

# **The Human Papillomavirus**

## **A Common But Unknown Problem**

### **Background Information**

- “The human papillomavirus is of a group of viruses that includes more than 100 different strains or types” (CDC).
- “They are called papillomaviruses because certain types may cause warts, or papillomas, which are benign (noncancerous) tumors” (National Cancer Institute).
- “Over 30 of these viruses are sexually transmitted and cause infections in the genital areas of both men and women” (CDC).
- “A genital HPV infection is a sexually transmitted disease (STD) that is caused by the human papillomavirus” (CDC).
- On average about “20 million people are currently infected with HPV” (CDC).
- “About 6.2 million Americans get a new genital HPV infection each year” (CDC).
- Most cases of HPV do not have any symptoms and go away on their own without any problems. (CDC)
- Unfortunately, there are “high risk” types of HPV that only show up in an abnormal pap test (CDC)
- “These “high risk” types may lead to cancer in the cervix, vulva, vagina, anus, or penis” (CDC).
- The odd part about HPV is that almost every woman will have HPV infections at some point in their life, but very few will develop cervical cancer. (National Cancer Institute)

- “The immune system of most women will usually suppress or eliminate HPVs. Only HPV infections that are persistent can lead to cervical cancer” (National Cancer Institute).
- “There are also “low risk” types which may cause mild Pap test abnormalities or genital warts” (CDC).
- Genital warts are “single or multiple growths or bumps that appear in the genital area, and sometimes are cauliflower shaped” (CDC).
- Genital HPV is spread through “genital contact with an infected person” (CDC).
- Currently, Gardasil is the only vaccine that has been approved by the FDA to help prevent HPV
- “Gardasil is more effective if taken before a woman becomes sexually active but is still recommended even afterwards up to the age of 26” (CDC).
- The only sure way to prevent the spreading of HPV is to “avoid genital contact with another individual” (National Cancer Institute)

## **Statement of the Problem**

- The goal stated in *Healthy People 2010* is to “reduce the proportion of persons with human papillomavirus (HPV) infection. Reducing the number of new HPV cases can help to minimize the overall number of cases of high-risk subtypes associated with cervical cancer in females aged 15 to 44 years.”
- The problem with HPV is that many times there are no symptoms visible. This makes people unaware of the infection and when engaging in sexual contact they spread the infection to their partner.

- To help with HPV infection, CDC “supports activities to reduce the burden of cervical cancer that include screening, tracking, follow-up, case management, partnership and professional development, and public education and outreach.”

## **Epidemiologic Picture of the Problem**

- Approximately “20 million people are currently infected with HPV and on average about 6.2 million Americans get a new genital HPV infection each year” (CDC).
- “It is estimated that for every 1 million women infected, 10% will develop precancerous changes in their cervical tissues and then 8% of those will develop early cancer and roughly 1,600 will develop invasive cancer if not detected and treated” (Human Papillomavirus and Cervical Cancer).
- Studies show that “99.7% of cervical cancers are directly linked to previous infection with one or more types of HPV” (Human Papillomavirus and Cervical Cancer).
- “Gardasil has been proven to help prevent HPV but about 30 percent of cervical cancers and 10 percent of genital warts will not be prevented by these vaccines” (National Cancer Institution).
- The CDC states that the HPV vaccine is given through a series of three shots over a 6-month period. The second and third doses should be given 2 and 6 months (respectively) after the first dose.
- “About 30 percent of cervical cancers and 10 percent of genital warts will not be prevented by these vaccines so use other precautions” (National Cancer Institution).
- These vaccines are very important to get because “widespread vaccination has the potential to reduce cervical cancer deaths around the world by as much as two-thirds according to the National Cancer Institute.”

- The best part about getting the shot is that there are no side effects. The most common problem has been brief soreness at the site of injection and other local injection site symptoms commonly experienced with other vaccines.
- Unfortunately, testing is still being done to discover the longevity of the vaccine. According to the National Cancer Institute, “the current estimate is 4 years.”
- Everyone who is sexually active is affected by HPV. The only way to avoid the risk of catching HPV is to avoid sexual contact with other individuals.

