MANAGEMENT OF PATIENTS POST SPLENECTOMY & HYPOSPLENIC PATIENTS

Splenectomised and hyposplenic patients are at increased risk of life-threatening infections due to encapsulated micro-organisms such as *Streptococcus pneumoniae* (90%), *Neisseria meningitidis*, and *Haemophilus influenzae* as well as certain parasitic infections such as Malaria and Babesiosis. The risk of sepsis is probably lifelong but can be reduced with simple measures, such as immunisation, the prophylactic administration of antibiotics, and patient education.

Hyposplenic patients should be immunised as soon as the diagnosis is made. Where a patient has had a splenectomy in the past, and has not received the required vaccines at the time, they should be immunised at the earliest possible opportunity.

Elective splenectomy vaccines:
On admission ensure the patient has had the following at least 2 weeks (ideally 4-6 weeks) prior to surgery:

- Pneumococcal vaccine
- Meningococcal vaccine
- *Haemophilus influenza B* vaccine
- Influenza vaccine

If these vaccines haven't been given, please follow guidelines below for emergency procedures.

Emergency procedures vaccines:
All the above vaccinations should be given at least 2 weeks POST surgery (the response to pneumococcal vaccine is poorer if given within 2 weeks of splenectomy).

Post-operative antibiotics (adult doses):
Patient should be prescribed either:

- ORAL: either (penicillin V 666mg po q12h) OR (amoxicillin 250-500mg q12h po)
  OR IV Benzylpenicillin 1.2g q12h if oral route not available
- In penicillin allergy: clarithromycin 250mg q12h po or IV if oral route unavailable

Antibiotics usually continued for life

MANAGEMENT OF PATIENTS POST SPLENECTOMY & HYPOSPLENIC PATIENTS (cont'd)

Ongoing Management of Patients Post Splenectomy and Patients with Functional Hyposplenism

Susceptibility to infection is greatest in the first two years post splenectomy but persists for life.

Patient Group	Recommendations
All adults	Prophylactic antibiotics should ideally be continued for life.
Patients with functional hyposplenism	Lifelong prophylactic antibiotics should be considered for these patients.
ALL	• The patient's general practitioner should be informed regarding the prophylactic antibiotic regimen and all vaccinations. • Patients should be educated on how to reduce the risk of infection. • Patients should be advised that prophylaxis may fail and educated on recognizing the first signs and symptoms of infection. • Patients should be given written information (available from Public Health) and carry a card to alert other healthcare professionals of their risk of overwhelming infection. • Patients should be encouraged to obtain a medical alert bracelet. • Patients should be alerted to the risks of overseas travel to countries where Malaria is endemic or where they may be exposed to unusual infections. • Patients should be alerted to the risk of infection following dog and tick bites. • Patients developing infection despite appropriate prophylactic antibiotics and immunisations must be admitted to hospital and prescribed PARENTERAL antibiotics.

MANAGEMENT OF PATIENTS POST SPLENECTOMY & HYPOSPLENIC PATIENTS (cont'd)

