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THE YOUTH VAPING EPIDEMIC

A New Generation of Nicotine Addicts?





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The Massachusetts Dental Society (MDS) is pleased to make this publication available to our member dentists as a way of communicating important oral health information to their patients.

Information in WORD OF MOUTH articles comes from dental health care professionals of the MDS and other leading professional dental organizations, including the American Dental Association. If you have any questions about specific content that may affect your oral health, please contact your dentist. For more information regarding oral health, please visit the Public Resources section of the MDS website at massdental.org.

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.

The Massachusetts Dental Society asked dentists, “What is the one thing people may not know about dentists or oral health that you wish they did?” Here’s what some of them had to say:

- ▶ “Many patients think that once a dentist fixes their teeth, they won’t get cavities again. But I always tell my patients that everything I do for them is worth nothing if they don’t do their job at home. Home care is the key.”
- ▶ “Things should be fixed *before* they break. When they break or hurt, it may be too late.”
- ▶ “If we say a patient grinds [their teeth], they really do it. We see the wear patterns and the muscle enlargement. I think some patients think we recommend occlusal guards to all of our patients.”
- ▶ “It’s not just sugar and candy but simple carbohydrates that fuel cavity-causing bacteria.”
- ▶ “We have an extensive background in your overall oral health. In orthodontics, for example, you can’t just move teeth haphazardly; you need to be aware of the periodontal/restorative condition of the patient.”
- ▶ “Flossing is not a joke.”
- ▶ “I wish all patients understood that we are here to help them. Avoidance of regular treatment is the reason they come to us in pain.”

WHAT
YOUR
DENTIST
**WANTS
YOU TO
KNOW**



JUST TAKE 2 (Minutes)



On an average day, an American spends 19.2 minutes traveling to work or school, 209.4 minutes at work or school, 33 minutes doing housework, 19.2 minutes exercising, 43.2 minutes shopping, 106.2 minutes preparing and eating food, 166.2 minutes watching TV, and 528 minutes (8.8 hours) sleeping, according to the U.S. Bureau of Labor Statistics. Other studies estimate that every day, U.S. adults spend an average of 4 hours and 40 minutes (that's 280 minutes) on mobile devices. So, given that a day is made up of 1,440 minutes and that you find time to do all of these things, it's not unreasonable to ask that you make sure to take 2 minutes twice a day to tend to your oral health by brushing your teeth. These 4 minutes may be one of the best things you do for yourself all day.

According to the American Dental Association (ADA), the average time most people spend brushing their teeth is 45 seconds. However, for the best results, the ADA recommends brushing 2 minutes, twice a day, with fluoride toothpaste. This general guideline of 2 minutes ensures that you spend enough time brushing your teeth to remove any built-up food particles and plaque, as well as to apply fluoride to tooth surfaces to help prevent cavities.

While making sure you set aside the time to brush is important, it's equally important to be sure you're utilizing that time properly. Don't just go through the motions, counting down the seconds. Pay attention to your technique and the tools you use. The ADA recommends placing your toothbrush at a 45-degree angle to the gums. You also want to be sure to use a soft-bristled brush, because a hard-bristled brush can damage tooth enamel, making your teeth more susceptible to decay and other oral issues. Lastly, don't brush your teeth too vigorously. Not only does brushing your teeth too fast *not* make the 2 minutes go by any faster, but also it can potentially damage your tooth's enamel and your gums, and can cause sensitivity.

Between work/school, appointments, errands, and social activities, we Americans sure can pack a lot into a day. Just be sure to take 2 of those minutes—twice a day—to keep your smile healthy and bright.

HERE ARE SOME TRICKS YOU CAN USE TO MAKE SURE YOU REACH THE 2-MINUTE MARK DURING A BRUSHING SESSION:

- Set the timer on your cell phone to 2 minutes or flip an egg timer.
- Cue up a song on your phone or radio and brush from beginning to end (think more “We Will Rock You” and less “Stairway to Heaven,” as the Queen song clocks in at just over 2 minutes).
- Use a toothbrush with a built-in timer (many electric toothbrushes feature 2-minute timers).
- Brush from the start to the end of two 60-second or four 30-second commercial breaks while you're watching television or streaming a show on Hulu.



