

Laboratory Tests for Pap Smear

Laboratory Tests

Accuracy of the Papanicolaou smear

Several factors determine the efficacy of the Papanicolaou (Pap) smear in detecting cervical pathology. These include the sampling method, certain patient attributes, the experience of the health care professional who collects the sample, and the experience of the cytopathologist who reviews the slide(s). See also the section on [technical problems](#).

Test characteristics

Variable collection methods and study designs make it difficult to determine reliable test characteristics for the Pap smear. In the literature, the sensitivity of the Pap smear, across methods, ranges from 20% to 100%. Sensitivities between 55% and 80% are more commonly cited in studies comparing Pap smear results with subsequent smears. Specificity is typically higher than sensitivity, often between 90% and 99%. Also, sensitivity rates tend to be higher for severe dysplasia and invasive carcinoma and lower for mild to moderate dysplasia ([Soost](#), [USPSTF](#)).

Computerized image analysis of Papanicolaou smears

The Food and Drug Administration has approved several automated Pap smear analyzers for rescreening only. Automated analyzers may be used after an initial manual screening of the smear, usually done by a cytotechnologist or cytopathologist. Computerized image analysis has not yet received authorization for initial screening.