



Please Note: This policy is currently under review and is still fit for purpose.

Asplenic Patients Policy

Management of Patients with Absent or Dysfunctional Spleen

This procedural document supersedes: PAT/IC 2 v.4 - Guidelines for the Management of Asplenic Patients



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Author/reviewer: (this version)	Infection Prevention and Control Team
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Target audience:	Trust Wide Clinical Staff

Amendment Form

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

Version	Date Issued	Brief Summary of Changes	Author
Version 5	22 Sept 2014	<ul style="list-style-type: none"> • Policy in new Trust format • Change to title • Section 6.2.Website address updated • Tables 1 and 2 updated in accordance with "Green Book" • Minor additions to text • References updated • Equality Impact Assessment added Appendix 1 	Dr Jewes, Consultant Microbiologist
Version 4	March 2011	<ul style="list-style-type: none"> • Additional section "Immuno-suppressed patients" • Additional section "Animal/tick bites" • Update of vaccination section according to "Green Book" guidance with insertion of new tables. 	Infection Prevention and Control Team
Version 3	March 2009	<ul style="list-style-type: none"> • Amendment form and contents page added • A section on 'Duties and 'Education and Training' added • Updated tem 5 – Action to be Taken and item 6 – Antibiotics – please read in full • Sections numbered • References updated 	Infection Prevention and Control Team

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1. INTRODUCTION

People with an absent or dysfunctional spleen are at increased risk of severe infection. The risk is greater in the first 2 years following splenectomy, but persists throughout life. Certain medical conditions, such as sickle cell disease are also accompanied by functional hyposplenism. The commonest infections are due to encapsulated bacteria, including *Streptococcus pneumoniae* (commonest), *Haemophilus influenzae type b (Hib)* and *Neisseria meningitidis*. Other organisms which can cause infection include *Salmonella spp.*, *Capnocytophaga canimorsus*, *E.coli* and *Babesia spp.*

In January 1994, the Chief Medical Officer of the Department of Health wrote to all doctors regarding the consequences of splenectomy¹. Further advice was issued in March 2001² and advice on vaccinations can be found in the "Green Book"⁴. The British Society of Haematology has also issued guidance⁵.

This policy applies to functionally asplenic/hyposplenic patients who are *asymptomatic*. Any patient who develops clinical symptoms of sepsis should be treated accordingly.

2. PURPOSE

To ensure that asplenic/hyposplenic patients are optimally managed to prevent infections to which they are particularly susceptible.

3. DUTIES AND RESPONSIBILITIES

This policy covers infection prevention and control management issues and applies to all health care workers employed by the Trust that undertake patient care, or who may come into contact with affected patients.

Trust staff this includes:-

- Employees
- Agency/Locum/Bank Staff/Students
- Visiting/honorary consultant/clinicians

Each individual member of clinical staff within the Trust is responsible for complying with the standards set out in the Policy. They need to be aware of their personal responsibilities in preventing the spread of infection. It is the responsibility of Divisional Directors, Associate Medical Directors and Assistant Directors of Nursing to ensure compliance with this standard.

4. PROCEDURE

The following procedures should be followed for all asplenic/hyposplenic patients (this includes conditions such as homozygous sickle cell disease and coeliac disease which may lead to splenic dysfunction):

4.1 Medical Records

The medical records should be clearly marked including the alert sheet in the case notes highlighting asplenic/hyposplenic status and the patient should carry a card or wear a bracelet/necklet stating the risk of infection.

4.2 Vaccination

Ideally, vaccination should be given four to six weeks before elective splenectomy. Where this is not possible, it can be given up to two weeks before treatment. If it is not possible to vaccinate beforehand, splenectomy should never be delayed. In the case of emergency splenectomy, vaccination should be delayed until at least two weeks after the operation. If the patient leaves hospital before this time, then vaccinations should be given before discharge.

Full details on individual vaccines can be found in the “Green Book” at <https://www.gov.uk/government/publications/immunisation-of-individuals-with-underlying-medical-conditions-the-green-book-chapter-7>

The following vaccines are recommended routinely, in accordance with **Table 2**

- **Pneumococcal vaccine** (see Table 1)
Hib/MenC conjugate, meningococcal ACWY and MenB vaccines (see Table 2)
- **Influenza vaccine**
Should be given annually in the autumn (September – November) to all over the age of 6 months. Vaccination should be given if the current immunisation season has not ended (generally September – April) but ideally before influenza viruses start to circulate
- **Other routine immunisations**, including live vaccines, can be given as usual unless the patient is immunosuppressed.

