APPENDIX A: Vaccine Special Considerations[1]

Meningococcal Vaccination	Pneumococcal Vaccination[2]	*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 8 weeks after and then administer a booster 1 year later with subsequent boosters every 2-3 years thereafter ◦ If ≥ 3 years past 1st dose, repeat 2 dose series 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)	**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®)
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] Refer to the CDC pneumococcal vaccination summary or the CDC PneumoRecs VaxAdvisor clinical support tool for comprehensive pneumococcal vaccination recommendations

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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