

## Asplenia and hyposplenia

Travellers with an absent spleen (asplenia) or poorly functioning spleen (hyposplenia)

### Key messages

- **Individuals with asplenia (absent spleen) or hyposplenia (a poorly functioning spleen) are at risk of overwhelming [sepsis](#) and should take steps to protect themselves against infections.**
- **They are also at risk of severe malaria; where possible, travel to malarious areas should be avoided. If travel is unavoidable bite avoidance and anti-malarial prophylaxis must be strictly adhered to.**
- **Travellers should have plans in place should they require urgent medical attention whilst abroad.**
- **Asplenia or hyposplenia are not considered a contraindication to vaccines including live vaccines. However, as part of a travel risk assessment, the reason for the absent or poorly functioning spleen and current medication should be considered before any vaccination given.**

### Overview

The spleen plays an important role in the immune system. It breaks down abnormal and dying blood cells, removes micro-organisms and is involved in antibody production. Asplenia refers to the absence of a spleen, and hyposplenia refers to a reduction in the function of a spleen.

Surgical removal of the spleen (splenectomy) may be undertaken following trauma or as part of treatment for an underlying disease; hyposplenia may occur as the result of an underlying medical condition such as sickle cell disease, splenic thrombosis, autoimmune disorders including coeliac disease, or infiltrative disorders e.g. lymphomas [1-4].

Those with asplenia or hyposplenia are at an increased risk of severe infection, particularly by encapsulated bacteria (including *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Neisseria meningitidis*, *E coli* and *Salmonella*)[1]; severe illness may develop if infected with malaria [5] or certain tick-borne parasites e.g. babesia (which cause [babesiosis](#)) [6].

Risk management advice should follow the usual advice given to all travellers and be tailored to the individual as described below. Comprehensive assessment of a traveller's risk should take into consideration the cause of asplenia or hyposplenia.

All individuals without functioning spleen should be vaccinated against *pneumococcus*, meningococcal groups ACWY and B according to [national recommendations](#). Annual influenza vaccination is also recommended [1]. Additional *Haemophilus influenzae* type b (Hib) vaccine is no longer recommended for asplenic patients - see vaccine section below [1].

Hyposplenia is uncommon in children with coeliac disease, the prevalence correlates with the duration of exposure to gluten. Patients who are diagnosed with coeliac disease early in life and are well managed are unlikely to require additional vaccines beyond those given in the routine immunisation schedule [1].

It is important to note that vaccines do not offer complete protection from disease. Individuals may be advised to routinely take long-term antibiotic prophylaxis (i.e. penicillin or an alternative if allergic to penicillin), issued with standby antibiotics in the event of illness whilst abroad and to carry a [warning card](#) to alert medical personnel to the fact they do not have a functioning spleen.

Destination-specific risks and risk management advice can be found on the [Country Information pages](#).

## Pre-travel preparation

Travellers should be advised to research their itinerary. If they are under specialist care, their travel plans should be discussed with the specialists in advance. Because of the risk of severe malaria in those with asplenia or hyposplenia, travel to malarious areas should be avoided [5].

Travellers should recognise the signs of and symptoms of infection, such as high fever, and be aware of the need of prompt medical care should symptoms develop. When seeking medical care, travellers should alert medical personnel that they do not have a functioning spleen.

High standard medical care may not be readily available in some countries particularly in remote areas. Language barrier may pose an additional problem. Travellers should have a plan, how and where to access medical care if required.

Travellers taking long-term prophylactic antibiotics or issued with standby antibiotics may require a letter from a healthcare professional and a copy of their prescription; they should ensure they have enough medication for the duration of the trip.

Overwhelming infection from antibiotic resistant organisms, despite long-term antibiotic prophylaxis, has been reported [7]. Travellers should be aware that the prevalence of antibiotic resistance varies in different countries and may render antibiotic prophylaxis less effective.

Travellers should be advised that [falsified medications](#) can be a problem in some countries.

Comprehensive travel insurance is essential for all travellers. A full declaration of medical conditions should be made to the insurers.

## Journey risks

Asplenia is a cause of thrombocytosis (excess platelets in the blood) which can theoretically increase the risk of thrombosis (blood clots). [Venous thromboembolism](#) (VTE: deep vein thrombosis or pulmonary embolism) can occur as a result of long periods of immobility associated with any form of travel; measures to prevent travel related VTE including maintaining mobility inflight are advised [8].

## Food and water risks

[Travellers' diarrhoea](#) is common. The spleen is important in the protection against food and water-borne infection such as salmonella; after risk assessment typhoid vaccination may be indicated for some travellers. Travellers should pay scrupulous attention to food and water hygiene.

