

Human Papillomavirus Vaccination



The National Association of Nurse Practitioners in Women's Health (NPWH) supports an intentional and concerted effort to improve human papillomavirus (HPV) vaccination rates—with the goal of ending cancers caused by HPV. All nurse practitioners (NPs) who provide healthcare for adolescents and young adults are crucial to the success of this effort, and are encouraged to take these steps in their clinical practices:

- Ask all patients aged 11-26 years if they are fully vaccinated against HPV.
- Strongly recommend HPV vaccination at that same visit when it is needed.
- Provide the vaccination in the office or provide directions to a location in the community where patients can get the vaccination.
- Use a reminder system to ensure that patients return to the office or community location to complete the vaccination series.

In addition, NPs should share HPV information with staff and other providers in the clinical setting so that everyone delivers consistent HPV vaccination messages to patients and parents.

NPWH will provide leadership and collaborate with other organizations and agencies to offer education and resources needed for NPs to promote and provide HPV vaccination. Likewise, NPWH will do all it can to make sure that no opportunities to vaccinate patients are missed.

Background

Each year in the United States, approximately 24,600 cancers attributable to the two high-risk HPV types (16 and 18) targeted by all three FDA-approved HPV vaccines are newly diagnosed. Another 3,800 cancers attributable to the other five high-risk HPV types (31, 33, 45, 52, and 58) covered by the 9-valent HPV vaccine are newly diagnosed.¹ Of these newly diagnosed HPV-attributed cancers, at least 50% are cervical cancers.² HPV types 16 and

18 account for about 70% of cases of cervical cancer and HPV types 31, 33, 45, 52, and 58 account for an additional 15%-20% of cervical cancer cases.^{3,4} Nearly 4,200 U.S. women die each year of cervical cancer.² As with cervical cancer, most vulvar, vaginal, anal, penile, and oropharyngeal cancers are attributable to HPV infections.⁵

In 2006, the first HPV vaccine was approved by the FDA; that same year, the CDC's Advisory Committee on Immunization Practices (ACIP) began recommending routine vaccination for all girls at age 11 or 12. In 2011, the ACIP issued the same recommendation for boys of the same age. Catch-up vaccination is recommended for females aged 13-26 and males aged 13-21 who have not been vaccinated previously or who have not completed the vaccine series.^{6,7} ACIP also recommends vaccination through age 26 for persons not adequately vaccinated previously who fall into any of these categories: men who have sex with men, individuals who are transgender, and individuals who have certain immunocompromising conditions.⁷

Two doses of the HPV vaccine are given within a 6- to 12-month period if the individual is younger than 15.⁸ The minimum interval between the first and second dose is 5 months. If the two doses are given less than 5 months apart, the individual will require a third dose of the vaccine.

If the first dose of the HPV vaccine is given on or after a person's 15th birthday, a 3-dose series should be completed, with the second dose given 1-2 months after the first dose and the third dose given 6 months after the first dose. Females and males with certain immunocompromising conditions should receive the 3-dose series regardless of age at first dose. Minimal intervals between doses in the 3-dose series are 4 weeks between the first and second doses, 12 weeks between the second and third doses, and 5 months between the first and third doses.

Among the three HPV vaccines approved by the FDA, only the 9-valent HPV vaccine is currently available in the U.S. Individuals who started with one of the other two HPV vaccines can complete the series with the 9-valent HPV vaccine. It is not necessary to restart the series. Clinical trials have demonstrated that the HPV vaccines are safe and effective.^{9,10} Nevertheless, rates of HPV vaccination in both females and males in the U.S. are far below those of other vaccines recommended for adolescents. Although HPV vaccination rates are slowly rising,

we have not come close to reaching the Healthy People 2020 goal of having 80% of 13- to 15-year-old boys and girls fully vaccinated.¹¹ In fact, a 2015 CDC national adolescent immunization study showed that only 42% of girls and 28% of boys aged 13-17 had received the full vaccination series.¹²

