

HPV: Common Questions and Answers



What is HPV?

- HPV is short for human papilloma virus. HPVs are a group of more than 150 related viruses. Some types of HPV are known for causing cancer, especially of the cervix (the base of the womb at the top of the vagina).

How common is HPV?

- HPV is the most common sexually-transmitted infection in the US. *HPV is so common that nearly all sexually active men and women will get at least one type of HPV at some point in their lives.* Most people never know that they have been infected and may give HPV to a partner without knowing it. About **79 million** Americans are currently infected with HPV. About **14 million people** become newly infected each year.

HPV and Cancer

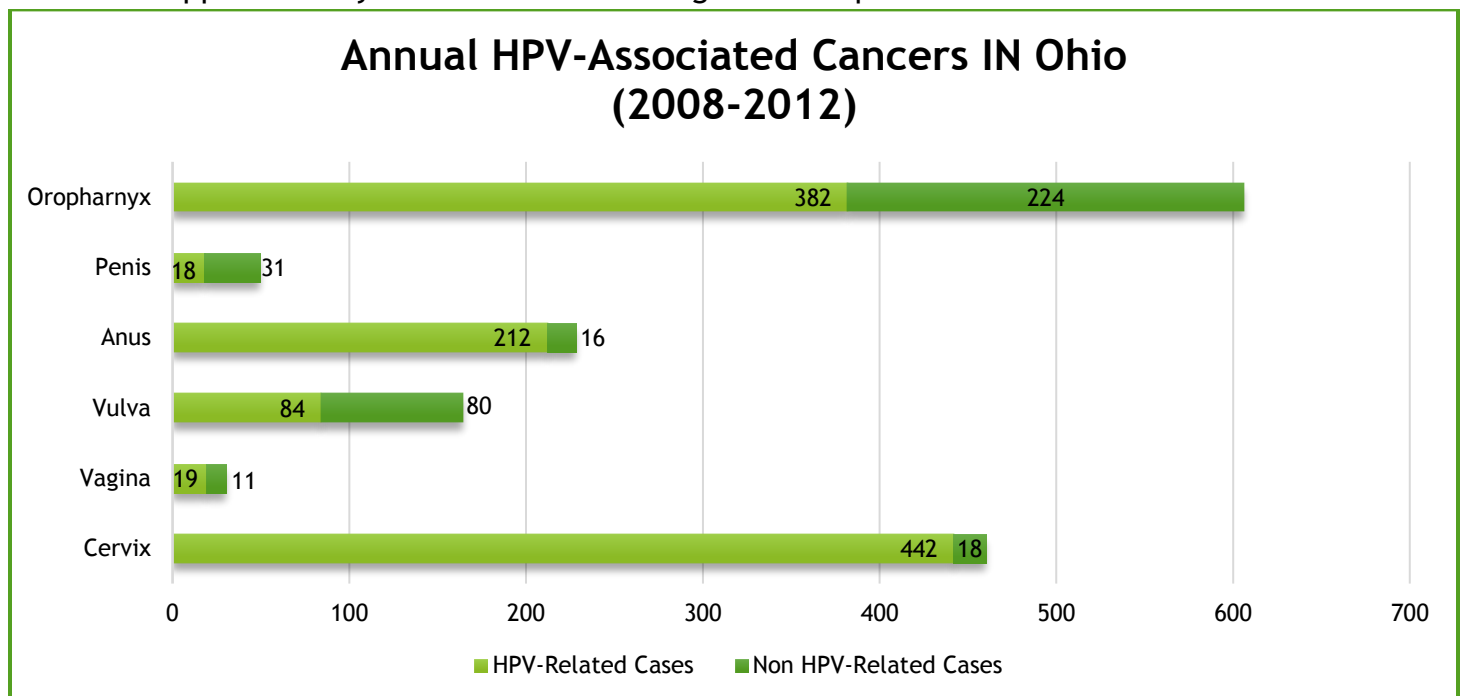
- Though most HPV infections go away on their own, some HPV infections persist. HPV infections that don't go away can cause changes in the cells in the infected area, which can lead to genital warts or cancer. There is no way to know which people will develop cancer or other health problems.
- **Cervical cancer** usually does not have symptoms until it is quite advanced and hard to treat. For this reason, it is important for women to get regular screening for cervical cancer. Screening tests can find early signs of disease so that problems can be treated before they ever turn into cancer.
- Other cancers caused by HPV might not have signs or symptoms until they are advanced and hard to treat. These include cancers of the **vulva, vagina, penis, anus, and cancers of the back of the throat**, including the base of the tongue and tonsils (**oropharynx**).

