Zuckerberg San Francisco General Hospital Cervical Dysplasia Clinic Guidelines, 2021

Disclaimer: *These guidelines are based on USPSTF (2018), ACOG (2016, 2020), ASCCP (2019) and SGO (2020) recommendations. They are provided as an abbreviated version of the more detailed guidelines in an effort to increase efficiency and ease of use. They are not an absolute substitution for the more detailed guidance offered in the original source documents or for clinical judgment in the care of individual patients.*

Table 1: Cervical cancer screening as recommended by the USPSTF (2018) and ACOG (2016) for average-risk individuals[a]

Age to begin **Method and interval, by age**	**21** regardless of sexual history[b] **Ages 21-65:** Cytology every 3 years or **Ages 21-29:** Cytology every 3 years **Ages 30-65:** HPV testing with or without cytology every 5 years *Note: Must use an FDA-approved HPV test for primary screening (cobas, Onclarity)*
Age to end	**65** if 3 consecutive normal cytology results or 2 consecutive normal cytology plus HPV test results within the prior 10 years, with the most recent normal test within the prior 5 years.[c]

[a]Average-risk defined as no prior diagnosis of cervical intraepithelial neoplasia grade 2 or a more severe lesion, those who are not immunocompromised (e.g., HIV infected) and those with no *in utero* exposure to diethylstilbestrol (for whom annual cytology is recommended by ACOG).
[b]American Cancer Society (ACS, 2020) recommends beginning at age 25.
[c]ACS 2020 specifies no abnormal test results within the prior 10 years and adds the ending criterion of 2 consecutive negative HPV test results alone. Note that screening continuation is advised for at least 25 years after treatment of CIN2 or 3, even if screening extends past age 65.

Special populations	
Pregnant	Screening as above.
After total hysterectomy, no prior CIN2+	Screening should not be performed.
After total hysterectomy, CIN2+ within the prior 25 years	HPV testing with or without cytology every 3 years for at least 25 years or Cytology annually for at least 25 years
Individuals with immunocompromise (ACOG 2016: HIV infection, after solid-organ transplantation; ASCCP 2019: above plus after stem cell transplantation; systemic lupus erythematosus; rheumatoid arthritis on medications; inflammatory bowel disease on medications)	**Age to begin:** Within 1 year of onset of sexual activity or, if already sexually active, within the first year after HIV diagnosis but no later than 21 (regardless of sexual history) **Age to end:** None **Method and interval, by age:** **Ages 21-65:** Cytology annually; after 3 consecutive normal cytology tests, may screen every 3 years or **Ages 21-29:** Cytology annually; after 3 consecutive normal cytology tests, may screen every 3 years **Ages 30-65:** Cytology plus HPV testing every 3 years
Prior invasive cervical cancer	Surveillance as per gynecologic oncology protocols

Abbreviations: USPSTF, US Preventive Services Task Force; ACOG, American College of Obstetricians and Gynecologists, HPV, human papillomavirus; CIN2+ cervical intraepithelial neoplasia grade 2, 2/3, 3, AIS or cancer.

Table 2. Management of common initial abnormal screening test results (includes pregnant and immunocompromised individuals)

Test result			Ages ≥25	Ages 21-24
Cytology	**HPV**	**HPV Type 16/18 Genotyping**		
ASC-US	negative		**Re-screen in 3 years**	**Re-screen in 3 years**
NILM	positive	negative or unknown	**Repeat HPV testing with or without cytology in 1 year** • If any HPV positive, ASC-H, AGC or HSIL+, colposcopy • For other results, HPV testing with or without cytology in 1 year	
ASC-US	unknown		**Repeat cytology in 1 year**. If normal, re-screen in 3 years. If abnormal, colposcopy.	**Cytology in 1 year** (colposcopy for ASC-H, AGC or HSIL+) and in 2 years (colposcopy for any abnormality). If all normal, resume screening.
LSIL	negative		**Repeat HPV testing with or without cytology in 1 year** • If both normal, re-screen in 3 years • If HPV16 or 18[a] positive, ASC-H, AGC or HSIL+, colposcopy • For other results, HPV testing with or without cytology in 1 year	
Unknown[b]	positive	negative or unknown	**Colposcopy** (recommended for immunocompromised individuals) or **HPV testing with or without cytology in 1 year if a negative HPV test within the prior 5 years**	
ASC-US	positive	negative or unknown		
LSIL	positive or unknown	negative or unknown		
Unknown[b]	positive	HPV16 or 18[a] positive	**Colposcopy** *If no lesions seen, endocervical curettage should be performed in all non-pregnant patients along with vaginoscopy.*	
NILM	positive	HPV16 or 18[a] positive		
ASC-US	positive	HPV16 or 18[a] positive		
LSIL	positive	HPV16 or 18[a] positive		
ASC-H	any	any[a]	**Colposcopy** *For HSIL/HPV16 positive, an excisional procedure[c] is preferred to colposcopy.*	
HSIL	any	any[a]		
AGC/NOS	any	any	**Colposcopy with endocervical curettage**; endometrial biopsy if abnormal bleeding, chronic anovulation or age ≥35. *Endocervical curettage and endometrial biopsy should not be performed in pregnancy.*	
AGC, favor neoplasia	any	any		

