



Spring 2008

Lowering the Statistics

Advances in Cervical Cancer Screening

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Although cervical cancer is usually curable if detected early, it remains a devastating disease that claims the lives of thousands of women a year. According to the American Cancer Society, more than 11,000 women in the U.S. will develop cervical cancer this year, and more than 3,500 will die of the disease.

New developments in cervical cancer screening and detection of cervical infectious disease have emerged in the past decade, providing physicians and other health care providers with multiple options in screening for cervical carcinoma and managing cervical disease. New technologies have improved Pap testing, human papillomavirus (HPV) DNA detection, and chlamydia and gonorrhea testing. A vaccine preventing certain types of HPV, a common sexually transmitted virus that causes cervical cancer, has also been developed with the potential to reduce the incidence of the disease.

Today in the U.S., more than 50 million women receive an annual Pap test to screen for cervical cancer. Great strides have been made in cervical cancer screening over the past century, beginning with the development of the "Pap smear" test by Dr. George Papanicolaou in the 1920s. The Pap smear, which was widely adopted in the 1940s, was a procedure in which sample cells from the cervix were collected and smeared onto a glass slide for careful review in order to detect cancerous and pre-cancerous cells. While the Pap smear reduced mortality from cervical cancer in the U.S. by approximately 70 percent, it was found to have limitations – not the least of which was a 20-40 percent "false negative" rate, meaning a sample is interpreted as normal when, in fact, pre-cancerous or cancerous cells exist.

The advent of liquid-based cytology in the mid-1990s revolutionized the conventional Pap smear. Sonora Quest Laboratories, a subsidiary of Laboratory Sciences of Arizona, utilizes the ThinPrep Pap Test which was the first liquid-based Pap test to receive Federal Drug

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Administration (FDA) approval in 1996 and was labeled as "significantly more effective" than the conventional Pap smear in detecting precancerous lesions, thereby increasing the opportunity to detect and treat these types of cervical abnormalities earlier. With the conventional Pap smear, a preparation error can occur when abnormal cells on the collection device do not make it to the slide for diagnostic review. When a clinician prepares a conventional Pap smear slide, he or she literally smears the sample onto a slide and discards the collection device. Studies have found that more than 80 percent of the sample can be discarded with the device.

However, with a liquid-based test, such as the ThinPrep Pap Test, a fluid transport medium is used to prepare a slide that is clear, easy-to-read and free of obscuring blood, mucus and non-diagnostic debris. Testing for HPV, chlamydia and gonorrhea can also be done out of the same sample, saving patients time, repeat office visits and unnecessary worry. The ThinPrep Pap Test was approved by the FDA in 2005 for the improved detection of glandular disease. Glandular disease, or cervical adenocarcinoma, is on the rise in the U.S., particularly among women under 35, accounting for about 20-30 percent of all cases of cervical cancer.

In a continued effort to improve and expedite the review of Pap test slides, the FDA cleared the ThinPrep Imaging System in 2003 to make it easier for cervical cancer lesions and other abnormalities to be detected. The ThinPrep Imaging System is an interactive computer



system that assists cytotechnologists and pathologists in the primary screening and diagnosis of ThinPrep Pap Test slides and helps reduce the approximately one third of false negative Pap results that are due to abnormal cells being missed or misclassified during screening.

Sonora Quest Laboratories was the first laboratory in Arizona to implement the ThinPrep Imaging System, which they did in late 2004. Clinical studies show that the use of this automated technology provides a more accurate diagnosis and achieves a higher level of certainty in cervical screening. With the implementation of this improved technology, women screened through Sonora Quest Laboratories can take advantage of the best cervical cancer screening available and ensure they are doing what they can to protect themselves from this disease.

HPV, a sexually transmitted disease, is the causative agent in most cases of cervical cancer. It is important to recognize that only a minority of women who become infected with HPV will go on to develop cancer or a precancerous lesion; the majority (approximately 90%) will clear the infection with no long-term consequences. In

June 2006, the FDA approved the first vaccine to protect against HPV. While this advance in women's health is exciting, it is important to understand that the vaccine won't replace or eliminate a woman's annual Pap test for two main reasons.

First, there are many types of HPV. While the vaccine guards against four types, two of which are responsible for about 70 percent of all cervical cancers, the remaining 30 percent will not be prevented by the vaccine. Second, the duration of protection provided by the vaccine is not yet known. Thus, the Pap test will remain an important component in a woman's effort to protect herself against cervical cancer.

The Pap test is the only way to detect whether cervical cancer or a precancerous lesion is present. All women should continue to visit their physician for their annual exam, receive regular Pap tests and educate themselves to ensure they are receiving the most effective test available. ■

For more information about advances in cervical cancer screening, please visit www.sonoraquest.com or www.thinprep.com