

A Quick Look at Using Human Papillomavirus (HPV) Vaccine

Vaccine	HPV Types	For Protection Against	Approved for Ages
9vHPV Gardasil-9® (Merck)	6, 11, 16, 18, 31, 33, 45, 52, 58	Cervical (including precancerous & dysplastic lesions), vulvar, vaginal, anal, penile, and oropharyngeal cancers and genital warts	9 through 45 years (see Indications for Use)

Indications for Use and Schedule

- Routinely administer to males & females aged 11-12 years
- Begin HPV vaccine series at age 9 years for children with any history of sexual abuse or assault
- Catch-up: all males & females aged 13-26 years
- Shared clinical decision-making for adults aged 27-45 years, see “Additional Vaccine Recommendation Points” for further guidance
 - Providers can discuss HPV vaccination with persons who are most likely to benefit
 - May benefit some adults aged 27-45 years who are not adequately vaccinated

Vaccine Administration

- **Only** administer as an **Intramuscular (IM)** injection in the deltoid of the arm (preferred) or anterolateral thigh
 - If **not** administered IM, dose **must** be repeated
- 1- to 1.5-inch needle; 22-25 gauge
- Use professional judgment when selecting needle length
- Can be given simultaneously with other vaccines

Additional Vaccine Recommendation Points

- To ensure best protection & benefit from HPV vaccine, persons should complete all doses before sexual activity begins
 - However, sexually active persons aged 9 through 26 years without a complete series should be vaccinated
- ACIP recommends that immunocompromised males and females aged 9 through 26 years get 3 doses of HPV vaccine at 0, 1-2, 6 months because immune response to vaccination may be attenuated
 - Includes those with primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity such as B lymphocyte antibody deficiencies, T lymphocyte complete or partial defects, HIV infection, malignant neoplasms, transplantation, autoimmune disease, or immunosuppressive therapy
 - Immunocompromised persons aged 27-45 years is based on shared clinical decision making
- The recommendation for an immunocompromised person to receive the 3-dose schedule of HPV vaccine **does not** apply to children aged 9 through 14 years with the following medical indications (i.e., follow the 2-dose schedule):
 - Asplenia, asthma, chronic granulomatous disease, chronic liver disease, chronic lung disease, chronic renal disease, central nervous system anatomic barrier defects (e.g., cochlear implant), complement deficiency, diabetes, heart disease, or sickle cell disease

Recommended Schedule:

- Initiating HPV vaccination **prior to** 15th birthday
 - Give 2 doses of HPV vaccine separated by 6-12 months
- Initiating HPV vaccination **on or after** 15th birthday
 - Give 3 doses of HPV vaccine (0, 1-2, 6-month schedule)
- Immunocompromised persons aged 9-26 years (immunocompromised persons 27-45 years is based on shared clinical decision making)
 - Give 3 doses of HPV vaccine (0, 1-2, 6-month schedule), see “Additional Vaccine Recommendation Points” for further guidance
- Ensure minimum intervals are met
 - 2-dose schedule: 5 months between dose 1 & 2
 - 3-dose schedule: 4 weeks between dose 1 & 2, 12 weeks between dose 2 & 3, and 5 months between dose 1 & 3

Storage and Handling

- Store in a refrigerator unit between **36°-46°F (2°-8°C)**
 - Stand-alone, purpose-built storage units preferred
- Do **not** freeze vaccine
- Keep in the original box
- Shake well before use

- ACIP does not recommend catch-up HPV vaccination for all adults aged 27-45 years but vaccine may benefit some of these adults who are not adequately vaccinated; providers, through shared clinical decision, can discuss HPV vaccination with persons who are most likely to benefit
 - HPV infections are most commonly acquired in adolescence and young adulthood, but some adults are at risk for acquiring new HPV infections
 - Having a new sex partner at any age is a risk factor for acquiring a new HPV infection
- Previous HPV vaccines that are no longer available in the U.S.: 2vHPV (Cervarix) and 4vHPV (Gardasil)
- Persons who initiated vaccination with 9vHPV, 4vHPV, or 2vHPV prior to their 15th birthday and received 2 doses of any HPV vaccine at 0, 6-12 months are considered completely vaccinated
- Persons who initiated vaccination with 9vHPV, 4vHPV, or 2vHPV at any age and received 3 doses of any HPV vaccine at 0, 1-2, 6 months are considered completely vaccinated
- If a person previously received 2vHPV, 4vHPV, or HPV vaccine type is unknown or not available, do not miss an opportunity; complete series with 9vHPV
- If the HPV vaccine schedule is interrupted, do not restart the series; the number of doses needed is based on age at administration of the 1st dose and whether or not the person is immunocompromised (see above)
- There is no recommendation to revaccinate persons who previously completed a series of 2vHPV or 4vHPV with 9vHPV
- 9vHPV vaccine may be given to persons who have genital warts, are immunosuppressed, are breastfeeding, have a positive HPV test, have an equivocal or abnormal pap test, or are currently taking hormonal contraceptive measures

CONTRAINDICATIONS

- Allergic reaction to a previous dose of HPV vaccine or another component of the vaccine
- 9vHPV is contraindicated for persons with a history of immediate hypersensitivity to yeast

PRECAUTIONS

- Moderate or severe illness with or without fever
- While not contraindicated, HPV vaccine is not recommended during pregnancy (pregnancy test not necessary before vaccination)
 - If a woman becomes pregnant after starting the vaccine series, delay remaining doses until after pregnancy
 - If a vaccine dose is inadvertently administered during pregnancy, there is no indication for medical intervention
 - Report vaccination of pregnant women with 9vHPV to the registry at 800-986-8999

FURTHER POINTS

- Due to increased reports of syncope (fainting) in adolescents following vaccination, a 15- to 20-minute observation period is recommended for adolescents following any vaccine
- The HPV Vaccine Information Statement (VIS) with information about the Michigan Care Improvement Registry (MCIR) can be found at www.michigan.gov/immunize or your local health department
- Document Gardasil-9 as “HPV9” in MCIR and as “9vHPV” on the vaccine administration record (VAR) and immunization record card
- Document Gardasil as “HPV4” in MCIR and as “4vHPV” on the VAR and immunization record card
- Document Cervarix as “HPV2” in MCIR and as “2vHPV” on the VAR and immunization record card

Publicly purchased HPV vaccine can be administered to eligible males and females aged 9 through 18 years through the Vaccines for Children (VFC) program. Eligible children include those who are uninsured, underinsured, Medicaid eligible, Native American or Alaskan Natives. Contact your local health department for more information. Through the Michigan Adult Vaccine Program (MI-AVP), males and females aged 19 through 26 years can receive HPV vaccine. To qualify for MI-AVP, the patient must be uninsured or underinsured and seen by an MI-AVP provider. MI-AVP will not cover an HPV dose given at/after age 27 years. For persons covered by Adult Medicaid, private stock should be used and billed to Medicaid. Medicaid will cover an HPV dose given at 19-45 years of age.

For additional information: MMWRs: Use of 9-Valent HPV Vaccine: Updated HPV Vaccination Recommendations of the ACIP (March 27, 2015), Use of a 2-Dose Schedule for HPV Vaccination: Updated Recommendations of the ACIP (December 16, 2016), and HPV Vaccination for Adults: Updated Recommendations of the ACIP (August 16, 2019) at www.cdc.gov/vaccines.