

Basics About HPV-Related Cancer

Vaccination can greatly reduce the risk of cervical, anal, oral and other types of cancer.

December 9, 2024 By [Liz Highleyman](#)

Human papillomavirus (HPV), the most common viral sexually transmitted infection, can cause several types of cancer. Most people acquire one or more HPV variants soon after they become sexually active, but an effective vaccine can prevent HPV infection and its complications.

There are more than 200 types of HPV, most of which do not cause symptoms. But high-risk, or oncogenic, types, including 16 and 18, can cause cervical, anal, vaginal, penile and some mouth and throat (oropharyngeal) cancers.

HPV lives in epithelial cells on the surface of the skin and mucous membranes. The virus can trigger abnormal cell growth, progressing from dysplasia to precancerous cell changes (squamous intraepithelial lesions or intraepithelial neoplasia) to invasive cancer.

Cervical cancer is a leading cause of cancer death for women worldwide, but incidence has fallen dramatically in the United States and other countries that have introduced routine screening ([click here](#) for cervical cancer resources).

The U.S. Preventive Services Task Force recommends cervical cancer screening starting at age 21. There are no anal cancer screening guidelines for the general population, but it is recommended for those at higher risk, including gay men and people living with HIV. Oral cancer screening involves a visual examination of the mouth, usually done by a dentist.

Cytology tests—better known as Pap smears—are the traditional method of cervical cancer screening. A doctor or nurse uses a small brush to collect a sample of cells from the cervix (the opening of the uterus) to examine under a microscope. A similar test can be done for anal cancer. Tests for high-risk HPV may be done along with or instead of Pap screening.

Using condoms can reduce HPV transmission, but they provide only limited protection, and HPV

can also spread via nonsexual skin-to-skin contact, so vaccination is the best prevention. The Gardasil 9 vaccine protects against seven types of cancer-causing HPV (16, 18, 31, 33, 45, 52, 58) and two types that cause genital warts (6 and 11).

The Centers for Disease Control and Prevention recommends Gardasil 9 for girls and boys ages 9 to 12, with catch-up vaccination through age 26. However, the Food and Drug Administration has approved the vaccine for people up to age 45, and some older individuals may still benefit—for example, someone who resumes dating after a long-term relationship.

There is currently no specific antiviral therapy for HPV infection, so treatment focuses on managing abnormal cell growth.

If dysplasia is found, the next steps may include colposcopy or anoscopy (examination of the cervix or anus using a lighted magnifying instrument), imaging scans or biopsies. In some cases, areas of abnormal cells can be removed to prevent progression to invasive cancer.

If neoplasia has progressed, treatment for cervical, anal, genital and oral cancers may involve radiation, chemotherapy, targeted therapy medications or immunotherapy. Ask your doctor whether you might be eligible for clinical trials of new treatments.

People with sexually transmitted infections often experience shame or stigma, which can discourage seeking care. But regular HPV screening and prompt treatment of dysplasia can prevent progression to cancer that is harder to treat.