VACCINATION	Who should be immunised	When should vaccine be given	Re-immunisation
Pneumococcal Conjugate Vaccine PCV (Prevenar 13) (13 serotypes)	All aged less than 18 years old	• Ideally given at least **4 to 6 weeks before elective splenectomy**. Where it is not possible it can be given **2 weeks before** treatment. • 1 - 3 doses (2 months apart) depending on age and previous vaccinations. (Public Health can advise). • Course should be completed before receiving Pneumococcal Polysaccharide Vaccine.	There is no data to support reimmunisation at the present time
Pneumococcal Polysaccharide vaccine (Pneumovax II®) (23 serotypes)	All **un**immunised patients aged 2 years and over, and those who received Pneumovax II® more than 5 years ago	• Ideally given at least **4 to 6 weeks before elective splenectomy**. Where it is not possible it can be given **2 weeks before** treatment. • For **emergency splenectomy** or if prior vaccination is overlooked, administration **2 weeks after** splenectomy is recommended. • If the patient is being sent home before vaccinations are given, make sure the GP is fully informed about the vaccines required, and the date on which they are due. • If concerned that the patient may not present to the GP for vaccination or for any other reason, vaccination prior to discharge may merit consideration, even if it is before the required 14 day gap. • Immunisation may need to be deferred post immunosuppressive chemo- or radiotherapy (Public Health and Clinician can advise).	• Antibody levels may decline more rapidly, particularly in patients with sickle cell anaemia or lymphoproliferative disorders. • A once only booster is recommended 5 years after first dose. The need for, or benefit of repeated booster doses is unclear and not routinely recommended.
Haemophilus influenzae **serotype B (Hib)**	• All patients who are previously **un**immunised should be given two doses at a two-month interval. • Previously **immunised** patients who develop splenic dysfunction should be give one additional dose	• First dose at same time as Pneumococcal vaccine (at a different site of injection) • Second dose (if indicated) - two months later. Those who have completed a primary series and are undergoing elective splenectomy may benefit from an additional dose of Hib preferably at least 2 weeks prior to the operation. **SEE OVERLEAF – table continued**	There are no data to support routine reimmunisation at the present time.

MANAGEMENT OF PATIENTS POST SPLENECTOMY & HYPOSPLENIC PATIENTS (cont'd)

Table continued from previous page

VACCINATION	Who should be immunised	When should vaccine be given	Re-immunisation
Meningococcal Quadruvalent conjugate vaccine ACYW135 **(Menveo®)**	• Children over 1 year of age and adults: Give two doses of Meningococcal quadravalent conjugate vaccine covering ACYW135 (Menveo®) at least one month apart • Children under 1 year should be immunised in accordance with the routine schedule but replacing the MenC vaccine with Menveo®	First dose at same time as Pneumococcal vaccine (at a different site of injection) Second dose – at least one month later	The need for additional doses in high risk groups has not been clearly established - not recommended for the present.
Influenza Vaccine	All patients, annually.	Initial dose - at same time as other vaccines (separate site of administration).	Annually for hyposplenic or asplenic patients ideally at start of flu season (September to October).

MANAGEMENT OF PATIENTS POST SPLENECTOMY & HYPOSPLENIC PATIENTS (cont'd)

Lifelong prophylactic antibiotics	Prophylaxis Dose (adult)*	Treatment Doses (adult)*	Notes
Phenoxymethylpenicillin	333-666mg q12h po (Calvepen®) (666mg q24h po can be given if compliance is a problem)	Oral absorption of phenoxymethylpenicillin can be unpredictable so it should not be used for serious infections. For emergency self initiated therapy of a suspected systemic infection, treatment doses of amoxicillin are preferable (see below).	
Amoxicillin	250-500mg q12h po (500mg po q24h if compliance is a problem).	500mg -1g 8 hourly po	
If penicillin allergy: Clarithromycin	250mg q12h po	500mg q12h po	

***NB: Please seek specialist advice on dosing in children**

Other information

- For patients not allergic to penicillin where infection is suspected, a dose of 1g of amoxicillin should be taken immediately and medical attention sought.
- Patients taking clarithromycin as prophylaxis who suspect infection should take a dose of 1g clarithromycin or change to an alternative broader spectrum preparation (e.g. moxifloxacin or levofloxacin) and seek medical attention immediately.
- Patient records should be clearly labelled to indicate the underlying risk of infection. Vaccination and re-vaccination status should be clearly and adequately documented. Patients should be provided with emergency supplies of antibiotics to take at first signs of infection.

Empiric treatment of hospitalised hypo/asplenic patients with acute infection:

- **Ceftriaxone** 2g q24h IV. Take blood samples before commencing antibiotics. May need to increase dose if meningitis suspected.

References

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