Figure 1. Recommended Immunization Schedule for Children and Adolescents With HIV Aged 0 Through 18 Years; United States, 2025

Immunization	Age																	
	Birth	1 mo.	2 mos.	4 mos.	6 mos.	9 mos.	12 mos.	13 mos.	15 mos.	18 mos.	19–23 mos.	2–3 yrs.	4–6 yrs.	7–10 yrs.	11–12 yrs.	13–15 yrs.	16 yrs.	17–18 yrs.
Respiratory syncytial virus (RSV-mAb [nirsevimab])	See notes.					See notes.												
Hepatitis B (HepB)	1st dose	2nd dose		See notes.	3rd dose													
Rotavirus (RV) RV1 (2-dose series); RV5 (3-dose series)			1st dose	2nd dose	See notes.													
Diphtheria, tetanus, and acellular pertussis (DTaP: <7 yrs)			1st dose	2nd dose	3rd dose				4th dose				5th dose					
Haemophilus influenzae type b (Hib)			1st dose	2nd dose	See notes.		3rd or 4th dose; see notes.											
Pneumococcal conjugate (PCV15, PCV20)			1st dose	2nd dose	3rd dose		4th dose											
Inactivated poliovirus (IPV: <18 years)			1st dose	2nd dose	3rd dose								4th dose					See notes.
COVID-19 (2vCOV-mRNA, 1vCOV-aPS)					See notes.													
Influenza (IIV)					Annual vaccination, 1 or 2 doses									Annual vaccination, 1 dose only				
Influenza (LAIV)	Do not administer LAIV to children with HIV.																	
Measles, mumps, and rubella (MMR)					See notes.		See notes.			See notes.			See notes.	See notes.				
	Do not administer to severely immunocompromised children.																	
Varicella (VAR)							See notes.			See notes.			See notes.	See notes.				
	Do not administer to severely immunocompromised children.																	
Hepatitis A (HepA)					See notes.		2-dose series; see notes.											
Tetanus, diphtheria, and acellular pertussis (Tdap: ≥7 yrs)															1 dose			
Human papillomavirus (HPV)															See notes.			
Meningococcal (MenACWY-CRM: ≥2 mos; MenACWY-TT: ≥2 yrs)			2 or more primary doses, then boosters; schedule varies by minimum age and brand—see notes.															
Meningococcal B (MenB-4C, MenB-FHbp)															See notes.			
Respiratory syncytial virus (RSV [Abrysvo])															Seasonal administration during pregnancy; see notes.			
Pneumococcal polysaccharide (PPSV23)												See notes.						
Dengue (DEN4CYD: 9–16 yrs)														Seropositive in dengue-endemic areas only; see notes.				
	Do not administer to severely immunocompromised children.																	
Mpox																		See notes.


Legend
Range of recommended ages for vaccination
Catch-up immunization
Certain high-risk groups
Recommended vaccination based on shared clinical decision-making
Recommended vaccination can begin in this age group

Recommended Immunization Schedule for Children with HIV Aged 0 through 18 Years; United States, 2025

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This schedule summarizes recommendations for administration of vaccines for children and adolescents with HIV aged 0 through 18 years and indicates the recommended ages for vaccine administration in this population for childhood and adolescent vaccines licensed in the United States. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. Licensed combination vaccines may be used whenever any component of the combination is indicated, when other components of the vaccine are not contraindicated, and if approved by the U.S. Food and Drug Administration for that dose of the series. The combination measles, mumps, rubella, and varicella (MMRV) vaccine is an exception; in many circumstances, the measles, mumps, and rubella (MMR) vaccine and the varicella vaccine (VAR) should be administered to people with immunocompetent HIV, but the MMRV combination is **contraindicated** in immunocompetent HIV. Providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available on the VAERS website or by telephone at 1-800-822-7967.

These recommendations should also be used for children perinatally exposed to HIV who are awaiting laboratory confirmation that they have not contracted HIV; in the United States, HIV can be reasonably excluded in most infants exposed to HIV after 4 weeks of age if they have received proper post-exposure HIV testing and prophylaxis (see the *Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection: Diagnosis of HIV Infection in Infants and Children* and the *Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States*).

