Cervical Cancer Screening Guidelines for Average-Risk Women[a]

	American Cancer Society (ACS), American Society for Colposcopy and Cervical Pathology (ASCCP), and American Society for Clinical Pathology (ASCP)[1] 2012	**U.S. Preventive Services Task Force (USPSTF)**[2] 2018	**American College of Obstetricians and Gynecologists (ACOG)**[3] 2016	**Society of Gynecologic Oncology (SGO) and the American Society for Colposcopy and Cervical Pathology (ASCCP): Interim clinical guidance for primary hrHPV testing**[4] 2015
When to start screening[b]	Age 21. Women aged <21 years should not be screened regardless of the age of sexual initiation or other risk factors.	Age 21. *(A recommendation)* Recommend against screening women aged <21 years *(D recommendation).*	Age 21 regardless of the age of onset of sexual activity. Women aged <21 years should not be screened regardless of age at sexual initiation and other behavior-related risk factors *(Level A evidence).*	Refer to major guidelines.
Statement about annual screening	Women of any age should not be screened annually by any screening method.	Individuals and clinicians can use the annual Pap test screening visit as an opportunity to discuss other health problems and preventive measures. Individuals, clinicians, and health systems should seek effective ways to facilitate the receipt of recommended preventive services at intervals that are beneficial to the patient. Efforts also should be made to ensure that individuals are able to seek care for additional health concerns as they present.	In women aged 30–65 years, annual cervical cancer screening should not be performed. *(Level A evidence)* Patients should be counseled that annual well-woman visits are recommended even if cervical cancer screening is not performed at each visit.	Not addressed.
Screening method and intervals				
Cytology (conventional or liquid-based)[c]				
21–29 years of age	Every 3 years.[d]	Every 3 years *(A recommendation).*	Every 3 years *(Level A evidence).*	Not addressed.
30–65 years of age	Every 3 years.[d]	Every 3 years *(A recommendation).*	Every 3 years *(Level A evidence).*	Not addressed.
HPV co-test (cytology + HPV test administered together)				
21–29 years of age	HPV co-testing should not be used for women aged <30 years.	Recommend against HPV co-testing in women aged <30 years *(D recommendation).*	HPV co-testing[e] should not be performed in women aged <30 years. *(Level A evidence*)	Not addressed.
30–65 years of age	Every 5 years; this is the preferred method.	For women who want to extend their screening interval, HPV co-testing every 5 years is an option *(A recommendation).*	Every 5 years; this is the preferred method *(Level A evidence).*	Not addressed.
Primary hrHPV testing[f] (as an alternative to cotesting or cytology alone)[g]	For women aged 30–65 years, screening by HPV testing alone is not recommended in most clinical settings.[h]	Every 5 years for women 30-65 years of age (*A recommendation).*	Alternative screening every 3 years for women ≥25 years as per SGO and ASCCP interim guidance[3] *(Level B evidence).*	Every 3 years. Recommend against primary hrHPV screening in women aged <25 years of age.[i]

