

Human Papillomavirus Vaccines

What is human papillomavirus (HPV)?

Human papillomavirus (HPV) is a virus that can be passed from person to person through skin-to-skin contact. More than 100 types of HPV have been found. About 30 of these types infect the genital areas of men and women.

How is HPV spread?

HPV is primarily spread through vaginal, anal, or oral sex, but **sexual intercourse** is not required for infection to occur. HPV is spread by skin-to-skin contact. Sexual contact with an infected partner, regardless of the sex of the partner, is the most common way the virus is spread.

What diseases does HPV cause?

Approximately 12 types of HPV cause genital warts. Two types, type 6 and type 11, cause most cases of genital warts. Genital warts are growths that may appear on the outside or inside of the vagina or on the penis and can spread to nearby skin. They also can grow around the anus, on the **vulva**, or on the **cervix**. They can be treated with medication that is applied to the area or by surgical removal. The type of treatment depends on where the warts are located.

About 15 types of HPV cause cancer of the cervix. They also cause cancer of the vulva, vagina, anus, penis, and the head and neck. Most cases of cervical cancer are caused by just two types of HPV—type 16 and type 18.

How does HPV cause cancer of the cervix?

The cervix is covered by a thin layer of tissue made up of **cells**. If one of the cancer-causing types of HPV is present, it may enter these cells. Infected cells may become abnormal or damaged and begin to grow differently. It usually takes several years for cervical cancer to develop. Cervical cancer screening can detect early signs of abnormal changes of the cervix and allows early treatment so that they do not become cancer (see the FAQ [The Pap Test](#)).

What HPV vaccines are available?

Two vaccines are currently available that protect against some types of HPV:

- One vaccine protects against type 6 and type 11, which cause the most cases of genital warts, and against type 16 and type 18, which cause the most cases of cervical cancer.
- One vaccine protects against type 16 and type 18.

How effective are the vaccines in preventing HPV infection?

The four-type vaccine is almost 100% effective in preventing cervical precancer and genital warts caused by four types of HPV. The two-type vaccine also is almost 100% effective in preventing cervical pre cancer caused by two types of HPV.

The vaccines are most effective if they are given before a woman is sexually active and exposed to HPV. If a woman is already infected with one type of HPV, the vaccines will not protect against disease caused by that type. However, the vaccines can protect against the other types of HPV included in the vaccines.

Who should get the HPV vaccine?

Both vaccines are recommended for girls and women aged 9 years through 26 years and are given in three doses over a 6-month period. The vaccines are not recommended for pregnant women but are safe for women who are breastfeeding.

If I get the vaccine, do I still need to have regular cervical cancer screening?

The vaccines do not protect against all types of HPV and do not give complete protection against cervical cancer or genital warts. Therefore, women who are vaccinated should still have regular cervical cancer screening as recommended by their health care providers.

What side effects may be caused by the vaccines?

The most common side effect of the HPV vaccine is soreness in the arm where the shot is given. On very rare occasions, persons who received the shot experienced headache, fatigue, nausea, dizziness, fainting, or pain in the arm. These symptoms are mild and usually go away quickly.

Glossary

Cells: The smallest units of a structure in the body; the building blocks for all parts of the body. **Cervix:** The opening of the uterus at the top of the vagina.

Sexual Intercourse: The act of the penis of the male entering the vagina of the female (also called “having sex” or “making love”).

Vulva: The external female genital area.

If you have further questions, contact your obstetrician–gynecologist.

Designed as an aid to patients, this document sets forth current information and opinions related to women’s health. The information does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to institution or type of practice, may be appropriate.