

Frequently Asked Questions for Health Care Providers Concerning Human Papillomavirus Vaccination

Why are HPV vaccines needed?

Human papillomavirus (HPV) vaccines reduce the occurrence of cervical, vaginal, vulvar, and anal cancer as well as oropharyngeal cancer. An immediate effect of HPV vaccination is a reduction in abnormal Pap test results. Approximately 79 million individuals in the United States have been infected with HPV, and 14 million new infections occur every year (1). Most infections are transient. However, those individuals with untreated HPV infection are at a high risk of developing HPV-associated cancer, of which cervical cancer in women is the most common. Around 13,000 cases of cervical cancer occur per year with more than 4,000 deaths annually (2). Approximately 300,000 cases of genital warts, 7,000 cases of anal cancer, and more than 12,000 cases of HPV-associated oropharyngeal cancer occur annually in both women and men. The vaccine's role in preventing oral and anal cancer is important because there are no screening tests for those types of cancer. Approximately 60% of cases of oral cancer, 66% of cases of cervical cancer, and approximately 80% of cases of anal cancer are associated with HPV types 16 and 18 (2).

Who should get vaccinated?

Human papillomavirus vaccination is recommended for girls and boys aged 11–12 years but can be given as early as age 9 years and as late as 13–26 years. The vaccines are U.S. Food and Drug Administration (FDA) approved for all females and males aged 9–26 years. Children are best protected from HPV before they are exposed through close genital skin-to-skin contact or sexual intercourse. The Centers for Disease Control and Prevention (CDC) recommends the targeted age range of 11–12 years because evidence suggests a third of 9th graders and two thirds of 12th graders have had sexual intercourse, and one half of those aged 15–24 years had oral sex before first sexual intercourse (3). Studies suggest a more robust immune response when the vaccine is given at younger ages.

How many doses are needed?

For girls and boys who receive their first dose of HPV vaccine before age 15 years, only two doses are needed. The interval between the two doses is 6–12 months. If these two doses are given at an interval of less than 5 months, a third dose is recommended. If females or males receive their first dose at 15 years or older, three doses are needed and given at 0 months (baseline), 1–2 months after the first dose, and 6 months after the first dose.

Because most obstetrician–gynecologists do not see 11–12 year olds (the target age to receive the HPV vaccine), to whom should they recommend the vaccine?

The American College of Obstetricians and Gynecologists strongly endorses use of the HPV vaccine for all females and males, aged 9–26 years. Obstetrician–gynecologists and other health care providers should educate parents and patients on the benefits and safety of HPV vaccination and offer HPV vaccines in their offices. Obstetrician–gynecologists play a critical role and should assess and vaccinate adolescent girls and young women during the catch-up period (ages 13–26 years). The vaccine is most effective when given before HPV virus exposure through sexual activity, but studies demonstrate efficacy even after exposure. Hence, health care providers should discuss the vaccine with all patients through age 26 years. Additionally, health care providers can use well-woman visits as an opportunity to counsel parents and encourage them to speak to their children's health care providers to request HPV vaccination at the targeted age range of 11–12 years. The vaccine produces a higher antibody response in children aged 11–12 years than older children and adults. A health care provider recommendation is a strong influence on parents regarding vaccinating their children. Many parents think the HPV vaccine is only needed for their daughters. Health care providers should encourage parents also to have their sons vaccinated to reduce the spread of HPV viruses and prevent anal, oropharyngeal, and penile cancer, and genital warts. Every well-woman visit is an opportunity to assess and educate patients about the need for preventing HPV infection and its consequences, to offer HPV vaccination to those in the target and catch-up age range, or speak to them if their children are in the appropriate age range.

Should HPV DNA testing be done before vaccination?

No. Even if a patient is tested and the results are positive, vaccination is still recommended in the 9–26-year age range because the likelihood that a patient is positive for all vaccine-preventable HPV types is unlikely.

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Should I vaccinate a young woman if she previously had an abnormal Pap test result or has a history of genital warts?

Yes. Even if the patient has one or two HPV types causing the abnormal Pap test or genital warts, vaccination is still recommended in the 9–26 year age range because the likelihood that a woman is positive for all vaccine-preventable HPV types is unlikely.

How are the three available HPV vaccines (bivalent, quadrivalent, and 9-valent) different?

All three HPV vaccines protect against HPV types 16 and 18, which cause approximately 66% of cases of cervical cancer and the majority of other types of HPV-attributable cancer in the United States. The 9-valent HPV vaccine targets five additional cancer causing HPV types (31, 33, 45, 52, and 58), which account for approximately 15% of cases of cervical cancer. The quadrivalent and 9-valent HPV vaccines also protect against HPV types 6 and 11, which cause genital warts. The bivalent vaccine is no longer marketed in the United States.

If a patient receives the quadrivalent HPV vaccine for the first dose, do I need to complete the series with the quadrivalent vaccine, or can I complete the series with the bivalent or 9-valent vaccine?

If health care providers do not know or do not have available the HPV vaccine product previously administered, or are in settings transitioning to the 9-valent HPV vaccine, any available HPV vaccine product may be used to continue or complete the series for females for protection against HPV types 16 and 18. The 9-valent HPV vaccine or the quadrivalent HPV vaccine may be used to continue or complete the series for males.

Do the vaccines provide cross protection against other HPV types not in the vaccines?

There is evidence of some cross protection in all three vaccines to nonvaccine HPV types. However, the degree and duration of the cross protection is not known.

Will a booster dose be needed?

The need for a booster is still under study, but available information suggests a booster dose is not necessary and that protection lasts for at least 10 years.

