

## Cervical Cancer Screening



The National Association of Nurse Practitioners in Women's Health (NPWH) supports a concerted effort to continue to improve cervical cancer screening rates and timely, appropriate follow-up and treatment when screening results are abnormal. The goal is to reduce cervical cancer incidence, morbidity, and mortality. NPWH supports ongoing research to ensure that screening guidelines are based on the best evidence available. Furthermore, NPWH supports policies at the local, state, and federal levels that ensure access to cervical cancer screening services and follow-up as needed.

### Background

At one time, cervical cancer was one of the most common causes of cancer death for women in the United States. However, over a period of four decades, widespread implementation of cervical cancer screening led to a significant decrease in mortality from cervical cancer. In 1975, the cervical cancer mortality rate was 14.8 deaths per 100,000 women, as compared with 2.3 deaths per 100,000 women in 2014.<sup>1</sup>

It is well established that high-risk types of the human papillomavirus (HPV) are the causative agents in more than 90% of cervical cancers.<sup>2,3</sup> HPV infection, whether caused by a high-risk or a low-risk type, is usually transient, resolving on its own within 24-36 months in most women (>90%).<sup>4,5</sup> It is persistent infection with high-risk HPV types that can lead to development of precancerous lesions/cervical intraepithelial neoplasia (CIN). Although precancerous lesions, especially those less than CIN grade 3 (CIN3), may regress spontaneously, they may also progress to invasive cervical cancer. Progression of a CIN3 lesion to cervical cancer typically takes more than 10 years.<sup>3</sup> The relatively long time period from persistent HPV infection to the development of cervical cancer provides an opportunity to screen for both the presence of high-risk HPV and precancerous lesions.<sup>2,4,5</sup>

This understanding of the natural history of HPV infection and cervical cancer has been a driving force in the ongoing development of technological advances and evolving guidelines for cervical cancer screening and

follow-up for abnormal screening results. Yet, even with this progress, the American Cancer Society estimates that 13,240 new cases of invasive cervical cancer will be diagnosed in the U.S. in 2018 and that 4,170 deaths from cervical cancer will occur.<sup>6</sup> Most of these cases of cervical cancer will develop in women who have not been adequately screened.<sup>2</sup> Furthermore, the burden of cervical cancer incidence and mortality now falls disproportionately on certain vulnerable populations because of disparities in cervical cancer screening. Eliminating these disparities must be a primary goal.

Populations identified as having lower rates of cervical cancer screening than the general population include women with lower socioeconomic status, racial/ethnic minorities, women living in rural areas, women with physical and/or intellectual disabilities, lesbians, and transgender males.<sup>6-16</sup> Multiple factors, in many cases co-existent, lead to these disparities. As a result, multifaceted approaches to increasing cervical cancer screening rates are needed.

Barriers to cervical cancer screening for these populations entail financial, logistical, linguistic, and cultural factors, as well as misperceptions or lack of knowledge about screening and cancer.<sup>7-16</sup> In addition, individuals from some minority populations may not seek cervical cancer screening because of embarrassment or because of unpleasant encounters or discrimination previously experienced in healthcare settings.<sup>10,12,15,16</sup> These same barriers extend beyond screening to receiving appropriate follow-up and treatment for abnormal findings.

Recent study data demonstrate some promising innovations. Women who are under-screened or unscreened because of barriers such as embarrassment, discomfort, inconvenience, or lack of access may be receptive to self-sampling for high-risk HPV.<sup>2,17-20</sup> Availability of trained patient navigators to address individual barriers to follow-up and treatment for abnormal findings has also shown favorable results.<sup>21-24</sup> Use of telecolposcopy has the capacity to provide critical timely follow-up for women who lack easy access to it because of their location and the cost and time for travel to a distant setting.<sup>25,26</sup>

Ongoing research is needed to better understand these barriers and to further explore effective strategies to reach women who are inadequately screened, as well

as to address follow-up and treatment concerns. Nurse practitioners (NPs) providing care for women are in an ideal position to participate in this research and in the implementation of evidence-based approaches.