Abbreviations: HPV, high-risk human papillomavirus; ASC-US, Atypical squamous cells of undetermined significance; NILM, negative for intraepithelial lesion or malignancy; LSIL, low-grade squamous intraepithelial lesion; ASC-H, atypical squamous cells, cannot exclude HSIL; AGC/NOS, atypical glandular cells, not otherwise specified; HSIL, high-grade squamous intraepithelial lesion; HSIL+, HSIL, adenocarcinoma *in situ* or cancer.

[a]Endocervical curettage "acceptable" for HPV18 (SGO 2020).

[b]Due to unsatisfactory cytology or test not performed. ASCCP 2019 recommends cytology for all HPV-positive tests to optimize risk stratification.

[c]Review of ASC-H/HSIL/AGC, favor neoplasia cytology and colposcopic findings (including biopsies) warranted when potential risks of excision may exceed benefit; in pregnancy, excisional procedures deferred to the postpartum period unless cancer is suspected.

Other findings on cytology	
• Unsatisfactory cytology	**Repeat cytology in 2-4 months. If unsatisfactory twice, colposcopy.**
• Satisfactory cytology, but no endocervical cells	**No action**
• Benign-appearing endometrial cells	**Pre-menopausal: No action. Post-menopausal: Endometrial biopsy**

All patients should be advised about smoking cessation and offered HIV testing.

Table 3. Management after initial colposcopy for the most common abnormal screening test results

<table>
<tr><th rowspan="3">Indication for initial colposcopy</th><th colspan="2">Findings at initial colposcopy</th><th rowspan="3">Cervical intraepithelial neoplasia grades 2, 3 or AIS</th></tr>
<tr><th colspan="2">No lesion, normal biopsy or cervical intraepithelial neoplasia grade 1</th></tr>
<tr><th>Ages ≥25</th><th>Ages 21-24</th></tr>
<tr><td>NILM cytology, persistent HPV positive
NILM cytology, HPV16 or HPV18 positive
Atypical squamous cells of undetermined significance (ASC-US) on 2 consecutive tests
ASC-US, HPV positive
Low-grade squamous intraepithelial lesion (LSIL)</td><td colspan="2">HPV testing with or without cytology in 1 year
• If all normal, re-screen in 3 years.
• If HPV16 or 18 positive, ASC-H, AGC or HSIL+, repeat colposcopy.
• For all other results, repeat HPV testing with or without cytology in 1 year.</td><td>Cytology in 1 year (colposcopy for ASC-H or HSIL+) and 2 years (colposcopy for any abnormality). If all normal, resume screening.</td><td rowspan="6">see Tables 4-6</td></tr>
<tr><td>Atypical glandular cells, not otherwise specified</td><td colspan="2">HPV testing with cytology in 1 and 2 years; colposcopy for any abnormality</td></tr>
<tr><td>Atypical squamous cells, cannot exclude a high-grade squamous intraepithelial lesion (ASC-H)</td><td>If colposcopy adequate and endocervical curettage negative, HPV testing with or without cytology in 1 and 2 years; colposcopy for any abnormality.
Otherwise, perform a diagnostic excisional procedure.[a]</td><td rowspan="2">If colposcopy adequate and endocervical curettage negative, cytology in 1 and 2 years; colposcopy for any abnormality,
Otherwise, perform a diagnostic excisional procedure.[a]</td></tr>
<tr><td>High-grade squamous intraepithelial lesion (HSIL)</td><td>If colposcopy adequate and endocervical curettage negative, HPV testing with or without cytology in 1, 2 and 3 years; colposcopy for any abnormality.
Otherwise, perform a diagnostic excisional procedure.[a]</td></tr>
<tr><td>Atypical glandular cells (AGC), favor neoplasia
Adenocarcinoma in situ (AIS)</td><td colspan="2">Diagnostic excisional procedure[a]</td></tr>
</table>

