

Policy on Human Papilloma Virus Vaccinations

Latest Revision

2024

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 cancers.

Purpose

The American Academy of Pediatric Dentistry (**AAPD**) recognizes there is a link between human papilloma virus (**HPV**) and development of oral pharyngeal cancers. This policy is intended to promote the dentist'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, adopted in 2017¹, and last revised in 2020². 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 vaccine/s AND mouth neoplasms OR vaccination OR immunizations and papillomavirus infections OR papillomavirus vaccines OR Gardasil® ; fields: all; limits: humans and English. The search returned 2904 articles. Papers for review were chosen from this list and from the references within selected articles.

Background

HPV transmission can occur through both sexual and nonsexual contacts; skin-to-skin, skin-to-mouth, oral sex, and sexual intercourse are all potential routes of transmission.^{3,4} Persistent infection with high-risk HPV genotypes is associated with anogenital, skin, as well as oral and oropharyngeal cancers (**OOPC**).^{5,6} Oropharyngeal (i.e., tonsils and base of tongue) squamous cell carcinoma is the most common type of HPV-associated OOPC.⁷ HPV accounts for 70 percent of all OOPC in the United States⁸, of which over 90 percent are caused by HPV 16 strain^{7,9}. Other high-risk HPV genotypes implicated in OOPC are types 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68.^{5,10} Patients with HPV-associated OOPC generally are younger and healthier than patients with HPV-negative OOPC, with negligible smoking history which is a shift from the traditional risk factors of tobacco and alcohol abuse.¹¹

Vaccines for prevention of HPV infections via subtypes 16 and 18 have been available since 2006.¹² Reduction in prevalence of HPV-types 6, 11, 16, and 18 from the prevaccine era to 2015-2018 has been significant among females aged 14 through 19 years (88 percent) and 20 through 24 years (81 percent).¹³ In sexually-experienced females who reported receiving one or more HPV-vaccine doses, HPV prevalence decreased 97 percent among those aged 14 through 19 years and 86 percent in those aged 20 through 24 years.¹³ In females who reported no vaccination, prevalence decreased 87 percent and 65 percent respectively, suggesting herd effects.¹³ HPV vaccine efficacy against anal and oral infection is high and similar to that against cervical infection.¹⁴ A recent study showed 88 percent reduction in prevalence in females and males aged 18 to 33 years.¹⁵ No studies show that the HPV vaccine prevents the development of OOPC; however, it is reasonable to postulate the vaccine's potential to do so as the vaccine has been shown to reduce HPV-related oral infections.^{16,17} Evidence extrapolated from large epidemiologic studies

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on HPV-vaccination efficacy in reducing risk of vulvovaginal and cervical cancer caused by the same viral strains associated with OOPC further supports this postulate.¹⁸⁻²⁰

With regard to vaccine safety, robust data from prelicensure trials and postlicensure monitoring indicate that, other than expected minor adverse effects (e.g., fever, injection site reaction, syncopal episode) in adolescents, no serious adverse events or concerns have been identified.^{21,22} A history of severe allergic reaction (e.g., anaphylaxis) to a component of the vaccine (e.g., baker's yeast) or subsequent to a previous dose of HPV vaccine is a contraindication to immunization.²³ Vaccination is not recommended for individuals with moderate or severe acute illnesses until symptoms improve or during pregnancy.²³

In 2016, the CDC Advisory Committee on Immunization Practices (**ACIP**) recommended HPV vaccination at age 11 or 12 years, but it can be given as early as age nine years.^{24,25} For immunocompetent children younger than 15 years, a two-dose schedule with both doses six-12 months apart is recommended.²⁴ For children ages nine through 14 who received two HPV vaccine doses less than five months apart or age 15 or older at the time of initial vaccination, as well as for those with immunocompromising conditions, a three-dose series is recommended.^{23,24} The American Academy of Pediatrics (**AAP**) updated its HPV vaccination policy in 2017 to reflect the CDC/ACIP recommendations.²⁵ Despite recommendations from various authorities on the benefits of HPV vaccination, barriers to immunization²⁵⁻²⁹ (e.g., parental safety concerns, lack of knowledge, belief it is not necessary, concerns that patient is not sexually active or has special needs; lack of provider recommendation) persist.

Anticipatory guidance for child and adolescent patients includes counseling across a variety of preventive (e.g., caries, trauma) and behavioral (e.g., diet, tobacco) considerations.³⁰ 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. Provision of an additional avenue for promotion of HPV vaccination is desirable, as evidenced by the persistent resistance towards HPV vaccination and the continued increase in HPV-related OOPC incidence despite increased availability of HPV vaccines.⁸ As children and young 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 other HPV-related oral lesions as well as the potential benefits of the HPV vaccine³¹. The dental office could be an additional access point for HPV vaccine delivery.³¹⁻³³

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 and parents on the serious health consequences of OOPC and the relationship of HPV to OOPC.
- counsel patients and parents regarding 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 to minimize the risk of disease transmission.

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