

# EPI CONNECTIONS

*A Bimonthly Newsletter of the Communicable Disease Division*

August 2006

## ***PH*ocus: Human Papillomavirus (HPV) and Cervical Cancer Prevention**

HPV infection is the most common sexually transmitted infection, with over half of sexually active women and men infected with HPV at some point in their lives. In the U.S. 20 million people are currently infected and over 6 million are newly infected each year. Up to 10 million of those infected with HPV are adolescents and young adults (15-24 years old).

More than 30 types of HPV infect mucosal surfaces and the anogenital epithelium, which includes the cervix, vagina, vulva, rectum, urethra, penis, and anus. In most women, HPV infections are asymptomatic; transient and mild cytologic abnormalities that result from infection spontaneously regress. Very rarely, perinatal transmission of HPV infections can result in respiratory tract warts in infants and children, a condition known as recurrent respiratory papillomatosis.

Genital HPV infection can lead to genital warts caused by specific types of HPV infection. About 1% of sexually active women and men in the U.S. have visible genital warts at any point in time. The types that cause genital warts are different than those that cause cervical and other anogenital cancers. The presence of genital warts is not an indication for HPV testing, a change in the frequency of Pap tests, or

cervical culposcopy. HPV testing is not indicated for partners of persons with genital warts.

Over 90% of women with HPV infection become HPV-negative within two years. The gradual development of an effective immune response is thought to be the likely mechanism for HPV DNA clearance; however, it is also possible that the virus remains in a non-detectable dormant state and then reactivates many years later.

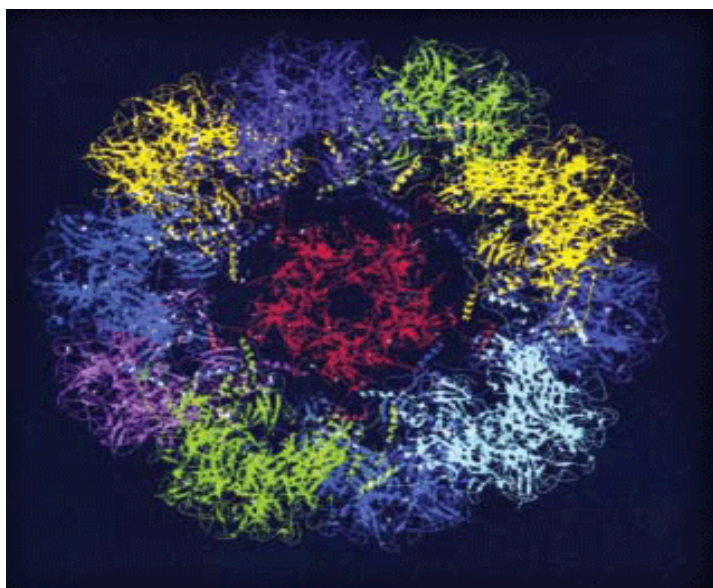
About 10% of women develop persistent HPV infection. Women with persistent infection caused by oncogenic types of HPV are at greatest risk for developing high-grade cervical cancer precursor lesions (cervical intra-epithelial neoplasia or CIN 2,3), cervical cancer, and less commonly, anogenital cancer.

Cervical cancer is one of the most common cancers in women worldwide. In the U.S., about 14,000 women are diagnosed, and 3,900 die each year from cervical cancer; the age-adjusted incidence rate was 8.7 per 100,000 women in 2002.

More than 82% of women in the U.S. have been screened for cervical cancer with a Pap test in the past three years; however, 11% of women report they do not have a regular Pap, and it is estimated that half of the women diagnosed with cervical cancer have never been screened. Cervical cancer disproportionately affects women of lower socioeconomic status, without regular access to health care, who are uninsured and recent immigrants.

On June 8, 2006, a quadrivalent HPV Merck vaccine "Gardasil" was licensed by the FDA for use in females aged 9-26 years. The vaccine is prophylactic and made from non-infectious HPV-like particles, composed of the L1 major capsid protein. The vaccine should be delivered through a series of 3 intramuscular injections over a 6-month period at 0, 2, and 6 months. There is no thimerosal or mercury contained in the vaccine.

