

HPV Vaccines

What is the human papillomavirus (HPV)?

Human papillomavirus (HPV) represents a group of very common viruses that can cause the growth of non-cancerous abnormal cells that in some cases may develop into cancer.

About 100 strains (types) of HPV exist. Different strains have different symptoms. Some strains cause common warts that develop on the hands and feet. Other strains can cause sexually transmitted genital warts. Of the 100 types of HPV, more than 30 are transmitted through sexual contact, making HPV one of the most common sexually transmitted diseases (STDs).

Up to 75% of the people who have ever had sex will develop HPV at some time in their lives, according to the American Cancer Society. Most people will never know if they have HPV because no significant symptoms develop and the immune system clears the virus before it is detected. A small percentage of people with HPV, however, will have the virus for a longer time and will develop cell changes over many years that may lead to cancer.

How will the vaccines protect me from HPV?

Females

The Food and Drug Administration has approved two HPV vaccines for girls and women between the ages of 9 and 26. The two vaccines are Gardasil® and Cervarix™. Each vaccine immunizes against different types of HPV. Gardasil® immunizes against HPV 6, 11, 16, and 18 and Cervarix™ immunizes against HPV 16, and 18.

HPV 6 and 11 cause 90% of genital warts but do not increase a women's risk of cancer. HPV 16 and 18, however, can cause 70% of cervical cancers. Gardasil® thus reduces the risk of genital warts and cervical cancer and Cervarix™ reduces risk of cervical cancer but not genital warts.

Males

The Food and Drug Administration has also approved Gardasil® for males ages 9 to 26 for the prevention of genital warts. The approval did not address claims, however, that the Gardasil® vaccine may help prevent the spread of genital warts (HPV 6 and 11), from males, to girls and women. Conversely, while men do not get cervical cancer, vaccinating this group may help prevent the transmission of HPV 16 and 18 from males to females, thus reducing the infection rate.

Who should get the vaccines?

For maximum effectiveness, it is recommended that girls and women receive the vaccines before becoming sexually active. However, the vaccines are for all girls and women between the ages of 9 and 26. The vaccines are not recommended for women over age 26. MD Anderson Cancer Center recommends routine vaccination of girls when they are 11 to 12 years old. Females as young as age 9 may receive HPV vaccination.

Because most people are not infected with all four types of HPV that the Gardasil[®] vaccine protects against, those with a current or past HPV 6, 11, 16, or 18 infection still may benefit from the vaccine. For example: if a person was infected with type 6 before receiving the vaccine, then she will be protected from types 11, 16 and 18 after receiving the vaccine. The same is true for Cervarix[™]. If a person was infected with type 16 before receiving the vaccine, then she will be protected from type 18 after receiving the vaccine.

Who should not get the vaccines?

Anyone who is allergic to the vaccine's ingredients should not receive either vaccine. These ingredients include:

- Purified inactive proteins that come from HPV types 6, 11, 16 and 18
- Amorphous aluminum hydroxyphosphate sulfate
- Sodium chloride
- L-histidine
- Polysorbate 80
- Sodium borate
- Water for injection

Also, anyone who has an allergic reaction after receiving a dose of either vaccine **should not** receive more doses.

What should I tell my doctor before receiving the vaccine?

Before receiving either HPV vaccine, tell your doctor or nurse if:

- You are pregnant, think you are pregnant or planning to become pregnant
- You have any illness with a fever of 100°F (37.8°C) or more
- You have had an allergic reaction to either vaccine
- You have a bleeding disorder and can not receive injections in the arm
- You have a weak immune system (e.g., due to a genetic defect, cancer or HIV infection)
- You are taking or plan to take any prescription or over-the-counter medicines

How are the vaccines given?

The HPV vaccines are given as an injection. The vaccines are given in three doses over six months.

1. The first dose is given when you and your doctor decide it should be given.
2. The second dose is given two months after the first dose.
3. The third dose is given six months after the first dose.

Will there be any side effects after receiving the vaccine?

The most commonly reported side effects include pain, swelling, itching and redness at the injection site and a mild fever.



If you experience difficulty breathing, call your doctor **immediately**.

What other information should I know about the HPV vaccines?

1. The vaccines are not a substitute for routine cervical cancer screening. Those who receive either vaccine should continue being screened with regular Pap smears.
2. The vaccines may not fully protect everyone who receives either vaccine.
3. The vaccines do not protect against all types of HPV.
4. The vaccines do not protect against other sexually transmitted diseases.
5. Once a vaccine is given, it is not known how long it will protect the patient from HPV.

Where can I obtain more information about HPV and the HPV vaccines?

If you have any additional questions about HPV and the HPV vaccines, talk with your doctor or nurse and ask for a copy of the “Human Papillomavirus (HPV)” document.