

## STD/STI INFORMATIONAL FACT SHEET

**HUMAN PAPILLOMAVIRUS** (HPV) (**hyoo-muhn pap-uh-loh-muh vahy-ruhs**)

### ***What is genital HPV?***

Human papillomavirus (HPV) is the name of a group of viruses that cause skin infections. Of more than 70 different types of HPV, about 40 infect the genital areas of men and women. Some types of HPV cause warts on the hands or feet, while other types can cause warts on the genitals (cervix, vagina, vulva, penis, scrotum, urethra, and anus). Genital warts generally are single or multiple growths that sometimes appear as a cauliflower floret. Although some types of genital HPV may cause genital warts, other types are linked to abnormal cell changes on the cervix. Some of these strands can lead to cervical cancer or other cancers. The genital HPV types do not spread outside the genital area. Many HPV symptoms will clear without any treatment. Therefore, many people with HPV do not show symptoms and they do not know they have the disease. Individuals with genital warts are considered having low-risk types of HPV, while the HPV causing cell changes that can lead to cervical and other cancers are considered high-risk types. These high-risk types do not have visible symptoms.

### ***How common is genital HPV?***

HPV is a very common and complicated virus, especially among the teen and early adult age groups. After several months of infection, the HPV will “go away” (or hide) within the body. This makes it difficult to diagnose new cases, know when the infection occurred, or who transmitted the virus to infect persons. Some sources say at least 50 percent of sexually active people will be infected with HPV at some time in their lives. Other sources indicate that three out of four people will be infected. In the U.S., about 6.2 million people get the virus annually; this is about one-third of all new STD infections. At any given time, about 20 million people have HPV. Of this number, about one million will have visible genital warts. Of all the HPV infections, a small number of infected women develop cell changes that need treatment. Within a given year, more than 9,700 women in the U.S. will be diagnosed with cervical cancer and about 3,700 will die from it. The American Cancer Society estimates that about 1,750 cases of anal cancer caused by HPV will occur in men and that penile cancer will account for approximately 0.2 percent of all cancers in males.

### ***How is genital HPV transmitted?***

HPV is spread through genital, skin-to-skin contact with an infected person rather than through an exchange of body fluids, as some STDs are transmitted. The skin-to-skin contact may include sexual play such as, body rubbing and intercourse, including vaginal, anal, and oral. In a person infected with the HPV types causing genital warts, the warts may grow more rapidly when a person’s immune system is

weakened by chemotherapy, diabetes, HIV, Hodgkin's disease; when they smoke; or even during pregnancy. However, if a pregnant woman is HPV infected, the disease is rarely transmitted from mother to child during childbirth. Since most infected persons have no signs or symptoms for HPV, infected individuals can unknowingly transmit the virus to a sexual partner. Even condoms do not offer complete protection from the virus.

### ***What are the signs and symptoms of genital HPV?***

The virus causing HPV lives in the skin or mucous membranes and generally causes no signs or symptoms of disease. Therefore, most infected people do not know they have HPV. People who do show symptoms may experience soft, cauliflower-like warts in the genital areas such as, the cervix, vagina, vulva, anus, penis, scrotum, groin, or rarely the thigh. These warts may be whitish or flesh colored and can be raised or flat, small or large, and occur as a single bump or in multiple clusters. Though genital warts generally are painless, they may itch. After contact with an infected person, the sexual partner may get genital warts within weeks or months after infection (or none at all). Warts may disappear within eight to 13 months if left untreated. However, the virus lingers in the body and warts can reappear.

Infected persons may have high-risk types of HPV that do not cause any symptoms and most individuals feel healthy even when there are cell changes in the cervix during early stages of cervical cancer. When cervical cancer has progressed, the infected person may experience lower abdominal pain, increased discharge, or vaginal bleeding, particularly during intercourse. Although most women with these symptoms do not have cervical cancer, it is prudent to consult a health care provider if these symptoms exist. Although HPV may causes cell changes in the male genital areas, the changes rarely result in anal or genital cancers.

### ***What are complications of genital HPV?***

Complications related to genital HPV exist because most infected persons are asymptomatic and still can transmit the virus to others. Since most people are asymptomatic, it is impossible to determine exactly when a person became infected, how long the infection has been in the body, or even who may have transmitted the infection to the individual. Other complications exist because genital warts may go away on their own and reoccur years later.

Although most HPV infections go away by themselves and do not cause cancer, there are about 10 strands or types of HPV that can lead to cervical cancer, while the infected person feels fine and healthy. Women who have suppressed immune systems or who smoke cigarettes are at higher risk of cervical cancer.

A further complication arises when people have multiple sexual partners. With more partners, there is increased likelihood that an individual will have several strands of HPV. Being immune to one type of HPV may not protect individuals from other types.

On a positive note, if partners are sexually intimate only with each other, they are not likely to pass the HPV back and forth. When HPV infection goes away the immune system will remember the specific HPV strands and will keep new infections of the same HPV types from recurring.

### ***How does HPV affect a pregnant woman and her baby?***

Some pregnant women may experience an abnormal development of cells in the cervix due to hormonal changes rather than HPV infection. If there are abnormal cell changes, the health care provider will examine the cervix, do a Pap smear, or a biopsy a few weeks after the baby's delivery. If the cell changes clear up, no treatment is necessary. If there are signs and symptoms of HPV during pregnancy, health care providers still are not likely to offer treatment for the infection. The types of HPV that can cause cell changes on the genital area and the cervix are not likely to cause problems for the baby, and any treatment for HPV may inadvertently cause early labor.

