

Vaping: What Every Teenager Should Know

The astonishing rise of vaping and e-cigarette use among our youth, particularly in middle and high school students, presents a new dilemma for dentists. About 3.6 million students used e-cigarettes in 2018, an increase of 1.5 million students from the previous year. This represents a 48% jump in usage among middle school students and 78% among high school students in one year.¹

When talking about vaping, it's important to note that these products are referred to by many names, including e-cigarettes, vape pens, e-hookahs, and electronic nicotine delivery systems (ENDS), as well as by their individual name brands. As a result, dental providers should be aware that many teenage users don't think vaping is connected to smoking or tobacco products at all. A common refrain heard more and more these days from patients in clinical practices is "I don't smoke. I vape....It's not bad for you."²

This belief is reinforced when it comes to top-selling fruit- and sweet-flavored vaping pods, with teenagers saying that they are less harmful and/or nicotine-free,³ a harmless pastime to do with their friends. However, in reality, popular pods with flavors like mango, fruit medley, crème brûlée, and cucumber contain 5% nicotine strength, the equivalent of a pack of cigarettes.⁴ This raises the stakes for teenagers, as they may be disinclined to think about the consequences of their actions to their long-term health.

The Dental Professional's Challenge

As dental health professionals, we are in a prime position to counsel teenage patients about vaping. However, in order to do that, we have to overcome a real difficulty in screening patients. Since 2007, sales of e-cigarettes and vaping devices rose significantly in the United States. By 2015, the National

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Youth Tobacco Survey reported a dramatic increase among high school students.⁵ This very short time period hasn't given the dental profession much time to evaluate the potential health risks or develop best practices for vaping youth.

Even screening patients who might be vaping presents challenges.

There are numerous factors hindering our ability to screen for vaping. First is the lack of obvious signs, such as a strong odor or stained teeth. Second is the inherent stealthiness of numerous vaping devices. Many devices look like USB drives, so teenagers could be using them in school and at home without being noticed by teachers or parents.

With these screening challenges in mind, have you updated your medical history forms and included questions about vaping during your initial and periodic exams? If so, you know how difficult it can be to obtain truthful answers from patients who may not admit to their use of vaping products.

So given these complications, what can we do to reach our young patients who may be vaping?

A Practical Approach

The first thing we can look for as dental health professionals is any sudden



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increase in caries among our patients, especially our teens. The most common side effect of vaping is xerostomia, which can manifest itself over time with a spike in caries, a dry cough, or both. Patients do not realize that their coughs may be related to inhaling e-liquid from a vaping device or its effect in their lungs. Additionally, dark-colored pin pricks may appear on the palate (stomatitis), which is usually not sensitive. Palatal ulcerations resembling burns may be present and can be very sensitive. However, patients do not usually associate them with vaping since they don't perceive vaping as harmful.²

By sharing what we see during our exams, we can connect with our patients in a way that doesn't put them on the defensive. Asking patients a series of questions in a spirit of trying to solve the mystery together can be an effective approach: "Are you taking a new medication?" "Are you breathing in a lot of secondhand smoke from cigarettes or vaping?" "Does anyone close to you smoke or vape?" Using a back and forth manner

of engagement with patients gives us the opportunity to share information about vaping as general educational comments in a nonjudgmental way.

While teenage patients may not be honest about their vaping, in their heads, they may realize the only thing they are doing differently is vaping. This process may allow them to make the connection: "Vaping can lead to cavities; cavities can hurt; cavities are bad for my teeth; cavities require fillings." And that realization could help shift their behaviors away from vaping.

Three Facts About Vaping

Although vaping is still relatively new, the amount of information already published can seem overwhelming. To help with that, here are 3 key facts that you can share with teen patients who are at risk for vaping.

1. Vaping pods often contain nicotine. Nicotine is a highly addictive substance that is present in vaping pods even though they have light, fresh flavors, such as mango, cucumber, fruit medley, or mint. Most popular pods contain a high level of nicotine.

2. Vaping is not a safe alternative to smoking. While there is an argument to be made that current smokers switching from cigarettes to e-cigarettes could experience some harm reduction, this is absolutely not the case for non-smoking youth or adults who start vaping.⁵ Because the brain keeps growing until the age of 25, consuming high levels of nicotine from vaping can impact brain development, as well as affect attention, mood, and impulse control, and increase the risk for future addiction to drugs. Moreover, vaping pods contain a mixture of chemicals that could cause cancer and enhance cardiovascular risks.^{6,7} One survey showed that vape users who were previously non-smokers were 6 times more likely to start smoking cigarettes.⁸ And in a similar study, teenagers who vaped frequently were at a higher risk of becoming frequent and heavy cigarette smokers 6 months later.⁹ It should also be noted that because vaping is so new, it is unlikely that medical research will show the long-term effects of vaping for many years.

3. Vaping can be dangerous. There are multiple cases of vaping devices exploding in the mouth and causing serious oral and facial trauma, including burns, alveolar fractures, and tooth evulsions.⁷ One study estimated there were 2,035 e-cigarette explosions that sent users to US emergency rooms over a period of 2 years. These injuries included shattered jaws; displaced/fractured teeth; intra- and extraoral burns; and pieces of the devices getting lodged in throats, lips, and tongues, which required extensive and expensive surgeries and dental rehabilitation.^{10,11} High-tech devices that can explode inside the mouth are a hazard unique to vaping compared to other tobacco-related products.

Youth vaping has become such a major health concern that the FDA is now tackling the epidemic with a multimedia campaign to educate youth about the

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health risks of vaping. The agency is also putting pressure on manufacturers with new requirements in an effort to reduce underage vaping. And more lawmakers across the country are calling for a ban on flavored e-cigarettes.

CLOSING COMMENTS

Like many dental health professionals, the FDA is concerned about the rising use of e-cigarettes by our nation's youth, as well as their potential to convert teenagers into traditional cigarette smokers. Let's do our part to help protect our youth by taking the opportunity to educate them that vaping pods often contain nicotine, vaping is not a safe alternative to smoking, and that vaping can be dangerous!

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