CONDITION

Post-splenectomy complications

Post-splenectomy complications are health problems that can occur after surgical removal of the spleen.

WHAT IT IS
Short-term and lifelong risks after spleen removal

BODY SYSTEM
Immune system, blood, and circulation

MAIN SYMPTOMS
Fever, chills, breathlessness, one-sided leg swelling

WHAT CAUSES IT
Loss of spleen function after surgical removal

HOW IT IS DIAGNOSED
Medical history, blood tests, cultures, and targeted imaging

MAIN TREATMENT
Vaccination, infection prevention, antibiotics, and complication-specific care

CAN IT BE CURED?
No - the removed spleen cannot regrow

IS IT AN EMERGENCY?
Sometimes - fever or rapidly worsening illness

LONG-TERM OUTLOOK
Most people remain well with lifelong precautions

Overview

A splenectomy is an operation to remove the spleen. The spleen sits under the ribs on the upper left side of the abdomen. It filters the blood, removes old blood cells, and helps the immune system recognize certain bacteria.

You can live without a spleen. The liver, bone marrow, and other tissues take over many of its jobs. However, they cannot fully replace its role in fighting some infections. Spleen removal can also affect platelets, which help blood clot, and may temporarily or permanently change the risk of abnormal blood clots.

Some complications happen soon after surgery, such as bleeding, wound infection, or a clot in an abdominal vein. Others are lifelong risks. The most important is a rare but potentially severe infection that can worsen quickly. This is sometimes called overwhelming post-splenectomy

infection, or OPSI.

Most people do not have ongoing symptoms simply because their spleen has been removed. Vaccination, a clear plan for fever, and regular medical follow-up can reduce the risks, although they cannot remove them completely.[1,2]

Symptoms

Symptoms depend on the complication. Many people feel well after recovering from surgery.

An infection may begin with symptoms that seem minor, including:

Without a spleen, some bacterial infections can become serious more quickly than they would in someone with normal spleen function. Do not wait for several symptoms to appear before seeking help.

Symptoms of a blood clot depend on its location. A clot in a leg may cause one-sided swelling, pain, warmth, or redness. A clot that travels to the lungs may cause sudden breathlessness, chest pain, coughing blood, faintness, or a fast heartbeat.

Soon after surgery, increasing abdominal pain, a swollen abdomen, persistent vomiting, wound redness, pus, fever, or unexpected bleeding may indicate a surgical complication. Some pain and tiredness are expected during recovery, but symptoms that are worsening rather than improving need assessment.

- Fever, chills, shaking, or sweating
- Sore throat, cough, headache, or muscle aches
- Vomiting, diarrhoea, or abdominal pain
- Unusual weakness, sleepiness, or confusion

Causes and risk factors

Post-splenectomy complications occur because surgery removes the spleen's immune and blood-filtering functions. The reason for the splenectomy also affects the level of risk.

A spleen may be removed because of severe injury, a tumour or cyst, an enlarged or damaged spleen, or a blood disorder. Some people have other conditions or treatments that also weaken immunity.

The risk of severe infection is lifelong. It is often greatest during the first few years after surgery, but infections can occur many years later.[1] Risk may be higher in young children,

older adults, people with weakened immune systems, and those who had splenectomy for certain blood cancers or blood disorders.

Bacteria of particular concern include pneumococcus, meningococcus, and Haemophilus influenzae type b. These bacteria have an outer coating that the spleen normally helps the body clear. Influenza can also make a secondary bacterial infection more likely.

Other infections matter in specific situations. Capnocytophaga bacteria from dog or cat bites can cause severe illness in someone without a spleen. Malaria and babesiosis, infections carried by mosquitoes and ticks respectively, may also be more severe.[3]

Platelet levels often rise after splenectomy. This is called reactive thrombocytosis. It is usually temporary, but the operation, reduced movement, underlying illness, and changes in blood flow can all contribute to clot risk.

Diagnosis

Having no spleen is usually confirmed from your surgical history and medical records. There is no single test that diagnoses all post-splenectomy complications.

If infection is suspected, assessment may include your temperature, blood pressure, heart rate, breathing, and alertness. Blood tests can look for infection, inflammation, organ problems, and changes in blood cells. Blood cultures may identify bacteria in the bloodstream. Urine tests, chest imaging, or other tests may be used to find the source.

Treatment for a suspected serious infection should not be delayed while waiting for culture results.

A full blood count measures platelets, red blood cells, and infection-fighting white blood cells. A blood film may show Howell-Jolly bodies, small fragments inside red blood cells that are commonly seen when spleen function is absent.

Ultrasound or CT imaging may be needed if there is concern about internal bleeding, an abscess, or a clot in the abdominal veins. A suspected leg or lung clot is assessed with the same types of scans used in people who have a spleen.

Treatment and management

Management begins with recovery from the operation. This may include pain control, gradual return to movement, wound care, and measures to prevent clots. Follow-up blood counts may be used to check platelet levels and anaemia.

Vaccines are a central part of long-term care. People without a spleen usually need vaccines that protect against pneumococcal, meningococcal, and Haemophilus influenzae type b infections, as well as yearly influenza vaccination. The exact products and booster schedule are affected by age, previous vaccines, health conditions, and national guidance.[2,4]

For a planned splenectomy, vaccines are ideally reviewed before surgery. If the operation is an emergency, they can be given after surgery when you are clinically stable. A healthcare professional should check your vaccination record rather than assuming that childhood vaccines provide all the protection you need.