The vaccine protects against four types of HPV, including 2 that cause 70% of cervical cancers (16 and 18) and 2 that cause 90% of genital warts (6 and 11). Clinical trials in over 11,000 females (16-26 years) have demonstrated 100% efficacy in preventing cervical precursor lesions caused by HPV 16 and 18. The vaccine has also been found to be almost 100% effective in preventing vulvar and vaginal precursor lesions and genital warts



Virus-like particles (VLPs) assembled from the L1 protein of Human Papillomavirus 16. Centers for Disease Control and Prevention

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## National HIV Testing Day

Initiated in 1995 by the National Association of People with AIDS, National HIV Testing Day serves to increase awareness of HIV/AIDS and to encourage all persons in the U.S. to get tested. The Centers for Disease Control (CDC) estimates that 180,000 – 280,000 people nationwide are HIV-positive but are unaware of their status. Research indicates that people who are aware of their *positive* HIV status receive antiretroviral treatment earlier (when more treatment options are available), and take steps to minimize their risk for transmitting the virus to others, helping to reduce overall incidence. Also, people who are aware of their *negative* HIV status may take steps to remain uninfected.

To support HIV Testing Day, Boulder County Public Health (BCPH) and the Boulder County AIDS Project (BCAP) collaborated on June 24<sup>th</sup> to provide free anonymous and confidential HIV testing and education to the general public visiting Pearl Street Mall in Boulder. Over 1,000 testing resource cards were distributed, and 92 individuals received counseling and testing for HIV. Of those who were tested, 89% chose anonymous testing, 51% were male, 85% were white, 9% were Hispanic, and 37% were between 20 – 29 years of age. While 59% had been previously tested for HIV, 36% had never been tested. Risk factors associated with tested individuals were 63% heterosexually active, 13% were men who had sex with men (MSM), 9% had sex with an injection drug user (IDU), 4% were IDU, 3% had sex with MSM, 2% gave money or drugs for sex, 1% were women who had sex with women, and 1% were sex workers.

Numerous resources for anonymous and confidential rapid HIV testing and education are available in Boulder County year-round:

<b>General Public (prices vary)</b>	
· BCPH	303-413-7500
(Also provides hepatitis B and C testing for high-risk individuals)	
· Beacon Clinic	303-938-3167
· Planned Parenthood	303-447-1040
<b>CU Boulder Students (free)</b>	
· Wardenburg Health Center	303-492-2030
<b>Teens (free)</b>	
· Women's Health	303-442-5160
<b>Outreach/MSM (free)</b>	
· BCAP	303-444-6121

Rapid testing results are available in 20 minutes with an oral HIV test, and 10 minutes with an HIV finger-stick blood test. Locations of additional HIV test sites by zip code are available via National HIV Testing Resources at <http://www.hivtest.org/index.htm>. For questions regarding HIV testing and education or the BCPH HIV/STI program, please call Kate Storm, HIV/STI Program Coordinator, at 303-413-7522.

## Epi-Eye

*A Look Outside Our Community and Around the World*

### Worldwide Burden of STIs

Globally, inadequate sexual and reproductive health services have resulted in rising numbers of STIs and maternal deaths, particularly in developing countries. The World Health Organization (WHO) estimates that 340 million new cases of sexually transmitted bacterial infections (such as chlamydia and gonorrhea) occur annually in people aged 15-49. Human papillomavirus (HPV) is diagnosed in more than 490,000 women and causes 240,000 deaths every year. As a result of sexually transmitted infections and poor sexual health, around 8 million women who become pregnant each year will suffer life-threatening complications, and 529,000 pregnant women will die during pregnancy and childbirth.

keep  
**Pertussis**  
out of the picture!

**Pertussis is one of the most significant communicable disease threats in Boulder County. A median of 61 cases is reported annually, with 177 cases documented in 2004. Learn what BCPH is doing to decrease the burden of pertussis (see insert).**

### HPV, Continued from page 1

caused by HPV 6 and 11. The vaccine has no therapeutic effect on HPV-related disease, and it does not protect from disease due to HPV types already acquired.

The Advisory Committee on Immunization Practices (ACIP) recommends the vaccine for 11-12 year old girls; it can be given to girls as young as 9 years old at the discretion of the vaccination provider. The vaccine is also recommended for 13-26 year-old girls and women who have not yet received or completed the vaccine series.

Sources: National Cervical Cancer Coalition, CDC; and "Sexually Transmitted Diseases Treatment Guidelines 2006". MMWR, August 4, 2006; Vol 55: RR-11.