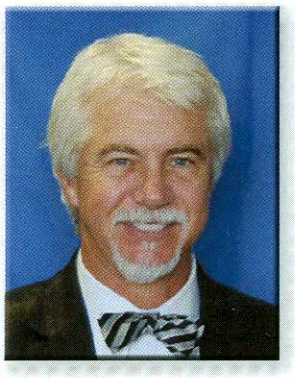
OROPHARYNGEAL CANCER

Prevention through the HPV vaccine



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In 2010, Michael Douglas made news when he reported in an interview his bout with throat cancer was related to activities involving oral sex. Oral sex is not a new topic by any means. But this news story put a spotlight on oral cancer. Every year there are about 16,000 people diagnosed with oropharyngeal cancers (OPC) in the U.S. The human papillomavirus (HPV) is a known cause for about 70 percent of these cancers.

The HPV infection is very common—80 percent of all people will be infected at some point in their lives. It is easily acquired through direct skin-to-skin contact of vaginal, anal, and oropharyngeal mucosal surfaces. There are more than 200 types of HPV that have been isolated with only a few that can lead to an oncogenic potential. Most infections are asymptomatic and typically transitory resolving within the 12-20 months after contact. However, infection with one of the 13 known oncogenic HPV types is more likely to persist and progress over time to pre-cancer and cancer. Oral HPV infection rates are seen in roughly 7% of the U. S. population. Fortunately, only 1% will have the oral HPV that are found in head and neck cancers.

HPV strains 16 and 18 are the most virulent and are commonly associated with cervical cancer and other anogenital cancers. OPC have tested positive for HPV 16 and/or 18 strains. HPV-positive oropharyngeal cancers saw an increase of 225 percent in young white males between 1984 through 2004 according to a recent study. The authors theorized if this trend and pace continues, by 2020 OPCs in white males will overtake cervical cancers in females. The author goes on to claim by 2030, more than half of the head-and-neck cancers will be related to HPV.

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Early signs of oral cancer may be noted by visible lesions of the oral cavity such as a white or red persistent lesion, an ulceration that does not heal, unusual bleeding or tooth mobility. However, OPC are located at the base one-third of the tongue and tonsil area. The signs and symptoms of OPCs are not characteristic by a visible oral lesion plus the location makes for a more challenging aspect to detect its presence during a typical oral examination. Typical symptoms reported with OPC include enlarged lymph glands, chronic sore throat, difficulty swallowing, hoarseness, and unexplained weight loss. If OPC is suspected by these symptoms that don't abate, patients should be referred to an otolaryngologist (ENT) or a head-and-neck cancer specialist for further evaluation.

It seems obvious that one of the best ways to prevent OPC is to prevent infection with the oncogenic HPV types through vaccination. Researchers have found that the HPV vaccine may reduce the rate of oral HPV infections in young adults by as much as 88 percent. The HPV vaccine that is currently available in the U.S. is a 9-valent HPV vaccine called Gardasil 9. It protects against HPV types 6 and 11, which cause genital warts; HPV types 16 and 18, which cause 63 percent of all HPV-associated cancers; and against HPV types 31, 33, 45, 52, and 58, which cause an additional 10 percent of HPV-associated cancers.

Gardasil 9 contains virus-like particles of the targeted HPV types. It does not contain viral DNA so it cannot cause infection. The CDC reports that 99% of vaccinated recipients will develop antibodies. Gardasil 9 is ideally administered to pre-pubescent boys and girls when the immune response to the vaccine is highest and before they have acquired infection with any of the HPV types covered by the vaccine. This is important, because the vaccine is ineffective against any of the HPV types once infection with that

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type has occurred. However, people who already have HPV-associated conditions can still get protection from other HPV types covered by the vaccine.

The Advisory Committee on Immunization Practices recommends routine vaccination for all boys and girls at age 11 or 12 years. For those not vaccinated at the routine age, females age 13 through 26 and males age 13 through 21 years should be vaccinated. For boys and girls who receive their first dose before they turn 15, only a 2-dose series is needed. Those who start their series on or after their 15th birthday will need 3 doses.

Arkansas has one of the highest incidence rates for HPV-associated OPC in the U.S. The Arkansas rate is 5.2 compared to the U.S. rate of 4.5 per 100,000. The incident is higher in males by a ratio of 4:1. So it behooves us as dental professionals to be dogged in addressing the need for HPV vaccination. Too many people in Arkansas are suffering with this disease!

How do we as dental professionals broach this subject with parents? I turn that question around and ask if you knew there was a vaccine that would protect your child from cancer, would you want to know about it? We need to look beyond the stigma associated with HPV as a sexually transmitted infection and see it rather as cancer-causing infection that could be prevented. It is the cancer-prevention message that is important.

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As dentists, we are the ones who perform oral cancer screening examinations, inspecting the face, neck, and mucous membranes of the mouth for lesions or other signs of cancer. In addition, dentists are among the most frequently visited health providers.

This regular interaction with patients gives us the perfect opportunity to shift the conversation about HPV vaccination toward cancer prevention, specifically OPC prevention. It is an opportunity that is too good to miss. No other health care professional has this kind of an opportunity to encourage HPV vaccination. Let us step up to the plate.

If you would like some ideas for how to talk to parents about the HPV vaccine, there are help materials designed for primary-care providers that we could learn from. See https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf for a good example. AD