NHS
Nottingham and Nottinghamshire

Review of Patients with Asplenia or Splenic Dysfunction information sheet

This information is intended for use by for healthcare professionals.

Key Message:

To review all patients with asplenia or splenic dysfunction (including those with sickle cell disease) to look at adherence to vaccination schedules (appendix 1) and review antibiotic prescribing (appendix 2)

Background:

Some medical conditions increase the risk of complications from infectious diseases, and children and adults with such conditions should be immunised as a matter of priority. These groups may also require additional vaccinations or additional doses of vaccines to provide adequate protection.

Individuals with an absent or dysfunctional spleen are at increased risk of severe infection. The commonest organism associated with severe infections in these patients is the pneumococcus (Streptococcus pneumoniae) but other organisms also appear to be a more common cause of overwhelming infection in these patients, including Haemophilus influenzae type b (Hib) and Neisseria meningitis. In addition to surgical splenectomy, certain conditions, such as sickle cell disease and other haemoglobinopathies, are accompanied by functional hyposplenism. Additional vaccination against pneumococcal infection is also recommended for all individuals who have or are at high risk of developing splenic dysfunction in the future, including those with coeliac disease and sickle cell disease.

Around 30% of adults with coeliac disease have defective splenic function. Hyposplenism in coeliac disease is uncommon in children, and the prevalence correlates with the duration of exposure to gluten. Therefore, those diagnosed with coeliac in early life and well managed are unlikely to require additional doses of these vaccines beyond those given in the routine vaccine schedule. For these reasons, patients with coeliac disease will not be included in this review (unless they have a coded entry relating to asplenia or splenic dysfunction in their clinical record)

All patients with absent or dysfunctional spleens should be fully vaccinated according to the national schedule (Appendix 1). In addition to routine vaccination, annual influenza vaccinations should also be offered.

Antibiotic prophylaxis (usually phenoxymethylpenicillin) is advisable for asplenic and hyposplenic patients (Appendix 2).

In 2016 it was identified that a young asplenic patient in Nottinghamshire, who had not received all the additional vaccinations, died from pneumococcal septicaemia.

Following this, a review of patients with asplenia and splenic dysfunction was conducted across Nottinghamshire. The review demonstrated that there were a number of patients at risk of harm due to incomplete vaccination. It was also identified that there was a lack of an effective recall system for the 5-year pneumococcal vaccination.

A significant number of patients were also identified as being prescribed:

- No antibiotic therapy, either prophylaxis or a stand-by course
- An antibiotic regimen outside of Nottinghamshire guidelines
- A dose of penicillin above that recommended in the Nottinghamshire APC guidelines

Since then, the national immunisation schedule for asplenia and patients with splenic dysfunction has been updated. The main changes are:

- Removal of additional Hib vaccination as this is no longer recommended.
- For patients 10 years or older two doses of MenB to be given four weeks apart regardless of previous vaccination history. Additional guidance on priming dose of PCV13: to be given at least 8 weeks after 1st dose if under 12 months.

• Erythromycin prophylaxis is an option when potential cardiotoxicity with clarithromycin is a concern.
• Additional safety information added regarding erythromycin: to avoid in patients with a history of QT interval prolongation or ventricular cardiac arrhythmia, including torsades de pointes.

Actions:

