Taking steps to slow the upswing in oral and pharyngeal cancers

The CDC estimates that 70% of these cancers are caused by HPV. And yet, in 2018, only about two-thirds of adolescents had received 1 or more doses of HPV vaccine.

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A recent report by the Centers for Disease Control and Prevention (CDC) documents the trends in oral and pharyngeal cancers (OPC) in the United States over a 10-year period, 2007-2016.[1] The rate of OPC began to increase in 1999 and has been increasing ever since. The age-adjusted rate in 2007 was 10.89/100,000 compared with 11.7/100,000 in 2016 (**TABLE 1**[1]). This is an annual relative increase of about 6% per year. In absolute numbers, there were 35,076 cases in 2007 and 44,419 in 2016.[1] The trends in incidence of OPC vary by anatomical site, with some increasing and others declining.

There are 3 known causal factors related to OPC: tobacco use, alcohol use, and human papillomavirus (HPV) infection. The CDC estimates that, overall, 70% of OPCs are caused by HPV.[2] However, while cancers at some oropharyngeal sites are likely related to HPV infection, cancers at other sites are not. The rising overall incidence of OPC is being driven by increases in HPV-related cancers at an average rate of 2.1% per year, while the rates at non-HPV-associated sites have been declining by 0.4% per year.[1] It is also important to appreciate that HPV causes cancer at other anatomical sites (**TABLE 2**[2]) and is responsible for an estimated 35,000 cancers per year.[2]

Other trends of note in all OPCs combined are increasing rates among non-Hispanic whites and Asian-Pacific Islanders; decreasing rates among Hispanics and African Americans; increasing rates among males with no real change in rates among females; increasing rates in those 50 to 79 years of age; decreasing rates among those 40 to 49 years of age; and unchanged rates in other age groups.[1]

The role of the family physician

Preventing OPC and all HPV-related cancers begins by encouraging patients to reduce alcohol and tobacco use and by emphasizing the importance of HPV vaccination. Educate teens and parents/guardians about HPV vaccine and its safety. Screen for tobacco and alcohol use, and offer brief clinical interventions as needed to decrease usage.

Recommendations by the US Preventive Services Task Force regarding screening for, and reducing use of, tobacco and alcohol, as well as screening for cervical cancer, are listed in **TABLE 3**.[3-6] Remember that cervical cancer screening is both a primary and secondary intervention: It can reduce mortality by preventing cervical cancer (via treatment of precancerous lesions) and by detecting cervical cancer early at more treatable stages.

HPV vaccination essentials. CDC recommendations for the use of HPV vaccine and the vaccine dosing schedule appear in **TABLE 4**.[7] While it is true that the best evidence for HPV vaccine's prevention of cancer comes from the study of cervical and anal cancers, it is reasonable to expect that it will also be proven over time to prevent other HPV-caused cancers as the rate of HPV infections declines.

HPV vaccine is underused. In a 2018 survey, only 68.1% of adolescents had received

TABLE 1

Number and rate of HPV-associated oral and pharyngeal cancers by anatomic site, 2007 and 2016[1]

Anatomic site	No. of cases (and rate[a]), 2007	No. of cases (and rate[a]), 2016
All oral and pharynx sites	35,076 (10.89)	44,419 (11.7)
Base of the tongue	5661 (1.72)	8164 (2.03)
Soft palate and uvula[b]	870 (0.27)	743 (0.19)
Tonsil	5791 (1.76)	8792 (2.22)
Oropharynx	1507 (0.46)	2165 (0.54)

HPV, human papillomavirus.
[a] Age adjusted per 100,000.
[b] The only HPV-associated sites with a decline in rate over this time period.

