

UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

Human Papillomavirus (HPV) & Cancer

WHAT IS HPV?

Human Papillomavirus (HPV) is the name of a family of viruses consisting of over 200 different strains. More than 40 HPV types are known to infect the genital area. These genital HPV strains have been divided into groups based on their risk for causing cancer:

- ❖ **Low-risk HPV types** are known to cause genital warts and very rarely lead to cancer. For more information, please refer to our handout [“HPV & Genital Warts”](#).
- ❖ **High-risk HPV types** can cause cervical cancer and other less common cancers.
 - Cervical cancer: The cervix is the bottom part of the uterus that opens into the vagina. Cervical cancer was once the leading cause of cancer deaths among women in the US. However, HPV vaccination and Pap smears have now made it one of the most preventable cancers.
 - Other cancers: High-risk HPV can also cause cancers of the vulva, vagina, anus, penis, and oropharynx (the back of the throat).

HOW COMMON IS HPV?

Genital HPV (both low- and high-risk types) is the most common sexually transmitted infection (STI) in the US and around the world. It has been estimated that at least 75% of sexually active adults in the US have been infected with genital HPV at some time.

- In most cases (9 out of 10), genital HPV infections will resolve on their own within 2 years without causing problems. However, when infection persists, genital warts, precancer, or cancer can develop.
- In the US, HPV causes about 37,000 cases of cancer every year.
 - Cervical cancer is the most common HPV-associated cancer among women.
 - Oropharyngeal cancers (cancers of the back of the throat) from HPV are most common among men.
 - Those at higher risk for developing anal cancer from HPV include men who receive anal sex and patients with HIV.

HOW IS HPV TRANSMITTED?

Genital HPV is passed by direct skin-to-skin contact with an infected person, most often during vaginal or anal sex. It can also be passed through oral sex and any other contact involving the infected genital area (genital-to-genital, hand-to-genital, etc.).

Most people with HPV do not realize that they are infected and that they can pass the virus on to others.

HOW DOES HPV CAUSE CANCER?

High-risk HPV infections can turn normal cells into abnormal cells. Most of the time, the body fights off the infection naturally, and affected cells return to normal. When a high-risk HPV infection lingers over years (or sometimes decades), it can transform abnormal cells into precancer then eventually cancer.

- High-risk HPV infections of the cervix become long-lasting in about 10% of cases, putting patients at risk for cervical cancer. Co-factors that increase the risk of developing cervical cancer include tobacco use and immunosuppression (eg. from HIV, using medications that suppress the immune system, etc.).
- Similarly, high-risk HPV types can infect cells of the vulva, vagina, penis, anus, and oropharynx, increasing the risk of cancer at these sites.

WHAT ARE THE SYMPTOMS OF HPV?

- ❖ **High-risk HPV infections** do not cause symptoms for many years. When the cervix is infected:
 - It takes an average of 15 years for invasive cervical cancer to develop, although more rapid courses have been reported.
 - Cervical cancer usually does not cause symptoms until late in the disease process. The most common symptoms include irregular or heavy vaginal bleeding or bleeding after sex. Other symptoms may include abnormal vaginal discharge, pelvic pain, and pain during sex.
- ❖ **Low-risk HPV infections** can also be asymptomatic. Infections that are not cleared by the body lead to the development of genital warts.

HOW IS HPV DIAGNOSED?

There is no test to find out a person's "HPV status". Because high-risk HPV infections do not cause symptoms until later stages, screening tests are used to detect abnormal changes in cells.

- ❖ **Pap Smears** (Refer to our handout "[Your Pap Smear: What You Need to Know](#)" for more info.)
 - What is a Pap smear? A Pap smear is a test that screens for cervical cancer. During a Pap smear, a brush is used to sample cells from the cervix.
 - The sample is sent to a lab to be examined for any abnormal changes caused by HPV.
 - When indicated, the cells can also be tested for the presence of high-risk HPV DNA .
 - How often are Pap smears needed? The first Pap smear should be performed in anyone with a cervix at age 21, regardless of gender identity or sexual orientation.
 - If results are normal, testing is repeated every 3 or 5 years, depending on the person's age.
 - Abnormal results require more frequent Pap smears and follow-up.
 - How is an abnormal Pap smear treated? Depending on the severity of abnormal findings on a Pap smear and the patient's age, treatment may consist of continued observation or referral to a gynecologist for colposcopy. A colposcopy helps to further identify abnormal cervical tissue that can be biopsied and removed. Close follow-up after treatment is very important. Precancerous changes are 100% curable if found early and treated!
- ❖ **Anal Pap Smears**
 - Many experts recommend screening for anal cancer in high-risk populations with anal Pap smears. Examples of high-risk groups include those with HIV, men who have sex with men, and patients with a history of cervical, vaginal, or vulvar cancer.
 - Research is ongoing in this area, and guidelines for the timing and frequency of anal Pap smears have not yet been established. Some experts recommend screening annually at age 25 in those with HIV and every 2-3 years at age 40 in immunocompetent high-risk individuals.

CAN HPV BE PREVENTED?

Yes! There are several ways to decrease your chances of getting HPV if you are sexually active:

- Choose to be monogamous, and use latex barriers (eg. condoms, dental dams, finger cots) every time you have sex. Even though condoms cannot cover all areas of skin that may harbor HPV (eg. the scrotum, outer labia), consistent condom use is known to lower the risk of HPV and related diseases. Condoms also help protect the cervix & promote HPV clearance.
- Get vaccinated against HPV. Gardasil 9 is a safe and effective vaccine that protects against 9 HPV strains that cause the majority of cervical cancers and genital warts. Studies also show that it reduces the risk of anal cancer, penile HPV infection, and oral HPV infection.
 - The vaccine is given in 3 doses over 6 months. Student Health can help eligible students receive free or discounted vaccines.
 - Gardasil 9 is routinely recommended for people ages 9-26. However, vaccination may be considered in people ages 27-45 depending on their risk factors.
 - The vaccine is most effective among individuals who have not yet been infected with HPV (ie. prior to becoming sexually active). However, it can still protect those already infected with HPV from other HPV types that they have not been exposed to yet.
 - The vaccine does not treat or cure existing HPV infections.

RECOMMENDED RESOURCES: www.ashasexualhealth.org, www.cdc.gov/hpv, www.niaid.nih.gov