After careful risk assessment, standby antibiotics to be used in the event of diarrhoea, may be considered when travelling to high-risk countries [9, 10]. Further information can be found in the [Travellers' diarrhoea factsheet](#).

## Vector-borne risks (see also malaria)

Individuals with asplenia or hyposplenia are at risk of severe infection from babesia (a parasite) which is transmitted by ticks [6]. Travellers should follow the general advice on the [avoidance of bites from insects and ticks](#). Travellers should seek medical attention should they become unwell after a tick bite, particularly if that occurred in an area where babesia are known to be present.

Contact with animals such as cats, dogs and monkeys may result in animal bite, scratches or licks on open wound must be avoided. In addition to [rabies](#) risk, animal exposure places the person at risk of animal bacteria which can be passed to humans (e.g. *Capnocytophagia* and *Pasturella* which are infections particularly associated with cat and dog bites) and can cause overwhelming sepsis in asplenia or hyposplenia [11].

The following advice should be followed:

- Do not approach animals.
- Do not offer food to animals.
- Be aware that certain activity such as running, or cycling can attract dogs.
- Be aware that monkeys can approach human carrying food even if it is not offered. Keep food out of sight.

Should an animal bite, scratch or lick on an open wound, consider the risk of rabies and take [first aid measures](#); antibiotic treatment may also be necessary. Seek medical attention promptly.

## Malaria

Individuals without a functioning spleen are at particular risk of severe [malaria](#) [5]. Travel to malarious areas should be avoided. If travel is essential, rigorous mosquito bite avoidance measures and adherence to appropriate chemoprophylaxis (malaria tablets), should be taken (even in low-risk areas, where bite avoidance only is recommended for most travellers).

If travel is essential to areas regarded as very low risk to no malaria risk, bite avoidance and awareness alone still applies (malaria tablets are not recommended) [5].

If a traveller develops a fever or other symptoms that could be malaria during or after their visit, medical advice should be sought as a matter of urgency; in asplenia or hyposplenia parasite levels in the blood may rise very quickly to high levels [5] resulting in a life-threatening situation.

## COVID-19

Individuals who are asplenic or known to have a dysfunctional spleen are considered clinically vulnerable to COVID-19 and have been included in the groups to continue to receive COVID-19 vaccination in the UK (see [Table 2 and 3 in Immunisation against Infectious Disease](#)).

All individuals should follow [current UK recommendations](#) to reduce their risk of catching COVID-19 and passing it on to others.

Travellers should assess their individual circumstances, including medical facilities at their destination and consider whether postponing travel would be appropriate.

General guidance regarding [risk assessment for travel](#) during the COVID-19 pandemic and information about the [COVID-19 vaccination programme](#) is available.

## Vaccination

Asplenia or hyposplenia itself is not considered a contraindication for most vaccines, including live vaccines such as yellow fever and MMR. However, the underlying cause of asplenia or hyposplenia should be considered when assessing the safety of vaccination. Some asplenic or hyposplenic travellers may be on current immunosuppressive therapy, or have received such treatment in the recent past due to their underlying conditions; guidance on [vaccination contraindications and special considerations](#) is available.

Travellers with asplenia or hyposplenia should be up to date with routine childhood immunisation and any additional immunisations that are recommended specifically for them such as immunisation against encapsulated bacterial pathogens see [UK Health Security: Immunisation of](#)

[individuals with underlying medical conditions: asplenia](#). They should also receive [country-specific vaccination](#) where appropriate.

In the UK, additional vaccination against *Haemophilus influenzae* type b (Hib) used to be recommended for asplenic individuals until January 2020. The risk of Hib disease in the UK is now extremely low due to a long-standing successful vaccination programme in children. World Health Organization (WHO) recommends the inclusion of conjugate Hib vaccines in all infant immunisation programmes, and worldwide this is reducing the incidence of this infection. However, some countries may have poor vaccine coverage; therefore, asplenic and hyposplenic travellers who were not vaccinated against Hib in the primary immunisation programme (introduced in 1992) and those who did not receive the additional dose of Hib may wish to seek advice about vaccination if they are planning longer stay trips in countries with poor vaccination coverage. In the UK there are no single-antigen Hib vaccines available, only combined products used in the childhood vaccination programme.

## General advice and advice for those who become unwell when abroad

Travellers should seek medical attention urgently if:

- They have signs and symptoms of infection (particularly fever).
- They have animal contact such as bite, scratches or licks to open wounds.
- They had a tick bite in a country with risk of tick-borne disease.

When seeking medical care abroad, travellers should inform health professionals that they are asplenic or have a poorly functioning spleen (together with other background medical information).

## Resources

- [Splenectomy: leaflet and card](#)

## REFERENCES

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Published Date: 21 Aug 2019

Updated Date: 17 Oct 2023