

2013 Statement on Human Papillomavirus DNA Test Utilization

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In 2009, the Cytopathology Education and Technology Consortium issued a statement on human papillomavirus (HPV) DNA test utilization that was published in multiple journals.¹ This statement was a concise summary of the clinical indications for high-risk or oncogenic HPV testing based on guidelines from the American Society for Colposcopy and Cervical Pathology (ASCCP) and the American Cancer Society (ACS) published from 2002 through 2007.^{2,3} These organizations have since published newer consensus guidelines addressing HPV testing,^{4,5} and the previous summary no longer reflects current screening and management guidelines.

High-risk HPV testing has proven utility in both cervical cancer screening and management. The 2012 screening guidelines endorsed by the ACS, ASCCP, and the American Society for Clinical Pathology state that combined cervical cytology and HPV testing is now the preferred strategy for women aged ≥ 30 years. The 2012 ASCCP guidelines for the management of abnormal cervical cancer screening tests and cancer precursors utilize cotesting extensively as both a sensitive and efficient way to manage and follow these women. Inappropriate or too-frequent screening, including HPV testing, can lead to increased costs without proven benefit, and may also cause patient harm by overtreatment. The educational statement below is intended to improve adherence to current guidelines, thereby improving the health care of women. The American College of Obstetricians and Gynecologists affirms these recommendations and the US Preventive Services Task Force states that cotesting is acceptable.^{6,7}

1. High-risk (oncogenic) HPV DNA testing is appropriate in the following circumstances:

- 1.1. Routine cervical cancer screening in conjunction with cervical cytology (cotesting) for women aged 30 to 65 years (for women aged 30 years-65 years with cytology reported as absent or insufficient endocervical/transformation zone component, early repeat cytology is not indicated and cotesting is preferred).
 - 1.1.1. For women whose cytology and HPV results are both negative, repeat both tests only after a 5-year interval (applies only to routine screening; for women with negative cotests after previous abnormal cytology, see below).

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A

Age	Routine Screening	Triage					
		UNSAT	ASC-US	LSIL	ASC-H	AGC ^a	HSIL
21-24	2.1	2.5	1.2	2.4	2.3	2.3	2.3
25-29	2.1	2.5	1.2	2.4	2.5	2.5	2.5
30+	1.1 ^b	2.5	1.2	1.4 ^c	2.5	2.5	2.5

B

Preceding Results for which Cotesting Surveillance (Without Colposcopy) is Appropriate						
Age	NILM HPV+	ASC-US HPV-	LSIL HPV-	ASC-H	AGC ^a	HSIL
21-24	2.1	1.3	2.4	2.5		
25-29	2.1	1.3	2.4			
30+	1.1.2 ^d	1.3	1.4			

C

Preceding Results for which Cotesting Surveillance is Appropriate Post-Colposcopic Findings of ≤ CIN I						
Age	NILM HPV+	ASC-US	LSIL	ASC-H	AGC ^a	HSIL
21-24	2.1	1.5	1.5	1.6	1.7	1.6
25-29	2.1	1.5	1.5	1.6	1.7	1.6
30+	1.1.2 ^d	1.5	1.5	1.6	1.7	1.6

D

Age	Cotesting Surveillance Post-Treatment (Biopsy ≥ CIN 2)	
21-24	1.9	Cotest at 12 and 24 months (and then 3 years later)
25-29	1.9	
30+	1.9	

Cell color indicates if HPV testing (or cotesting) is preferred (green), acceptable but not preferred (yellow) or not appropriate (red). Numbers in table cells refer to the text outline.

^aFor AGC results, HPV testing is not recommended as a triage tool; however a negative HPV test may be helpful in suggesting endometrial versus endocervical origin. Cotesting is recommended at 12 and 24 months post-colposcopy.

^bFor women 30 and older who are both cytology and HPV negative, repeat both tests only after a 5-year interval.

^cFor women 30 and older, HPV testing is preferred as a cotest, with repeat cotesting at 1 year if HPV is negative. HPV testing may be ordered as a triage for LSIL in post-menopausal patients.

^dNILM/HPV+: Repeat both tests in 1 year (or perform HPV genotyping). Colposcopy is recommended if HPV positive on repeat regardless of cytology result.

