



Impressions



Issue 9

Stay Connected to the Bureau of Oral Health and Dental Services

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Delaware Smile Check Program expands to include dental sealants, other health services

In 2016, the Bureau of Oral Health & Dental Services (BOHDS) launched the Delaware Smile Check Program (DSCP) with help from a Health Resources & Services Administration grant. The program emerged as part of a plan to improve the oral health of



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Delaware children by providing oral health education, dental screenings, and applications of fluoride varnish treatments to students considered to be at high risk for tooth decay. In its debut year, the program identified over 200 students with dental emergencies and connected them to care for urgent issues. The program was the first of its kind to allow public health hygienists to go into schools and do a mirror-only screening, resulting in appropriate referrals and follow-ups in even the most rural Delaware schools.

Now in its third year of implementation, the DSCP has gained support from schools and providers all over the state and broadened its scope of school-based services in specific areas. The program now offers some schools expanded services, including exams from dentists, on-site applications of protective dental sealants, screenings and fluoride treatments, individualized counseling and case management, and strategic placement into dental homes. Providers determine a child's oral health needs but also analyze heights and weights and conduct a more comprehensive evaluation of the

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Thank you, Premier Dental!

The Bureau of Oral Health & Dental Services (BOHDS) would like to thank Premier Dental for their generous donation of fluoride varnish and sealant material for use in the school-based oral health program. Premier prides itself on connecting with oral health professionals and patients in a meaningful way and delivering inspired solutions with proven success. With this donation, BOHDS is able to deliver two of the most effective treatments for preventing tooth decay in children to thousands of students statewide.



DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Bureau of Oral Health and Dental Services

The Truth about E-Cigs

Why Vaping as a Healthy Alternative to Smoking is Really Just Smoke and Mirrors

by Gena Riley, RDH, BS, CDHC

Electronic cigarettes (e-cigs) are battery-powered devices that heat solutions, usually containing nicotine, flavoring, and other additives, into inhalable vapor. These products are referred to by a variety of names, including e-hookahs, mods, vape pens, vapes, and tank systems. E-cigs can be used to deliver other drugs besides nicotine, such as marijuana. Use of these devices is a rapidly emerging trend especially popular among youth and young adults. On December 18, 2018, Surgeon General Dr. Jerome Adams declared e-cigarette use (also known as vaping) to be an epidemic among the youth of the United States. According to the Centers for Disease Control and Prevention (CDC), e-cigarettes are now the most commonly used form of tobacco among youth in the U.S. New findings from the National Youth Tobacco Survey (NYTS) show that more than 3.6 million middle and high school students were current e-cigarette users in 2018, a dramatic increase of more than 1.5 million students since the previous year.

More startling than the surge of young people and adults taking up this habit is the misrepresentation of its negative health effects. Since its first appearance on the market, the e-cigarette business has spent \$125 million a year on advertising, much of which has misled people into thinking that e-cigarettes are a healthier choice than traditional cigarettes. A 2017 content analysis surrounding Twitter posts about vaping revealed that mixed signals were being sent to consumers. Marketers were strategically associating vaping with health-related keywords such as “natural,” “vitamin,” “vegan,” and “organic,” representing vaping as health-enhancing, and a good way to quit smoking. The largest category of tweets referred to vaping as being harmless (28 percent) and therefore compatible with a healthy lifestyle. These tweets were more likely to come from marketers rather than non-marketers. While sales of e-cigarette products are restricted to youth under the age of 18, commercial ads run uncensored through a variety of avenues, sensationalizing the habit and targeting younger consumers with fruit and candy

flavorings. The National Institute on Drug Abuse (NIDA) reports high teen exposure to e-cig advertising (seven out of 10 students) through retail, Internet, TV/movies, and magazine or newspaper ads. Researchers have more to learn about how e-cigarettes affect health; however, plenty of evidence already suggests that e-cigarettes are not safe for use by anyone. Read on to clear the smoke and reveal some of the real dangers of e-cigarette use.

Cancer: While e-cigarettes do contain less harmful ingredients than traditional cigarettes, the ingredients present are still harmful. Chemical analyses of e-cig juices (both in liquid form and after being heated into vapor) have shown that many carcinogens present in cigarette smoke are also found in a range of e-cig products. Vaping three milligrams of liquid at a voltage commonly used in commercial vapes produces more formaldehyde (a chemical commonly associated with cancer risks when inhaled) than regular cigarettes. In addition, e-cig vapor extracts in vitro have been shown to cause DNA strand breaks and cell death—even in vapors that contained no nicotine.

Addiction: Contrary to mainstream messaging, vape devices are not proven to help smokers quit. The World Health Organization (WHO) reports that e-cigarettes are not an approved method for smoke cessation. In fact, they increase the likelihood that a teen will smoke regular cigarettes later. According to the NIDA, 30.7 percent of e-cig users start smoking within six months. Studies show that e-cigarettes serve as a gateway to nicotine addiction and smoking, especially among minors and vulnerable populations. Nicotine has significant, negative impacts on the development of the adolescent brain, including attention processing and memory interference.