THE NIGHTLY GRIND

FOUR SIGNS A MOUTHGUARD MAY BE RIGHT FOR YOU

When you think of mouthguards, what comes to mind? Maybe you envision the custom-made pink mouthguard your daughter wears playing field hockey to protect her teeth and match her cleats. Or maybe you're picturing the mouthguards you've seen worn in the boxing ring or flashing across your television screen during "Monday Night Football." But if you think mouthguards are just for athletes, you might want to think again.

While mouthguards are an essential piece of equipment to prevent sports-related injuries to the mouth and jaw (and protect against head and neck injuries by cushioning blows), they can also help adults who suffer from bruxism—the clinical term for teeth grinding. Many people grind their teeth while sleeping, so they may not know they are doing it. According to the National Sleep Foundation, bruxism affects about 8% of adults.

Some factors believed to contribute to teeth grinding include stress, anxiety, certain medications such as anti-depressants, misaligned teeth that are making your jaw unstable, and sleep apnea.

Teeth grinding can be an occasional issue that may not be harmful, or it could be a chronic habit that leads to more serious problems. In the long term, teeth grinding can shorten your teeth by wearing down the enamel, and it can loosen your teeth or cause a tooth to fracture or fall out. You could end up needing dentures, implants, or root canals as a result.

If your teeth grinding is a nightly occurrence, your dentist may recommend a custom-made nightguard to protect your teeth. These are mouthguards that can be worn to bed at night to act as a buffer between the upper and lower teeth, absorbing the pressure of biting and preventing your teeth from grinding together. Here are four signs that a mouthguard could be right for you:

YOU WAKE UP WITH A HEADACHE

If you frequently wake up with a headache in the morning, it could stem from pressure placed on your jaws while grinding at night. The headaches could be mild or intense, with the pain typically centered around the sides and back of the head.

YOU SUFFER FROM JAW PAIN, FACIAL SORENESS, OR EARACHES

Teeth grinding can put strain on your jaw muscles, causing inflammation. If you grind your teeth at night, your jaw may feel stiff when you wake up in the morning. Your face may ache, making it difficult for you to open your mouth. You may also experience clicking or popping when you talk or chew. Bruxism can also cause earaches, tinnitus (ringing or buzzing in the ears), and even hearing loss.

YOU HAVE VISIBLE SIGNS OF WEAR

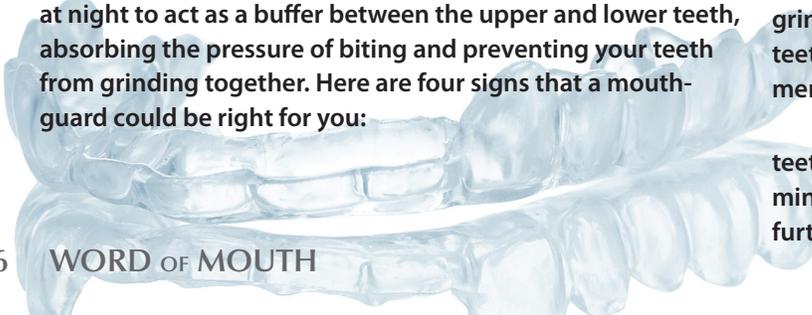
When teeth come together and grind back and forth, it puts a lot of pressure on the enamel. Persistent grinding can wear down tooth enamel, exposing your teeth to sensitivity. It can also result in visible signs of strain, such as front teeth that look shorter, teeth with cracks in them, molars that look flat on top, and molars with pits in them.

