

# VACCINATION SCHEDULE: HIV-INFECTED ADULTS

This schedule summarizes recommendations for routine administration of vaccines for HIV-infected adults based on CD4 count. For more information on the following immunizations, refer to the vaccination schedule of the Advisory Committee on Immunization Practices (ACIP) and the Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents.

Vaccine	Recommended for persons with HIV infection	Recommended for persons with a risk factor (medical, occupational, lifestyle, or other indication)	Recommended based on shared clinical decision-making
	CD4 T-lymphocyte count		
	<200 cells/mm <sup>3</sup>		≥200 cells/mm <sup>3</sup>
Influenza <sup>1</sup>	1 dose annually		
Tetanus, diphtheria, pertussis (Td/Tdap)	1 dose Tdap, then Td or Tdap booster every 10yrs		
Measles, mumps, rubella (MMR) <sup>2</sup>	Contraindicated		2 doses
Varicella (VAR) <sup>3</sup>	Contraindicated		2 doses
Recombinant zoster vaccine (RZV) <sup>4</sup>	2 doses		
Human papillomavirus (HPV) Female <sup>5</sup>	3 doses through age 26yrs		
Human papillomavirus (HPV) Male <sup>5</sup>	3 doses through age 26yrs		
Pneumococcal 13-valent conjugate (PCV13) <sup>6</sup>	1 dose		
Pneumococcal polysaccharide (PPSV23) <sup>6</sup>	2 or 3 doses		
Hepatitis A <sup>7</sup>	2 or 3 doses		
Hepatitis B <sup>8</sup>	3 doses		
Meningococcal 4-valent conjugate (MenACWY) <sup>9</sup>	2 doses, then every 5yrs		
Meningococcal B (MenB) <sup>10</sup>	2 or 3 doses		
<i>Haemophilus influenzae</i> type b (Hib) <sup>11</sup>	1 or 3 doses		
COVID-19 <sup>12</sup>	1 or 2 doses		

## NOTES

- <sup>1</sup> Inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV). Live attenuated influenza vaccine (LAIV) is not recommended for HIV-infected persons.
- <sup>2</sup> Give 2 doses at least 4wks apart to patients with CD4 count  $\geq 200$  cells/mm<sup>3</sup> for  $\geq 6$ mos with no evidence of immunity to measles, mumps, or rubella.
- <sup>3</sup> May consider giving 2 doses 3mos apart to patients with CD4 count  $\geq 200$  cells/mm<sup>3</sup> with no evidence of immunity.
- <sup>4</sup> The NIH/IDSA/CDC guideline recommends 2 doses (at 0 and 2-6mos) of the RZV vaccine (Shingrix) for all adults with HIV, regardless of CD4 count, past episode of herpes zoster, or receipt of zoster vaccine live (ZVL; Zostavax). Consider delaying vaccine until virologically suppressed on antiretroviral therapy and wait for CD4 count  $> 200$  cells/mm<sup>3</sup>. If previously received ZVL, revaccinate with 2 doses of RZV. ACIP currently has no recommendation for this population.
- <sup>5</sup> Give 3-dose series at 0, 1–2, and 6mos regardless of age at initial vaccination.
- <sup>6</sup> Give 1 dose of PCV13, followed by 1 dose of PPSV23 at least 8wks later. The second dose of PPSV23 should be given at least 5yrs after the first PPSV23 dose. If the most recent PPSV23 was given before 65yrs, at age 65yrs or older, give another PPSV23 dose at least 5yrs after the last PPSV23 dose.
- <sup>7</sup> 2-dose series (single-antigen HepA vaccine): Havrix at 0 and 6–12mos or Vaqta at 0 and 6–18mos. 3-dose series (combined HepA-HepB vaccine): Twinrix at 0, 1, and 6mos.
- <sup>8</sup> 3-dose series of single-antigen HepB vaccine (Engerix-B, Recombivax HB) or combined HepA-HepB vaccine (Twinrix) at 0, 1, and 6mos.
- <sup>9</sup> Give 2 doses at least 8wks apart. Revaccinate with 1 dose every 5yrs, if risk remains.
- <sup>10</sup> Not routinely recommended. May give 2-dose series (Bexsero) at least 1 month apart or a 3-dose series (Trumenba) at 0, 1–2, and 6mos for patients with asplenia, persistent complement component deficiency, on eculizumab or ravulizumab therapy, at risk from MenB outbreak, or microbiologists.
- <sup>11</sup> Not routinely recommended. Give 1 dose to patients with asplenia if previously did not receive Hib; if elective splenectomy, give 1 dose at least 14 days before procedure. Give 3 doses 4wks apart starting 6–12mos after successful HSCT, regardless of Hib vaccine history.
- <sup>12</sup> Adults with HIV should be vaccinated for COVID-19 regardless of CD4 count or HIV viral load. 2 doses of the Pfizer-BioNTech or the Moderna vaccine or 1 dose of the Janssen vaccine is recommended.

## REFERENCES

For information on individual vaccines, please see product monographs at [www.eMPR.com](http://www.eMPR.com), contact company for full labeling, or call the National Immunization Hotline at (800) 232-4636.

Source: Advisory Committee on Immunization Practices (ACIP). Recommended Adult Immunization Schedule by Medical Condition and Other Indications, United States, 2021. <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult-conditions.html>. Accessed on December 30, 2021.

Panel on Opportunistic Infections in Adults and Adolescents with HIV. Guidelines for the prevention and treatment of opportunistic infections in adults and adolescents with HIV: recommendations from the Centers for Disease Control and Prevention, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Available at [https://clinicalinfo.hiv.gov/sites/default/files/guidelines/documents/Adult\\_OI.pdf](https://clinicalinfo.hiv.gov/sites/default/files/guidelines/documents/Adult_OI.pdf). Accessed January 5, 2022.