Implications for women's healthcare

The number of HPV-associated cancers can be substantially reduced by improving vaccination rates. The CDC estimates that increasing HPV vaccination rates from the current levels to 80% would prevent an additional 53,000 future cervical cancer cases among girls now aged 12 years or younger. In addition, thousands of other forms of HPV-associated cancer would likely be prevented within the same time frame.¹³

Studies consistently show that receiving a strong recommendation from a healthcare provider and having the opportunity to discuss the HPV vaccine are associated with vaccine acceptance and initiation.^{14,15} Lack of consistent recommendations and missed opportunities are the primary reasons that vaccination rates have not yet reached the Healthy People 2020 goal.^{14,16}

All NPs who provide well-woman care in their practices have another unique opportunity to advocate for HPV vaccination. When performing cervical cancer screening (e.g., Pap tests) or discussing cervical cancer screening recommendations with adult women, NPs should inform these women that a vaccine now exists that can prevent cervical cancer, as well as other cancers, when given at an early age. An emphasis should be placed on the vaccine being most effective when given prior to any sexual activity and potential exposure to HPV.¹⁷ Once these women are duly informed about the HPV vaccine and the protection that it provides, they can share this information with family members and friends. If these women have children of their own, either at the time of the visit or at some time in the future, they will better understand the need to have these children immunized against HPV as soon as they are old enough to receive the vaccine.

Recommendations

NPs who provide healthcare for adolescents and young adults should:

- Become fully informed about HPV infection, the cancers caused by HPV, and HPV vaccinations so that they can explain why HPV vaccination is vital and address patient and/or parent concerns about the vaccine.
- Take steps in their clinical practice to identify patients

who need HPV vaccination, strongly recommend the vaccination, provide the vaccination on the same day that the need is identified, and use a reminder system to ensure that patients return to the office to complete the vaccination series.

- Advocate for HPV vaccination at every opportunity, including when performing cervical cancer screening or discussing cervical cancer screening recommendations with women who may have young family members (at present and/or in the future) and friends who should receive the vaccine.
- Share HPV information with staff and other providers in the clinical setting so that everyone delivers consistent HPV vaccination messages to patients and parents. ●

Box. Helpful resources

CDC: HPV Vaccine Information for Clinicians^A

American Academy of Pediatrics: HPV Champion Toolkit^B

American Cancer Society: The National HPV Vaccination Roundtable^C

References

1. Viens LJ, Henley SJ, Watson M, et al. Human papillomavirus-associated cancers - United States, 2008-2012. *MMWR Morb Mortal Wkly Rep*. 2016;65(26):661-666.
2. American Cancer Society. Cancer Facts and Figures 2017. cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf
3. Hariri S, Unger ER, Schafer S, et al. HPV type attribution in high-grade cervical lesions: assessing the potential benefits of vaccines in a population-based evaluation in the United States. HPV-IMPACT Working Group. *Cancer Epidemiol Biomarkers Prev*. 2015;24(2):393-399.
4. Kaiser Family Foundation. The HPV Vaccine: Access and Use in the U.S. September 3, 2015. kff.org/womens-health-policy/fact-sheet/the-hpv-vaccine-access-and-use-in/
5. CDC. How Many Cancers Are Linked with HPV Each Year? Page last updated March 3, 2017. cdc.gov/cancer/hpv/statistics/cases.htm
6. CDC. Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, United States, 2017. cdc.gov/vaccines/schedules/hcp/child-adolescent.html
7. CDC. Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2017. cdc.gov/vaccines/schedules/hcp/imz/adult.html