Do I need to restart the series if a patient does not obtain the second or third dose on time?

No. Even if the interval for the second or third dose is much longer than recommended, it is not necessary to restart the series. Proceed with administering the next dose (whether it is the second or the third). Do strive to complete all doses, even if the time between doses exceeds the recommended time frame.

Is HPV vaccine recommended for pregnant women?

No. Although HPV vaccines are not recommended for use in pregnancy, studies have shown that vaccination during pregnancy causes no sequelae for the woman or her fetus. The vaccine contains no live virus particles, so is not infectious.

Can HIV-positive girls and boys be vaccinated?

Yes. Studies show that HPV vaccination is safe and is recommended for girls and boys with the human immunodeficiency virus (HIV). The HPV vaccine is recommended for all HIV-positive girls and boys, just as it is for HIV-negative girls and boys.

Are there any contraindications to being vaccinated?

Anyone who has ever had a life-threatening allergic reaction to any component of the HPV vaccine, or to a previous dose of the HPV vaccine, should not get the vaccine. Health care providers should assess patients for severe allergies, including an allergy to yeast. Vaccination should be postponed for individuals with a moderate or severe illness.

Can HPV vaccines be given to breastfeeding women?

Yes. The HPV vaccines can and should be given to breastfeeding women aged 26 years and younger who have not previously been vaccinated. If the HPV vaccine series was interrupted for pregnancy, the series should be resumed postpartum with the next dose.

Are the HPV vaccines safe?

Many studies conducted in developing and developed countries demonstrate the safety and effectiveness of HPV vaccines. The vaccines do not contain live viruses; therefore, they cannot cause an HPV infection. Human papillomavirus vaccines have been administered to millions of girls and women around the world without serious adverse effects. Since the vaccine was licensed, adverse effects have been exceedingly rare (less than 0.0003% of patients). Frequently reported nonserious side effects include headache, nausea, dizziness, pain and redness, and low-grade fever. Studies have shown that the 9-valent HPV vaccine may result in fever and pain and redness at the injection site at a greater frequency than the quadrivalent HPV vaccine. Obstetrician–gynecologists and other health care providers should counsel patients to expect mild local discomfort following vaccination and that such discomfort is not a cause for concern. The HPV vaccine was licensed by the FDA in 2006 and the CDC continues to closely monitor the vaccine and its safety.* Adolescents should be observed for at least 15 minutes after vaccination because they are at higher risk for fainting.

*For more safety information, please visit the CDC:
http://www.cdc.gov/vaccinesafety/Vaccines/HPV/hpv_faqs.html

What are effective messages for parents when talking about the HPV vaccine?

- Human papillomavirus is a common disease that has potentially serious consequences such as cervical, vaginal, vulvar, penile, anal, mouth, and throat cancer, and genital warts.
- Studies of girls aged 11–12 years have found that HPV vaccination is not linked to increased sexual activity, and their antibody response was most robust if vaccination occurs during this time.
- Obstetrician–gynecologists and other health care providers are making sure their own children get the HPV vaccine before they are at risk.
- Approximately 79 million individuals in the United States have been infected with HPV and 14 million new infections occur every year, leading to approximately 12,000 cases of cervical cancer per year with more than 4,000 deaths.
- An individual gets HPV from another person during sexual activity, including oral sex. HPV is so common that 80% of those who are sexually active will contract HPV over their lifetime.
- Parents are the key to preventing HPV-related cancer. Children should be vaccinated before they become sexually active to protect them and their future partners from contracting HPV.
- The HPV vaccine is not just for girls. Boys can benefit and stop the spread of HPV viruses by getting vaccinated, too. Not only is a vaccinated boy protecting others, he also is preventing himself from being among the more than 10,000 men who receive a diagnosis of an HPV-related cancer each year.
- Compared with older adolescents and young adults, 11–12 year olds have a two-fold to three-fold higher HPV protection after immunization.
- The HPV vaccine can reduce your son's or daughter's risk of certain HPV-related cancer by up to 99% when he or she is fully protected with all doses.
- Ongoing research shows the HPV vaccine's protection remains strong for 8–10 years. There is no evidence to suggest this level of protection changes over time.
- Since the vaccine was licensed, 0.0003% of patients have reported adverse effects—and most of those were nonserious, such as headache, nausea and dizziness.
- The HPV vaccine was licensed by the FDA in 2006. The CDC continues to closely monitor the vaccine and its safety.
- It is required by law for you to give your patients a Vaccine Information Statement before administering an immunization. Vaccine Information Statement forms can be found in multiple languages at www.immunize.org/vis.

References

1. Viens LJ et al. Human Papillomavirus–Associated Cancers United States, 2008–2012. *MMWR Morb Mortal Wkly Rep* 2016;65:661–66.
2. Centers for Disease Control and Prevention. How many cancers are linked with HPV each year? Available at: <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>.
3. Barber B, Eccles J. The joy of romance: healthy adolescent relationships as an educational agenda. In: Florsheim P, editor. *Adolescent romantic relations and sexual behavior: theory, research, and practical implications*. Mahwah (NJ): Lawrence Erlbaum Associates; 2003. p. 355-70.

For More Information

The American College of Obstetricians and Gynecologists has identified additional resources on topics related to this document that may be helpful for ob-gyns, other health care providers, and patients. You may view these resources at www.acog.org/More-Info/HPV.

These resources are for information only and are not meant to be comprehensive. Referral to these resources does not imply the American College of Obstetricians and Gynecologists' endorsement of the organization, the organization's website, or the content of the resource. The resources may change without notice.