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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 timely news regarding oral health, visit the "For the Public" section of the MDS website at www.massdental.org.

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According to the Oral Cancer Foundation, approximately 37,000 Americans are diagnosed with oral cancer each year. This includes cancers of the mouth and throat that cause more than 8,000 deaths. That's more than one person every hour, every day. Previously, poor lifestyle choices—namely, smoking and drinking—were considered the prime culprits behind oral cancer. However, the Massachusetts Dental Society (MDS) wants to spread the word that tobacco use and alcohol consumption aren't the only factors that contribute to oral cancer and that it is actually a virus that is causing oral cancer rates to rise at alarming rates, especially among younger adults. While oral cancer is often difficult to talk about, early detection is of paramount importance.

When we think of someone being diagnosed with oral cancer, usually a person who smokes cigars or cigarettes, drinks alcohol excessively, or has chewed smokeless tobacco for years comes to mind. However, new research shows that certain types of oral cancers can also be caused by the human papillomavirus (HPV), and the number of cases is growing. HPV is a virus that has more than 100 strains, including two sexually transmitted types known as HPV-16 and HPV-18, which are both aggressive, high-risk strains that can also lead to certain types of cervical and oral cancers.

According to the American Dental Association (ADA), HPV infection is now considered an important risk factor for oral cancers, even among younger patients who don't use tobacco products or drink alcoholic beverages. (HPV-negative oral cancers are the cancers that are linked to tobacco and alcohol use, while HPV-positive oral cancers are associated with the human papillomavirus.) The virus has specifically been connected to squamous cell carcinomas of the tonsils and the base of the tongue area.

"A decade ago, most patients we saw with head-and-neck cancer were smokers or heavy drinkers," says Dr. Robert I. Haddad, chief of the Head and Neck Oncology Program at the Dana-Farber Cancer Institute in Boston. "Right now, only 20 percent of patients are smokers and drinkers, and the other 80 percent get this cancer because of HPV infection. We are clearly seeing an epidemic of HPV-related head-and-neck cancer—the numbers are rising dramatically, and we're not clear right now why."

It has been suggested that the use of the HPV vaccine may reduce the rate of oral and throat cancers, but additional studies are still needed.

The Advisory Committee on Immunization Practices, which advises the United States Centers for Disease Control (CDC), recently voted to recommend that boys ages 11 and 12 receive the HPV vaccine, Gardasil, to battle the human papillomavirus, and boys and men ages 13 to 21 receive a "catch-up" dose of the vaccine, if they were not yet vaccinated. Previously, the CDC had only recommended HPV vaccination for girls and women ages 11 to 26, since the human papillomavirus is also associated with 70 percent of cervical cancer cases. For more information about the HPV vaccine, which is administered in a three-dose series, you should speak with your doctor or your child's physician.

The MDS says that it is important for patients to receive an oral cancer examination from their dentist, usually beginning in the late teenage years, since HPV-related oral cancers tend to occur in younger patients. Dentists are specially trained to

identify suspicious
areas in the mouth and
on the tongue that could
be cancerous. The oral
cancer exam usually consists of a thorough
examination of the tongue, soft palate, and head
and neck. Dentists will also often check for swollen
or enlarged lymph nodes in the neck, which can
sometimes be an early indicator of oral cancer.
Dentists are able to perform brush biopsies on any
suspicious oral lesions and can also refer patients
to specialists for further diagnosis or treatment.

"Dentists and dental hygienists are uniquely positioned to catch these cancers early, and it is of paramount importance that oral lesions are identified early and patients are referred for an evaluation and biopsy," says Dr. Haddad.

Oral cancer is particularly worrisome since, in its early stages, it often goes unnoticed. It is extremely important for patients to be aware of the warning signs of oral cancer, which include lingering pain in the mouth or jaw, any area inside the mouth that bleeds easily, and difficulty or pain when swallowing. In addition, any type of sore, lesion, or white and red patches in the mouth that do not heal can be signs of oral cancer.

The ADA states that the detection of oral cancer at an early stage significantly increases the fiveyear survival rate.

When it comes down to it, education and early detection are the keys to beating oral cancer. Be aware and proactive when it comes to your child's and your own oral health.

