

Policy on Human Papilloma Virus Vaccinations

Adopted

2017*

Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes there is a link between human papilloma virus (HPV) and development of oral pharyngeal cancers. The purpose of this policy is to provide a perspective on dental provider's role in discussing oral cancers and their associations with HPV.

Methods

This policy was developed by the Council on Clinical Affairs, and is based on a review of current dental and medical literature. An electronic search was conducted using the PubMed®/MEDLINE database using the terms: HPV vaccines, HPV and oral cancer, HPV and cancer, Gardasil® and prevention of cancer; fields: all; limits: within the last 10 years, humans, English, birth through age 99. The search returned over 865 articles. Papers for review were chosen from this list and from the references within selected articles.

Background

HPV is associated with anogenital, skin, and oral and oropharyngeal cancers (OOPC)^{1,2}. It also is observed in oral squamous cell carcinoma, the most common type of OOPC.² Based on epidemiological trends, 48,330 new cases and 9,570 deaths due to OOPC were expected to occur in 2016.³ HPV is a critical factor, with the HPV 16 strain being the most prevalent.⁴ The association between HPV infection and OOPC may be responsible for the recent epidemiologic change with OOPC affecting younger population groups.

Vaccines for prevention of HPV infections via subtypes 16 and 18 have been available since 2006.⁵ The Centers for Disease Control and Prevention (CDC) found that the prevalence of HPV infection decreased 56 percent among female teenagers since the vaccine was introduced.⁶ HPV vaccine efficacy against anal and oral infection is high, and similar to that against cervical infection.⁷ Because the same viral strains are strongly associated with OOPC, it is reasonable to assume that HPV vaccines play an important role in oral pharyngeal cancer prevention. Although there are no studies showing that the HPV vaccine prevents the development of OOPC, it is reasonable to postulate the vaccine's potential since the vaccine has been shown to prevent HPV infection.⁶ Despite the increased availability of the HPV vaccines,

HPV-related OOPC incidence has continued to increase significantly.

The American Academy of Pediatrics (AAP) recommends HPV vaccination for all 11 to 12 year old children, and includes females up to age 26 and males up to age 21 who have not been vaccinated previously.⁸ The vaccinations can be administered as early as nine years of age.⁹ Initially, the AAP recommended a series of three vaccines over a six month period, with the second dose occurring 1–2 months following the first, and the third dose at six months.⁸ Low compliance rates for completion of the vaccination series are due to access, willingness of physicians to discuss with parents, and cost.^{10–13} In 2016, the CDC Advisory Committee on Immunization Practices recommended a two-dose schedule for children younger than 15 years of age with both doses 6–12 months apart.⁹ For children older than 15 years and immunocompromised persons, the three-dose schedule is still recommended.⁹

Adolescent patients have unique needs related to oral healthcare. Anticipatory guidance for adolescent patients includes tobacco and nutritional counseling.¹⁴ Given that dental professionals are already involved in secondary and tertiary prevention and, to a limited extent, in the treatment of OOPC, offering primary prevention in dental clinics seems a logical and clinically-appropriate approach. As adolescent patients tend to see the dentist twice yearly and more often than their medical doctor, this is a window of opportunity for the dental professional to provide counseling to the patient and parent about HPV's link to oral cancer and potential benefits of the HPV vaccine.¹⁵

Policy statement

The AAPD supports measures that prevent OOPC, including the prevention of HPV infection, a critical factor in the development of oral squamous cell carcinoma.

The AAPD encourages oral health care providers to:

- educate patients, parents, and guardians on the serious health consequences of OOPC and the relationship of HPV to OOPC.

ABBREVIATIONS

AAP: American Academy of Pediatrics. **AAPD:** American Academy of Pediatric Dentistry. **CDC:** Centers for Disease Control and Prevention. **HPV:** Human papilloma virus. **OOPC:** Oral and oropharyngeal cancer.

* This policy is undergoing revision to reflect the AAP's revised recommendations. Current recommendations are available in the resource section on pages 517-24.

- counsel patients, parents, and guardians regarding the HPV vaccination, in accordance with CDC recommendations, as part of anticipatory guidance for adolescent patients.
- routinely examine patients for oral signs of and changes consistent with OOPC.
- follow current literature and consider incorporating other approaches for HPV prevention in their practices so as to minimize the risk of disease transmission.

References

1. Chattopadhyay A, Weatherspoon D, Pinto A. Human papillomavirus and oral cancer: A primer for dental public health professionals. *Community Dent Health* 2015;32(2):117-28.
2. Daley E, DeBate R, Dodd V, et al. Exploring awareness, attitudes, and perceived role among oral health providers regarding HPV-related oral cancers. *J Public Health Dent* 2011;71(2):136-42.
3. American Cancer Society. Cancer Facts and Figures 2016. Available at: "<https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2016/cancer-facts-and-figures-2016.pdf>". Accessed June 30, 2017. (Archived by Web Cite® at: "<http://www.webcitation.org/6sic1muRk>")
4. Weatherspoon DJ, Chattopadhyay A, Boroumand S, Garcia I. Oral cavity and oropharyngeal cancer incidence trends and disparities in the United States: 2000–2010. *Cancer Epidemiol* 2015;39(4):497-504. Available at: "<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4532587/>". Accessed June 30, 2017.
5. Markowitz LE, Dunne EF, Saraiya M, et al. Quadrivalent human papillomavirus vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep* 2007;56(RR-2):1-24.
6. Markowitz LE, Hariri S, Lin C, et al. Reduction in human papillomavirus (HPV) prevalence among young women following HPV vaccine introduction in the United States, National Health and Nutrition Examination Surveys, 2003-2010. *J Infect Dis* 2013;208(3):385-93.
7. Beachler CK. Multisite HPV 16/18 vaccine efficacy against cervical, anal and oral HPV infection. *J Natl Canc Inst* 2015;108(1):djv302.
8. American Academy of Pediatrics. Human Papillomaviruses. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, Ill.: American Academy of Pediatrics; 2015:577-82.
9. Meites E, Kempe A, Markowitz LE. Use of a 2-dose schedule for human papillomavirus vaccination — Updated recommendations of the Advisory Committee on Immunization Practices. *Morb Mortal Wkly Rep* 2016;65(49):1405-8.
10. McRee AG. HPV vaccine hesitancy: Findings from a statewide survey of health care providers. *J Pediatr Health Care* 2014;28(6):541-9.
11. Siddiqui M, Salmon DA, Omer SB. Epidemiology of vaccine hesitancy in the United States. *Hum Vaccin Immunother* 2013;9(12):2643-8.
12. Henrikson NB, Opel DJ, Grothaus L, et al. Physician communication training and parental vaccine hesitancy: A randomized trial. *Pediatrics* 2015;136(1):70-9.
13. Curtis CR, Dorell C, Yankey D, et al. National human papillomavirus vaccination coverage among adolescents aged 13-17 years—National Immunization Survey—teen, United States, 2011. *Morb Mortal Wkly Rep* 2014;63(2):61-70.
14. American Academy of Pediatric Dentistry. Adolescent oral health care. *Pediatr Dent* 2016;38(6):155-63.
15. Irwin CE Jr, Adams SH, Park MJ, Newacheck PW. Preventive care for adolescents: Few get visits and fewer get services. *Pediatr* 2009;123(4):e565-72. Available at: "<https://dx.doi.org/10.1542/peds.2008-2601>". Accessed June 30, 2017. (Archived by WebCite® at: "<http://www.webcitation.org/6sid2LgBu>")