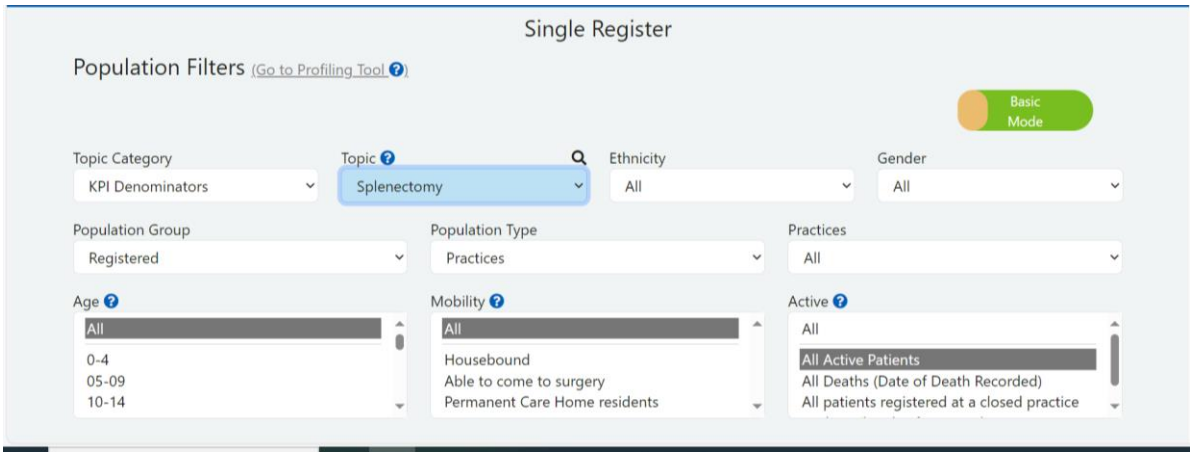
To identify patients who have been coded for asplenia or splenic disfunction in order to comply with the Green Book recommendations for vaccination schedule and Antibiotic Prophylaxis

Data:

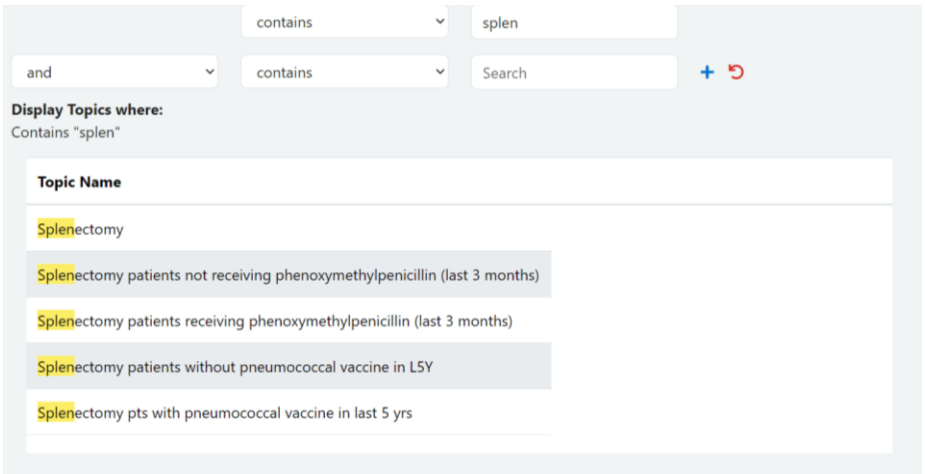
Patient identifiable data is available through eHealthscope.

eHealthScope

1. Open eHealthscope in a web browser (https://ehs.notts.icb.nhs.uk)
2. Click on "Single Register" in the "Registers" menu.
3. Choose "KPI Denominators" from the "Topic Category".



4. Pick the topic you wish to look at - Splenectomy and select one of the five options below



5. Click “filter single register”.

6. The list of patients will be displayed.

   If the list does not appear it probably means you do not have patient-level permissions. Ask the practice manager to check the permissions log and click the link “add permissions for a user and allow them to see practice & patient data” to enable your access

Disclaimer:

This resource has been developed to facilitate the safe and effective review of Patients Asplenia or Splenic Dysfunction using current accessible references and is correct at the time of approval.

The output of the searches relies on accurate read coding. Clinicians using this resource must refer to local guidelines, use their own clinical judgement and take responsibility for their prescribing decisions.

Nottingham and Nottinghamshire ICB (N&N ICB) Medicines Optimisation team only have oversight for the management of errors occurring within their own organisation. Each organisation is therefore responsible for any prescribing errors or omissions that may occur within their organisation because of using this resource and must follow their own safety governance process.

Organisations must inform N&N ICB Medicines Optimisation team should they become aware of any errors or updates required within the Patients with Asplenia or Splenic Dysfunction review documents.

