



# HPV (Human Papilloma Virus, Genital Warts, and Cervical Dysplasia)

**NOTE:** In the US, counseling and referrals are available on a national human papillomavirus (HPV) hotline. Call toll-free at 877- HPV-5868 (877-478-5868.) Hours are from 2 p.m. to 7 p.m. Eastern Standard Time Monday through Friday.

## WHAT IS HPV?

There are over 100 viruses known as human papilloma viruses (HPVs.) They are common. One study found HPVs in 77% of HIV-positive women. HPVs are transmitted easily during sexual activity. **Condoms do not totally prevent transmission of HPVs.** They can be transmitted from person to person by direct contact with infected areas.

Some HPVs cause common warts of the hands or feet. Infections of the hands and feet are usually not transmitted through sexual activity.

There is no easy way to tell if someone is infected with an HPV. People who don't have any signs or symptoms of HPV infection can transmit the infection.

Several types of HPV cause genital warts on the penis, vagina, and rectum. HPV can also cause problems in the mouth or on the tongue or lips.

Other types of HPV can cause abnormal cell growth known as dysplasia. Dysplasia can develop into cancers of the penis and anus, and cervical cancer in women.

Dysplasia around the anus is called anal intraepithelial neoplasia (AIN). The *epithelium* is the layer of cells that cover organs or openings in the body. *Neoplasia* means the new development of abnormal cells. Anal intraepithelial neoplasia is the new development of abnormal cells in the lining of the anus.

Dysplasia in the cervical region is called cervical intraepithelial neoplasia (CIN). One study found AIN or CIN in over 10% of HIV-positive men and women. Another study showed that women with HIV infection have a much higher rate of CIN than HIV-negative women.

## HOW IS HPV DETECTED?

To detect HPV, doctors look for dysplasia or genital warts.

**Dysplasia** can be detected by Pap smears. They are usually used to check a woman's cervix. They can also be used to check the anus in men and women. A swab is rubbed on the area being checked to pick up some cells. They are smeared on a glass slide and examined under a microscope.

A new HPV blood test is starting to be used to follow up on Pap smear results that are not clear. It can indicate who needs more careful examination or treatment.

Some researchers believe that anal and cervical smears should be checked each year for people with elevated risk:

- People who have had receptive anal intercourse
- Women who have had cervical intraepithelial neoplasia (CIN)
- Anyone with under 500 T-cells.

However, other researchers think that careful physical examination can detect as many cases of anal cancer as anal Pap testing.

**Genital warts** can appear anywhere from a few weeks to a few months after you are exposed to HPV. The warts might look like small bumps. Sometimes they are fleshy and look like small cauliflower. They can get bigger over time.

Your doctor can usually tell if you have genital warts by looking at them. Sometimes a tool called an anoscope is used to look at the anal area. If necessary, a sample of the suspected wart will be cut off and examined under a microscope. This is called a biopsy.

Genital warts are not caused by the same HPV that causes cancer. However, if you have warts, you may have also been exposed to other HPVs that could cause cancer.

## HOW ARE HPV INFECTIONS TREATED?

There is no direct treatment for HPV infection. However, dysplasias and warts

can be removed. There are several ways to do this:

- Burning them with an electric needle (electrocautery) or a laser
- Freezing them with liquid nitrogen
- Cutting them out
- Treating them with chemicals like Trichloroacetic Acid (TCA), Podophyllin or Podofilox. **NOTE:** Podophyllin and Podofilox should not be used by pregnant women.

Other, less common treatments for warts include the drugs 5-FU (5-fluorouracil) and Interferon-alpha. 5-FU exists in a cream form. Interferon must be injected into the warts. A new drug, imiquimod (Aldara®), has been approved for treatment of genital warts. Cidofovir (Vistide®), originally developed to fight cytomegalovirus (CMV), might also help fight HPV. A new drug called HspE7 has shown benefits in early research.

HPV infection can last for a long time, especially in people who are HIV-positive. Dysplasia and warts can return. They should be treated as soon as they are found to reduce the chances of the problem spreading or returning.

## THE BOTTOM LINE

Human papilloma viruses (HPVs) are fairly common. Different HPVs cause warts or abnormal cell growth (dysplasia) near the anus or cervix. This abnormal cell growth can result in cervical or anal cancer. Genital HPV infections are transmitted through sexual activity.

HPV infection can last a long time, especially in people with HIV.

A Pap smear can detect abnormal cell growth in the cervix. It can also be used to check the anus of men and women. Although Pap smears may be the best way to detect early cervical cancer, careful physical examination may be the best way to detect anal cancers.

The signs of HPV infection – warts or dysplasia – should be treated as soon as they show up. Otherwise, the problem could spread and be more likely to return after treatment.

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