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In the last decade, tooth whitening has become one of the most requested dental procedures in the United States. In fact, a 2010 Harris Interactive poll found that, when asked if money was no object, more than half (52 percent) of those surveyed said they would choose tooth whitening over any other cosmetic makeover, including liposuction and facelifts. That desire for a brighter and whiter smile has gone beyond the dental office and into consumers' homes, as evidenced by the more than \$1 billion spent on over-thecounter (OTC) whitening products every year, according to a June 2011 report from ABC News. But when it comes to tooth whitening, is there too much of a good thing?

Almost all whitening products will whiten teeth to a certain extent because they all contain the same active ingredient: hydrogen peroxide, a chemical that bleaches your teeth. Generally, you can either have your teeth whitened professionally by your dentist or go the do-ityourself (DIY) route with an OTC product you administer yourself at home. If you opt for DIY whitening, you'll want to be aware of the potential risks, the most common being overuse—or as ABC News called it, becoming a "bleachorexic."

When you have your teeth whitened in the dental office, a dental professional will cover your gums to protect them, and then apply a peroxide solution to the teeth. He or she may also augment the bleaching by exposing the treated areas to a special light or laser. Another option through your dentist involves the fabrication of custom trays and the use of more concentrated peroxide gels, which the patient applies at home.

Alternately, when you go the DIY route, you will use some type of OTC product, such as whitening strips, dental trays, brush-on gels, or whitening toothpastes or mouth rinses. The most popular methods of at-home tooth whitening are whitening strips and dental trays, which are treated pieces of plastic that form to the teeth and are left on for about 30 minutes every day for 7 to 14 days.

The most effective (and safest) whitening has always been achieved by visiting your dentist. However, in recent years, many OTC products have appeared on the market, claiming to offer the same amount of whitening power as

the treatment you'd receive from your dentist. While there's certainly nothing wrong with using OTC whitening products, you want to be sure to follow the product's instructions. If the chemicals used to whiten teeth are not applied properly, they could damage soft and hard tissues in the mouth. Also, don't use whitening products too much or for too long. For example, some people may become obsessed with getting their teeth as white as possible and think it is okay to use whitening strips on a continuous basis or leave them on for twice the instructed time, when in reality, overuse of whitening agents could lead to damage to the dental pulp.

All forms of tooth whitening can have side effects, including gum irritation and sensitive teeth. These side effects are normal and usually subside once the treatment has stopped. When your teeth are whitened under a dentist's supervision, he or she will be able to detect any adverse effects the bleaching may be having on your oral health. With DIY whitening, you don't have the benefit of a dental professional looking out for your teeth, and you may be tempted to keep applying the products to get your teeth even whiter.

The issue with overusing whitening products is the continuous assault on the pulp or nerve of the tooth through any exposed dentinal or root surface by the bleaching gel. If the whitening is causing tooth sensitivity, that means that the gel is reaching the pulp somehow. In the short term, that's not really an issue and the pulp recovers, but if the whitening agents are applied on a continuous basis, then the pulp can be impacted, potentially requiring the need for root canals.

The American Dental Association (ADA) cautions consumers about the safety of tooth-whitening chemicals and procedures that are performed without the care or supervision of a licensed dentist. (It should be noted that tooth-whitening kiosks located in malls and salons do not employ licensed dentists.)

Regardless of which whitening method you choose, be sure to consult with your dentist before undertaking any whitening program. While a bright smile is certainly desirable, it's best to remember that a healthy smile is really what's important.

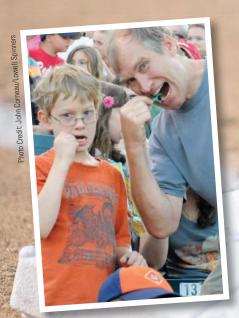




you've ever been to a baseball game or major sporting event, you have probably done "the wave"—when all the spectators in the stadium briefly stand and raise their arms in succession, creating a "wave" effect. But have you ever been sitting at a ball game, happily munching away on your hot dog and popcorn, and suddenly all the fans in the park started flossing their teeth, all at the same time?