Respiratory Syncytial Virus Immunization (Nirsevimab)

Minimum Age: Birth

- A dose of nirsevimab should be administered to all infants through 7 months of age during or preceding the first respiratory syncytial virus (RSV) season.
- A dose of nirsevimab should be administered during or preceding the second RSV season to infants aged 8 months through 19 months with the following risk factors:
    - Children with severe immunocompromise (including that caused by HIV)
    - Children with chronic lung disease of prematurity who required medical support (chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the second RSV season
    - Children with cystic fibrosis who have either: (1) manifestations of severe lung disease (previous hospitalization for pulmonary exacerbation in the first year of life or abnormalities on chest imaging that persist when stable); or (2) weight-for-length less than 10th percentile

- American Indian/Alaska Native children

Hepatitis B Vaccine (HepB)

Minimum Age: Birth

- For routine vaccination and catch-up vaccination guidance, refer to the Centers for Disease Control and Prevention (CDC) hepatitis B vaccination notes.

Special Situations

- Infants born to hepatitis B surface antigen (HBsAg)–positive mothers and who have completed at least three doses of a licensed HepB series should be tested for HBsAg and the antibody to HBsAg (anti-HBs) at ages 9 months through 12 months (generally at the next well-child visit). Infants who are less than 2,000 grams at birth and receive a birth dose should receive four doses of HepB vaccine.
- Testing for anti-HBs is also recommended for children and adolescents with HIV and should be performed 1 to 2 months after administration of the last dose of the vaccine series using a method that allows determination of a protective level of anti-HBs (≥10 mIU/mL).
- Children and adolescents with anti-HBs <10 mIU/mL after the primary schedule should receive a second series, followed by anti-HBs testing 1 to 2 months after the third dose.
- In children and adolescents with HIV, the need for booster doses has not been determined. Annual anti-HBs testing and booster doses when anti-HBs levels decline to <10 mIU/mL should be considered in individuals with ongoing risk for exposure (see CDC's Prevention of Hepatitis B Virus Infection in the United States; Recommendations of the Advisory Committee on Immunization Practices).

Rotavirus Vaccine (RV)

Minimum Age: 6 Weeks

- Limited safety and efficacy data are available for the administration of RV to infants who are potentially immunocompromised, including those with HIV. HIV is considered a precaution to rotavirus vaccination. In general, the following considerations support vaccination of infants with or exposed to HIV:
  - Vaccine strains of rotavirus are considerably attenuated.
  - Although an HIV diagnosis may not be established before the age of the first RV dose in infants born to mothers with HIV, ≤2% of infants with perinatal HIV exposure in the United States will eventually be determined to have HIV.
- RV can be administered to infants with HIV irrespective of CD4 T lymphocyte (CD4) cell count and percentage.
- The maximum age for the first dose in the RV series is 14 weeks and 6 days; for the final dose in the series, it is 8 months and 0 days. Vaccination **should not be initiated** for infants aged ≥15 weeks and 0 days.
- If RV is administered at ages 2 months and 4 months, a dose at age 6 months is not indicated.

Diphtheria, Tetanus, and Acellular Pertussis Vaccine (DTaP)

Minimum Age: 6 Weeks

- DTaP is recommended at ages 2 months, 4 months, 6 months, and 15 months through 18 months, and ages 4 years through 6 years.
- The fourth dose may be administered as early as age 12 months, provided that at least 6 months have elapsed since the third dose.

Haemophilus influenzae Type B (Hib) Conjugate Vaccine

Minimum Age: 6 Weeks

- If PRP-OMP (PedvaxHIB) is administered at ages 2 months and 4 months, a dose at age 6 months is not indicated.
- Children aged 12 months through 59 months who have received either no doses or only one dose of Hib vaccine before 12 months of age should receive two additional doses of Hib vaccine 8 weeks apart; children who received two or more doses of Hib vaccine before 12 months of age should receive one additional dose.
- One dose of Hib vaccine should be administered to individuals aged 5 years through 18 years if they are considered unvaccinated. "Unvaccinated" means meeting both criteria: (1) no doses received after 14 months of age and (2) no primary series and booster dose received.