Abbreviations: AIS, adenocarcinoma in situ; NILM, negative for intraepithelial lesion or malignancy; HPV, high-risk human papillomavirus; AGC, atypical glandular cells; HSIL+, HSIL, adenocarcinoma *in situ* or cancer.

[a]Review of ASC-H/HSIL/AGC, favor neoplasia cytology and colposcopic findings (including biopsies) warranted when potential risks of excision may exceed benefit; in pregnancy, excisional procedures deferred to the postpartum period unless cancer is suspected.

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Table 4. Treatments for cervical intraepithelial neoplasia grades 2* and 3

Ablation		
	Cryotherapy	Use if the following criteria met: • adequate colposcopy • lesion(s) completely visible, not involving >75% of the ectocervix and can be covered with the 25mm probe • under age 40[a]
	Laser	Use as for cryotherapy and for large (≥2 cm) and/or multifocal lesions, with or without vaginal involvement.
Excision		
	Loop excision	Use if criteria for ablation not met.
	Cone biopsy	Use if criteria for ablation not met and instead of loop excision if: suspicion for malignancy or cervical architecture distorted (e.g., prior cervical treatments, severely atrophic cervix).

[a]Cryotherapy failure rates increase with age and exceed 30% over a 6-year period in those aged 40+ treated for CIN3.

***CIN2 observation:** In those with CIN2 and adequate colposcopy who are concerned about the potential effect of treatment on future pregnancy, observation is acceptable ages ≥25 and preferrable ages 21-24. For ages ≥25, observation is colposcopy and HPV testing with or without cytology in 6 and 12 months; if <ASC-H and biopsies <CIN2, repeat HPV testing with or without cytology annually for 3 years. Treat if >CIN2 or if CIN2 or ASC-H, AGC or HSIL cytology persist for 2 years. For ages 21-24, perform cytology alone instead of HPV testing in the above algorithm. Longer-term follow-up continues with HPV testing with or without cytology every 3 years, or cytology annually, for at least 25 years.

Table 5. Follow-up after treatment of cervical intraepithelial neoplasia grades 2 and 3[a]

Hysterectomy	**HPV testing with or without cytology every 3 years (**or **cytology annually) for 25 years after CIN treatment**
Cryotherapy or laser ablation; loop excision or cone biopsy	**HPV testing with or without cytology** or **colposcopy with endocervical curettage (if not pregnant) in 6 months,**[b] then HPV testing with or without cytology in 1 and 2 years; colposcopy for any HPV+ test result or ASC-H or worse cytology. If all normal, continue HPV testing with or without cytology every 3 years (or cytology annually) for at least 25 years after the initial post-treatment surveillance period

[a]2019 ASCCP: Includes individuals with HSIL cytology or persistent ASC-H cytology with diagnostic excisional procedures revealing no CIN2+.
[b]2019 ASCCP: HPV testing with or without cytology in 6 months is the preferred option. Colposcopy with ECC is acceptable (and appropriate if positive margins and/or if minimizing return visits is important). Cytology alone in 6 months is also endorsed, followed by repeat cytology in 12, 18 and 24 months; colposcopy for any abnormality.

Table 6. Follow-up after treatment of adenocarcinoma *in situ* (AIS)

Hysterectomy	**HPV testing with or without cytology every 3 years** for at least 25 years after the initial AIS treatment
Cone biopsy or loop excision with negative margins	**Cytology, HPV testing and endocervical curettage every 6 months for 3 years**, then cytology, HPV testing with or without endocervical curettage annually for at least 2 years, then every 3 years until hysterectomy. May continue surveillance if consistently HPV-negative.

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