

## Human Papillomavirus Vaccine

Infection with the human papillomavirus (HPV) is very common in both women and men. There are more than 100 types of this virus and some of these have been linked to genital warts and cancer of the cervix. There is a vaccine that prevents the two types of HPV that cause the most cases of cancer and the two types that cause most cases of genital warts. This pamphlet explains:

- What is HPV
- The link between HPV and cancer
- Who should get the vaccine and why

### About HPV

Human papillomavirus is an infection that can be passed from person to person through skin-to-skin contact. Some types of HPV are spread through sexual contact. Sexually transmitted HPV can be spread through vaginal, anal, or oral sex. Studies suggest that at least three out of every four people who are sexually active will get an HPV infection during their lifetime.

The HPV vaccine can help protect young women from getting infected with this STD.

More than 30 types of HPV can infect the genital areas of a woman or a man. Like many *sexually transmitted diseases (STDs)*, there often are no signs or symptoms of genital HPV. However, a few types of HPV cause warts. Warts that grow in the genital area are called condyloma acuminata. These growths may appear on the outside or inside of the *vagina* or on the *penis* and can spread to nearby skin. Genital warts also can grow around the anus, on the *vulva*, or on the *cervix*. Warts often can be treated and usually are not linked with cancer.

### The Pap Test

Most women should have their first Pap test within 3 years after they become sexually active or by age 21 years. They will need to be tested every year until they are 30 years of age. Women who are 30 years or older and have three or more normal test results in a row can be tested once every 2–3 years. Women older than 30 years may have an HPV test at the same time as a Pap test. If the results of both tests are normal, these women should not have another Pap test or HPV test for at least 3 years.

### HPV and Cancer Risk

Each year in the United States, cervical cancer is diagnosed in more than 11,000 women, and more than 3,000 women die from this cancer. Certain types of HPV cause cancer of the cervix. HPV also may be linked to cancer of the anus, vulva, vagina, and penis.

HPV causes cells on or around the cervix to become abnormal. In some cases, these cells may

progress to precancer (changes in the cells that may, but not always, become cancer) or cancer. Most of the time, however, abnormal cells go away without treatment. A *Pap test*, sometimes called cervical cytology screening, is the best way to detect cell changes that may be an early sign of precancer of the cervix.

### **The HPV Vaccine**

A new vaccine is available that protects against the four types of HPV that cause the most cases of cervical cancer and genital warts. The vaccine has been well-studied and appears to be safe and effective. It does not appear to cause any serious side effects.

The vaccine triggers a woman's immune system to fight off these types of HPV viruses if she is exposed to them. It is given in three doses over a 6-month period. The vaccine is the most effective if it is given before a woman is infected with HPV. Therefore, it is best for a woman to get the vaccine before she is sexually active.

Almost all women become sexually active at some point in their lives and, therefore, are at risk for HPV. The HPV vaccine is recommended routinely for all girls aged 11–12 years. However, it can be given to girls as young as 9 years. Girls and young women aged 13–26 years who have either not yet received the vaccine or have not completed all doses also should be vaccinated. The vaccine is not recommended for pregnant women but is safe for women who are breastfeeding.

Young women can have the vaccine even if they have already had sex, have had genital warts, have received abnormal results on a Pap test, and been infected with HPV. This is because the vaccine can protect women with one type of HPV from getting other types of HPV. However, the vaccine may be less effective in these cases. The vaccine is not a treatment for current HPV infection. There is no need to be tested for HPV before the vaccine is given.

### **Staying Healthy**

The vaccine does not protect against all types of HPV and will not prevent all cases of cervical cancer or genital warts. This means that women who are vaccinated should still have regular Pap tests.

Even if you get the vaccine, it is still important to protect against HPV and other sexually transmitted diseases. Limit your number of sexual partners. The more partners you have the greater your risk of infection. Use condoms to reduce your risk of infection when you have vaginal, anal, or oral sex. Condoms also help protect against other STDs and pregnancy.

## Finally...

The HPV vaccine can help protect young women from getting infected with this STD. It currently is recommended for girls and women between the ages of 9 and 26 years. This vaccine can greatly reduce the risk of cancer of the cervix and genital warts.

## Glossary

***Cervix:*** The lower, narrow end of the uterus, which protrudes into the vagina.

***Pap Test:*** A test in which cells are taken from the cervix and vagina and examined under a microscope.

***Penis:*** An external male sex organ.

***Sexually Transmitted Disease:*** A disease that is spread by sexual contact, for example chlamydial infection, gonorrhea, genital warts, herpes, syphilis, and infection with human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

***Vagina:*** A tube-like structure surrounded by muscles leading from the uterus to the outside of the body.

***Vulva:*** The lips of external female genital area.