Management of Adult Asplenic/Hyposplenic Patients

PRESENTATION

Patient meets any of the following asplenic conditions:
- Anatomic or splenectomy
- Functional
  - Chronic graft-versus-host disease (cGVHD)
  - Post-splenic artery embolization
  - Splenic irradiation ≥ 50%
  - Sickle cell disease

→ Provide the following vaccinations if not previously administered[1]

RECOMMENDED VACCINATIONS

- **Administration of vaccines at least 14 days prior to elective procedure or chemotherapy is preferred**
  - Otherwise administer at discharge or Day 14 (whichever is first)
  - May consider waiting at least 3 months (6 months if patient received anti-CD20 monoclonal antibody, *i.e.*, rituximab) after completion of chemotherapy/immunosuppressive regimens in order to maximize vaccine efficacy[2]
- Initial vaccinations[3] (includes all of the following):
  - Meningococcal
    - Meningococcal type B (Bexsero®) 0.5 mL IM
    - Meningococcal conjugate (Menveo®) 0.5 mL IM
  - Pneumococcal conjugate 20-valent (PCV20, Prevnar20®)[4] 0.5 mL IM
  - *Haemophilus influenzae* type b (Hib) 0.5 mL IM

→ Follow-up vaccinations[3] (2 months after initial vaccination)
- Meningococcal
  - Meningococcal type B (Bexsero®) 0.5 mL IM **and**
  - Meningococcal conjugate (Menveo®) 0.5 mL IM

→ Follow-up vaccinations[3] (6 months after initial vaccination)
- Meningococcal type B (Bexsero®) 0.5 mL IM

→ Follow-up vaccinations[3] (long-term)
- Meningococcal type B (Bexsero®) 0.5 mL IM
  - Booster 1 year after completion of the primary series and every 2-3 years thereafter
- Meningococcal conjugate vaccine (Menveo®) 0.5 mL IM
  - Booster 5 years from first dose and every 5 years thereafter

[1] Only administer vaccines if not previously administered, except in hematopoietic stem cell transplant patients. Refer to Stem Cell Transplantation SOP GC2.6 Vaccination Guidelines for details. For non-stem cell transplant patients, if any part of a series has already been given, refer to follow-up vaccinations or Appendix A for further instructions. Refer to the Centers for Disease Control and Prevention (CDC) guidelines for comprehensive vaccination recommendations.

[2] Alternatively, may wait until immune reconstitution for patients receiving active chemotherapy. Revaccination outside of hematopoietic stem cell transplant patients is generally thought to be unnecessary but robust data is lacking. Antibiotic prophylaxis can be considered in addition to vaccination or for patients awaiting vaccination, see Appendix B.

[3] See Appendix C for guidance on administration of IM vaccines in patients at high-risk for bleeding

[4] Refer to Appendix A if patient had received pneumococcal conjugate 13-valent (PCV13) or pneumococcal polysaccharide (PPSV23). Refer to the CDC guidelines if patient had already received pneumococcal conjugate 15-valent (PCV15).

Department of Clinical Effectiveness V5
Approved by the Executive Committee of the Medical Staff on 11/18/2025

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APPENDIX A: Vaccine Special Considerations[1]

Meningococcal Vaccination	Pneumococcal Vaccination[3]	*Haemophilus influenzae* type b (Hib) Vaccination
• **Previously** vaccinated with one dose of **meningococcal conjugate (Menveo®)** ◦ If ≤ 5 years since 1st dose, administer 2nd dose of series at least 8 weeks after and then administer booster every 5 years thereafter ◦ If ≥ 5 years past 1st dose, repeat 2 dose series and administer booster every 5 years thereafter • **Previously** vaccinated with one dose of **meningococcal type B (Bexsero®)** ◦ If ≤ 3 years since 1st dose, administer 2nd dose of series at least 6 months after and then administer a booster 1 year later with subsequent boosters every 2-3 years thereafter. A third dose is not needed if the second dose was administered ≥ 6 months after the first dose. ◦ If ≥ 3 years past 1st dose, repeat 3 dose series[2] and administer a booster 1 year after completion of primary series with subsequent boosters every 2-3 years thereafter • Meningococcal conjugate (Menveo®) can be given on the same day as meningococcal type B (Bexsero®) at different anatomical sites • Meningococcal conjugate (Menveo®) and meningococcal type B (Bexsero®) should only be given IM (**not** subcutaneously) • Per CDC guidance, **Meningococcal type B** vaccines from different manufacturers are not interchangeable; all doses in a series, as well as booster doses, should be from the same manufacturer	**Note**: Booster doses of PCV20 (Prevnar 20®) are not necessary in patients who have already received a dose • **None** or **Unknown** ◦ Administer 1 dose of PCV20 • **Previously** vaccinated with **only PPSV23 (Pneumovax 23®)** ◦ Administer PCV20 at least 1 year after last PPSV23 dose • **Previously** vaccinated with **PCV13 (Prevnar 13®) but not PPSV23** ◦ Administer PCV20 at least 1 year after last PCV13 dose • **Previously** vaccinated with **PCV13 at any age and PPSV23 before age 65 years** ◦ Administer PCV20 at least 5 years after last pneumococcal vaccine dose • **Previously** vaccinated with **PCV13 at any age and PPSV23 at age 65 years or older** ◦ The decision to administer PCV20 at least ≥ 5 years after last pneumococcal vaccine dose is a shared clinical decision between the patient and the provider	Booster doses of Hib are **not** necessary in patients who have already received a dose