8. Mietes E, Kempe A, Markowitz LE. Use of a 2-dose schedule for human papillomavirus vaccination—updated recommendations of the Advisory Committee on Immunization Practices. *MMWR Recomm Rep*. 2016;65(49):1405-1408.
9. Markowitz LE, Dunne EF, Saraiya M, et al. Human papillomavirus vaccination: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep*. 2014;63(No RR-05):1-30.
10. Petrosky E, Bocchini JA, Hariri S, et al. Use of 9-valent human papillomavirus (HPV) vaccine: updated HPV vaccination recommendations of the advisory committee on immunization practices. *MMWR Morb Mortal Wkly Rep*. 2015;64(11):300-304.
11. HealthyPeople.gov. Healthy People 2020 Topics & Objectives. Immunization and Infectious Diseases. Site last updated June 1, 2017. healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives
12. Reagan-Steiner S, Yankey D, Jeyarajah J, et al. National, regional, state, and selected local area vaccination coverage among adolescents aged 13-17 years - United States, 2015. *MMWR Morb Mortal Wkly Rep*. 2016;65(33):850-858.
13. National Institutes of Health. *Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer*. A Report to the President of the United States from the President's Cancer Panel. Bethesda, MD: National Institutes of Health; February 2014. deainfo.nci.nih.gov/advisory/pcp/annualReports/HPV/PDF/PCP_Annual_Report_2012-2013.pdf
14. Holman DM, Benard V, Roland KB, et al. Barriers to human papillomavirus vaccination among US adolescents: a systematic review of the literature. *JAMA Pediatr*. 2014;168(1):76-82.
15. Rosenthal SL, Weiss TW, Zimet GD, et al. Predictors of HPV vaccine uptake among women aged 19-26: importance of a physician's recommendation. *Vaccine*. 2011;29(5):890-895.
16. Perkins RB, Clark JA, Apte G, et al. Missed opportunities for HPV vaccination in adolescent girls: a qualitative study. *Pediatrics*. 2014;134(3):e666-e674.
17. Schiller JT, Castellsague X, Garland SM. A review of clinical trials of human papillomavirus prophylactic vaccines. *Vaccine*. 2012;30(suppl 5):F123-F138.

Web resources

- A. cdc.gov/hpv/hcp/need-to-know.pdf
- B. aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Pages/HPV-Champion-Toolkit.aspx
- C. cancer.org/health-care-professionals/national-hpv-vaccination-roundtable.html

Approved by the NPWH Board of Directors: July 2017

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publication consideration. We ask reviewers to determine whether the manuscript is accurate, supported by evidence, relevant, and clearly presented, and to make suggestions for improvement. We also ask them to check references for timeliness and appropriateness and to identify any important resources that might be missing. Click [here^B](#) for our peer reviewer application form.

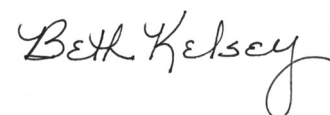
I extend a huge thank-you to everyone who made the **20th Annual NPWH Premier Women's Healthcare Conference** in Seattle such a great success, with the most attendees ever! It is difficult to believe we have been planning and attending these conferences for 20 years! Each year just gets better and better, thanks to the extraordinary team effort of our Planning Committee, Board of Directors, staff members, and CEO, Gay Johnson. Our Education and Research Committees work diligently to ensure that the content of the podium presentations and posters is evidence based and relevant to nurse practitioners providing healthcare for women. Our exhibitors afford us an opportunity to learn and get questions answered about women's health products, services, and pharmaceuticals.

Dory Greene, our managing editor, and I presented

at this year's conference on **writing for publication**. We were delighted to hear from several attendees that they are interested in putting pen to paper or fingers to keyboard for the journal. Are you interested too? If so, please send an email to bkelsey@healthcommedia.com and/or dgreene@healthcommedia.com.

If you are looking for a conference that covers it all—from contemporary issues to keep up to date, to the challenging issues we face clinically and professionally every day, to the practical hands-on skills we need to provide the best care for our patients—plan to join us for the **21st Annual NPWH Premier Women's Healthcare Conference** in San Antonio on October 10-13, 2018.

Enjoy the holidays with family and friends!



Beth Kelsey, EdD, APRN, WHNP-BC, FAANP

Web resources

- A. npwomenshealthcare.com/author-guidelines/
- B. npwomenshealthcare.com/peer-reviewer-application-form/