

# Policy on Human Papilloma Virus Vaccinations

## Revised

2020

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## 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 a dental provider's role in discussing oral cancers and their associations with HPV, and HPV vaccination for age-appropriate patients.

## Methods

This policy was developed by the Council on Clinical Affairs and adopted in 2017.<sup>1</sup> This revision 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 5,296 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)<sup>2-4</sup>. It also is observed in oral squamous cell carcinoma, the most common type of OOPC.<sup>5</sup> Based on epidemiological trends, 53,260 new cases and 10,750 deaths due to OOPC were expected to occur in 2019.<sup>6</sup> HPV is a critical factor, with the HPV 16 strain being the most prevalent.<sup>7</sup> 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.<sup>8</sup> The Centers for Disease Control and Prevention (CDC) found that the prevalence of HPV infection decreased 56 percent among females aged 14-19 years since the vaccine was introduced.<sup>8</sup> A recent study showed 88 percent reduction in prevalence in females and males age 18-33 years.<sup>10</sup> HPV vaccine efficacy against anal and oral infection is high and similar to that against cervical infection.<sup>11</sup> 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.<sup>9</sup> Despite the

increased availability of the HPV vaccines, HPV-related OOPC incidence has continued to increase significantly.<sup>12</sup>

In 2016, the CDC Advisory Committee on Immunization Practices (ACIP) recommended a two-dose schedule for children younger than 15 years with both doses 6-12 months apart.<sup>13</sup> For children age 15 or older at the time of initial vaccination and for those with immunocompromising conditions, a three-dose series is recommended.<sup>13</sup> The American Academy of Pediatrics (AAP) updated their HPV vaccination policy in 2017 to reflect the CDC/ACIP recommendations.<sup>14</sup> Low compliance rates for completion of the vaccination series are due to access, willingness of physicians to discuss with parents, and cost.<sup>14-17</sup>

Adolescent patients have unique needs related to oral healthcare. Anticipatory guidance for adolescent patients includes tobacco and nutritional counseling.<sup>18,19</sup> 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.<sup>20</sup>

## 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.
- counsel patients, parents, and guardians regarding the HPV vaccination, in accordance with CDC recommendations, as part of anticipatory guidance for adolescent patients.

## ABBREVIATIONS

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

- 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. American Academy of Pediatric Dentistry. Policy on human papilloma virus vaccinations. *Pediatr Dent* 2017; 39(6):81-2.
2. National Cancer Institute. HPV and cancer. 2014. Available at: "<https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-and-cancer>". Accessed May 11, 2020.
3. American Cancer Society. Cancer facts and figures 2019. Available at: "<https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf>". Accessed January 3, 2020.
4. Cogliano V, Baan R, Straif K, Grosse Y, Secretan B, El Ghissassi F. Carcinogenicity of human papillomaviruses. *World Health Organization International Agency for Research on Cancer. Lancet Oncol* 2005;6:204.
5. 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.
6. American Cancer Society. Cancer A-Z. Oral Cavity and Oropharyngeal Cancer: Causes, Risk Factors, and Prevention. Available at: "<https://www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/causes-risks-prevention.html>". Accessed May 11, 2020.
7. 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 January 3, 2020.
8. 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.
9. 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.
10. Chaturvedi AK, Graubard BI, Broutian T, et al. Effect of prophylactic human papillomavirus (HPV) vaccination on oral HPV infections among young adults in the United States. *J Clin Oncol* 2018;36(3):262-7.
11. Beachler CK. Multisite HPV 16/18 vaccine efficacy against cervical, anal, and oral HPV infection. *J Natl Canc Inst* 2015;108(1):djv302. Available at: "<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4862406/>". Accessed October 31, 2020.
12. Senkomago V, Henley SJ, Thomas CC, Mix JM, Markowitz LE, Saraiya M. Human papillomavirus—Attributable cancers—United States 2012-2015. *MMWR Morb Mortal Wkly Rep* 2019;68:724-8.
13. 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. Available at: "<https://www.cdc.gov/mmwr/volumes/65/wr/mm6549a5.htm>". Accessed October 31, 2020.
14. American Academy of Pediatrics. HPV Vaccine Implementation Guidance Updated February 2017. Available at: "[https://www.aap.org/en-us/Documents/immunization\\_hpvimplementationguidance.pdf](https://www.aap.org/en-us/Documents/immunization_hpvimplementationguidance.pdf)". Accessed January 3, 2020.
15. McRee AG. HPV vaccine hesitancy: Findings from a statewide survey of health care providers. *J Pediatr Health Care* 2014;28(6):541-9.
16. Siddiqui M, Salmon DA, Omer SB. Epidemiology of vaccine hesitancy in the United States. *Hum Vaccin Immunother* 2013;9(12):2643-8.
17. Henrikson NB, Opel DJ, Grothaus L, et al. Physician communication training and parental vaccine hesitancy: A randomized trial. *Pediatrics* 2015;136(1):70-9.
18. American Academy of Pediatric Dentistry. Adolescent oral health care. *The Reference Manual of Pediatric Dentistry*. Chicago, Ill.: American Academy of Pediatric Dentistry; 2020:257-66.
19. American Academy of Pediatric Dentistry. Periodicity of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for infants, children, and adolescents. *The Reference Manual of Pediatric Dentistry*. Chicago, Ill.: American Academy of Pediatric Dentistry; 2020:232-42.
20. 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 January 3, 2020.