

Title: Women's Health: HPV infection, Gardasil Vaccine, and Pap Smears

Author: Kevin Cavanaugh

Date: 2/3/09

Key words: HPV, Gardasil, and Pap smear

Abstract: The use of prophylactic quadrivalent HPV vaccine in women aged 24-45 is safe and effective against infection with HPV serotypes 6, 11, 16, and 18, and likely confers protection against cervical, vulvar, and vaginal intraepithelial neoplasia and external genital disease.

This document was created by a medical student enrolled in the Primary Care Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the

advice and recommendations of your personal health care provider. The information provided may no longer be up to date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.

WOMEN'S HEALTH: HPV AND YOU



WHAT IS HPV?

HPV stands for human papilloma virus. The virus is the most commonly diagnosed sexually transmitted infection in the United States. There are many types, or "strains", of HPV. Each type of HPV is related, but has its own unique viral fingerprint.

It is currently estimated that 80- 90% of sexually active adults will acquire one form of HPV in their lifetime. The virus is widespread because it is easily passed from one person to another after close physical sexual contact.

WHAT DOES HPV DO?

Infection with certain types of HPV causes cervical, vaginal, vulvar, and anal cancer. Cervical cancer is currently the second leading cause of death from cancer among women worldwide. Other types of HPV cause genital warts, also known as condyloma acuminatum. Infection with most "strains" of the HPV virus are silent and do not cause symptoms, such as warts. While most types of HPV go away on their own, it is important to get screened for HPV infection by your doctor.



WHAT CAN I DO TO PREVENT INFECTION WITH HPV?

The only way to absolutely protect against HPV infection is **abstinence** (not engaging in close physical sexual contact). In sexually active women the use of **condoms** decreases the risk of infection with HPV significantly.

A recently developed vaccine called **Gardasil** offers protection against two of the HPV types that cause more than 70% of cervical cancers and pre-cancers worldwide. It also offers protection against the two HPV types that cause more than 90% of genital warts.

Among women aged 9-26 who have not yet been infected with HPV the vaccine is 90% effective against the development of cervical cancer and pre-cancers. Women already infected with one of the HPV types included in the vaccine will not gain protection against that specific type, but will gain protection against the other types. Gardasil does not treat or clear existing HPV infection.

WOMEN'S HEALTH



WHERE IS THE CERVIX?

The cervix is located at the end end of the vagina and forms a connection with your uterus (where a baby grows when a woman is pregnant) is located.

WHO CAN GET GARDASIL?

Vaccination with Gardasil has been proven both safe and effective in women aged 9-26. A recent study published in October of 2009 showed that Gardasil is both safe and effective in women aged 24-45. To see if Gardasil is right for you, ask your doctor at your next appointment.

WHAT SHOULD I KNOW ABOUT GARDASIL?

The Gardasil vaccine is given in three doses, at 0, 2 months, and six months. Gardasil is not currently given to pregnant women, women with HIV, or women with chronic medical diseases. Gardasil does not offer protection against all strains of HPV that cause cervical cancer, so you will still need to have regular Pap tests performed by your doctor or health professional.

ARE THERE SIDE EFFECTS?

The most common side effect of the vaccine is mild injection site irritation. Ask your doctor about the possibility of other more rare side effects such as fainting and blood clots.



Quick Facts:

HPV is a sexually transmitted virus that causes cervical cancer.

A new vaccine called Gardasil protects against the two most common types of HPV known to cause cervical cancer.

The Pap test is a simple test to look for changes that could lead to cancer.

All women 21 or older should get a Pap test. Although you may feel healthy, abnormal changes caused HPV infection usually cause no symptoms.

Most women should get a Pap every 1-3 years. Ask your doctor how often you should get a Pap.

If your Pap results are abnormal it does not mean you have cancer. Your health professional may want to do more testing.



Women's Health: Pap Smear Screening and You

WHAT ELSE CAN I DO TO PROTECT AGAINST CERVICAL CANCER?

The **Pap smear** is a test developed to help screen women for the development of cervical cancer. The test can find changes caused by HPV before cancer develops. Since the development and widespread use of this test the rates of cervical cancer have decreased almost 70%.

HOW IS A PAP SMEAR DONE?

The test involves your doctor or health professional placing a device called a speculum in your vagina in order to get a better view of your cervix. He or she then collects a small amount of cells with a brush. The test is simple and painless.

These cells are then looked at under a microscope by a doctor who specializes in tissue (a pathologist). He or she will look for changes that occur with HPV infection and cervical pre-cancer and cancer.

WHAT IF MY RESULTS ARE ABNORMAL?

Abnormal results do not mean that you have cancer. The early changes caused to cells by HPV are easily treatable.

If changes are detected in your cells your doctor may test these cells to see what type, or "strain", of HPV infection you have.

Depending on the results of your Pap smear your health professional may also want to take a small sample of tissue, called a biopsy, to better understand the extent of the abnormal results.

HOW OFTEN DO I NEED TO GET TESTED?

Women should get their first Pap smear within three years of becoming sexually active or by age 21, whichever comes first. How often you are

tested after this depends on the results of your tests, usually every 1-3 years. Regular Pap tests are important to detect and treat abnormal cell changes before they develop into cancer.

RESOURCES:

Call **1-800-4-CANCER** to find out where you can get a low cost Pap test in your community

WEB:

Visit the national cancer institute's website at www.cancer.gov/cancertopics/screening/cervical to find out more information about cervical cancer screening. To find this information in Spanish go to www.cancer.gov/espanol.

For more information about Gardasil visit www.gardasil.com and www.kaiserEDU.org

Other useful websites include: www.womenhealth.gov, mayoclinic.com, and <http://medlineplus.gov/>.

