



ASC Statement on New Technologies in Cervical Cytology Screening

Cervical cytology is arguably the most cost-effective cancer prevention test in medicine. For over 4 decades, the national standard for cervical cancer screening has been the Papanicolaou (Pap) smear which is largely responsible for the dramatic 70% decrease in mortality from cervical cancer over approximately the same period.

Although the Pap smear has been extremely successful in decreasing mortality from cervical cancer, it has limitations. As with any medical test, there is an inherent false negative proportion associated with the process of sample collection and laboratory interpretation. Several technologies have been developed, and others are in development, in an effort to improve upon the accuracy of cervical cancer screening. These include, but are not limited to liquid-based technologies and computer assisted screening.

Liquid-based collection and processing provide a more representative sampling than conventional smearing of the specimen on a glass slide. These technologies have been shown in multiple studies to have sensitivity for squamous intraepithelial lesions (SIL) equal to or greater than the conventional smear. Computer assisted rescreening of all specimens initially screened as negative improves sensitivity as compared to a single manual screen with random 10% rescreening. The FDA has approved a device for initial computer evaluation followed by manual screening of the most likely abnormal cases.

Human papillomavirus (HPV) is the primary causal factor in the development of cervical cancer. A test for the presence of one or more cancer associated HPV types is FDA-approved. Population-based, primary screening with HPV testing is not currently recommended due to concerns regarding specificity. However, HPV testing has been shown to be useful as a secondary test, following an indeterminate (ASCUS) cytology result, for triage to colposcopy.

Cervical cytology is in a period of transition. Conventional Pap smear testing, which has been the national and international standard for decades, continues to be an accepted and effective screening modality. However, new technologies expand the range of available screening options. These technologies often provide greater sensitivity for detection of SIL, but at increased cost. On the other hand, the increased test sensitivity may allow for more effective screening strategies and patient management that could offset the increased cost of the technology.

Clinicians and laboratories should utilize cervical cytology screening paradigms that are most appropriate for their patient population and clinical practice. These decisions must be continually reevaluated as technologies evolve and as clinical studies provide scientific data on cost-effective strategies to further reduce morbidity and mortality from cervical cancer.