TABLE 2

Number of HPV-associated and estimated number of HPV-attributable cancer cases per year[2]

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)	Percentage probably caused by any HPV type[a]	Estimated number probably caused by any HPV type[a]
Cervix	12,015	91%	10,900
Vagina	862	75%	600
Vulva	4009	69%	2800
Penis	1303	63%	800
Anus[b]	6810[c]	91%	6200
Female	4539	93%	4200
Male	2270	89%	2000
Oropharynx	19,000	70%	13,500
Female	3460	63%	2200
Male	15,540	72%	11,300
TOTAL	**43,999**	**79%**	**34,800**
Female	**24,886**	**83%**	**20,700**
Male	**19,113**	**74%**	**14,100**

HPV, human papillomavirus.
[a] Genotyping showed that most were high-risk types known to cause cancer.
[b] Both anal and rectal squamous cell carcinomas.
[c] Number is rounded.

There is some evidence that if clinicians actively engage with parents about their vaccination concerns and address them head on, same-day vaccination rates can improve.

1 or more doses of HPV vaccine, and only 51.1% were up to date.[8] In contrast, 86.6% had received 1 or more doses of quadrivalent meningococcal vaccine; 88.9% had received 1 or more doses of tetanus, diphtheria & acellular pertussis vaccine; 91.9% were up to date with 2 or more doses of measles, mumps & rubella vaccine; and 92.1% were up to date with hepatitis B vaccine, with 3 or more doses.[8]

Address parental concerns, including these 5 false beliefs

One study found 5 major false beliefs parents hold about HPV vaccine[9]:

1. Vaccination is not effective at preventing cancer.
2. Pap smears are sufficient to prevent cervical cancer.
3. HPV vaccination is not safe.
4. HPV vaccination is not needed since

TABLE 3

Consider these USPSTF steps to reduce rates of oral, pharyngeal cancers[3-6]

Alcohol use screening
Screen for unhealthy alcohol use in primary care settings in adults 18 years or older, including pregnant women, and provide individuals engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce unhealthy alcohol use. (**B** recommendation)
Tobacco use education and screening
Provide education or brief counseling to prevent initiation of tobacco use among school-aged children and adolescents. (**B** recommendation)
Ask all adults about tobacco use, advise them to stop using tobacco, and provide behavioral interventions and US Food and Drug Administration–approved pharmacotherapy for cessation to adults who use tobacco. (**A** recommendation)
Cervical cancer screening
Screen for cervical cancer every 3 years with cervical cytology alone in women ages 21 to 29 years. For women ages 30 to 65 years, screen every 3 years with cervical cytology alone, every 5 years with high-risk human papillomavirus (hrHPV) testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting). (**A** recommendation)

USPSTF, US Preventive Services Task Force.

TABLE 4

ACIP recommendations for the use of HPV vaccine[7]

Individuals for whom vaccination is advised
• HPV vaccine is recommended as routine vaccination for children ages 11 or 12 years. (Vaccination can start at age 9.)
• HPV vaccine is recommended for everyone through age 26 years, if not adequately vaccinated previously.
• Vaccination is not recommended for everyone older than age 26 years. However, adults ages 27 to 45 years may decide to get the HPV vaccine based on a discussion with their clinician, if they were not adequately vaccinated when they were younger.
HPV dosing schedule
• Two doses of HPV vaccine are recommended for most individuals starting the series before their 15th birthday. - The second dose of HPV vaccine should be given 6-12 months after the first dose. - Adolescents who receive 2 doses less than 5 months apart will require a third dose.
• Three doses of HPV vaccine are recommended for teens and young adults who start the series at ages 15 to 26 years, and for immunocompromised individuals. - The recommended 3-dose schedule is 0, 1-2, and 6 months. - Three doses are recommended for immunocompromised individuals (including those with HIV infection) ages 9 to 26 years.

ACIP, Advisory Committee on Immunization Practices; HIV, human immunodeficiency virus; HPV, human papillomavirus.

most infections are naturally cleared by the immune system.

5. Eleven to 12 years of age is too young to vaccinate.

There is some evidence that if clinicians actively engage with parents about these concerns and address them head on, same-day vaccination rates can improve.[10]

We can expect to see HPV-associated OPC decline in the coming years due to the delayed effects on cancer incidence by the HPV vaccine. These anticipated declines will be more dramatic if we can increase the uptake of the HPV vaccine. JFP

References

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