If a pregnant woman has genital warts, the health care provider will determine whether or not to remove them prior to delivery. Though rare, if there is a chance the warts may bleed or block the birth canal during delivery, a cesarean section may be required to avoid infecting the newborn. The few babies infected with HPV may experience serious breathing problems or developmental disabilities.

### ***How is genital HPV diagnosed?***

Genital warts generally develop three to six months after infection. For a check of genital warts in men, there is only a typical clinical screening with a visual inspection or biopsy (if the bump is unusual looking or discolored). Although anal cancer is uncommon, a person who participates in receptive anal sex should ask a health care provider about an anal Pap test.

For women, as with men, genital warts are diagnosed through visual examinations and perhaps a biopsy. A Pap test is used to screen for cervical cancer that may be caused by HPV. If there is an abnormal Pap result, the health care provider may use another test to detect HPV DNA in women. Results of this test can help decide if further tests or treatment are necessary.

### ***What is the treatment for HPV?***

As with any virus, there is currently no cure for HPV itself. However, procedures exist to treat diseases HPV can cause, such as genital warts or cervical cell changes. In June 2006, the Advisory Committee on Immunization Practices (ACIP) recommended use of the first vaccine to prevent cervical cancer and other diseases caused by certain types of HPV in women. The vaccine, Gardasil®, protects against four types of HPV (those cause 70 percent of cervical cancers and 90 percent of genital warts). If there are visible signs or symptoms for genital warts, no one treatment is best for all cases. An infected person with genital warts has choices.

She or he can go without treatment to see if the warts disappear over time, can use certain applied medications (podofilox cream/gel, imiquimod cream, podophyllin, trichloroacetic acid, biochloroacetic acid), or the health care provider can use specific treatments to remove the warts (freezing, burning, or laser surgery). For women infected with HPV, if there are confirmed cancerous cells on the cervix, a gynecological oncologist should be consulted for an appropriate assessment of health care needs.

### ***How can genital HPV be prevented?***

As stated above, there is a vaccine for females shown to be effective in protecting against four of the nearly 40 types of genital HPV. Virginia is the first state in the U.S. to require use of HPV vaccinations. Effective October 1, 2008, the law requires females to receive three properly spaced doses of HPV vaccine. The first dose is to be administered before the child enters the sixth grade. After reviewing materials describing the link between the HPV and cervical cancer, a parent or guardian may choose that the daughter not receive the vaccine. If not vaccinated, the best way to prevent HPV is to avoid genital contact with an infected individual. For those who are sexually active, it is difficult to know if a partner who has been sexually active in the past is currently infected. Considering this, it is important to keep the number of sexual partners at a minimum, preferably to one person.

If a person currently has visible warts or has abnormal cell changes, she or he should refrain from sexual activity until the genital areas have been treated or have self-resolved. For both males and females, HPV infection can occur in genital areas that are not covered or protected. Condoms can reduce the risk of HPV infection if they are used consistently and correctly each time there is sexual activity. However, they are not as effective in preventing HPV as they are in preventing other STDs, such as Chlamydia, gonorrhea, HIV, and trichomoniasis (because HPV can be present in skin that is outside the area protected or covered by a condom). Spermicidal creams, foams, or jellies (or condoms with spermicide) are not recommended for routine use. These have not proven effective in preventing HPV. These solutions also may cause small abrasions that actually make it easier to contract HPV.

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For information about specific STDs/STIs, below are sources to use:

**Alan Guttmacher Institute  
(AGI)**

120 Wall Street, 21st Floor  
New York, NY 10005  
Phone: 212/248-1111  
Fax: 212/248-1951  
<http://www.agi-usa.org>

**American Social Health  
Association (ASHA)**

P. O. Box 13827  
Research Triangle Park, NC 27709-  
3827  
Phone: 800-783-9877  
<http://www.ashastd.org/>

**Centers for Disease Control and  
Prevention** – Sexually Transmitted  
Disease - STD information and  
referrals to STD Clinics

CDC-INFO  
Phone: 800-CDC-INFO (800-232-  
4636); TTY: 888-232-6348 In English,  
en Espanol  
<http://www.cdc.gov/std/default.htm>

**CDC National Prevention  
Information Network (NPIN)**

P.O. Box 6003  
Rockville, MD 20849-6003  
Phone: 800-458-5231;  
Fax: 888-282-7681  
1-800-243-7012 TTY  
E-mail: [info@cdcnpin.org](mailto:info@cdcnpin.org)

**The Henry J. Kaiser Family  
Foundation**

2400 Sand Hill Road  
Menlo Park, CA 94025  
Phone: 650/854-9400  
Fax: 650/854-4800  
<http://www.kff.org>

**National Herpes Hotline (NHH)**

Open from 9 A.M. to 7 P.M., ET,  
Monday - Friday.  
Phone: 919/361-8488

**National HPV and Cervical  
Cancer Prevention Hotline**

Open from 2 P.M. to 7 P.M., ET,  
Monday - Friday.  
Phone: 919/361-4848

**Planned Parenthood Federation  
of America**

434 West 33rd St.  
New York, NY 10001  
212/541-7800  
FAX: 212/245-1845  
<http://www.plannedparenthood.org/>

**Sexuality Information and  
Education Council of the United  
States (SIECUS)**

130 West 42nd Street, Suite 350  
New York, New York 10036-7802  
Phone: 212/819-9770  
Fax: 212/819-9776  
<http://www.siecus.org>

**Virginia Department of Health**

109 Governor Street  
Richmond, VA 23219  
VIRGINIA STD/AIDS HOTLINE  
Phone: 800-533-4148  
<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/factsheets.htm>