able to eat and drink as normal soon after the operation. In rare, more complex cases, you might be kept fasted and have a small tube inserted through your nose to empty your stomach.

Your surgeon will give guidance on how to look after yourself at home. If you go home on the day of your operation, it is important that someone stays with you for at least the first 24 hours after the operation. This is so that they can look after you and help with any necessary tasks while you rest. Tell your surgeon if you do not have someone to offer such support so that they can arrange for you to stay in hospital.

You will have scars after your surgery (one large one after open surgery and several small ones after laparoscopic surgery) but they will gradually fade.

For most people, recovery usually takes a few weeks. Talk to your surgeon or nurse about when you can expect to get back to your day-to-day activities, including driving.

Potential complications of splenectomy

There are risks of complications with any surgery. Some of these risks are related to having an anaesthetic. Some are because you do not move around as much in the days after the operation, especially if you are in pain or if you had a drain or catheter. You should be given pain relief medication. It is generally advisable to move around as soon as you are able to after the operation.

The potential complications of splenectomy include bleeding, chest infection, wound infection or blood clots. These are all uncommon. Your surgical team will take care to reduce these risks and will monitor you afterwards to spot any signs early.

If you notice any redness, swelling or oozing around your wound(s), or if you develop a temperature of 38°C or above, contact your GP or hospital straightaway. You might need antibiotics.

To help reduce the risk of getting a chest infection or blood clot, you might be given breathing and leg exercises to do at home. You might also have blood-thinning injections for a few weeks after your operation.

More serious complications of splenectomy are very rare. They include a severe reaction to anaesthetic or damage to another organ or major blood vessel during the operation itself. The longer term risks are because the spleen is no longer there to do its job in helping to prevent infection. Your surgeon will discuss these risks with you before your operation.

Reducing your risk of infection

If you have your spleen removed, your **immune system** will not work as well as it used to. This doesn't mean you have no protection – your liver, **bone marrow** and **lymph nodes** (glands) take over many of the functions of your spleen. However, certain infections might take hold more quickly. You are also more vulnerable to certain rare, but potentially serious, infections.

Anyone without a spleen is at greater risk of infection, but if you've had lymphoma and chemotherapy, your risk is even higher. This is because both chemotherapy and the lymphoma itself affect your immune system.

There are lots of things you can do to reduce your risk of getting an infection. We give general advice below but speak to your medical team for specific guidance based on your individual circumstances.

Read all of the information given to you and ask a family member, friend or carer to read it, too. If there is something you don't understand, ask your doctor to explain it to you.

Know the signs of infection

Contact your GP straightaway if you have any **signs of infection**.

If you don't have a spleen, there is a risk of developing a serious infection called 'overwhelming post-splenectomy infection' (OPSI). The risk is very small, but OPSI is serious and can be life-threatening. Your risk of developing OPSI is highest in the first 2 years after your surgery but it never goes away completely.

Contact your medical team immediately if you have any signs of infection.

Some infections are transmitted by animal scratches or bites. These can be particularly serious if you don't have a spleen.

If you are bitten or scratched by an animal, contact your doctor immediately.

Get vaccinated

Unless the splenectomy is an emergency, your doctor will arrange for you to have all of the **vaccinations** you need at least 2 weeks before your surgery.

If you weren't able to have the recommended vaccinations before your splenectomy, you should have the following vaccinations as soon as possible afterwards:

- the Hib (haemophilus influenza B) vaccine
- meningitis vaccines
- pneumococcal vaccine against pneumonia.

You should also have the flu vaccine every year and a pneumococcal vaccine booster every 5 years.

If you travel to another country, you might need extra vaccinations. However, check with your medical team that it is safe for you to have these, especially if they are live vaccines.

Take any antibiotics you've been prescribed

Vaccinations do not protect you from all infections. You are likely to need low-dose antibiotics (usually penicillin, or a different antibiotic if you are allergic to penicillin) for at least 2 years after your operation. This is to help prevent infections and is called prophylaxis. In most people who have a splenectomy due to lymphoma, doctors recommend that prophylaxis continues for life.

You might also be given a course of antibiotics to store at home in case you need them quickly. If you get a sore throat, temperature or other **signs of infection**, take the first dose and then contact your doctor straightaway. Be aware of the expiry date of your antibiotics.

Protect yourself when travelling abroad

If you are **planning a trip abroad**, talk to your doctor about the risks and about any extra vaccinations you might need. Have this conversation in plenty of time as it can take several weeks to have a full course of **travel vaccinations**.

If you don't have a spleen, you have a higher risk than usual of getting **malaria** (a very serious tropical disease spread by some mosquitoes). If you are planning to visit a country that has malaria, ask your doctor which anti-malaria tablets to take. Make sure you take the full course of tablets, including before and after you travel. You should also protect yourself against mosquito bites.

Don't forget to take your antibiotics with you when you go travelling.

Take general precautions

Take precautions to lower your risk of getting cuts and scratches. For example, wear gloves for gardening, and take care in the kitchen to avoid cuts from knives and scissors.

Speak to your doctor if you have any concerns about your health.

Tell people you don't have a spleen

Make sure your doctor and dentist know you don't have a spleen.

It is advisable to carry a **card** that lets people know you don't have a spleen in an emergency situation. Some people prefer to buy and wear a **MedicAlert bracelet, necklace or watch** instead.

References

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

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