

Results of Pap Smears and Human Papillomavirus Tests during Cervical Cancer Screening

Summaries for Patients are a service provided by *Annals* to help patients better understand the complicated and often mystifying language of modern medicine.

The full report is titled “Human Papillomavirus Infection and Cervical Cytology in Women Screened for Cervical Cancer in the United States, 2003–2005.” It is in the 1 April issue of *Annals of Internal Medicine* (volume 148, pages 493–500). The authors are S.D. Datta, L.A. Koutsky, S. Ratelle, E.R. Unger, J. Shlay, T. McClain, B. Weaver, P. Kerndt, J. Zenilman, M. Hagensee, C.J. Suhr, and H. Weinstock.

What is the problem and what is known about it so far?

Cervical cancer is cancer of the cervix (the lower part of the uterus or womb). Infection with human papillomavirus (HPV) increases a woman’s chances of getting cervical cancer. People get the virus from having unprotected sexual intercourse with a person infected with HPV.

Papanicolaou (Pap) smears are used to screen for cervical cancer. “Screening for cancer” means looking for cancer before a person has symptoms. To perform a Pap smear, doctors use a swab during an internal examination of the vagina to take a sample of cells from the cervix to look at under a microscope. If abnormal cells are found, the woman is sent for a special test called *colposcopy*. Colposcopy lets doctors look at the cervix with magnification and take larger samples of abnormal areas to look for cancer.

Having a Pap smear every 1 to 3 years prevents cervical cancer by finding it at early, treatable stages. It is also possible to test for HPV, but we do not yet know the best way to combine HPV and Pap tests in cervical cancer screening. Some doctors test women for HPV only if the Pap smear shows abnormal cells that are not clearly cancerous. Other programs use both tests together for all women over age 30 years. More information about the frequency of positive HPV test results in women during cervical cancer screening would help us to learn the pros and cons of different screening strategies.

Why did the researchers do this particular study?

To learn about the frequency of HPV infection in women being screened for cervical cancer.

Who was studied?

9657 women 14 to 65 years of age who had cervical cancer screening in 1 of 26 clinics in 6 U.S. cities from 2003 to 2005.

How was the study done?

All women had both Pap smears and HPV tests. The researchers then looked at how often HPV tests were positive in women with different Pap test results. They also considered other patient factors, such as age.

What did the researchers find?

Twenty-three percent of the women tested positive for HPV. Younger women were more likely than older women to be positive for HPV. Over half of women younger than 30 years with abnormal cells on their Pap smear that were not clearly cancerous had HPV infection. About 9% of women 30 years and older had HPV infection despite having normal Pap smears.

What were the limitations of the study?

The women in the study may be different from women seen in other types of clinics or in clinics in other places.

What are the implications of the study?

This information will help people to consider the pros and cons of different screening strategies. For example, if the screening strategy is to recommend colposcopy for any woman age 30 years or older with a positive HPV test, even if their Pap test is normal, then the screening program should expect that many women will need colposcopy.

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