Evidence for the clinical utility of human papillomavirus (HPV) DNA testing has increased over the years and has now become very convincing. Some specific uses of HPV detection are a) triage of women with cytological determinations of atypical squamous cells of undetermined significance (ASC-US) and related management strategies, b) as a marker for test of cure post-treatment, and c) most importantly, as an adjunct to cytology in routine cervical disease screening programs. There are many studies that support each of these applications and include 8 studies on ASC-US triage, 10 on test of cure and 13 on adjunctive or stand-alone HPV screening. The most notable investigation of ASC-US triage was ALTS, a randomized controlled trial of 3,488 women. With respect to routine HPV screening the combined studies included 77,000 women, providing as a histological endpoint more than 1,000 cases of high-grade cervical intraepithelial neoplasia (CIN) or cancer. Testing methods were either the Hybrid Capture 2 (HC2) test or the polymerase chain reaction (PCR) test. HPV testing of women with ASC-US cytology had on average a higher sensitivity (90%) and specificity (70%) than repeating the cytological test (sensitivity 75%, specificity 60%) and was also more sensitive than colposcopy for follow-up. As an adjunct to the Papanicolaou (Pap) cytology test in routine screening, HPV DNA testing was a more sensitive indicator for prevalent high-grade CIN than either conventional or liquid cytology. A combination of HPV DNA and Papanicolaou testing had almost 100% sensitivity and negative predictive value. The specificity of the combined tests was slightly lower than the specificity of the Papanicolaou test. One double-negative HPV DNA and Papanicolaou test indicated a higher prognostic assurance against risk of future CIN 3 than three subsequent negative conventional Papanicolaou tests and may safely allow threeyear or longer screening intervals for such low- risk women. It appears that HPV DNA testing is on the way to becoming a common testing strategy in cervical cancer prevention programs. Research continues into approaches for improving the performance and cost-effectiveness of HPV detection methods. Hybrid Capture 3 will offer improved HPV typing capabilities and the Rapid Capture machine allows for robotassisted HPV DNA testing, permitting greater test throughput. PCR test improvements are expected to contribute to the growth of flexible accurate and cost-effective HPV DNA tests. It is likely that improved diagnostic technology along with HPV genotyping and quantitation may provide more value in future. A particularly promising approach is to combine HPV DNA testing with expression levels of other markers such as proliferative or cell cycle regulatory proteins to subdivide HPV-positive women into those who are at greater risk of cancer and those who can be safely followed by screening at longer intervals. This paper is available too at: http://www.insp.mx/salud/index.html
Keywords

cervical cancer, screening, human papillomavirus, 
Papanicolaou, Mexico