



Human Papillomavirus Vaccination

Human papillomavirus (HPV) infection is the most common **sexually transmitted infection (STI)** in the United States. Most people who have sex will get an HPV infection at some point in their lives. HPV infections can cause genital warts. HPV infections also can cause changes in **cells** that can lead to cancer over time, including cancer of the **cervix**. HPV vaccination is a safe and effective way to protect yourself and your sex partners against HPV-related diseases.

You Need to Know

- how HPV infection passes from person to person
- about HPV-related genital warts and cervical cancer
- how the HPV vaccine can protect you against infection

Overview of HPV

HPV is a **virus**. Like all viruses, HPV causes infection by entering cells. Once inside a cell, HPV takes control of the cell's internal machinery and uses it to make copies of itself. These copies then infect other nearby cells. HPV infection is a slow process. In most people, the **immune system** clears the body of HPV before it causes disease.

How is genital HPV passed from person to person?

There are about 40 types of HPV that typically infect the **genitals**. These HPV types are spread by skin-to-skin contact during vaginal, anal, or oral sex. You can get a genital HPV infection even if you do not have **sexual intercourse**.

What are the symptoms of HPV infection?

HPV infection often has no signs or symptoms. People with HPV infection usually do not know they have it. This is one reason why HPV spreads easily.

HPV and Genital Warts

Genital warts are growths that can appear on the outside or inside of the **vagina** or on the **penis**. Warts also can spread to nearby skin and can grow around the **anus**, on the **vulva**, or on the cervix.

What types of HPV cause genital warts?

Some types of HPV cause genital warts. These types are called "low-risk types" because they do not turn

into cancer. Most cases of genital warts are caused by just two low-risk types of HPV: type 6 and type 11.

Are genital warts painful?

Warts may cause itching or pain, or they may not cause any symptoms.

How are genital warts treated?

Warts can be removed with medication or surgery. Talk with your health care practitioner about treatment. Wart removers found in the pharmacy should not be used on genital warts.

HPV and Cancer

The immune system fights most HPV infections and clears them from the body, usually within 2 years. But sometimes HPV infections can last longer. A longer infection with a “high-risk” HPV type can turn into cancer. It usually takes years for this to happen.

What types of HPV cause cancer?

There are at least 13 types of HPV linked to cancer of the cervix, anus, vagina, penis, mouth, and throat. Most cases of HPV-related cancer are caused by just two high-risk types of HPV: type 16 and type 18.

How long does it take for cervical cancer develop?

It can take 3 to 7 years for certain changes in the cells on the cervix to become cancer. The purpose of cervical cancer screening is to detect these changes while they are still easily treated. Women with “high-grade” changes can get treatment to have the cells removed from the cervix. Women with “low-grade” changes can be tested over time to see if the cells go back to normal.

HPV Vaccine

One way to protect against HPV infection is by getting the HPV vaccine. The vaccine is safe and effective and protects against the HPV types that are the most common causes of genital warts and cancer. Millions of people around the world have gotten the HPV vaccine without serious side effects. The vaccine does not contain live viruses, so it cannot cause an HPV infection.

When should people get the HPV vaccine?

Vaccination works best when it is done before a person is sexually active and exposed to HPV. But vaccination can still reduce the risk of getting HPV for people who have already been sexually active. The ideal age for HPV vaccination of girls and boys is 11 or 12, but it can be given starting at age 9 and through age 26.

How is the HPV vaccine given?

The HPV vaccine is given as a series of shots:

- For those aged 9 to 14, two shots of vaccine are recommended. The second shot should be given 6 to 12 months after the first one.
- For those aged 15 through 26, three shots of vaccine are recommended. The second shot should be given 1 to 2 months after the first one. The third shot should be given 6 months after the first shot.

What if I am older than 26 and want the HPV vaccine?

If you are older than 26, have not been vaccinated, and are at risk of a new HPV infection, you and your health care practitioner can talk about whether you need the HPV vaccine. The vaccine is approved for people through age 45.

What happens if my child misses a shot?

If your child has not had all of the shots, he or she does not have to start over. Your child can get the next shot that is due even if the time between them is longer than recommended. This is also true for you if you have not completed the number of recommended shots. Talk with your health care practitioner if you have questions about getting any shots you missed.