This was the case last June 29, 2011, as the Massachusetts Dental Society (MDS) held a "Floss Night" with the Lowell Spinners, the Single-A affiliate of the Boston Red Sox, at LeLacheur Park in Lowell, Massachusetts. The MDS was the exclusive sponsor for the evening's game versus the Tri-City Valley Cats from Troy, New York. (The Spinners won the game, 3–2.)



As part of a promotion to raise awareness about oral health and the importance of flossing, MDS brochures and oral health information were available to fans as they entered the park. Each fan also received an Oral-B floss pick donated by Procter & Gamble. During the fourth inning of the game, a record-setting 3,014 fans participated in the event by flossing at the same time. Spinners players even got in on the action by flossing during the inning.

With Major League Baseball spring training gearing up, it's not too early to start thinking baseball. And it's never too early to start adopting good oral health habits, such as "stepping up to the plate" and flossing your teeth daily.

Healthy Smiles Across the

"Spectrum"

Autism is a complex developmental disability that impairs communication and social, behavioral, and intellectual functioning, according to the National Institutes of Health. Autism symptoms and severity vary widely, though, so the term "autism spectrum disorders" (ASD) is commonly used to describe a group of disorders with similar features. The U.S. Centers for Disease Control and Prevention (CDC) estimate that 1 to 1.5 million Americans live with an autism spectrum disorder. The CDC also states that 1 in every 110 children (and 1 in every 70 boys) is born with an autism spectrum disorder. A 2009 National Children's Health Survey found that 1 percent of U.S. children ages 3–17 have an autism spectrum disorder. That percentage may seem small, but when it comes to ensuring that a child with autism is maintaining proper oral health, the challenges can be big.

Dental care is the leading unmet health care among

children with special needs, according to the National Maternal and Child Oral Health Resource Center. And what's more, a 2010 study published in *Pediatric Dentistry* stated that oral hygiene may be the most important risk indicator for new cavities in children with autism spectrum disorders. Some children

diagnosed with ASD may appear distant, aloof, or detached from other people or their surroundings. Others may not react appropriately to common

verbal and social cues, such as a parent's voice or smile. More symptoms of autism may include obsessive routines, repetitive behaviors, unpredictable body movements, and self-injurious behavior. All of these symptoms can add to the challenge of adopting proper dental care habits.

It is with this in mind that the National Museum of Dentistry, an affiliate of the Smithsonian Institution, joined forces with the Kennedy Krieger Institute's Center for Autism and Related Disorders and the University of Maryland Dental

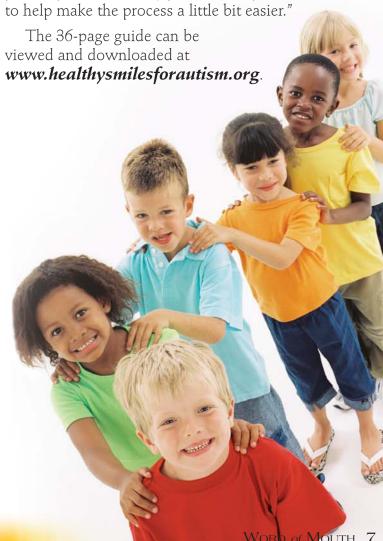


School to develop *Healthy Smiles for Autism*, a free guide to oral health care for children with ASD. The aim of the guide is to empower parents of these children by providing them with tools to help effectively teach their children an oral health care routine. The guide also provides information to help parents prepare their children for a first dental visit.

The brochure features easy-to-follow steps that parents can incorporate into a routine for both themselves and their child. For example, the section on brushing and flossing stresses how important it is to make sure your child is comfortable. For most of us, the bathroom is the place we brush our teeth, but parents of a child with ASD should be aware that the child may be uncomfortable in that environment, and the guide suggests you find another setting where your child is more comfortable. You should set up a specific place for brushing and flossing, a room that he or she can associate with these activities. The place you choose should be relaxing to the child and address his or her sensory needs (e.g., take into account the child's reactions to light and sound). You will also want to be sure to create a special place for your child's dental supplies in the room. Lastly, you will want to be consistent and bring your child to this same room each time he or she brushes and flosses.