PCV13 = pneumococcal 13-valent conjugate vaccine (Prevnar 13®)
PCV20 = pneumococcal 20-valent conjugate vaccine (Prevnar 20®)
PCV21 = pneumococcal 21-valent conjugate vaccine (Prevnar 21®)
PPSV23 = pneumococcal polysaccharide 23-valent vaccine (Pneumovax 23®)

[1] Patients should receive other vaccines per CDC guidelines (*i.e.*, influenza yearly, Tdap every 10 years, *etc.*)

[2] Although repeating the full 3-dose series in cases of incomplete or delayed initial vaccination may be considered clinically reasonable, this approach is not an official recommendation per current CDC guidance

[3] Refer to the CDC pneumococcal vaccination summary or the CDC PneumoRecs VaxAdvisor clinical support tool for comprehensive pneumococcal vaccination recommendations. When both PCV20 and PCV21 are available, selection may depend on patient-specific factors and vaccine availability. PCV21 is not on MD Anderson formulary.

APPENDIX B: Risk Factors for Infections with Encapsulated Organisms[1] and Relevant Prophylactic Agents

Patients should ideally be counseled on the below points prior to and after the procedure/chemotherapy. Family members of affected patients should ensure compliance with vaccines per CDC guidelines.

Travel considerations[2] and animal exposures:

- Visit health care provider or travel clinic 4-12 weeks prior to travel
  - Care must be taken in areas where malaria is endemic (*e.g.,* tropical regions such as sub-Saharan Africa) or where outbreaks of meningococcal disease occur
  - Avoid tick bites and areas where babesiosis is endemic (*e.g.,* upper Midwest United States and coastal New England)
- Animal bites should be immediately attended to, particularly dog bites (*Capnocytophaga canimorsus*)

Prophylaxis recommendations

Consider prophylaxis for high-risk patients:

- Hematologic malignancy patients with anatomic or functional asplenia/hyposplenia awaiting or with incomplete vaccination
- Prolonged prophylaxis independent of vaccination status may be pursued on a case-by-case basis:
  - Hematopoietic stem cell transplant patients on therapeutic immunosuppressants for cGVHD
    - For details refer to Stem Cell Transplantation SOP "GC2.6 Vaccination Guidelines"
- Patients with history of sepsis with encapsulated organism
- High-risk patients should be cautioned to seek medical attention for any febrile illness

Preferred regimens:

- Oral penicillin V potassium (250 mg - 500 mg twice daily) or amoxicillin (500 mg twice daily)
  - Second line - cephalosporins (*e.g.,* cephalexin 250 mg twice daily) are reasonable alternatives that may be tolerated by patients with mild non-IgE-mediated reactions to penicillin
  - Third line - fluoroquinolones (*e.g.,* levofloxacin 500 mg daily) are less studied alternatives for patients with contraindications to penicillin or cephalosporins
- Can consider providing an emergency supply for high-risk patients not receiving prophylaxis to be used at onset of fever or infectious symptoms

[1] The most common vaccine-preventable infections in patients without a spleen are caused by the following encapsulated organisms: *Streptococcus pneumoniae*, *Neisseria meningitidis*, and *Haemophilus influenzae*
[2] Refer to CDC website on travelers' health for guidance on travel considerations and vaccine prophylaxis

APPENDIX C: Administration of Vaccines to Patients with Increased Risk of Bleeding

Patients at risk of bleeding/hematoma from IM injections:

- Thrombocytopenic (platelets < 30 K/microliter)
- Receiving anticoagulation
  - IM injections should be avoided in patients on warfarin with elevated INR (>4)
- Hemophilia
- Von Willebrand disease

Successful administration of certain IM vaccines has been accomplished in hemophilia patients with the following techniques:

- Use a 23 or 25-gauge needle (25-gauge is smaller and preferred if available) for vaccine administration
- Apply pressure to site of vaccination for two minutes afterwards
  - Do **not** rub or massage the site

CDC guidance:

- Patients on anticoagulation therapy presumably have a similar bleeding risk as patients with clotting disorders so providers should follow the same guidelines for IM administration
- When IM vaccine is indicated for a patient with bleeding disorder, the vaccine should be administered if physician familiar with patient's bleeding risk determines IM route is reasonably safe
- Prior to administration of IM vaccine, patient and family should be informed of the risk of hematoma formation
- CDC discourages deviation from the recommended vaccine route, site, or dose for any vaccine since this can lead to reduced protection and increase the risk of an exaggerated local reaction

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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Asplenia Management workgroup at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

Core Development Team Leads

Ella Ariza Heredia, MD (Infectious Diseases)

Workgroup Members

Karen Beaty, MSPA (Surgical Oncology)
Jovan Borjan, PharmD (Pharmacy Clinical Programs)
Natalie Dailey Garnes, MD (Infectious Diseases)
Stacy Diao, PharmD (Pharmacy Clinical Programs)
Olga N. Fleckenstein, BS♦
Brittnee Macintyre, MSN, RN, FNP-C♦
Claire Marten, PharmD (Pharmacy Clinical Programs)
Kelsey Olson, PharmD (Pharmacy Clinical Programs)
Amy Pai, PharmD♦
Shrina Patel, PharmD (Pharmacy Clinical Programs)
David Santos, MD (Surgical Oncology)
Terri Lynn Shigle, PharmD (Pharmacy Clinical Programs)

♦Clinical Effectiveness Development Team