Figure 1. Appropriate uses of human papillomavirus (HPV) testing and cotesting (Papanicolaou [Pap] test with HPV) are shown (A) in routine screening and triage, (B) as surveillance after abnormal Pap/HPV-positive (+) findings without colposcopy, (C) after colposcopy, and (D) after treatment. UNSAT indicates an unsatisfactory Pap test, ASC-US, atypical squamous cells of undetermined significance; LSIL, low-grade squamous intraepithelial lesion; ASC-H, atypical squamous cells, cannot exclude high-grade squamous intraepithelial lesion; AGC, atypical glandular cells; HSIL, high-grade squamous intraepithelial lesion; NILM, negative for intraepithelial lesion or malignancy; -, negative; CIN, cervical intraepithelial neoplasia.

- 1.1.2. For women whose cytology results are negative and whose HPV test is positive, repeat both tests within 1 year or perform HPV type 16/18 (HPV16/18) genotyping; women with HPV16/18-positive results are referred for colposcopy.
- 1.2. Initial triage management of women aged ≥ 25 years with a cytology result of atypical squamous cells of undetermined significance (ASC-US). Triage management is acceptable for women aged 21 years to 24 years, but repeat cytology at 12 months is preferred.
- 1.3. Follow-up cotesting of women aged ≥ 25 years with preceding HPV-negative ASC-US at 3 years as per ASCCP management guidelines^{5,8} or at 5 years according to the 2012 ACS/ASCCP/American Society for Clinical Pathology screening guidelines.⁴
- 1.4. Initial triage management of women aged ≥ 30 years with low-grade squamous intraepithelial lesion (LSIL), generally when performed as part of a screening cotest. In postmenopausal patients, HPV testing may be ordered as a triage for LSIL. If the HPV result is negative in either age group, repeat cotesting at 12 months is recommended.
- 1.5. Postcolposcopy cotesting at 12 months for women aged ≥ 25 years with either no lesion or cervical intraepithelial neoplasia (CIN) 1 and with a preceding "lesser" cytology result (ASC-US, LSIL, negative cytology with HPV16 or HPV18 positivity, or persistent HPV infection).
- 1.6. Postcolposcopy cotesting of women aged ≥ 25 years at 12 months and 24 months in those with no lesion or CIN1 when the preceding cytology result was a high-grade squamous intraepithelial lesion (HSIL) or atypical squamous cells, cannot exclude HSIL (ASC-H).
- 1.7. Postcolposcopy cotesting of women aged ≥ 21 years at 12 months and 24 months in those with no lesion or CIN1 on colposcopy and a preceding cytology result of atypical glandular cells, not otherwise specified (AGC NOS).
- 1.8. Follow-up cotesting of women aged ≥ 30 years at 3 years after previous negative cotest results with various preceding cytology abnormalities and no evidence of a high-grade lesion on colposcopy. An example is a woman with LSIL, CIN1 on biopsy, and a negative cotest at 12 months; see 2012 ASCCP algorithms for more details.⁵
- 1.9. Posttreatment cotesting surveillance of women aged ≥ 25 years at 12 months and 24 months (and then 3 years later) with treated CIN2 and CIN3. See 2012 ASCCP algorithms for details on women aged 21 years to 24 years.⁵
- 2. High-risk (oncogenic) HPV testing is generally not appropriate in the following situations:**
- 2.1. Routine cervical cancer screening in women aged < 30 years.
- 2.2. Routine cervical cancer screening with cotesting more often than every 5 years when previous cotest results were negative (and no prior abnormality).
- 2.3. Initial triage or management of women aged < 25 years with any cytologic abnormality (HPV triage is acceptable for ASC-US, but repeat cytology is preferred).
- 2.4. Initial triage or management of women aged < 30 years with LSIL.
- 2.5. Initial triage or management of women of any age with unsatisfactory cytology, ASC-H, HSIL, or atypical glandular cells of any type.
- 3. Repeat high-risk HPV testing should generally not be performed before 12 months.**
- 4. There is currently no evidence-based guideline recommending HPV genotyping as a management tool in women with abnormal cytology results such as ASC-US.**
- 5. Testing for low-risk (nononcogenic) HPV types has no role in cervical cancer screening or in the triage, management, or follow-up of women with abnormal cytology results.**
- The intent of this summary is to facilitate provider education and to encourage the appropriate utilization of HPV testing. Clinical judgment should always be used when applying a guideline to an individual patient because it is impossible to develop guidelines that will apply to all situations.

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