Recommendations regarding which test should be used for primary screening (e.g., Pap test alone, HPV test alone, co-testing), which sampling methods are optimal, and how services are best delivered will likely continue to evolve as technology advances and more data become available. What is certain is that cervical cancer screening performed on a regular basis, with access to follow-up and early treatment, reduces cervical cancer morbidity and mortality.

Cervical cancer screening guidelines by age group are listed in Box 1.<sup>27-31</sup> Of note, these guidelines are intended for women at average risk for developing cervical cancer. Women with certain additional risk factors may require a different screening schedule than that recommended for the general population. Women at higher than average risk include those infected with HIV or who are otherwise immunocompromised, those who were exposed to diethylstilbestrol *in utero*, and those previously treated for CIN grade 2 or higher. Also of note, the same cervical can-

cer screening recommendations apply to any individual with a cervix, regardless of gender identity.<sup>32</sup>

## Implications for women's healthcare and NP practice

Identifying populations within one's own community that are facing barriers to cervical cancer screening and follow-up is essential as a first step. Use of a variety of evidence-based strategies can reduce barriers and facilitate preventive healthcare for these populations. NPs can participate in community-based approaches to reach vulnerable populations with culturally appropriate education focused on addressing misperceptions and lack of knowledge about screening and cervical cancer.

Women who have been undergoing annual cervical cancer screening may be confused by the change in recommended screening frequency for their age group. Women who have received HPV vaccination may believe that they have ensured themselves lifelong immunity to HPV infection and that they can forgo regular cervical cancer screening. Providing women with the information they need to be empowered to attend to their own health promotion and disease prevention needs is crucial.

### Box 1. Cervical cancer screening guidelines<sup>27-31</sup>

Age range (y)	Screening recommendation	Comments
<21	Screening not recommended	Exception is a female <21 years infected with HIV or otherwise immunocompromised
21-29	Cytology alone every 3 years	Co-testing for HPV not recommended as routine screening for this age group
30-64	Cytology and HPV co-testing (preferred) every 5 years or cytology alone (acceptable) every 3 years	
≥65	Stop screening if woman has had adequate prior negative screening results—defined as 3 consecutive negative cytology results or 2 consecutive co-testing results within previous 10 years and the most recent test within the past 5 years	If woman has history of CIN2, CIN3, or adenocarcinoma <i>in situ</i> , continue routine screening for total of 20 years after spontaneous regression or appropriate management
Any age with total hysterectomy	No further screening necessary	Recommendation applies to women without a cervix and without a history of CIN2, CIN3, adenocarcinoma <i>in situ</i> , or cervical cancer in the past 20 years

ACOG, ASCCP, ASCP, and ACS support these guidelines as standard of practice for women at average risk for cervical cancer.<sup>27-30</sup> Clinicians choosing to use HPV testing alone as the primary screen should follow the interim guidance provided by ASCCP and SGO. This guidance applies to individuals aged 25-64 years. Only one HPV test is currently FDA approved for primary cervical cancer screening.<sup>31</sup>

ACOG, American College of Obstetricians and Gynecologists; ACS, American Cancer Society; ASCCP, American Society for Colposcopy and Cervical Pathology; ASCP, American Society for Clinical Pathology; CIN, cervical intraepithelial neoplasia; HPV, human papillomavirus; SGO, Society for Gynecologic Oncology.

