

Factsheet for health professionals

Patients who have an absent spleen or functional hyposplenism require specific management given they are at increased risk of severe infection compared with the general population.

The aim is to protect this group of patients from invasive infection, specifically from infection with encapsulated organisms, through vaccination against *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Neisseria meningitidis*. These patients should be fully vaccinated according to the national schedule and also have annual flu

vaccination. Antibiotic prophylaxis is recommended for life, with the highest risk of infection being in childhood and the first two years after splenectomy. Patient education is paramount with regards to recognition and management of infection, treatment of animal bites, prevention of tick bites and the importance of up-to-date travel advice.

Children and adults with sickle-cell disease, coeliac disease and those who may develop splenic dysfunction in the future should follow the same advice.

Antibiotic prophylaxis for prevention of pneumococcal infection

Phenoxymethylpenicillin by mouth:

Child under 1 year of age	62.5mg twice daily
Child 1 – 5 years	125mg twice daily
Child over 5 years of age and adults	250mg twice daily

Amoxicillin by mouth if cover is also needed for *Haemophilus influenzae* in a child, give instead of phenoxymethylpenicillin:

Child 1 month – 5 years	125mg twice daily
Child 5 – 12 years	250mg twice daily
Child 12 – 18 years	500mg twice daily

Erythromycin by mouth if allergic to penicillin:

Child 1 month – 2 years	125mg twice daily
Child 2 – 8 years	250mg twice daily
Child over 8 years of age and adults	500mg twice daily

Points to note:

Lifelong antibiotic prophylaxis is recommended.

Prophylactic antibiotics are not an absolute protection against infection and should be given in conjunction with the vaccination schedule.

Highest risk of infection is in **children up to 16 years of age, adults over 50 years of age and for two years post-splenectomy.**

High risk patients who should receive lifelong antibiotic prophylaxis include those who have had invasive pneumococcal disease, those treated for splenic malignancy and particularly those who have received splenic irradiation or have ongoing graft versus host disease.

Patients who have had a splenectomy following trauma should continue antibiotic prophylaxis for a minimum of two years after surgery. Consider stopping antibiotic prophylaxis at this time if appropriately counselled.

Children **over 5 years of age** with sickle cell-disease may be considered for discontinuation of antibiotic prophylaxis if they have received pneumococcal immunisation and do not have a history of severe pneumococcal infection. This should be done in consultation with the child's consultant.

Immunisation

Immunisations to protect patients against encapsulated bacteria are also needed. Ensure the patient is up-to-date with all routine

immunisations as appropriate for their age and follow the suggested schedule in Table 1 for additional immunisations.

Table 1. Practical schedule for immunisation of individuals with asplenia or splenic dysfunction (Chapter 7 of the Green Book, please refer to online version for updates)

Age at which asplenia, splenic dysfunction was diagnosed	Where possible, vaccination course should ideally be started at least two weeks before surgery or commencement of immunosuppressive treatment. If not possible, see Green Book Chapters 7 and 25
Diagnosed under 1 year old	<p>Children should be fully immunised according to the routine programme</p> <p>During their first year, they should receive two doses of MenACWY vaccine at least 4 weeks apart and an additional dose of PCV13, so will receive a total of two doses of PCV13 with an 8-week interval</p> <p>At one year of age, they should receive additional booster doses of MenACWY vaccine AND PCV13 at least 8 weeks after the vaccinations scheduled at one year of age</p> <p>After second birthday they should receive one dose of PPV23 at least 8 weeks after the last dose of PCV13</p>
Diagnosed 12–23 months of age	<p>If not yet administered, give the routine vaccines due at 1 year of age: Hib/MenC, PCV13, MMR and MenB vaccines, plus:</p> <ul style="list-style-type: none"> one dose of MenACWY conjugate vaccine at least 8 weeks after the vaccines scheduled at 1 year of age an additional booster dose of PCV13, to be administered at least 8 weeks after the routine PCV13 booster scheduled at 1 year of age <p>and</p> <ul style="list-style-type: none"> one dose of PPV23 after the second birthday
First diagnosed or presenting from two years to under ten years of age	<p>Ensure children are immunised according to the national schedule, and they should also receive:</p> <ul style="list-style-type: none"> one dose of MenACWY conjugate vaccine and one dose of PPV23 <p>If they have not received the routine 2+1 schedule for MenB, ensure they have received two doses of MenB 8 weeks apart since first birthday.</p> <p>If they have not received any PCV previously, they should receive a dose of this first followed by the dose of PPV23 at least 8 weeks later.</p>
First diagnosed at age ten years onwards	<p>Older children and adults, regardless of previous vaccination, should receive:</p> <ul style="list-style-type: none"> one dose of PPV23, MenB and MenACWY conjugate vaccine an additional MenB vaccine dose 4 weeks later.

PCV = pneumococcal conjugate vaccine; PPV = pneumococcal polysaccharide vaccine

Important: The Meningococcal ACWY **conjugate** vaccine (Menveo or Nimenrix) should be used in patients of all ages and **not the polysaccharide** vaccine (ACWYVax).

- All children over six months of age and adults should be offered the flu vaccine annually and the COVID-19 vaccine during campaign periods.
- PPV23 boosters are needed every five years, but no boosters of other vaccines are currently required once person has completed immunisation as per table above.
- See current advice on completing routine immunisations in children and adults with incomplete or unknown immunisation status: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1179084/UKHSA-12599-algorithm-immunisation-status-from-1September2023.pdf

Recognition and management of infection

Patients should have a treatment course of antibiotics (either amoxicillin or clarithromycin or consult local Trust protocol if different) available to them at all times to commence if they develop any signs of infection. They should then seek medical advice urgently.

Travel advice

Individuals travelling abroad should carry a treatment course of antibiotics with them, to commence immediately if they develop any signs of infection. When prescribing antibiotics, it is important to consider pneumococcal resistance in certain countries. Those who are not routinely taking prophylactic antibiotics should do so when travelling.

When travel is to malaria endemic countries, individuals need to be advised about the consequences of developing malaria. They should take antimalarial prophylaxis and avoid mosquito bites (wear long trousers and long sleeves, use insect repellent creams, use mosquito nets or screens).

Tick bites

Tick bites can cause Lyme disease and babesiosis both of which may lead to infection. Individuals can present with non-specific flu-like symptoms. If this diagnosis is suspected refer to hospital for treatment.

Individuals who are involved in outdoor pursuits should be advised about trying to prevent tick bites. They should keep skin exposure to a minimum by wearing long trousers, tucking trousers into their socks and wearing long sleeves. They should wear light coloured clothes. They should apply insect repellent and check themselves and pet animals for ticks.

Animal bites

Individuals should seek prompt medical attention if they sustain an animal bite, especially a dog bite. They are at risk of *C. canimorsus* (gram negative bacillus found in animal saliva) which can cause infection. They should be prescribed a five day treatment course of co-amoxiclav (or erythromycin if penicillin allergic). If there is clinical concern, urgent referral to hospital is required.