Pneumococcal Conjugate Vaccine (15-valent) (PCV15) and (20-valent) (PCV20) and Pneumococcal Polysaccharide Vaccine (23-valent) (PPSV23)

Minimum Age: 6 Weeks for PCV15 or PCV20; 2 Years for PPSV23

- For routine dosing with pneumococcal conjugate vaccine, either PCV15 or PCV20 should be administered at 2 months, 4 months, 6 months, and 12 to 15 months. If PCV15 is chosen, at 2 years of age the child can receive a dose of PCV20 or PPSV23. This dose should be administered at least 8 weeks after PCV15. If PPSV23 was chosen the child should receive either PCV20 8 weeks after the dose of PPSV23 or another dose of PPSV23 5 years after the first dose of PPSV23.
- For catch-up dosing of children who received a partial series of PCV, catch-up should occur through 71 months of age. Either PCV15 or PCV20 can be used. At 2 years of age, if catch-up doses did NOT include a dose of PCV20, then a dose of PCV20 or PPSV23 is recommended. This dose should be administered at least 8 weeks after the dose of PCV15. If PPSV23 is chosen, it should be followed by either a dose of PCV20 8 weeks after the dose of PPSV23 or a second dose of PPSV23 5 years after the first dose of PPSV23.
- For children 6 years through 18 years of age who have not received any dose of PCV13, PCV15, or PCV20, either a dose of PCV20 or a dose of PCV15 followed by a dose of PPSV23 8 weeks later should be administered.

Inactivated Poliovirus Vaccine (IPV)

Minimum Age: 6 Weeks

- If four or more doses are administered prior to age 4 years, an additional dose should be administered between ages 4 years and 6 years.

- The final dose in the series should be administered on or after the child's fourth birthday and at least 6 months after the previous dose.
- For catch-up dosing of adolescents aged 18 years who are suspected to have received either a partial series or no doses of IPV, the remaining doses should be administered to complete a three-dose primary series.
- For adolescents aged 18 years who completed the primary series and are at increased risk of exposure to poliovirus, one lifetime booster may be administered.

COVID-19 Vaccine (2vCOV-mRNA, 1vCOV-aPS)

Minimum Age: 6 Months

- People 6 months of age or older with immunosuppressive HIV are recommended for a primary series of 2024–2025 COVID-19 vaccine. The primary series consists of three doses. If Moderna is chosen, the interval between doses is 4 weeks. If Pfizer is chosen, the interval between dose 1 and dose 2 is 3 weeks, and the interval between dose 2 and dose 3 is 8 weeks. Doses of non-2024–2025 COVID-19 vaccine count toward the three-dose primary series.
- After the primary series, a booster dose of 2024–2025 COVID-19 vaccine is recommended at least 8 weeks after the final dose of the primary series. Additional doses may be given at 2-month intervals thereafter.
- For those aged ≥12 years who have a contraindication to mRNA vaccination or who refuse mRNA vaccination, Novavax (1vCOV-aPS), derived from the ancestral SARS-CoV-2 strain, is authorized for a two-dose primary series and one (and only one) booster dose (note: previous doses of mRNA vaccine count toward primary series doses).

Inactivated Influenza Vaccine (IIV)

Minimum Age: 6 Months for Inactivated Influenza Vaccine

- IIV is recommended for children with HIV. Administer annually to children with HIV aged 6 months through 18 years and to all their eligible close contacts (including household members).
- ACIP recommends that trivalent and quadrivalent live attenuated influenza vaccine (LAIV3 and LAIV4) not be used for children with HIV because of the uncertain but biologically plausible risk for disease attributable to the live vaccine virus (see Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2024–25 Influenza Season and Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 Influenza Season).
- Regardless of HIV status, ACIP recommends that children younger than 9 years of age who have not received two doses of influenza vaccine prior to the current season receive two doses (administered ≥4 weeks apart). Children who turn nine years old in the current season and who received one prior dose of influenza vaccine in the current season when they were 8 years old are recommended for a second dose in the current season.

Measles, Mumps, and Rubella Vaccine (MMR)

Minimum Age: 12 Months

- Two doses of MMR vaccine are recommended for all people with HIV aged ≥12 months who do not have evidence of current severe immunosuppression as defined by ACIP (see CDC's Child

and Adolescent Immunization Schedule and Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps).

  - Absence of severe immunosuppression is defined as CD4 percentages ≥15% for ≥6 months for people aged ≤5 years and CD4 percentages ≥15% and CD4 count ≥200 lymphocytes/mm^3 for ≥6 months for people aged >5 years.
  - When only CD4 counts or CD4 percentages are available for those aged >5 years, the assessment of severe immunosuppression can be on the basis of the CD4 values (count or percentage) that are available.
  - When CD4 percentages are not available for those aged ≤5 years, the assessment of severe immunosuppression can be on the basis of age-specific CD4 counts at the time CD4 counts were measured (i.e., absence of severe immunosuppression is defined as ≥6 months above age-specific CD4 count criteria: CD4 count >750 lymphocytes/mm^3 while aged ≤12 months and CD4 count ≥500 lymphocytes/mm^3 while aged 1 through 5 years).