## Box 2. Useful resources

- ASCCP Mobile Consensus Guidelines on Management of Women with Abnormal Cervical Cancer Screening Tests and Cancer Precursors  
Available for iPhone, iPad, Android (\$9.99)  
[asccp.org](http://asccp.org)
- CDC National Breast and Cervical Cancer Early Detection Program (NBCCEDP)  
The program helps low-income, uninsured, and underinsured women gain access to breast and cervical cancer screening, diagnostic testing, and treatment services.  
[cdc.gov/cancer/nbccedp/index.htm](http://cdc.gov/cancer/nbccedp/index.htm)
- CDC. *Increasing Population-based Breast and Cervical Cancer Screenings: An Action Guide to Facilitate Evidence-based Strategies*. Atlanta, GA: CDC, U.S. Department of Health and Human Services; 2014.  
[cdc.gov/cancer/nbccedp/pdf/breastcanceractionguide.pdf](http://cdc.gov/cancer/nbccedp/pdf/breastcanceractionguide.pdf)
- Multidisciplinary Steering Committee of the Women's Preventive Services Initiative. *Recommendations for Preventive Services for Women Final Report to the U.S.DHHS, Health Resources & Services Administration*. Washington, DC: ACOG; 2017.
- NPWH Well-Woman Visit App  
Available for iPhone, iPad, Android (free)  
[npwh.org](http://npwh.org)

For women aged 65 years or older, careful review of their health histories is needed to confirm that they meet certain criteria before discontinuing cervical cancer screening. A large study showed that most cervical cancers in women aged 65 or older occurred among those who had not met criteria for stopping screening.<sup>33</sup> NPs should not make assumptions that a woman has undergone recommended screenings prior to age 65. In 2015, the National Center for Health Statistics reported that 1 in 4 women aged 45–64 years had not been screened for cervical cancer in the preceding 3 years.<sup>34</sup>

Effective reminder and follow-up systems are crucial. NPs who provide women's healthcare must be innovative in designing and implementing reminder systems that reach all patients and engage them to return for both routine screening and any additional follow-up needed. NPs who provide women's healthcare are also in an opportune position to participate in surveillance to track outcomes of screening and follow-up strategies. The data obtained can drive informed decision making about what works to improve cervical cancer screening and to improve service delivery.<sup>35</sup>

Improving cervical cancer screening rates and HPV vaccination rates go hand in hand to reduce the incidence of cervical cancer. NPs must also take steps in their clinical practice to identify patients who need HPV vaccination, strongly recommend this vaccination, provide the vaccination on the same day that the need is identified, and use reminder systems to ensure patients return to the office to complete the vaccination series. Useful resources are available in Box 2.

## Recommendations

NPs who provide healthcare for women aged 21 years or older should:

- Identify those populations in the community they serve who are at risk for not receiving regular cervical cancer screening and follow-up.
- Advocate for culturally appropriate outreach to populations in the community they serve who are at risk for not receiving regular cervical cancer screening and follow-up.
- Create healthcare environments that are welcoming and nonjudgmental and that promote a comfortable, affirming cervical cancer screening experience.
- Follow current cervical cancer screening guidelines.
- Educate patients about current cervical cancer screening guidelines.
- Utilize effective reminder and follow-up systems.
- Establish resources for referral and treatment.
- Confirm the status of every patient aged 65 years or older to determine whether she meets criteria to discontinue cervical cancer screening.
- Advocate for accessible and affordable cervical cancer screening services.
- Participate in surveillance programs to track outcomes of cervical cancer screening and follow-up strategies.
- Recommend and provide HPV vaccination when indicated.

NPWH will provide leadership and resources to ensure that:

- Continuing education programs are available for NPs to learn about evidence-based strategies to improve cervical cancer screening rates as well as timely follow-up and treatment.
- NPs have resources to develop and/or implement community-based approaches to reach vulnerable populations for cervical cancer awareness, screening, and follow-up.
- Timely updates are provided on cervical cancer screening guidelines.
- NPs have an opportunity to participate in surveillance programs to obtain data on what works to improve

cervical cancer screening rates.

- Research moves forward in all aspects of cervical cancer prevention, screening, and treatment to improve healthcare outcomes.
- Policies support equitable access to cervical cancer screening, appropriate follow-up, and treatment when needed. ●

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