

Human Papillomavirus (HPV, Cancer, Genital Warts)

Human papillomavirus (HPV) is an extremely common and contagious virus that spreads among humans. There are over 100 types of HPV. Serotypes (types) are classified numerically and are considered “low-risk” and “high-risk” to describe their danger, as well as by the location of the body they infect, as “cutaneous” or “mucosal.” Low-risk HPV includes types of the virus that cause benign growths (warts) of the skin and mucous membranes, including the genitalia. “High-risk” HPV types infect only mucosal membranes like the mouth, throat, anus, and genitals and can cause **cancer. The most common types of high-risk (cancer-causing) HPV and genital wart-causing HPV are preventable through vaccination.**

Transmission

Mucosal HPV is spread from **person to person** through close, intimate contact. This may include sexual activity, including oral, vaginal, or anal sex.

Low-risk, mucosal HPV can be spread to an infant during birth, through contact with an infected birth canal. This may result in a rare but serious condition known as [respiratory papillomatosis](#).

Cutaneous HPV, such as those types which cause hand and foot warts, may be spread through more casual forms of contact, or indirectly through shared surfaces.

People of all ages are at-risk for HPV infection, however, infection with a high-risk type of mucosal HPV at a young age is associated with increased risk of HPV cancer, later in life. HPV cancers typically take years to develop. Most people without any signs or symptoms of HPV infection will clear the virus within two years, but those with persistent infection may carry the virus for months or years.

Symptoms

Most people who are affected by high-risk HPV do not know they are or were infected until they develop **tumors** or other signs of cancer or are diagnosed with abnormal growths by a health care provider.

People with low-risk HPV may notice benign (not cancerous) **warts** on their skin, genitals, or anus.

Diagnosis

People with a cervix are regularly tested for HPV as a part of preventive health screening known as a “Pap test” or “Pap smear.” Providers will take a sample of cervical cells and test for HPV DNA as well as abnormal cells that may indicate current or prior HPV infection.

Some health care providers, including dentists, often screen for cancerous growths and lesions inside of the mouth. When detected, a provider may remove a portion of this growth and perform a laboratory test to screen for HPV DNA.

Genital warts can be diagnosed through clinical symptoms. A sample of skin may be taken to determine the presence of HPV DNA.

Treatment

There is no cure for HPV infection, although most people will clear the virus on their own. Warts and tumors may be removed by health care providers to alleviate symptoms of disease and prevent further spread. People with advanced tumor growth may receive a diagnosis of HPV cancer (cervical cancer, vulvar cancer, vaginal cancer, anal cancer, or head and neck cancer) and require more radical treatments, such as organ removal, radiation or chemotherapy.

Prevention

HPV vaccination prevents most HPV cancers and nearly all genital warts. Children should receive their HPV vaccine series between ages 9-12. As with all vaccination, protection is most effective when given prior to first exposure to a disease. HPV vaccination is recommended to anyone ages 9-26 who has not previously been vaccinated and may be given to people ages 27-45 under the guidance of their doctor.

Cost should not be a barrier to vaccination. The Vaccines for Children (VFC) Program provides all recommended vaccines to children who are American Indian, uninsured or underinsured, and Medicaid-eligible. Many recommended vaccines are also available for uninsured adults. Vaccines are available at your local health care provider, public health department or pharmacy.

Exclusion Guidance

Since high-risk HPV is transmitted through intimate contact, exclusion from school, child care and work is not necessary. Exclusion is also not feasible, since people are sometimes infected with HPV for years.

For additional information about HPV, contact the North Dakota Department of Health and Human Services' Public Health Division at 800.427.2180.

Resources:

1. Centers for Disease Control and Prevention. (2023, February 10). *CDC HPV Infection*. Centers for Disease Control and Prevention. Retrieved June 29, 2023, from <https://www.cdc.gov/hpv/parents/about-hpv.html>.
2. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases; Human Papillomavirus] [pages 440-446].