Table 1: Summary of pneumococcal vaccine schedule according to age at presentation of asplenia/splenic dysfunction (taken from “Green Book”³)

Patient age at presentation	Vaccine given and when to immunise	
	13-valent PCV (PCV13)	23-valent PPV
At-risk children 2 months to under 12 months of age (including infants who have asplenia or splenic dysfunction or who are immunosuppressed)	Vaccination according to the routine immunisation schedule at 2, 4 and 12 months	One dose after the second birthday.
At-risk children 12 months to under 5 years of age who have asplenia or splenic dysfunction or who are immunosuppressed	Two doses, with an interval of 2 months between doses	One dose after the second birthday and at least 2 months after the final dose of PCV13
All other at-risk children 12 months to under 5 years of age	One dose	One dose after the second birthday and at least 2 months after the final dose of PCV13
At-risk children aged 5 years and at-risk adults	PCV is not recommended unless severely immunocompromised (see below for advice for severely immunocompromised)	One dose (see below for advice for severely immunocompromised)

Table 2: Summary of immunisation schedule in individuals with asplenia / splenic dysfunction (taken from “Green Book”⁴)

First diagnosed under six months

- Give the MenB vaccine at 2, 3 and 4 months along with the routine infant immunisations (if the routine schedule has already been initiated, then give 3 doses of MenB with an interval at least one month apart)
- If MenC has not yet been given as part of routine schedule, give one dose of MenACWY conjugate vaccine followed by a second dose at least one month apart. If MenC has already been given as part of routine schedule, then give one additional dose of MenACWY at least one month later
- Give the routine 12-month boosters: Hib/MenC, PCV13 and MMR
- Give a MenB booster, an extra dose of PCV13 and one dose of MenACWY conjugate vaccine two months after the 12-month boosters
- After the second birthday, an additional dose of Hib/MenC should be given, along with the pneumococcal polysaccharide vaccine (PPV23).

First diagnosed at 6-11 months

- Give 2 doses of MenB vaccine at least two months apart (the second dose may be given with the routine 12-month boosters)
- If MenC has not yet been given as part of routine schedule, give one dose of MenACWY conjugate vaccine followed by a second dose at least one month apart. If MenC has already been given as part of routine schedule, then give one additional dose of MenACWY at least one month after any MenC dose.
- Give the routine 12-month boosters: Hib/MenC, PCV13 and MMR
- Give a dose of MenACWY conjugate vaccine and an extra dose of PCV13 two months after the Hib/MenC booster
- After the second birthday, an additional dose of Hib/MenC and the MenB booster should be given, along with the pneumococcal polysaccharide vaccine (PPV23).

Table 2: Cont... Summary of immunisation schedule in individuals with asplenia / splenic dysfunction (taken from "Green Book"⁴)

First diagnosed at 12-23 months

- If not yet administered, give the routine 12-month boosters: Hib/MenC, PCV13 and MMR
- Give a dose of MenACWY conjugate vaccine and an extra dose of PCV13 two months after the Hib/MenC and PCV13 boosters
- Give 2 doses of MenB vaccine at least two months apart (either of these doses can be given at the same time as the other vaccine visits)
- After the second birthday, an additional dose of Hib/MenC should be given, along with the pneumococcal polysaccharide vaccine (PPV23)
- This age group should also receive an additional dose of MenB vaccine with an interval of 12 to 23 months after the primary course.

First diagnosed from two years onwards

- Ensure that the child has been immunised according to national schedule, including the 12-month boosters
- Give an additional dose of Hib/MenC and the first dose of MenB vaccine, along with the pneumococcal polysaccharide vaccine (PPV23)**
- Give a dose of MenACWY conjugate vaccine and the second dose of MenB two months after the Hib/MenC booster***.

* In adolescents (from 11 years) this interval can be reduced to one month

4.3 Antibiotics

The first 2 years after splenectomy is the period of highest risk, but antibiotic prophylaxis is recommended for life, particularly for high risk groups. Cases of fulminant infection have been reported more than 20 years after splenectomy.

Low risk patients should be counselled as to the risks and benefits of prophylaxis, particularly where adherence is an issue.

The antibiotic of choice is penicillin V (phenoxymethylpenicillin).

If a patient is admitted to hospital and prescribed a beta- lactam antibiotic, the patient's prophylactic penicillin V should be suspended for this period and recommenced once the course of treatment is complete.

Note: Antibiotic prophylaxis is not fully reliable

Recommended dosages:

Adult	phenoxymethylpenicillin	500 mg b.d*
Child 6-12 years	"	250 mg b.d
Child <6 years	"	125 mg b.d

*If compliance is a problem then 500mg once daily is acceptable.

Clarithromycin should be used in penicillin-allergic patients.

Recommended dosages:

Adult & Child >8 years	500 mg o.d
Child 2-8 years	250 mg o.d
Child <2 years	125 mg o.d

Patients should also be given a small supply of suitable antibiotic to begin immediately if they have a febrile illness. This is particularly important for patients who, for whatever reason, do not take long-term prophylaxis.

4.4 Immunosuppressed Patients

In general, immunisation should be delayed for at least 3 months after immunosuppressive radiotherapy or chemotherapy. Antibiotic prophylaxis should be prescribed in the interim.

4.5 Foreign Travel

Malaria poses more of a threat to people without a functioning spleen. The importance of taking anti-malarial prophylaxis and other precautions (insect repellents, correct clothing and mosquito screens at night) should be emphasised.

For asplenic/hyposplenic patients travelling to countries in which Group A meningococcal disease is the common type, it should be ensured that they are immunised with meningococcal ACYW vaccine.