Some people are advised to take preventive antibiotics like amoxicillin or doxycycline every day. This is more common in children and people at higher risk of severe infection. Recommendations for adults differ among countries and depend on factors such as age, time since surgery, immune health, and previous serious infections.[1]

You may also be given an emergency supply of antibiotics to start if fever or sudden illness occurs and medical care is not immediately available. This does not replace urgent assessment.

Suspected serious bacterial infection is treated promptly, usually with antibiotics given into a vein in hospital. Supportive treatment may include fluids, oxygen, and monitoring.

A confirmed blood clot is generally treated with medicine that reduces further clotting. The choice and duration depend on the clot's location, bleeding risk, and underlying condition. A raised platelet count alone does not always need treatment, but a very high or persistent level may require specialist review.

Complications

Early surgical complications can include bleeding, wound infection, a collection of infected fluid inside the abdomen, injury to nearby structures, or a clot in the portal or splenic veins. The portal vein carries blood from the digestive organs to the liver.

Chest infections and partial collapse of the small air spaces in the lungs can occur after abdominal surgery, especially when pain makes deep breathing difficult. Movement and breathing exercises are often part of recovery.

Long-term complications include:

Sepsis is the body's dangerous response to an infection. It can affect blood pressure, breathing, alertness, and organ function. Severe post-splenectomy infection is uncommon, but its speed is why fever and sudden illness need prompt attention rather than routine follow-up.

- Rapidly progressing bloodstream infection and sepsis
- Increased risk of certain bacterial infections
- More severe malaria or babesiosis after exposure
- Blood clots in the legs, lungs, or abdominal veins
- Persistent changes in platelet or other blood-cell counts

Prevention

The spleen cannot be replaced after a total splenectomy, and the lifelong infection risk cannot be completely prevented. Several steps can reduce it.

Keep a personal record of your vaccines and any recommended boosters. Attend routine reviews so the schedule can be updated when guidance or your health changes.

Carry a medical alert card or wear medical identification stating that you do not have a spleen. Tell healthcare professionals, dentists, pharmacists, and emergency staff about your splenectomy.

Make sure you understand your written fever and antibiotic plan. If emergency antibiotics have been supplied, check how and when to use them and replace them before they expire.

Clean animal bites or scratches promptly and obtain medical advice, especially after a dog or cat bite. Antibiotic treatment may be considered even when the wound appears small.[1]

Before international travel, seek advice early. Travel planning may include malaria prevention, additional vaccines, an emergency medical plan, and protection from mosquito and tick bites. Avoiding tick exposure is also important in places where babesiosis occurs.[3]

Vaccination lowers infection risk but does not make it safe to ignore fever or sudden illness.

Living with it and what to expect

During the first weeks after surgery, tiredness, abdominal discomfort, and reduced stamina are common. Recovery time is influenced by whether the surgery was planned or followed a serious injury, whether it was open or keyhole surgery, and the condition that led to it.

Blood counts may change during the first weeks and months. Platelets often rise and later fall toward a stable level. Your follow-up plan may include repeat blood tests, particularly if the count becomes very high or you have another clotting risk.

Over the years, most people can work, exercise, attend school, have relationships, and travel

without major restrictions. The main lasting change is the need to remember the infection risk. Vaccination reviews, medical identification, and rapid action when you become unwell remain important for life.

Pregnancy is possible after splenectomy. Vaccination, antibiotic, and clot-prevention plans may need review before or during pregnancy.

Routine follow-up should cover vaccines, preventive antibiotics if prescribed, travel plans, and any persistent blood-count changes. New or unexplained symptoms should be assessed on their own merits rather than assumed to be caused by the missing spleen.

When to get medical help

Seek urgent same-day medical assessment if you develop a fever, shaking chills, or suddenly feel significantly unwell. State clearly that you have had your spleen removed. Follow your emergency antibiotic plan if you have one, but do not delay medical care.

Call emergency services for:

One-sided leg swelling or pain needs prompt assessment for a possible clot. A bite from a dog or cat also warrants prompt medical advice.

Routine appointments are appropriate for vaccine reviews, prescription renewals, travel planning, questions about medical identification, or a blood-test result when you otherwise feel well.

- Trouble breathing, severe chest pain, or coughing blood
- Confusion, fainting, extreme drowsiness, or difficulty waking
- Cold or mottled skin with rapid worsening
- Heavy bleeding or severe, increasing abdominal pain
- Signs of a severe allergic reaction, such as facial swelling and breathing difficulty

Common questions

Can I live a normal life without a spleen?

Most people return to their usual activities after recovering from surgery. You will need lifelong infection precautions, including keeping vaccines current and seeking urgent help for fever or sudden illness.

Can my spleen grow back?

A completely removed spleen does not normally grow back. Small pieces of spleen tissue can sometimes remain or implant elsewhere after trauma, a finding called splenosis. This tissue should not be assumed to provide normal immune protection.

How long does the infection risk last?

The risk lasts for life, even if your operation was many years ago. It may be higher soon after surgery and in people with additional immune or blood disorders.

Which vaccines do I need after a splenectomy?

Vaccines commonly cover pneumococcal, meningococcal, and Haemophilus influenzae type b infections, along with yearly influenza vaccination. The exact schedule and boosters should be based on your age, previous doses, health, and local programme.[2,4]

Will I need antibiotics forever?

Not everyone takes daily antibiotics for life. Longer preventive treatment may be recommended for children and adults with higher infection risk. Everyone should have a clear plan for fever, including whether to keep emergency antibiotics available.

Can I travel after having my spleen removed?

Yes, but some destinations require extra planning. Malaria and babesiosis can be more serious without a spleen. Arrange travel advice early, use recommended insect protection, and know how to obtain urgent medical care while away.

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