The guide also offers visual sequencing cards—step-by-step instructions and illustrations—that help you show your child every detail of how to brush and floss, as well as what to expect at the dentist's office. These visuals can help you introduce the concepts of oral care to your child and may alleviate some of his or her anxiety.

"We want to be able to give parents readily usable tools to help their children develop a good oral hygiene regimen," says Jonathan Landers, executive director of the National Museum of Dentistry. "We've combined best practices for autism education, such as visual sequencing cards and rewards systems, with proven personal oral hygiene techniques to help make the process a little bit easier







"Knot" Something to Laugh About

At some point, you've probably referred to yourself as being "tongue-tied" when you found yourself in a situation that left you speechless, such as talking to that classmate you had a crush on in the eighth grade or at a job interview when asked a question you weren't expecting. But for some infants and young children, being "tongue-tied" has a different and potentially more serious meaning, as "tongue tie" is the

term used to describe a congenital abnormality of the tongue.

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Tongue tie, also known by its medical term *ankyloglossi*, is a condition whereby the movement of the tongue is restricted due to abnormal attachment of the membrane under the tongue (lingual frenulum) toward the tip of the tongue, according to the Columbia University Department of Otolaryngology/ Head and Neck Surgery. The lingual frenulum helps guide the development of oral structures and the positioning of incoming teeth, and as we grow.

it recedes and thins normally. In some cases, however, the frenulum may be too short and taut, may not have receded, or may be attached too far along the base of the tongue.

Children suffering with tongue tie may be unable to protrude the tongue, touch the roof of the mouth, or move the tongue from side to side. If the lingual frenulum extends to the tip of the tongue, a V-shaped notch or heart shape can be seen at the tip. Tongue tie is often hereditary and, therefore, not preventable. However, the condition often resolves on its own at

two or three years of age, according to the Columbia University Department of Otolaryngology/Head and Neck Surgery. As children grow, the frenulum may continue to recede, thereby lessening the abnormality. (In children without tongue tie, the frenulum normally recedes before birth.)

Tongue tie can cause feeding problems in infants and may cause speech impairments as a child begins to speak. Feeding problems can include difficulty breastfeeding and sucking, as well as poor weight gain. These feeding difficulties can have long-term effects on the baby's development and health, and early intervention surgery to cut the lingual frenulum and loosen the tongue—a simple surgical procedure called a frenulectomy—may be required.

Additionally, young children with tongue tie may exhibit signs of speech defects, with particular difficulty articulating the sounds l, r, t, d, n, th, sh, and z. It should be noted, however, that the tongue has been shown to compensate remarkably, and many children with tongue tie have no speech impediments at all, says the Columbia University Department of Otolaryngology/Head and Neck Surgery.

If you suspect your infant or child has tongue tie, you will want to have him or her properly diagnosed. Speak to your baby's pediatrician about any feeding difficulties your infant may be experiencing. The pediatrician may refer you to an otolaryngologist—a head-and-neck surgeon—for further treatment, which may include a frenulectomy.

Alternatively, if you think that your toddler or child is having speech issues that could be related to tongue tie, you should have a speech pathologist evaluate him or her to determine whether tongue tie is a factor. If the speech pathologist finds that the child's speech is impaired, and that it is related to tongue tie, then a frenulectomy may also be recommended. Speech therapy may be recommended as an initial treatment, since some toddlers will improve their speech without needing surgery.

Tongue tie has also been shown to contribute to dental problems, most likely resulting in a persistent gap between the bottom two front teeth, according to the American Academy of Otolaryngology—Head and Neck Surgery. In this instance, a frenulectomy for cosmetic purposes, to help the child feel better about his or her appearance, may be an option. You will want to discuss this with your dentist first to rule out other causes for the gap.

The term frenulectomy may sound scary, but it really is a simple procedure that can often be performed right in the physician's office with local anesthesia, although older children may require brief general anesthesia. The risks of frenulectomy are very low, but may include pain, bleeding, or infection. The procedure takes approximately 15 minutes, which is a small amount in exchange for a healthy infant and a happy child with higher self-esteem due to improved speech function.



Is Your Toothpaste Past its Prime?

While it may be obvious that the milk in your fridge needs to be tossed once its expiration date has passed, did you know that most oral hygiene products also have an expiration date?