	American Cancer Society (ACS), American Society for Colposcopy and Cervical Pathology (ASCCP), and American Society for Clinical Pathology (ASCP)[1] 2012	U.S. Preventive Services Task Force (USPSTF)[2] 2018	American College of Obstetricians and Gynecologists (ACOG)[3] 2016	Society of Gynecologic Oncology (SGO) and the American Society for Colposcopy and Cervical Pathology (ASCCP): Interim clinical guidance for primary hrHPV testing[4] 2015
When to stop screening	Aged >65 years with adequate negative prior screening* and no history of CIN2 or higher within the last 20 years.[j] *Adequate negative prior screening results are defined as 3 consecutive negative cytology results or 2 consecutive negative co-test results within the previous 10 years, with the most recent test performed within the past 5 years.	Aged >65 years with adequate screening history* and are not otherwise at high risk for cervical cancer[j] *(D recommendation).*	Aged >65 years with adequate negative prior screening* results and no history of CIN 2 or higher[j] *(Level A evidence).*	Not addressed.
When to screen after age 65 years	Aged >65 years with a history of CIN2 CIN2, CIN3, or adenocarcinoma *in situ,* routine screening[k] should continue for at least 20 years.	Women aged >65 years who have never been screened, do not meet the criteria for adequate prior screening, or for whom the adequacy of prior screening cannot be accurately accessed or documented.[l] Routine screening[k] should continue for at least 20 years after spontaneous regression or appropriate management of a high-grade precancerous lesion, even if this extends screening past age 65 years. Certain considerations may support screening in women aged > 65 years who are otherwise considered high risk (such as women with a highgrade precancerous lesion or cervical cancer, women with in utero exposure to diethylstilbestrol, or women who are immunocompromised).	Women aged >65 years with a history of CIN2, CIN3, or AIS should continue routine agebased screening[k] for at least 20 years (Level B evidence).	Not addressed.
Screening post-hysterectomy	Women who have had a total hysterectomy (removal of the uterus and cervix) should stop screening.[m] Women who have had a supra-cervical hysterectomy (cervix intact) should continue screening according to guidelines.	Recommend against screening in women who have had a hysterectomy (removal of the cervix)[n] *(D recommendation).*	Women who have had a hysterectomy (removal of the cervix) should stop screening and not restart for any reason[n,o] *(Level A evidence).*	Not addressed.
The need for a bimanual pelvic exam	Not addressed in 2012 guidelines but was addressed in 2002 ACS guidelines.[p]	Addressed in USPSTF ovarian cancer screening recommendations (draft).[q]	Addressed in 2012 well-woman visit recommendations.[r] **Aged <21 years**, no evidence supports the routine internal examination of the healthy, asymptomatic patient. An "external-only" genital examination is acceptable. **Aged ≥21 years**, no evidence supports or refutes the annual pelvic examination or speculum and bimanual examination. The decision whether or not to perform a complete pelvic examination should be a shared decision after a discussion between the patient and her health care provider. Annual examination of the external genitalia should continue.[s]	Not addressed.

	American Cancer Society (ACS), American Society for Colposcopy and Cervical Pathology (ASCCP), and American Society for Clinical Pathology (ASCP)[1] 2012	U.S. Preventive Services Task Force (USPSTF)[2] 2018	American College of Obstetricians and Gynecologists (ACOG)[3] 2016	Society of Gynecologic Oncology (SGO) and the American Society for Colposcopy and Cervical Pathology (ASCCP): Interim clinical guidance for primary hrHPV testing[4] 2015
Screening among those immunized with HPV vaccine	Women at any age with a history of HPV vaccination should be screened according to the age specific recommendations for the general population.	The possibility that vaccination might reduce the need for screening with cytology alone or in combination with HPV testing is not established. Given these uncertainties, women who have been vaccinated should continue to be screened.	Women who have received the HPV vaccine should be screened according to the same guidelines as women who have not been vaccinated *(Level C evidence).*	Not addressed.

HPV = human papillomavirus; CIN = cervical intraepithelial neoplasia; AIS=adenocarcinoma *in situ;* hrHPV = high-risk HPV.

[a]These recommendations do not address special, high-risk populations who may need more intensive or alternative screening. These special populations include women with a history of CIN2, CIN3, or cervical cancer, women who were exposed in utero to diethylstilbestrol, women who are infected with HIV, or women who are immunocompromised (such as those who have received solid organ transplants).

[b]Since cervical cancer is believed to be caused by sexually transmissible human papillomavirus infections, women who have not had sexual exposures (e.g., virgins) are likely at low risk. Women aged >21 years who have not engaged in sexual intercourse may not need a Pap test depending on circumstances. The decision should be made at the discretion of the women and her physician. Women who have had sex with women are still at risk of cervical cancer. 10–15% of women aged 21–24 years in the United States report no vaginal intercourse (Saraiya M, Martinez G, Glaser K, et al. *Obstet Gynecol.* 2009;114(6):1213-9. doi: 10.1097/AOG.0b013e3181be3db4.). Providers should also be aware of instances of non-consensual sex among their patients.

[c]Conventional cytology and liquid-based cytology are equivalent regarding screening guidelines, and no distinction should be made by test when recommending next screening.