What are the side effects of the HPV vaccine?

The most common side effect of the HPV vaccine is soreness and redness where the shot is given. There have been no reports of severe side effects or bad reactions to the vaccine.

Is the HPV vaccine effective?

The HPV vaccine is highly effective when given before a person has sex. The vaccine can reduce the risk of HPV-related genital warts and cancer by up to 99 percent when all recommended shots have been given. It is one of the most effective vaccines you can get.

Can I get the shot if I have already had sex?

Yes. If you have had sex, you may already be infected with one or more types of HPV. But the vaccine may still protect you against HPV types you do not have yet.

Screening for Cervical Cancer

HPV vaccination helps prevent HPV infection, but it is not a cure for an HPV infection you already have. Women who have been vaccinated still need to have regular cervical cancer screening. Talk with your health care practitioner about when and how often you should be screened.

What is cervical cancer screening?

Cervical cancer screening includes the *Pap test*, an HPV test, or both (called *co-testing*). Both tests use cells taken from the cervix.

- **Pap test**—This test can detect abnormal changes in cells of the cervix. If testing shows cell changes that could lead to cancer, treatment can be given before cancer develops.
- **HPV test**—This test can identify most of the cancer-causing types of HPV even before there are visible changes in the cervical cells.

You should start having screening at age 21, regardless of when you first start having sex. How often you should have screening and which tests you should have depend on your age and health history. Talk with your health care practitioner about the screening schedule that is recommended for you.

Staying Healthy

Although the HPV vaccine protects against the most common causes of genital warts and cancer, it does not protect against all HPV types. If you are sexually active, using a condom or *dental dam* every time you have vaginal, anal, or oral sex can help reduce the risk of HPV infection. Look for condoms and dental dams made of latex or polyurethane.

Your Takeaways

1. HPV is easily spread through skin-to-skin contact during sex.
2. Most people who have sex will get an HPV infection at some point in their lives.
3. HPV infections can lead to genital warts and cancer.
4. HPV vaccination is a safe and effective way to protect yourself and your children against HPV-related diseases.
5. Even if you have gotten the HPV vaccine, continue regular cervical cancer screening and use condoms or dental dams to reduce the risk of getting HPV types not covered by the vaccine.

Terms You Should Know

Anus: The opening of the digestive tract through which bowel movements leave the body.

Cells: The smallest units of a structure in the body. Cells are the building blocks for all parts of the body.

Cervix: The lower, narrow end of the uterus at the top of the vagina.

Co-testing: Use of both the Pap test and human papillomavirus (HPV) test to screen for cervical cancer.

Dental Dam: A thin piece of latex or polyurethane used between the mouth and the vagina or anus during oral sex. Using a dental dam can reduce your risk of sexually transmitted infections (STIs).

Genitals: The sexual or reproductive organs.

Immune System: The body's natural defense system against viruses and bacteria that cause disease.

Pap Test: A test in which cells are taken from the cervix (or vagina) to look for signs of cancer.

Penis: The male sex organ.

Sexual Intercourse: The act of the penis of the male entering the vagina of the female. Also called "having sex" or "making love."

Sexually Transmitted Infection (STI): An infection that is spread by sexual contact. Infections include chlamydia, gonorrhea, human papillomavirus (HPV), herpes, syphilis, and human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

Vagina: A tube-like structure surrounded by muscles. The vagina leads from the uterus to the outside of the body.

Virus: An agent that causes certain types of infections.

Vulva: The external female genital area.

This information is designed as an educational aid to patients and sets forth current information and opinions related to women's health. It is not intended as a statement of the standard of care, nor does it comprise all proper treatments or methods of care. It is not a substitute for a treating clinician's independent professional judgment. For ACOG's complete disclaimer, visit www.acog.org/WomensHealth-Disclaimer.

Copyright March 2021 by the American College of Obstetricians and Gynecologists. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, posted on the internet, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

This is EP191 in ACOG's Patient Education Pamphlet Series.

ISSN 1074-8601

American College of Obstetricians and Gynecologists
409 12th Street SW
Washington, DC 20024-2188