

Vaccinating Girls for HPV

A New Horizon of Hope for Cancer Prevention



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Priscilla McElhose, ARNP, health care specialist at the University of Washington Hall Health Primary Care Center Women's Clinic, with her daughter Katherine, who had just received her third and final HPV vaccination.

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Every 14 days, a woman in this country dies of cervical cancer. Other cancers take more lives, but cervical cancer kills at a relatively young age (57 years versus 72 years for other cancers). As a result, the average woman dying of cervical cancer in the US loses more than 26 years of potential life. Among the major causes of mortality in the US, only violent deaths and HIV are associated with similarly high average numbers of years of life lost. Women with lower incomes and education are more likely than other women in the US to die from cervical cancer because they have less access to screening, diagnostic, and treatment services. Cervical cancer is even more of a burden in lower-income nations, where it is the number one or two cause of female cancer death.

HPV-cancer connection

Virtually all cases of cervical cancer are caused by human papillomavirus (HPV), a sexually transmitted viral infection that is frequently acquired in late adolescence or early adulthood. In fact, HPV is so common and communicable that many young women are infected with HPV by their first and only sex partner. Routine Pap testing has reduced the overall rate of invasive cervical cancer in this country by 75 percent during the last 40 years, but the rate of cervical adenocarcinoma, which typically occurs in an area of the cervix that is more difficult to sample for Pap testing, has risen. Furthermore, every year thousands of primarily reproductive-aged women require colposcopy, biopsy, and treatment procedures for a precancerous cervical lesion. Treatment is usually effective, but more frequent Pap testing is recommended for years afterwards, and treated women are at increased risk for cervical stenosis and for premature rupture of membranes and preterm labor during pregnancy. The same HPV types that cause cervical cancer, also cause

vaginal and vulvar cancer in women, penile cancer in men, and anal and oral cancer in both men and women. Other types of HPV cause genital warts and recurrent respiratory papillomatosis (RRP), which are not lethal conditions, but are difficult to clear and sometimes cause more serious secondary consequences. In rare instances, genital warts can cause locally invasive tumors and obstruction of the birth canal, and RRP, which usually requires repeated treatments, can cause life-long vocal pattern changes.

The new vaccine

A new vaccine prevents infection with four clinically important types of HPV: two types that cause 70 percent of cervical cancers (HPV-16 and HPV-18) and two that cause 90 percent of genital warts and cases of recurrent respiratory papillomatosis (HPV-6 and HPV-11). Because this vaccine does not prevent infection with all cancer-causing HPV types and will not clear existing infections, recommendations for Pap screening will remain the same. However, as vaccination becomes more widespread, fewer women will develop Pap test abnormalities that require diagnostic and treatment procedures for precancerous cervical lesions and invasive cancer. Whether boys and young men will benefit from vaccination is not yet known, although it is possible that vaccinating them could have indirect health benefits for women and girls. Results of studies of male adolescents and young men are expected by early 2008.

As with other commonly used vaccines, such as polio, measles, and hepatitis B, the HPV vaccine is preventative, not therapeutic. For this reason, vaccination will offer the most protection if administered before sexual debut or shortly thereafter. According to data from the 2002 National Survey of Family Growth, 40 percent of 16-year-old and 70 percent of 18-year-old