[d]There is insufficient evidence to support longer intervals in women aged 30–65 years, even with a screening history of negative cytology results.

[e]All ACOG references to HPV testing are for high-risk HPV testing only. Tests for low-risk HPV should not be performed.

[f]Primary hrHPV testing is defined as a stand-alone test for cervical cancer screening without concomitant cytology testing. It may be followed by other tests (like a Pap) for triage. This test specifically identifies HPV 16 and HPV 18, while concurrently detecting 12 other types of high-risk HPVs.

[g]Because of equivalent or superior effectiveness, primary hrHPV screening can be considered as an alternative to current US cytology-based cervical cancer screening methods. Cytology alone and cotesting remain the screening options specifically recommended in major guidelines.

[h]More experience and data analysis pertaining to the primary hrHPV screening will permit a more formal ACS evaluation.

[i]Primary hrHPV screening should begin 3 years after the last negative cytology and should not be performed only one or two years after a negative cytology result at 23 to 24 years of age.

[j]Once screening is discontinued it should not resume for any reason, even if a woman reports having a new sexual partner.

[k]Routine screening is defined as screening every 5 years using cotesting (preferred) or every 3 years using cytology alone (acceptable).

[l]Women older than age 65 years who have never been screened, women with limited access to care, minority women, and women from countries where screening is not available may be less likely to meet the criteria for adequate prior screening.

[m]Unless the hysterectomy was done as a treatment for cervical pre-cancer or cancer.

[n]And no history of CIN2 or higher in the past 20 years.

[o]Women should continue to be screened if they have had a total hysterectomy and have a history of CIN 2 or higher in the past 20 years or cervical cancer ever. Continued screening for 20 years is recommended in women who still have a cervix and a history of CIN 2 or higher. Therefore, screening with cytology alone every 3 years for 20 years after the initial post-treatment surveillance for women with a hysterectomy is reasonable *(Level B evidence).*

[p]2002 guidelines statement: The ACS and others should educate women, particularly teens and young women, that a pelvic exam does not equate to a cytology test and that women who may not need a cytology test still need regular health care visits including gynecologic care. Women should discuss the need for pelvic exams with their providers. Saslow D, Runowicz CD, Solomon D, et al. American Cancer Society Guideline for the Early Detection of Cervical Neoplasia and Cancer. *CA Cancer J Clin* 2002; 52:342–362.

[q]The bimanual pelvic examination is usually conducted annually in part to screen for ovarian cancer, although its effectiveness and harms are not well known and were not a focus of this review. No randomized trial has assessed the role of the bimanual pelvic examination for cancer screening. In the PLCO Trial, bimanual examination was discontinued as a screening strategy in the intervention arm because no cases of ovarian cancer were detected solely by this method and a high proportion of women underwent bimanual examination with ovarian palpation in the usual care arm. [r] ACOG Committee Opinion No. 534: Well-Woman Visit. Committee on Gynecologic Practice. *Obstet Gynecol.* 2012;120(2)1:421–24. doi: 10.1097/AOG.0b013e3182680517.

[s]For women aged ≥21 years, annual pelvic examination is a routine part of preventive care even if they do not need cervical cytology screening, but also lacks data to support a specific time frame or frequency of such examinations. The decision to receive an internal examination can be left to the patient if she is asymptomatic and has undergone a total hysterectomy and bilateral salpingo-oophorectomy for benign indications, and is of average risk.

References

[1]Saslow D, Solomon D, Lawson HW, et al. American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer. *CA Cancer*

[2]USPSTF. Screening for Cervical Cancer. 2018. Available at www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/cervical-cancer-screening2. These recommendations apply to women who have a cervix, regardless of sexual history.

[3]ACOG Practice Bulletin No. 168: Screening for Cervical Cancer. ACOG Committee on Practice Bulletins-Gynecology. *Obstet Gynecol.* 2016;128(4):111–30. doi: 10.1097/AOG.0000000000001708.

[4]Huh WK, Ault, KA, Chelmow D, et al. Use of primary high-risk human papillomavirus testing for cervical cancer screening: Interim clinical guidance. *Gynecol Oncol.* 2015;125(2):330-7. doi: 10.1097/AOG.0000000000000669.