Cardiac: Using e-cigarettes almost doubles the risk for heart attack, according to a study recently published in the American Journal of Preventive Medicine.

Respiratory: E-cigarette use can cause many of the same breathing problems as smoking, such as excessive phlegm and coughing. It can also lead to a serious and sometimes fatal condition called bronchiolitis obliterans, or “popcorn lung” (<https://ehp.niehs.nih.gov/doi/10.1289/ehp.1510185#.XlFOYnQD7pU.email>).

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Hygienist Corner

Charcoal for Teeth Whitening: Does it Really Work?

Dental Clinicians Advise Patients to be Cautious when Using Charcoal and Charcoal-Based Toothpaste with Unproven Claims of Efficacy and Safety

by Gena Riley, RDH, BS, CDHC

Charcoal isn't just for your barbecue anymore. Now it's also being marketed for another kind of grill ... for your teeth! If you have access to YouTube, you can easily spend hours scrolling through videos of personal testimonies and people demonstrating this strangely fascinating phenomenon. They're using an oxidized, powder version of charcoal as a tooth whitener by brushing it on and letting the naturally adhesive properties lift stains such as coffee and tea from the surface of the teeth. If you do decide to use activated charcoal teeth whitening toothpaste, dentists agree that you should do so cautiously and sparingly.

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The Truth about E-cigs — from page 2



Popcorn lung is caused by scar build-up in the lungs, damaging airways and causing shortness of breath. The condition gets its nickname from a chemical called diacetyl, once used to flavor microwave popcorn. After workers at a factory that packaged microwave popcorn were found to have bronchiolitis obliterans more often than other people, some companies stopped

using diacetyl. However, it is still found in many electronic cigarette flavors.

Immunity Issues: A study reported in the American Journal of Physiology found that compounds in the liquid creating vapor of e-cigarettes had an immunosuppressive effect on the body. E-cigarette-using participants exhibited decreased activity in 300 more immune-related genes than those who smoked regular cigarettes, significantly lowering the body's ability to fight infection.

Explosion hazards: Overheating and malfunctioning of the lithium ion batteries that power e-cigarettes have accounted for an increase in the number of medical reports surrounding injuries related to vaping. The New England Journal of Medicine reports treating 15 patients from October 2015 to June 2016 with injuries from e-cigarette explosions due to the lithium-ion battery component, resulting in loss of eyesight, loss of teeth, deformation of tongues and soft tissue, traumatic tattooing, and third degree burns to faces, hands, thigh, and groin areas. Some experts believe that e-cigarette injuries are under-

reported, and that most users do not understand the risk of battery fires and explosions. Increased regulation and design changes could improve safety.

Cavities: Some sweet flavors in e-cigarette liquids may increase the risk of tooth decay, according to research supported by the American Dental Association Foundation and published in September 2018 (<https://bit.ly/2NYVaBz>). Researchers evaluated e-cigarette aerosols in flavors including pineapple and cotton candy and found that some have similar physiochemical properties as sugary gelatinous candy and acidic drinks, which interact with hard tissues of the oral cavity in a way that can adversely affect teeth. This research further suggests that the negative effects of e-cigarettes are wide-ranging and have significant implications on oral health.

Oral health problems associated with e-cigarette use include: dry mouth; dryness of the lips; sensitive or bleeding gums; cough and general throat irritations; dulled ability to taste food; increase in cavities; and increased risk for oral cancer.

Unlike regular tobacco cigarettes, which have been studied for years, there are many unknowns about the dangers of e-cigarettes. Despite the need for further research, the evidence that does exist supports the theory that e-cigarettes and vaping are bad news for everyone, even those exposed to emissions second-hand. The next time you see someone — especially a youth — puffing on one of these devices, remind them that many potential dangers are associated with them. Anyone who says otherwise is blowing smoke.

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Here are a few reasons why:

- **It could make your teeth yellow.** Charcoal is a gritty, abrasive substance that should be applied gently, if at all. If the charcoal is used too often or incorrectly, it can wear away the enamel, the white surface of the teeth. Underneath it is a yellow layer called dentin. The thinner the enamel gets, the more visible the dentin becomes — and once you remove the enamel, there's no getting it back. While infrequent and gentle use could remove stains for the appearance of a brighter smile, charcoal toothpaste contains none of the actual whitening ingredient, hydrogen peroxide.
- **It can cause sensitivity.** The enamel that gives teeth their pretty, pearly color also covers nerves. As enamel is lost, the underlying layers are exposed, making teeth sensitive and more susceptible to cavities.
- **It could negatively impact your medicine.** If swallowed, activated charcoal will absorb substances in the stomach and intestines. Ingesting activated charcoal along with medications taken by mouth can decrease its absorption and effectiveness.
- **There are other side effects.** Side effects of activated charcoal include constipation and black stools. More serious but rare side effects are a slowing or blockage of the intestinal tract, regurgitation into the lungs, and dehydration.
- **Charcoal has not been approved by the ADA,** America's leading advocate for oral health. The fact that the ADA has not given charcoal toothpaste the thumbs up is a good indication that more studies need to be done before we truly know if it is safe to use.