All toothpastes that contain fluoride, an element that strengthens tooth enamel, are regulated by the U.S. Food and Drug Administration and, therefore, require expiration dates. While using expired products isn't dangerous, the consistency or quality of the product may deteriorate, says the Massachusetts Dental Society (MDS). For example, the binding agents in toothpaste may become cakey with age, or the toothpaste may not foam as well in the mouth. And depending on what temperature the product is stored at, it may become harder to squeeze out of the tube or become softer.

According to the American Dental Association, most toothpastes contain mild abrasives that remove surface stains and debris; fluoride; flavoring agents; binders to hold the product together; and humectants to prevent water loss in the toothpaste.

The MDS recommends that you observe expiration dates and finish using products by the date on the packaging, which is usually two years after the manufacturing date. The expiration date on most brands of toothpaste can be found on the bottom of the container or on the crimped end of the tube.

By taking note of these important dates, you can ensure you are receiving the full benefits of the product.

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ave you ever found yourself laughing at a TV commercial for a prescription or overthe-counter drug where the list of potential side effects seems to take up more time in the commercial than the actual ad? Or chuckled at one of those commercial spoofs on Saturday

Night Live that mockingly lists all the hazardous side effects of taking XYZ drug? Sure, those are funny, but the reality is that a number of medications on the market today can have a negative impact on your oral health because of a potential side effect that is no joke: dry mouth.

You may think that dry mouth is just a harmless nuisance, but if left untreated, it can lead to extensive tooth decay, mouth sores, and oral infections. Nearly 50 percent of all Americans and 90 percent of adults over the age of 65 take at least one prescription medication every day, including many that produce dry mouth, according to the American Dental Association (ADA). And because of the number of medications they routinely take, the elderly are at high risk for developing dry mouth.

Also known by its clinical name "xerostomia," dry mouth occurs when there is an inadequate flow of saliva, which does more than just lubricate the mouth: Saliva washes away food particles and bacteria, helping to prevent tooth decay. When left untreated, xerostomia can lead to irritation of the soft tissues in the mouth, which can make them inflamed and more susceptible to infection, such as periodontal (gum) disease. Dry mouth can also make it uncomfortable to wear full dentures because the lack of saliva keeps them from adhering properly. Insufficient saliva may also result in bad breath, painful denture sores, dry and cracked lips, and increased risks of oral infection.

According to the ADA, more than 500 medications can contribute to xerostomia, including antihistamines, antihypertensive medications, decongestants, pain medications, diuretics, and antidepressants. Dry mouth can also result from radiation treatment for head-andneck cancers, as well as occur as a symptom of a

salivary gland disease or autoimmune disease, such as diabetes. But experts Ory Mouth agree that the primary cause of dry mouth is the use of medications.

Common symptoms of dry mouth include: trouble eating, speaking, and chewing; burning sensations; or a frequent need to sip water while eating.

"Dry mouth becomes a problem when symptoms occur all or most of the time, and [it] can cause serious problems for your oral health," says Dr. Matthew Messina, ADA consumer advisor. "Drying irritates the soft tissues in the mouth, which can make them inflamed and more susceptible to infection."

If you suffer from chronic dry mouth, you should contact your dentist and be sure to indicate all medications you are taking and any health conditions you may have that could be contributing to your oral dryness. Your dentist may recommend using saliva substitutes or oral moisturizers. Some other tips to temporarily alleviate the symptoms of xerostomia include increasing fluid intake, chewing sugarless gum, taking frequent sips of water, or sucking on ice chips. Also, avoiding tobacco and caffeinated, alcoholic, and carbonated beverages may prove helpful.

If you think that one or more of your medications is causing oral dryness, you may also want to speak with your pharmacist. "In some cases, a different medication can be provided or your dosage modified to alleviate dry mouth symptoms," says Thomas Menighan, executive vice president and chief executive officer of the American Pharmacists Association.

When it comes to your oral health, dry mouth is no laughing matter.



Nearly 50 percent of all Americans and 90 percent of adults over the age of 65 take at least one prescription medication every day.



