

HPV Vaccines

Vaccine	HPV Types	Recommended Age	Schedule 3 Doses 0.5 mL IM	Indicated for Females?	Indicated for Males?	Special Populations
9vHPV (Gardasil 9 [®] , Merck)	6, 11, 16, 18, 31, 33, 45, 52, & 58	11-12 years (minimum age 9 years)	<u>1st</u> : 11-12 years (may be given at 9 years)	Yes (through age 26 years)	Yes through age 21 years)	Vaccinate through age 26 for MSMs ¹ and HIV+ men
4vHPV (Gardasil [®] , Merck)	6, 11, 16, & 18		<u>2nd</u> : 1-2 months after the 1 st dose (a minimum of 4 weeks after 1 st dose)	Yes (through age 26 years)		
2vHPV (Cervarix [™] GlaxoSmithKline)	16 & 18		<u>3rd</u> : 6 months after 1 st dose (at least 12 weeks after the 2 nd dose and at least 24 weeks after the first dose)	Yes (through age 26 years)	No	

¹(MSMs) men who have sex with men.

Human Papillomavirus Vaccine Recommendations

General Recommendations:

Females

- 9vHPV, 4vHPV, and 2vHPV vaccines are recommended for routine vaccination of females aged 11-12 years. The 3-dose vaccination series can be started as early as 9 years of age.
- Catch-up vaccination is recommended for females aged 13-26 years who have not completed the vaccine series.

Males

- 9vHPV and 4vHPV vaccines are recommended for routine vaccination for males aged 11-12 years. The 3-dose vaccination series can be started as early as 9 years of age.
- Catch-up vaccination is recommended for males aged 13-21 years who have not completed the vaccination series. Males aged 22-26 years may be vaccinated.
- 9vHPV and 4vHPV vaccines are recommended for men who have sex with men (MSMs) and immunocompromised men (including those who have HIV infection) through age 26 if not previously vaccinated or have not completed the 3-dose series.
- **2vHPV vaccine is not licensed for use in males.**

Indications

9vHPV and 4vHP Vaccines (Gardasil)

- Both vaccines are indicated for the prevention of cervical cancer, pre-cancers, genital warts, vulvar, and vaginal cancers.
- 4vHPV vaccine protects against 4 types of HPV strains: types 16 and 18 which are responsible for 70% of cervical cancers and types 6 and 11 which (along with 18) are responsible for 90% of genital warts.
- 9vHPV provides protection against the same HPV strains as 4vHPV (6, 11, 16 & 18) as well as 5 additional strains (31, 33, 45, 52, & 58) which are attributable to 10% of cervical cancers.

2vHPV Vaccine (Cervarix)

- Protects against two types of HPV: types 16 and 18 which are responsible for 70% of cervical cancers.

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General Recommendations (continued):

- HPV vaccines are not live vaccines and can be administered either simultaneously or at any time before or after an inactivated or live vaccine.

Administration:

- Ideally, the vaccine should be administered prior to potential exposure through sexual contact. However, sexually active persons should still be vaccinated according to ACIP recommendations
- Whenever possible, the same HPV vaccine product should be used for all doses in the series. However, if providers do not know or have available the HPV vaccine product previously administered, either HPV vaccine product can be used to continue or complete the series to provide protection against HPV types 16 and 18.
- 9vHPV, 4vHPV and 2vHPV can be used interchangeably in females.
- 9vHPV and 4vHPV can be used interchangeably in males. 2vHPV is **not** recommended for use in males.
- If females or males reach age 27 years before the vaccination series is complete, the 2nd and/or 3rd doses of the HPV vaccine can be administered after age 26 to complete the series.
- If the HPV vaccine schedule is interrupted, the vaccine series does not need to be restarted.

**Contraindications & Precautions**

- Hypersensitivity such as a severe allergic reaction (e.g. anaphylaxis) after a previous dose of HPV vaccine or any vaccine component.
 - 2vHPV: the prefilled syringes contain latex
 - HPV4: contraindicated for persons with a history of immediate hypersensitivity to yeast
- HPV vaccines are not recommended for use in pregnant women; pregnancy testing is not needed before vaccination. The pregnancy registries for 4vHPV and 2vHPV have been closed in concurrence from FDA. Any exposure to 9vHPV vaccine during pregnancy should be reported to the Merck vaccine pregnancy registry:
 - 1-800-986-8999 (Merck for 9vHPV only)
 - Merck pregnancy registry website: <http://www.merckpregnancyregistries.com/gardasil9.html> (for 9vHPV only)
- If a woman is found to be pregnant after initiating the HPV vaccine series, remaining doses should be delayed until after the pregnancy.
- Because some people may develop syncope, sometimes resulting in falling with injury, observe patients for 15 minutes after the vaccine has been administered.

Adverse Reactions

- **Injection site:** pain, redness, swelling.
- **Systemic:** fatigue, headache, myalgia (muscle pain), gastrointestinal symptoms, arthralgia (joint pain), fainting (syncope), abdominal pain (HPV2).

Vaccine Storage and Handling

- Store Cervarix and Gardasil in the refrigerator between 35°F and 46°F (aim for 40°F).
- **Do not freeze** – discard if vaccine has been frozen.