



ASK DR. BOB

Pap Smears

Underwriters often come to me about the results of pap smears, saying they are confused by the findings and what they all mean. I have empathy for their confusion because much of it has to do with the changes on several occasions regarding the terminology involved in pap smears. In addition, the finding that the virus referred to as the human papilloma virus (HPV) is intimately involved in the development of cancer also lends a new wrinkle to the meaning of abnormal pap smears.

Cervical cancer does not get the attention that breast and ovarian cancer get, even though worldwide almost half a million new cases of cervical cancer will occur this year, along with 250,000 deaths. However, at least 80 percent of those new cases and deaths will occur in third world countries, with less developed healthcare systems.

In a country like the U.S., the development of invasive cervical cancer and death is quite uncommon. In fact, current methods of cancer screening are so good that the methodology can actually be referred to as cancer prevention rather than cancer screening. The algorithm that is used for abnormal pap smears actually prevents cases of cancer from occurring.

The current pap smear terminology was changed in 2001. The squamous cells that are taken at the time of a pap smear are examined under a microscope, either observation of a directly prepared slide from the scraping taken by the doctor, or by review of a slide that is prepared after the specimen has been processed in a test tube referred to as liquid-based cytology.

Abnormal squamous cells are given different names, depending on the severity of the abnormality. The most common finding is that of atypical squamous cells of undetermined significance (ASCUS). Findings like this are quite common, and can be caused by common vaginal infections, birth control pills, IUD's, and many other benign processes. Many times the ASCUS cells will return to normal, either spontaneously or after treatment. The vast majority of these changes do not progress to cancer, although the doctor will recommend a repeat pap smear in three to six months to more carefully follow the findings of ASCUS.

The next grade of severity in a pap smear is low-grade squamous intra-epithelial lesion (LSIL). In the past, this was called cervical intra-epithelial neoplasia (CIN). When low-grade, it is referred to as CIN1. These changes are often associated with the HPV infection. The next gradation is that of high-grade squamous intra-epithelial lesion (HSIL). This encompasses the old classification of CIN2 and CIN3, and does include actual carcinoma in-situ. More severe changes would require colposcopy (a more sensitive visualization of the cervix) often followed by some type of biopsy, which could be by a conization, or with an electrocautery referred to as LEEP (Loop Electrocautery Excision Procedure). These more aggressive diagnostic measures incur greater expense and discomfort for the woman.

A remarkable breakthrough in the evaluation of pap smears has been that of the HPV. It has now been shown that most (possibly all) cases of cancer only occur in an individual who has contracted the HPV virus. There is now a simple test that can be done on the vaginal scrapings to determine whether or not HPV is present. They have identified a number of high-risk HPV viruses that are associated with increased risk of development of cancer.

If a woman has an abnormal pap smear and is positive for the HPV high-risk virus, then her risk of cancer is much greater, requiring much closer follow up. However, if an abnormal pap smear is not accompanied by a positive

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HPV, then her risk of cancer is very low. Complicating this picture is the fact that most (70-80%) of sexually active young females are HPV positive, whereas the percent of positive HPV in older women begins to decrease. Thus, women can rid themselves of this cancer-causing virus. Doctors can use this information to decide on how aggressive they should be in follow-up of abnormal pap smears.

For the future, development of a vaccine is underway to try and prevent infection with HPV virus. These vaccines are proven to be safe and effective in small studies of young women. So the advent of a vaccine to prevent this infection may be just around the corner. If it's fully developed and implemented, it could be the beginning

of the end of cervical cancer, since this vaccine will thus prevent cancers from developing. There will still be several generations of women who have already contracted HPV that will still have to be watched in the years to come for cervical cancer.

Underwriters who are trying to evaluate the significance of abnormal pap smears take the information regarding HPV into consideration. We try to be as aggressive as possible regarding these abnormalities, knowing that most will not result in an adverse outcome, either from a life or disability standpoint. As such, the majority of time there are favorable decisions made in the underwriting process regarding the significance of abnormal pap smears. I would be happy to discuss if you have any questions.