Cervical Cancer Screening Guidelines (table 2)

	American Cancer Society (ACS)	U.S. Preventive Services Task Force (USPSTF)	American College of Obstetricians and Gynecologists (ACOG)	Society of Gynecologic Oncology (SGO) and the American Society for Colposcopy and Cervical Pathology (ASCCP): Interim clinical guidance for primary high-risk HPV testing
Guideline committee	ACS, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathologyconvened an expert panel.	16 volunteer members who are nationally recognized experts in prevention, evidence-based medicine, and primary care.	ACOG Committee on Practice Bulletins-Gynecology.[b]	13 experts including representatives from the Society of Gynecologic Oncology, American Society for Colposcopy and Cervical Pathology, and o ther committees convened an interim guidance panel.
Methods used to analyze the evidence	Panel is divided into six working groups to develop recommendations based on systematic review of evidence.	Recommendations are based on a systematic review of existing peer-reviewed evidence.	Review of published meta-analyses and systematic review. Analysis of available evidence. When reliable research not available, consulted with experts.	Literature review, review of data from the FDA registration study, and expert opinion.
Methods used to formulate recommendations	Used the GRADE (Grading Recommendations Assessment, Development, and Evaluation) system to provide a framework for the guidelines development process. Voting on the final recommendations, with twothirds majority constituting agreement.	The Task Force assigns each recommendation a letter grade (an A, B, C, or D grade or an I statement) based on the strength of the evidence and the balance of benefits and harms of a preventive service.	Not stated.	All voting was web-based and anonymous, with two-thirds majority constituting agreement.
Definitions of level of recommendation or evidence assigned	Not applicable.	*A recommendation:* The USPSTF recommends the service. There is high certainty that the net benefit is substantial.[a] *B recommendation* : The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.[a] *C recommendation* : The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.[a] *C recommendation* : The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.[a] *I statement* : The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.[a]	*Level A evidence* : recommendations are based on good and consistent scientific evidence. *Level B evidence* : recommendations are based on limited or inconsistent scientific evidence. *Level C evidence* : based primarily on consensus and expert opinion.	Not applicable.

	American Cancer Society (ACS)	U.S. Preventive Services Task Force (USPSTF)	American College of Obstetricians and Gynecologists (ACOG)	Society of Gynecologic Oncology (SGO) and the American Society for Colposcopy and Cervical Pathology (ASCCP): Interim clinical guidance for primary high-risk HPV testing
Source of funding	ACS, American Society for Clinical Pathology, and American Society for Colposcopy and Cervical Pathology	United States government	American College of Obstetricians and Gynecologists	Society of Gynecologic Oncology and the American Society for Colposcopy and Cervical Pathology
Disclosures of conflict	Disclosures can be found in the document.	Disclosures can be found at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M12-0425.	Not stated.[b]	Disclosures can be found in the document.
Reference	Saslow D, Solomon D, Lawson HW, et al. American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer. *CA Cancer J Clin.* 2012; 62(3):147-72.. doi: 10.3322/caac.21139.	USPSTF. Screening for Cervical Cancer. http://www.uspreventiveservicestaskforce.org/Page/Topic/r ecommendation-summary/cervical-cancer-screening. Accessed July 7, 2015	National Guideline Clearinghouse. Website: www.guidelines.gov. ACOG Practice Bulletin Number 131: Screening for cervical cancer. *Obstet Gynecol.* 2012;120(5):1222-38.	Huh WK, Ault KA, Chelmow D, et al. Use of primary high-risk human papillomavirus testing for cervical cancer screening: Interim clinical guidance. *Gynecol Oncol.* 2015; 125(2):330-7. doi: 10.1097/AOG.0000000000000669.

[a]These are the USPSTF grade definitions used to determine the recommendations for the 2012 guidelines.

[b]Individual members of the committees were not identified and no comment was made about conflicts of interest. (Volerman A and Cifu AS. Cervical cancer screening. *JAMA* 2014;312(21):2279-80. doi: 10.1001/jama.2014.14992)