TOOTH PICKS

Coloring Inside the (Gum) Lines

Mark Twain once said, "If you don't like the weather in New England, just wait a few minutes." Now, it seems, the same can be said of the color of your toothpaste. A retired St. Louis dentist and



inventor has created the world's first color-changing toothpaste, sold under the brand name Vortex Toothpaste. When you squeeze the tube, the toothpaste comes out as one stream of red toothpaste and one stream of blue toothpaste. As you begin brushing, the colors are mixed and turn into a vivid shade of purple, a process that may appeal to children. The toothpaste, which contains cavity-fighting ingredients fluoride and xylitol, is currently only distributed in St. Louis.

Can't Buy Me Love, But Can Buy Me a Beatle's Tooth

The Tooth Fairy is no doubt breathing a sigh of relief that her rates aren't this high: In early November, Canadian dentist Michael Zuk paid nearly \$31,000 for a decayed molar allegedly pulled from the mouth of former Beatle John Lennon at an auction in the United Kingdom, according to *Rolling Stone*.



Apparently, the now-deceased Lennon gave the tooth to his housekeeper sometime between 1964 and 1968 to give to her daughter, who was a big fan of the Fab Four. Through the years, the woman's family held on to the tooth but felt that now was a good time to pass it on to a new fan. The tooth, which was described by the auction house as "rather gruesome, yellowy, browny with a cavity," is too fragile for a DNA test to confirm that it truly was Lennon's, but the owner of the auction house was confident of the tooth's authenticity. Dr. Zuk, who has written a book on celebrities' teeth, claims he will display Lennon's tooth at his dental practice.

"Yaeba" Dabba Don't?

In America, crooked teeth or teeth with wide spaces are sometimes a source of embarrassment and self-consciousness for the individual. That's not the case in Japan,

where a dental fashion fad that has women paying to have their naturally straight teeth misaligned has grown in prominence in recent years, according to *The New York Times*. Known as the "yaeba" look, this trend is defined by a crowded, crooked-tooth smile with accentuated canine teeth, and some Japanese women have even gone so far as to have their dentists affix plastic fronts, or nonpermanent adhesive mini-fangs. Yaeba, which means "double tooth" in Japanese, has become popular because some Japanese women believe that an imperfect smile makes them more attractive. However, some speculate that the basis for the "snaggletooth" trend is similar to that for many other trends: the desire to appear younger. Dr. Emilie Zaslow, an assistant professor of communication studies at Pace University in Manhattan, attributes the trend to a "fixation with youth," since naturally occurring yaeba are the result of delayed baby teeth or a mouth that's too small. It would seem that American women are not that different from their Far East counterparts. The gap-toothed smile, made popular by model/actress Lauren Hutton in the 1970s, has recently staged a comeback in the American fashion world, with several fashion models sporting the look. When it comes to beauty and fashion, trends come and go. But when it comes to healthy, straight teeth, why mess with perfection?

So Much for Evolution

You've all heard the saying "You are what you eat," but Harvard University professor



Daniel Lieberman is proposing that "your teeth are because of what you eat." In his book, The Evolution of the Human Head, the professor of human evolutionary biology at Harvard discusses how the human head has become increasingly smaller in size now versus the days of the Cro-Magnon man, and that this may be attributed to a modern diet of overly processed and soft food. According to Dr. Lieberman, as bones grow, their size and shape respond to biomechanical stresses, such as chewing, so he studied the effects of chewing hard versus soft food on the growth and development of the skull in various animal species. In one study, he fed soft food to one group of pigs and hard food to another, and found that the upper and lower jaws of the pigs eating hard food grew larger due to the stresses of chewing. "I think many people today never have to actually chew anything all day long," he says in an article in Harvard Magazine. "You can see the effects of that shift in our heads now in terms of molar impactions," meaning that small faces and jaws leave little room for teeth. Does this mean that prehistoric man didn't need to have wisdom teeth extractions?

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A healthy heart begins with a healthy mouth.



Cardiovascular disease is the leading cause of death in the United States. But did you know that heart problems can be accelerated by the same bacteria that cause periodontal or gum disease?

So the bottom line is to have a healthy gum line. In this way, you will not only avoid periodontal problems that may lead to tooth loss, but also decrease your risk for more serious health problems.

Your mouth can say a lot about you.

