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Your comments and suggestions regarding *Word of Mouth* are always welcome. All correspondence and requests for additional copies may be sent to:

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# THE YOUTH VAPING EPIDEMIC

## A New Generation of Nicotine Addicts?

**Everyone knows that smoking is bad for your health. From an oral health perspective, smoking and tobacco products can cause bad breath and stained teeth—and that's only the beginning. Smoking can also lead to gum disease, oral cancer, heart and lung disease, and other serious health problems. But what about e-cigarettes? And vaping? Do they pose the same health threats?**

### DECLINE IN SMOKING RATES

First, the good news: Smoking rates in the United States are at historic lows. According to the U.S. Centers for Disease Control and Prevention (CDC), approximately 14% of adults said they were smokers in 2017. That's the lowest rate recorded since the National Health Interview Survey began collecting data about cigarette use in 1965. And the 2018 Monitoring the Future survey, an annual poll of approximately 45,000 eighth, tenth, and twelfth graders overseen by the National Institute on Drug Abuse, found that just 3.6% of high school seniors reported smoking daily. Twenty years ago, that number was 22%. The decline in traditional smoking rates is a major win for public health, since smoking is linked to a wide range of health problems. But the tobacco product landscape continues to evolve, ushering in new concerns—that is, the bad news.

### RISE OF E-CIGARETTES

E-cigarettes, which entered the U.S. marketplace around 2007, are designed to deliver nicotine, flavorings, and other additives via an inhaled aerosol. They are known by many different names, such as "e-cigs," "ehookahs," "mods," and "vape pens."

While you may think smoking e-cigarettes may pose fewer health risks than smoking regular tobacco cigarettes—the leading cause of preventable death in the United States—it is by no means harmless. E-cigarettes still contain nicotine—the addictive drug in regular cigarettes, cigars, and other tobacco products—which increases the risk of high blood pressure and diabetes. Many also include flavoring agents that may cause a chronic lung disease called bronchiolitis obliterans. And the aerosol that is inhaled and exhaled from e-cigarettes can potentially expose users and bystanders to other harmful substances, including heavy metals, volatile organic compounds, and ultrafine particles that can be inhaled into the lungs.

E-cigarettes also can have a significant impact on oral health. A study supported by the American Dental Association Foundation determined that vaping sweet-flavored e-cigarettes can increase the risk of cavities. Scientists evaluated e-cigarette aerosols and found that they have similar properties to high-sucrose,

gelatinous candies and acidic drinks. There have even been reports of e-cigarette explosions and fires in the oral cavity while vaping.

### SURGE IN TEEN VAPING

While marketed as a tool for adult smoking cessation, many e-cigarettes come in kid-friendly flavors, and a new type of e-cigarette has become increasingly popular among young adults due to its minimal exhaled aerosol, reduced odor, and small size, making it easy to conceal. Many of these products look like a USB flash drive, with a typical cartridge (or "pod"), containing as much nicotine as a pack of 20 regular cigarettes.

A 2019 report from the CDC indicated that overall tobacco use among youth is rising, driven by a spike in e-cigarette use. From 2017 to 2018, the CDC found no significant change in the use of combustible tobacco products by teens, but e-cigarette use increased 77.8% among high school students and 48.5% among middle school students. In 2018, there were 1.5 million more current youth e-cigarette users than in 2017. Among youth, e-cigarettes are the most commonly used tobacco product. In Massachusetts, almost half of high school students reported having vaped at least once, according to the 2015 Massachusetts Youth Risk Behavior Survey.

This surge in youth vaping prompted the U.S. Surgeon General to issue an advisory declaring it an epidemic. He warned of the dangers of e-cigarette use among teens and stressed the need to protect children from a lifetime of nicotine addiction and associated health risks. The high levels of nicotine in e-cigarettes are especially harmful to young people, since nicotine exposure during adolescence can harm the developing brain, which continues to develop until around age 25. Nicotine impacts adolescents' learning, memory, and attention, and it can increase their risk for future addiction to other drugs. Parents should be aware of and educate their children as to the dangers of vaping.

The bottom line? Any type of smoking or nicotine consumption is unsafe. And with an increased risk of high blood pressure and diabetes, not to mention the potential for chronic lung disease and dental cavities, vaping poses serious systemic and oral health risks.

So, if you've never picked up a vape pen or e-cigarette, be smart—don't start!

### HELPING SMOKERS QUIT?

While the makers of e-cigarettes and electronic vaping devices tout their role in helping smokers quit, a study funded by the National Institute on Drug Abuse and Food and Drug Administration Center for Tobacco Products found no evidence that electronic nicotine delivery systems (ENDS) helped adult smokers quit at rates higher than smokers who did not use these products. In fact, U.S. adult smokers who did not use ENDS were more than twice as likely to quit smoking as those who did. The study also found that 90% of smokers who vaped at the start of the study were still smoking a year later.