- The first dose should be administered at age 12 months through 15 months, and the second dose should be administered at age 4 years through 6 years (or as early as 28 days after the first dose).
- Individuals with perinatally acquired HIV who were vaccinated prior to the establishment of effective antiretroviral therapy (ART) should receive two appropriately spaced doses (28 days between each dose) of MMR vaccine once effective ART has been established and there is no evidence of current severe immunosuppression, as defined by ACIP.
- MMR vaccine is recommended for international travelers aged 6 months through 11 months.
- The MMR and MMRV vaccines are **contraindicated** in people with AIDS or HIV who have severe immunosuppression with a CD4 count <200 cells/mm^3 or a CD4 percentage <15%.
- MMRV vaccine has not been studied in people with HIV and should not be substituted for MMR vaccine in people with HIV, regardless of CD4 count.

Varicella Vaccine (VAR)

Minimum Age: 12 Months

- Limited data are available on the safety and immunogenicity of VAR vaccine in children with HIV aged 1 year through 8 years in CDC immunologic categories 1 and 2 (CD4 percentages ≥15%) and clinical categories N, A, and B.
- Single-antigen VAR vaccine should be administered at the times indicated in the vaccine schedule to children and adolescents with HIV with CD4 percentages ≥15% of total lymphocytes and CD4 count ≥200 cells/mm^3.

  - If only CD4 percentages are available, single-antigen VAR vaccine should be considered for children and adolescents with HIV with CD4 percentages ≥15% of total lymphocytes.
  - If only CD4 counts are available, VAR vaccine should be administered to children aged 1 year through 5 years with CD4 counts ≥500 cells/mm^3, and VAR vaccine should be administered when indicated by the schedule to children aged ≥6 years with CD4 counts ≥200 cells/mm^3.

- Eligible children should receive two doses 3 months apart.
- Quadrivalent MMRV vaccine has not been studied in children or adolescents with HIV and should not be substituted for single-antigen VAR vaccine. The quadrivalent MMRV vaccine is **contraindicated** for people with HIV, regardless of CD4 count.

Hepatitis A Vaccine (HepA)

Minimum Age: 12 Months

- Administer to all children aged 12 months through 23 months. The two doses in the series should be administered ≥6 months apart.
- Children who are not fully vaccinated by age 2 years should be vaccinated at subsequent well-child visits.
- Children and adolescents aged ≥24 months who were not previously vaccinated should receive the HepA vaccine.
- International travelers aged 6 months through 11 months are recommended for HepA vaccine if traveling internationally to areas endemic or epidemic for hepatitis A.

Tetanus, Diphtheria, and Acellular Pertussis Vaccine (Tdap)

Minimum Age: 7 Years

- Children aged 7 years through 10 years who are not fully immunized against pertussis (i.e., have not received four or five doses of pertussis vaccine, with the last dose administered on or after their fourth birthday) should receive a dose of Tdap after their seventh birthday. If Tdap is administered at age 7 years through 10 years, another dose of Tdap should be administered between 11 years and 12 years of age.
- Individuals aged 11 years through 18 years who have not received Tdap should receive a dose of the vaccine followed by a tetanus toxoid–containing vaccine (either Tdap or tetanus, diphtheria [Td]) booster every 10 years thereafter.
- Administer one dose of Tdap vaccine to pregnant girls and women during each pregnancy (during 27 through 36 weeks gestation and preferred at 27 through 31 weeks gestation) regardless of the time since prior Tdap or Td vaccination.

Human Papillomavirus Vaccine (HPV)

Minimum Age: 9 Years

Note: Because HPV is not a live virus vaccine, it can be administered to individuals who are immunosuppressed because of disease or medication, including those with HIV. However, the immune response and vaccine efficacy in immunosuppressed individuals may be less than in immunocompetent individuals.

- HPV vaccines must be administered in a three-dose series to children and adolescents with HIV.
- HPV vaccines are most effective for both males and females when given before exposure to HPV through sexual contact.
- Administer the first dose at age 11 years or 12 years. The vaccine is approved to start as early as age 9 years.
- HPV vaccine should be administered early, beginning at 9 years of age, for persons with a history of sexual abuse and assault. HPV vaccine can be administered to anyone beginning at 9 years of age.
- Administer the second dose 1 month to 2 months after the first dose and the third dose 6 months after the first dose (≥24 weeks after the first dose).
- Administer the three-dose series at ages 13 years through 26 years if not previously vaccinated.