How common is HPV Cancer?

- Every year, over **27,000 women and men** are affected by a cancer caused by HPV— that's a new case every 20 minutes.
- Persistent HPV infection can cause cervical and other cancers including:
 - **Cervical cancer:** The most common HPV cancer. Almost all cervical cancer is caused by HPV
 - **Vulvar cancer:** About 69% are linked to HPV
 - **Vaginal cancer:** About 75% are linked to HPV
 - **Penile cancer:** About 63% are linked to HPV
 - **Anal cancer:** About 91% are linked to HPV
 - **Cancer of the back of the throat:** About 72% are linked to HPV

HPV Cancer in Ohio

- In Ohio, in 2008-2012, approximately **1,157 cases** of cancer were attributed to HPV each year.
- HPV-associated cancer incidence rates increased from 1996 to 2012 for cancers of the vulva, anus and oropharynx; oropharyngeal cancer incidence rates approximately doubled in Ohio during this time period.



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2015.

* Gillison ML, Chaturvedi AK, Lowy DR. HPV prophylactic vaccines and the potential prevention of noncervical cancers in both men and women. *Cancer*. 2008; 113:3036-3046.

HPV vaccine

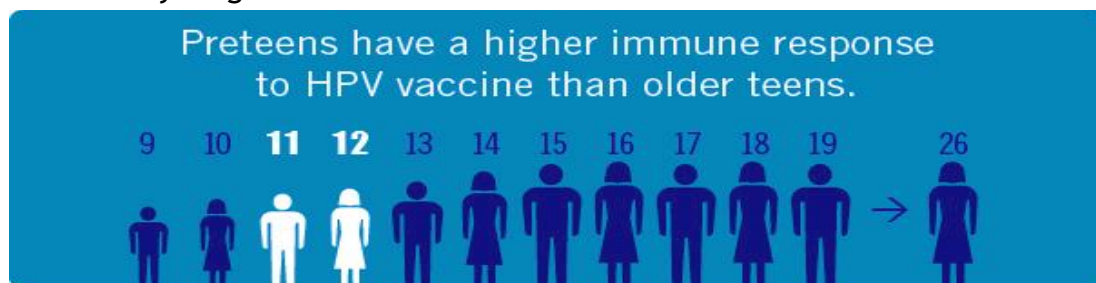
- HPV vaccine protects against **cancers** and **genital warts** caused by human papillomavirus (HPV) infection.
- There are **three HPV vaccines** (Cervarix, Gardasil, and Gardasil 9) approved by the Food and Drug Administration (FDA) and recommended by the Centers for Disease Control and Prevention (CDC) to protect against HPV and the cancers it can cause.

Who should get HPV vaccine?

- All **boys and girls ages 11 or 12 years** should get vaccinated.
- Adolescents vaccinated **before their 15th birthday** need **two doses** of the HPV vaccine given **6 to 12 months apart**.
- Adolescents **aged 9-14 years who already received two doses of HPV vaccine less than 5 months apart**, require a **third dose**.
- Teens and young adults who start the series at **ages 15-26 years** need **three doses** of HPV vaccine to protect against cancer-causing HPV infections.
- Catch-up vaccines are recommended for males through age 21 and females through age 26, if they did not get vaccinated when they were younger.
- Booster doses are not recommended.