Remember, the safest way to brighten your smile is by using a well-tested product approved by your dentist.

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student's health and well-being.

Oral health care delivery within a school setting is an effective method of ensuring that all students have equal access to dental care. The program's mobile dental equipment can turn any corner of a school into a fully functioning dental unit, allowing students from qualifying schools in all three counties to receive important oral health services by taking a few steps outside of their classrooms. In addition to clinical services and care coordination, participating students and families who are uninsured receive personal support applying for Medicaid/CHIP or purchasing insurance through the health care marketplace. The program makes it simple for students to transition through various levels of preventive and restorative dental care within the Division of Public Health and the dental community, with the ultimate goal of placing each family into their ideal dental home in Delaware's dental provider network. BOHDS's bilingual and certified care coordinator staff ensure that connections to care and dental homes are effective and far-reaching.

So far in the 2018-2019 school year, the school-

based oral health program has reached 36 schools statewide, including early education centers and specialized schools for students with disabilities. In December, the program screened 299 students, placed 224 full mouth applications of fluoride varnish, and applied 56 protective sealants to permanent molars. According to the Centers for Disease Control and Prevention, school-based dental programs are a highly effective way to deliver sealants to children who are less likely to receive private dental care. Applying sealants in schools to the nearly 7 million low-income children in the U.S. who don't have them could prevent more than 3 million cavities.

BOHDS staff anticipate that the program will continue to evolve to meet the needs of Delaware's children and families. Meeting students where they are and eliminating barriers to treatment are important first steps to reducing dental diseases in Delaware's children. The DSCP looks forward to delivering preventive dental services to the children who need them the most, while connecting families with the resources to achieve healthy smiles and lives. For more information, visit <https://dhss.delaware.gov/dhss/dph/hsm/dohchome.html>.

April is Oral Cancer Awareness Month

Oral cancer is a disease caused by an uncontrollable division of abnormal cells. Oral cancer starts in the mouth and can include the lips, gums, the front two-thirds of the tongue, the floor of the mouth below the tongue, and the hard palate. It also includes cancers that start and occur in the oropharynx (throat), the part of the throat behind the mouth where the oral cavity stops. It is a less publicized cancer but can be debilitating to the lives of the people it touches.

The Oral Cancer Foundation predicted that approximately 51,550 people in the U.S. would be newly diagnosed with oral cancer in 2018. The death rate for oral cancer is higher than that of cancers which we routinely hear about like cervical cancer, Hodgkin's lymphoma, laryngeal cancer, cancer of the testes, and endocrine system cancers such as thyroid cancer. In the U.S., oral cancer kills roughly one person per hour. The death rate associated with oral cancer is significantly high, not because of the difficulty in discovering or diagnosing it, but because the cancer is often found too late and has already spread. When discovered and treated early, oral cancer is highly survivable.

By including oral screening in dental check-up visits, dentists and dental hygienists have the opportunity to identify oral malignancies before they become deadly. The entire process is quick and painless, taking only five minutes to complete, and can be done at any point at no extra charge. The dental provider uses a mirror to pull back the lips and cheeks for visual inspection and palpation of the soft tissue and hard palate. A piece of gauze is wrapped around the tongue to move it up and from side to side to allow a good view of the lateral borders of the tongue and the floor of the mouth. The lymph nodes are checked, as these are usually the first site where malignancies of the oral cavity will spread. These nodes are located along the back and sides of the neck and should be palpated as part of every oral cancer screening.

This quick and easy screening can reveal important clues in oral cancer detection. Certain findings are a cause

for concern. A red or white patch or a change in color, texture, size, contour, mobility, or function of intraoral, perioral, or extraoral tissue should arouse suspicion of the presence of malignant or premalignant lesions in these regions. Lymph nodes larger than one centimeter should be further evaluated.

Another important component to the oral cancer screening is reviewing the patient's medical history. Patients who engage in tobacco and/or alcohol use are at a greater risk for oral cancer. The dental provider may choose to get even more personal with questions about the patient's sex life, including whether they participate in oral sex or unprotected sex, which puts them at risk for another leading risk factor, Human Papilloma Virus (HPV). Patients who fall into any of these categories should be provided additional information and counseling

on the risk factors and warning signs of oral cancer, so they can perform self-checks at home. Regular dental visits could save your life!

Know the Symptoms:

- Swelling (inside the mouth or of the lymph nodes)
- Unexplained bleeding
- Numbness around the mouth, face, or neck
- A sore that doesn't heal in 14 days
- White or gray patches in the mouth that are hard and rough
- Red and white patches in the mouth

Know the Risk Factors:

- Tobacco use (smoking, chewing tobacco, e-cigarettes/vaping with or without nicotine)
- Excessive alcohol consumption
- Heavy use of tobacco and alcohol together
- Human Papilloma Virus (most commonly HPV strains 16 and 18)
- Certain rare conditions including Fanconi anemia, Dyskeratosis congenita, and Bloom syndrome
- Exposure to ultraviolet light

For more information on oral cancer, www.ada.org/en/member-center/oral-health-topics/oral-cancer.