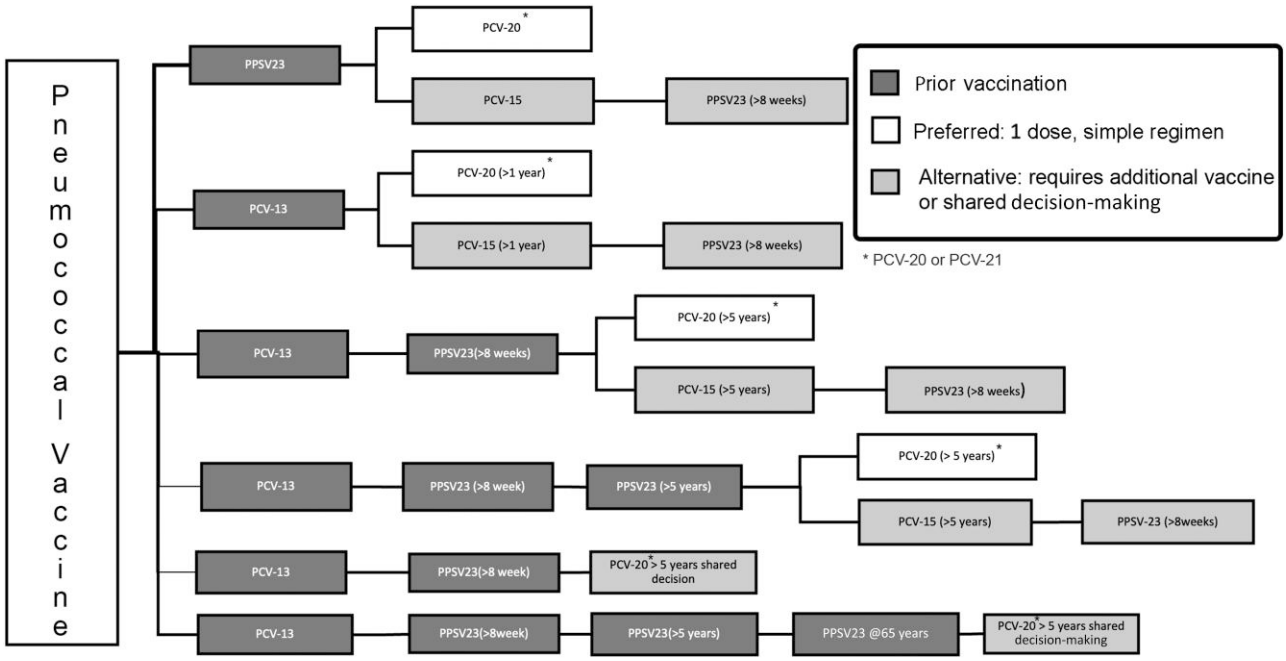

Figure 1. Vaccinations to prevent pneumococcus infection. Abbreviations: PCV, pneumococcal conjugate vaccine; PPSV, pneumococcal polysaccharide vaccine.

HIV should receive a 2-dose quadrivalent meningococcal conjugate vaccine primary series of serogroup A, C, W, and Y (Menveo, MenQuadfi) at least 2 months apart if not previously vaccinated. After the primary series, revaccination should occur every 5 years. Serogroup B meningococcal vaccine (Bexsero, Trumenba) is not routinely recommended but may be given to persons aged 16–23 years and under certain circumstances [163]. Although there are no specific data for people with HIV, a new pentavalent meningococcal vaccine that contains antigens from serogroups ACWY and B (Penbraya) may be given when both vaccines are indicated at the same time [156].

HAV and HBV

Recommendations

- Vaccination for HAV is recommended for all nonimmune individuals with HIV, especially those with indications for hepatitis A vaccine (including PWID, those unstably housed, those with current or prior incarceration, gay and bisexual men or transgender persons with chronic liver disease, travelers to countries with high endemicity, and persons who have hepatitis B and/or C).
- HAV IgG antibody testing should be repeated 1–2 months or at the next scheduled visit after the second vaccine to assess for immunogenicity. A repeat vaccine series is recommended in those who remain seronegative.
- Individuals susceptible to infection should be vaccinated against HBV.
  - The adjuvant recombinant vaccine (HepB-CpG; Heplisav-B) 2 doses at 0, 1 month is preferred.
  - Alternative regimens can be used if HepB-CpG is not available, including double doses of the recombinant hepatitis B vaccines Engerix-B 40 μg (two 20-μg doses) or Recombivax-HB 20 μg (two 10-μg doses) or standard doses of the combined hepatitis A and recombinant hepatitis B vaccine (Twinrix) given at 0, 1, and 6 months.
- HBsAb levels should be checked 1–2 months after completion of the primary immunization series. If HBsAb is <10 mIU/mL, revaccination with a full vaccine series is necessary. Three doses of HepB-CpG may be considered.
- Vaccination should be recommended for nonimmune sexual partners of persons who are positive for HBsAg.
- Persons who are negative for HBsAg and HBsAb but positive for HBcAb should receive vaccination.

Evidence Summary

Responses to both HAV and HBV vaccines are reduced in patients with a CD4 count <200 cells/μL and those with quantifiable HIV RNA levels. An interim analysis of AIDS Clinical Trial Group (ACTG) study A5379 of adjuvanted recombinant HepB-CpG (Heplisav-B) given at 0, 1, and 6 months to unvaccinated people with HIV who had viral suppression and a median CD4 count of 625 cells/μL (range, 149–1562) showed that 100% developed seroprotective titers of HBsAb >10 mIU/mL