Why is the vaccine recommended at such a young age?

- For HPV vaccines to be effective, they **should be given prior to exposure to HPV**. There is no reason to wait until a teen is having sex to offer HPV vaccination to them. Preteens should receive the recommended doses of the HPV vaccine series long before they begin any type of sexual activity and are exposed to HPV. Also HPV vaccine produces a higher immune response in preteens than it does in older teens and young women.



What are some possible side effects of HPV vaccination?

- Vaccines, like any medicine, can have side effects. Many people who get HPV vaccine have no side effects at all. Some people report having very mild side effects, like a sore arm from the shot. **The most common side effects are usually mild.** Common side effects of HPV vaccine include:
 - Pain, redness, or swelling in the arm where the shot was given
 - Fever
 - Headache or feeling tired
 - Nausea
 - Muscle or joint pain

Is HPV vaccine safe?

- Yes, HPV vaccines have **good safety records**. Studies have shown that each HPV vaccine is very safe, and careful safety monitoring has not shown any problems.

Like all vaccines used in the United States, HPV vaccines are required to go through years of safety testing before they are approved by the FDA. CDC and FDA closely monitor vaccines to make sure they are safe even after they are available to the public.

Approximately 79 million doses of Gardasil® have been distributed in the U.S. from June 2006 (when the vaccine was first licensed by the FDA) through March 2016. In the years of HPV vaccine safety studies and monitoring that have been conducted since the vaccine was licensed in 2006, no serious safety concerns have been confirmed.

	How many people was it tested in?	When was it approved?	Who is it recommended for?
Gardasil 4	More than 29,000	2006	Girls and boys
Cervarix	More than 30,000	2009	Girls
Gardasil 9	More than 15,000	2014	Girls and boys

How well does HPV vaccine work?

- The HPV vaccine works extremely well. Clinical trials showed the vaccines provided close to **100% protection against pre-cancers** and, for Gardasil® and Gardasil®, 9 genital warts. Since the vaccine was first recommended in 2006, there has been a **56% reduction** in vaccine type HPV infections among teen girls in the U.S., even with very low HPV vaccination rates.

- Research has also shown that fewer teens are getting genital warts. In other countries such as Australia where there is higher HPV vaccination coverage, HPV vaccine has also reduced the number of cases of pre-cancers of the cervix in young women in that country. **Also, genital warts have decreased dramatically in young women and men (85% and 71% respectively) in Australia since the HPV vaccine was introduced.**

Will the vaccine cause fertility issues?

- No. There are no data that suggest getting HPV vaccine will have an effect on future fertility. **In fact, getting vaccinated and protecting against cervical cancer can help women have healthy pregnancies and have healthy babies.**

Not getting the HPV vaccine leaves people vulnerable to HPV infection; for women, this could lead to cervical cancer. The treatment of cervical cancer (hysterectomy, chemotherapy, and/or radiation, for example) could leave a woman unable to have children. Even the treatment of cervical pre-cancers caused by HPV can cause preterm labor or problems at the time of delivery.

How long will the HPV vaccine provide protection?

- HPV vaccine offers long-lasting protection against HPV infection and HPV associated disease. **Protection produced by HPV vaccine lasts at least 8-10 years according to data from clinical trials and ongoing research.** There is no evidence to suggest that HPV vaccine loses the ability to provide protection over time.

Resources

- Centers for Disease Control and Prevention-Frequently Asked Questions about HPV Vaccine Safety <http://www.cdc.gov/vaccinesafety/vaccines/hpv/hpv-safety-faqs.html>
- Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer. A Report to the President of the United States from the President's Cancer Panel. Bethesda, MD: National Cancer Institute; 2014. <http://deainfo.nci.nih.gov/advisory/pcp/annualReports/HPV/index.htm>
- National Cancer Institute <http://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-vaccine-fact-sheet>
- American Cancer Society <http://www.cancer.org/cancer/cancercauses/othercarcinogens/infectiousagents/hpv/hpv-landing>