YOU CHIP A TOOTH

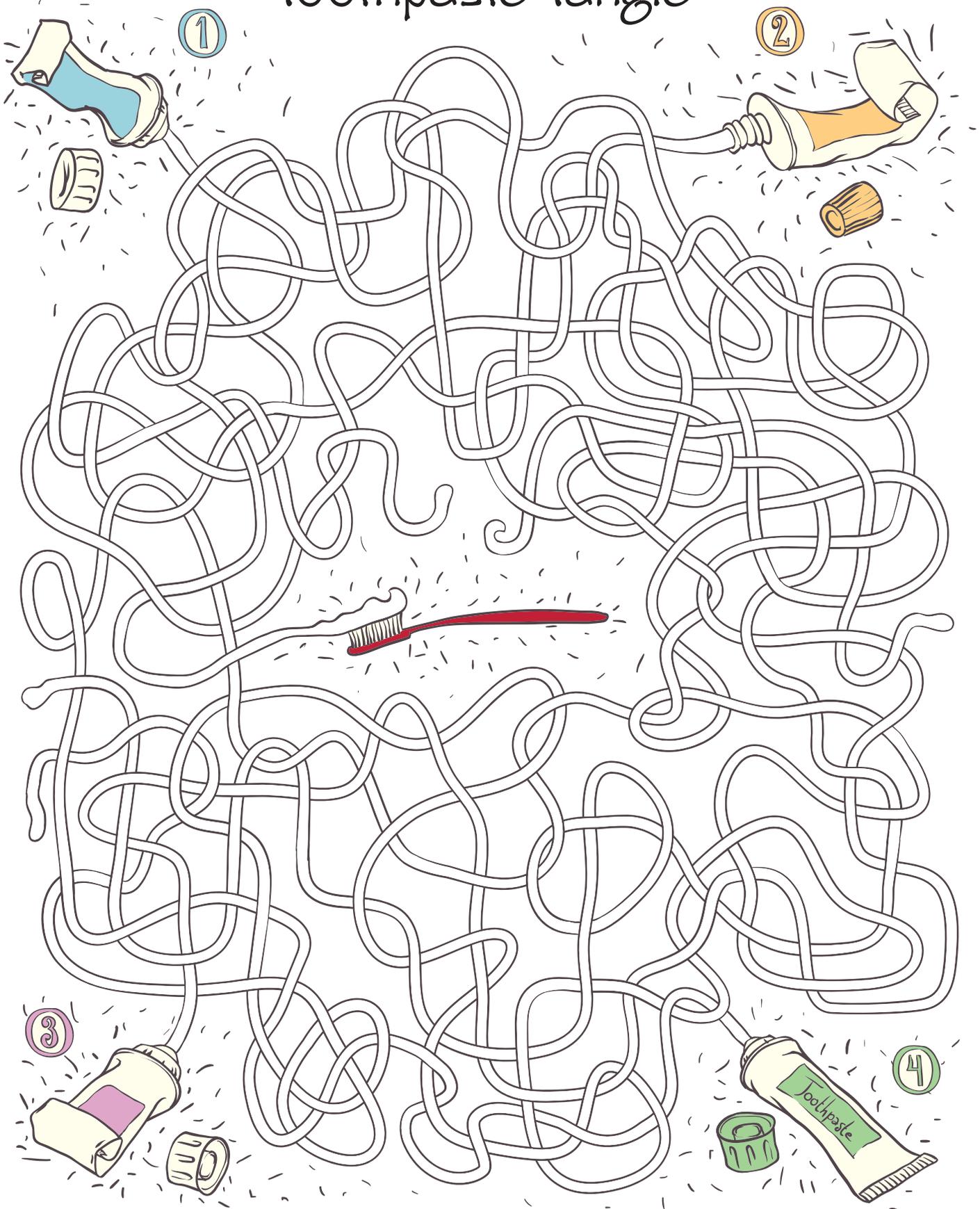
Teeth can cave to the constant pressure of grinding and end up cracked or fractured, which can be expensive to fix or even require extraction. If you've chipped a tooth but don't know how it happened, it may be the result of teeth grinding that needs to be addressed.

If you have any of these signs and symptoms of teeth grinding, talk to your dentist. He or she will examine your teeth to determine what's causing your bruxism and recommend treatment options.

While a nightguard won't treat the underlying cause of teeth grinding or stop the clenching of your jaw, it can help minimize the negative effects on your teeth and prevent further damage to your oral health.



Toothpaste Tangle



Which string of toothpaste finds its way to the toothbrush?



Attention Athletes

Don't pay a penalty for **NOT WEARING** a **MOUTHGUARD**



A CUSTOM MOUTHGUARD

is the **best** mouthguard in terms of fit, comfort, and protection. Consult your dentist.



Athletes are **60 TIMES** more likely to suffer damage **to the mouth** when **not** wearing a **mouthguard**.



The cost to repair a **knocked-out tooth** and follow-up dental treatment can cost **THOUSANDS OF DOLLARS**—many times greater than the price of a **MOUTHGUARD**.

DO NOT wear a **retainer** or other removable appliance while participating in any contact sport.



More than 5 MILLION TEETH are **knocked out**

each year through sports injury, accident, or play.



Even athletes who use **HELMETS** or **FACE MASKS** should wear **MOUTHGUARDS**.



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