References:

The Green Book of Immunisation
The Green book of immunisation - chapter 7 - Immunisation of immunocompromised individuals (publishing.service.gov.uk)

The Public Health England leaflet and card for patients who have had their spleen removed, whose spleen isn’t present or doesn’t work can be accessed here: Splenectomy: leaflet and card - GOV.UK (www.gov.uk)

NHS Nottinghamshire Area Prescribing Committee Splenectomised Patients and Those With an Afunctional Spleen
splenectomised.pdf (nottsapc.nhs.uk)

Appendix 1 Vaccination Schedule for Asplenia or dysfunction of the spleen

Box 7.1 Practical schedule for immunising individuals with asplenia, splenic dysfunction or complement disorders*

Note: Since these vaccines do not protect against all strains, antibiotic prophylaxis should also be strongly considered

First diagnosed or presenting under 1 year of age

Children should be fully immunised according to the national schedule, and should also receive:

- two doses of MenACWY vaccine at least 4 weeks apart during their first year
- an additional priming dose of PCV13, such as to receive a total of two priming doses of PCV13 with an 8-week interval in their first year
- a booster dose of MenACWY conjugate vaccine 8 weeks after the vaccinations scheduled at one 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, and
- one dose of PPV23¥ and at least 8 weeks after the last dose of PCV13

First diagnosed or presenting at 1 year to under 2 years of age

If not yet administered, give the routine vaccines due at 1 year of age: Hib/MenC, PCV13, MMR and MenB vaccines, plus:

- 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, and
- one dose of PPV23¥ after the second birthday

First diagnosed or presenting from two years to under ten years of age

Ensure children are immunised according to the national schedule, and they should also receive:

- one dose of MenACWY conjugate vaccine and
- one dose of PPV23¥
- 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
- 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

First diagnosed at age ten years onwards

Older children and adults, regardless of previous vaccination, should receive:

- one dose of PPV23¥, MenB and MenACWY conjugate vaccine
- an additional MenB vaccine dose 4 weeks later

All patients aged over 6 months

Annual influenza vaccine each season (see Chapter 19)

* Patients on complement inhibitor therapy (Eculizumab or Soliris®) are not at increased risk of pneumococcal disease and do not require PPV23 or additional doses of PCV13 (see Chapter 25).

¥ Patients with asplenia and splenic dysfunction should receive boosters of PPV23 at five yearly intervals.

Appendix 2

SPLENECTOMISED PATIENTS AND THOSE WITH AN AFUNCTIONAL SPLEEN

Oral Antibiotic Prophylaxis:

Antibiotic[1]	Dose	Duration
Phenoxymethylpenicillin	**Child 1–11mth:** 62.5mg twice a day **Child 1-4yrs:** 125mg twice a day **Adult and child ≥5yrs:** 250mg twice a day	Long-term (at least 2 years post-splenectomy)
In penicillin allergy: Clarithromycin[2] Erythromycin[2] **(children and pregnant women)**	**Adults:** 250mg twice daily **Child 1-23 months:** 125mg twice a day **Child 2-7yrs:** 250mg twice a day **Adult and child ≥ 8yrs:** 500mg twice a day	Long-term (at least 2 years post-splenectomy)

[1] See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, or renal impairment, pregnancy, breastfeeding.
[2] Withhold statins whilst on clarithromycin/erythromycin course.

Oral Emergency Antibiotic Supply: immediately start taking a therapeutic course of antibiotics and seek urgent medical attention.

Antibiotic[1]	Dose	Duration
Amoxicillin If suspension, supply as dry powder for reconstitution.	**Child 1–11mth:** 125mg three times daily **Child 1-4yrs:** 250mg three times daily **Child 5-11yrs:** 500mg three times daily **Adult and child ≥12yrs:** 500mg–1g three times daily	7 days
In penicillin allergy: Clarithromycin[2] If suspension, supply as dry powder for reconstitution.	**Child 1 month-11 years:** • Under 8 kg: 7.5mg/kg twice a day • 8-11 kg: 62.5mg twice a day • 12-19 kg: 125mg twice a day • 20-29 kg: 187.5mg twice a day • 30-40 kg: 250mg twice a day **Child 12–17yrs:** 250mg–500mg twice daily. **Adults:** 500mg twice daily	7 days

[1] See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, or renal impairment, pregnancy, breastfeeding.
[2] Withhold statins whilst on clarithromycin/erythromycin course.