Patients should be educated as to the potential risks of overseas travel, particularly to malarious areas.

4.6 Animal/Tick Bites

Asplenic/hyposplenic patients are particularly susceptible to infection following animal bites and insect bites and should be alerted to this, so that they attend promptly for appropriate management.

Capnocytophaga canimorsus may cause severe sepsis following animal (particularly dog) bites. The infection responds to a five-day course of co-amoxiclav (or clarithromycin if penicillin-allergic).

Babesiosis is a rare tick-borne infection, which can affect asplenic patients following a tick bite.

4.7 Patient Information

“I have no functioning spleen” cards can be downloaded from the Department of Health website (www.dh.gov.uk), to alert health professionals to the risk of overwhelming infection. A patient information leaflet can also be downloaded from the same site and patients may wish to purchase an alert bracelet or pendant.

5. TRAINING/ SUPPORT

Staff will receive instructions and direction regarding infection prevention and control practice and information from a number of sources:-

- Trust Induction
- Trust Policies and Procedures available on the intranet
- Ward/departmental/line managers
- As part of the mandatory infection control education update sessions which can be delivered by a number of formats
- Infection Prevention and Control Educational displays/ posters
- Trust Infection Prevention and Control Team

The training delivered by the IPC team to educate staff who screen, treat and care for patients, will include, guidance on documentation at all appropriate points in the patient journey. Infection prevention and control must be included in individual Annual Professional Development Appraisal and any training needs for infection prevention and control addressed.

6. MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

Monitoring	Who	Frequency	How Reviewed
Training needs for infection prevention and control	Ward and Departmental Managers Training and educational Department	Annually	Staff Professional Development Appraisal
Compliance with policy to ensure asplenic/hypsplenic patients are optimally managed	Consultant Medical Staff	As cases are rare - following each individual case	Alert sheet in case notes of patients highlighting asplenic/hyposplenic status

In addition to the above the Infection Prevention and Control Team will review this policy in the following circumstances:-

- When new national or international guidance are received.
- When newly published evidence demonstrates the need for change to current practice.
- Every three years routinely.

7. DEFINITIONS

Spleen: A large organ in the human body which filters foreign substances from the blood and produces antibodies to fight infection.

Asplenic: Absence of the spleen

Hyposplenic: Dysfunctional spleen.

Immunosuppressed: Suppression of the immune system and its ability to fight infection.

8. EQUALITY IMPACT ASSESSMENT

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment For All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified.

A copy of the EIA can be seen in Appendix 1.

9. ASSOCIATED TRUST PROCEDURAL DOCUMENTS

This policy should be read in conjunction with other Trust Policies and protocols for the prevention and control of HCAI in line with the Health and Social Care Action 2008.

- Hand Hygiene Policy – PAT/IC 5
- Standard Infection Prevention and Control Precautions – PAT/IC 19
- Trust Mental Capacity Act – PAT/PA 19

10. REFERENCES

- 1 **Department of Health.** Asplenic patients and immunisation. C.M.O.'s Update 1994; 1:3.
- 2 **Department of Health.** Meningococcal immunisation for asplenic patients. Current Vaccine and Immunisation Issues. 9 March 2001.
- 3 **Immunisation against Infectious Diseases (2006) "The Green Book".** Chapter 25. Pneumococcal. Department of Health. Updated December 2013.
- 4 **Immunisation against Infectious Diseases (2006) "The Green Book".** Chapter 7: Immunisation of individuals with underlying medical conditions. Department of Health. Updated April 2011
- 5 **Davis, JM et al; Review of guidelines for the prevention and treatment of infection in patients with an absent or dysfunctional spleen.** Prepared on behalf of the British Committee for Standards in Haematology by a Working Party of the Haemato-Oncology Task Force. British Journal of Haematology 151 (3). 308-317.

APPENDIX 1 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

Policy	CSU/Executive Directorate and Department	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Asplenic Patients Policy -PAT/IC 2 v.5	Corporate Nursing Infection Prevention and Control	Dr Linda Jewes Consultant Microbiologist	Existing Policy	July 2014.
1. Who is responsible for this policy? Infection Prevention and Control Team				
2. Describe the purpose of the policy? To ensure that asplenic/hyposplenic patients are optimally Managed to prevent infection to which they are particularly susceptible.				
3. Are there any associated objectives? None				
4. What factors contribute or detract from achieving intended outcomes? None				
5. Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? No				
<ul style="list-style-type: none"> If yes, please describe current or planned activities to address the impact N/A 				
6. Is there any scope for new measures which would promote equality?				
7. Are any of the following groups adversely affected by the policy?				
a. Protected Characteristics	Affected?	Impact		
b. Age	No			
c. Disability	No			
d. Gender	No			
e. Gender Reassignment	No			
f. Marriage/Civil Partnership	No			
g. Maternity/Pregnancy	No			
h. Race	No			
i. Religion/Belief	No			
j. Sexual Orientation	No			
8. Provide the Equality Rating of the service/ function/policy /project / strategy				
Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4	
9. Date for next review July 2017.				
Checked by: Dr Linda Jewes		Date: July 2014		