Meningococcal ACWY Conjugate Vaccines

Minimum Ages: 2 Months for Meningococcal Conjugate Vaccine (Menveo) (MenACWY-CRM);
2 Years for Meningococcal Conjugate Vaccine (MenQuadfi)(MenACWY-TT)
10 Years for Pentavalent Meningococcal Conjugate Vaccine (Penbraya)(MenABCWY)

- Menveo
    - Children who initiate vaccination at 8 weeks should be administered doses at 2 months, 4 months, 6 months, and 12 months of age.
    - Unvaccinated children who initiate vaccination at 7 months through 23 months should be administered two doses, with the second dose at least 12 weeks after the first dose *and* after the first birthday.
    - Children and adolescents aged ≥24 months who have not received a complete series should be administered two primary doses at least 8 weeks apart.
    - For all children and adolescents receiving a primary series, a booster dose is recommended 3 years after the second primary dose (for children who receive the second dose prior to their seventh birthday; otherwise, the interval to the first booster should be 5 years) and every 5 years after that.
- MenQuadfi
    - Children and adolescents who initiate vaccination at 2 years of age should be given two primary doses at least 8 weeks apart. A booster dose is recommended 3 years after the second primary dose (for children who receive the second dose prior to their seventh birthday; otherwise, the interval to the first booster should be 5 years) and every 5 years after that.
- Penbraya can be used in children 10 years old and older whenever both MenACWY and MenB are indicated and if at least 6 months have passed since the last dose of Penbraya.

Meningococcal B Vaccines

Minimum Ages: 16 Years for Serogroup B Meningococcal (MenB) Vaccines, Including Bexsero (MenB-4C) and Trumenba (MenB-FHbp);
10 Years for People With HIV Plus Another High-Risk Condition for MenB Vaccines, Including Bexsero (MenB-4C) and Trumenba (MenB-FHbp)

- HIV infection alone is not an indication for MenB vaccine. Providers can consider vaccination in children and adolescents ≥10 years based on individual risk. Adolescents and young adults aged 16 years through 23 years (preferred age range is 16 years through 18 years) may be vaccinated with either a two-dose series of Bexsero or a three-dose series of Trumenba to provide short-term protection against most strains of serogroup B meningococcal disease. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses. Refer to CDC's Meningococcal Vaccination: Recommendations of the Advisory Committee on Immunization Practices, United States, 2020 for further details.
- For booster doses among people with high-risk conditions, refer to CDC's Prevention and Control of Meningococcal Disease.

- Penbraya can be used whenever both MenACWY and MenB are indicated, and if at least 6 months have passed since the last dose of Penbraya.

Respiratory Syncytial Virus Vaccine (Abrysvo)

- Women who are pregnant at 32 weeks and 0 days through 36 weeks and 6 days gestation from September through January in most of the continental United States should be administered one dose of RSV vaccine (Abrysvo). Administer RSV vaccine regardless of previous RSV infection.
- Either maternal RSV vaccination or infant immunization with nirsevimab (RSV monoclonal antibody) is recommended to prevent respiratory syncytial virus lower respiratory tract infection in infants.

Dengue Vaccine (DEN4CYD)

Minimum Age: 9 Years

- Children and adolescents aged 9 years through 16 years who live in dengue-endemic areas **and** have laboratory confirmation of previous dengue infection should be administered a three-dose series at 0 months, 6 months, and 12 months.
- Endemic areas include Puerto Rico, American Samoa, U.S. Virgin Islands, Federated States of Micronesia, Republic of Marshall Islands, and the Republic of Palau. For updated guidance on dengue-endemic areas and prevaccination laboratory testing, see the CDC dengue webpage and CDC laboratory testing requirements.
- Dengue vaccine is **contraindicated** in anyone with a CD4 percentage <15% or a CD4 count <200 cells/mm^3. A CD4 percentage of ≥15% **and** a CD4 count of ≥200 cells/mm^3 is a precaution to administering dengue vaccine.

Mpox Vaccine

Minimum Age: 18 Years

- A two-dose series, 28 days apart, should be administered to individuals aged 18 years who have any of the following risk factors:
    - Persons who are gay, bisexual, and other men who have sex with men (MSM) who in the past 6 months have had: (1) a new diagnosis of at least one sexually transmitted infection; (2) more than one sex partner; (3) sex at a commercial sex venue; or (4) sex in association with a large public event in a geographic area where mpox transmission is occurring
    - Persons who are sexual partners of the person described above
    - Persons who anticipate experiencing any of the situations describe