## **Solutions to the problem**

- The biggest problem with HPV is that it is a relatively unknown infection. Until recently, many people didn't even know that HPV existed. Now with the FDA approval of Gardasil, marketers have launched the “Oneless” campaign which helps promote Gardasil. This is making people more aware of the problem and ways they can protect themselves from it.
- The Center for Disease Control and Prevention states that a way to prevent cervical cancer and HPV is to have regular pap tests. “Regular Pap tests and follow-up can prevent most, but not all, cases of cervical cancer. Pap tests can detect cell changes in the cervix before they turn into cancer. Pap tests can also detect most, but not all, cervical cancers at an early, curable stage. Most women diagnosed with cervical cancer in the U.S. have either never had a Pap test, or have not had a Pap test in the last 5 years.”  
<http://www.cdc.gov/std/HPV/STDFact-HPV-vaccine.htm#hpvvac6>
- Another preventive measure that the CDC discusses is to “abstain from all sexual activity. Sexually active adults can reduce their risk by being in a mutually faithful relationship with someone who has had no other or few sex partners, or by limiting their

number of sex partners. But even persons with only one lifetime sex partner can get HPV, if their partner has had previous partners.” (<http://www.cdc.gov/std/HPV/STDFact-HPV-vaccine.htm#hpvvac6>)

- The National Cancer Institute states that “Gardasil is proven to be effective only if given before infection with HPVs, so it is recommended that it be given before an individual is sexually active. The FDA’s licensing decision includes information about the age and sex for recipients of the vaccine. The FDA approved Gardasil for use in females 9 to 26 years of age.” It is highly recommended that all women within these requirements get the vaccination. (<http://www.cancer.gov/cancertopics/factsheet/risk/HPV-vaccine>)

## **Additional Internet Resources**

- U.S. Food and Drug Administration. (2006, June 8) *FDA Licenses New Vaccine for Prevention of Cervical Cancer and Other Diseases in Females Caused by Human Papillomavirus*. Retrieved November 23, 2006 from <http://bettyjung.net/201fs/bednarik.pdf>
- American Cancer Society. (2006, August 4) *What Are the Key Statistics About Cervical Cancer?* Retrieved November 25, 2006 from [http://www.cancer.org/docroot/CRI/content/CRI\\_2\\_4\\_1X\\_What\\_are\\_the\\_key\\_statistics\\_f\\_or\\_cervical\\_cancer\\_8.asp](http://www.cancer.org/docroot/CRI/content/CRI_2_4_1X_What_are_the_key_statistics_f_or_cervical_cancer_8.asp)
- Gardasil. (2007) *Gardasil*. Retrieved November 5 2007 from <http://www.gardasil.com/>

## **Bibliography**

- Centers for Disease Control and Prevention. *Genital HPV Infection Fact Sheet*. Retrieved November 2, 2007 from <http://www.cdc.gov/std/HPV/STDFact-HPV.htm>

- National Cancer Institute. (2006, July 18) *Human Papillomavirus Vaccines: Questions and Answers*. Retrieved November 5, 2007 from <http://www.cancer.gov/cancertopics/factsheet/risk/HPV-vaccine>
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## The Human Papillomavirus Vaccine Fact Sheet (Handout)

- ❖ The human papillomavirus (HPV) is a large family of viruses that infect the skin (Sexually Transmitted Diseases Program)
- ❖ HPV is the most prevalent sexually transmitted infection in the world.
- ❖ Approximately 20 million people are currently infected with HPV and on average about 6.2 million Americans get a new genital HPV infection each year (CDC).
- ❖ There are not always symptoms but some infections cause warts of the genital or anal areas and others cause cancer or pre-cancerous changes (Sexually Transmitted Diseases Program). Genital warts usually appear as soft, moist, pink, or flesh-colored swellings that are found in the genital area.
- ❖ Genital HPV is diagnosed through abnormal Pap smear results. A Pap test is the primary cancer-screening tool for cervical cancer or pre-cancerous changes in the cervix (CDC).
- ❖ Studies show that 99.7% of cervical cancers are directly linked to previous infection with one or more types of HPV (Human Papillomavirus and Cervical Cancer).
- ❖ Cervical cancer strikes nearly half a million women each year worldwide, claiming more than a quarter of a million lives (National Cancer Institution).
- ❖ It is estimated that for every 1 million women infected, 10% will develop precancerous changes in their cervical tissues and then 8% of those will develop early cancer and roughly 1,600 will develop invasive cancer if not detected and treated (Human Papillomavirus and Cervical Cancer).
- ❖ Gardasil is the only vaccine that has been FDA approved to prevent HPV
- ❖ The CDC states that the HPV vaccine is given through a series of three shots over a 6-month period. The second and third doses should be given 2 and 6 months (respectively) after the first dose.
- ❖ Gardasil has been proven to help prevent HPV but about 30 percent of cervical cancers and 10 percent of genital warts will not be prevented by these vaccines (National Cancer Institution).
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- ❖ About 30 percent of cervical cancers and 10 percent of genital warts will not be prevented by these vaccines so use other precautions (National Cancer Institution).
- ❖ CDC - <http://www.cdc.gov/std/HPV/STDFact-HPV.htm>