

**KEEP YOUR BODY HEALTHY...
BRUSH YOUR TEETH!**

By Dr. Helaine Smith, DMD

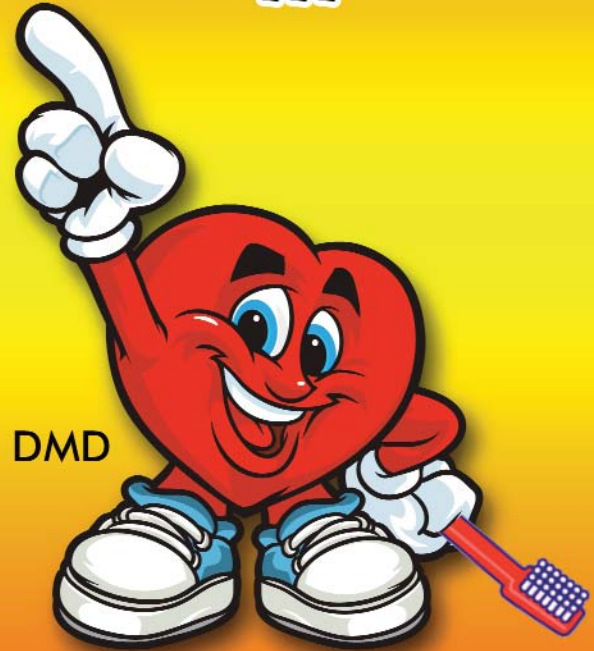




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Official disclosure: Although this e-book discusses medical and oral health conditions, in no way does it take the place of advice and care from your dental or medical professional.

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Thank you!

INTRODUCTION:

Your Toothbrush: The #1 Secret Weapon to Excellent Health and Well-being

If I were to ask you how to keep your body healthy, you would most likely answer “diet and exercise,” “live a healthy lifestyle,” or “don’t smoke.” Yet if I told you that your number one tool for preventing disease is right in your bathroom, you might start laughing.

It’s true, though. Your toothbrush, that light-weight, colorful piece of plastic, is your secret weapon in prolonging your life and keeping your body healthy. Why is that?

For many years – decades really – the medical establishment, both dentists and physicians, didn’t understand the connection between the health of your mouth and the health of your body. It’s only been recently that researchers have discovered that gum disease (also known as periodontal disease) can lead to all sorts of complications, including miscarriages and low-birth weight babies, pneumonia in the elderly, diabetes, and even heart disease.

And, it stands to reason that our oral health significantly affects our physical health: **our mouths are full of bacteria – bacteria that don’t stay put in our mouths.** (This is such a no-brainer it’s a wonder no one thought of this before.) The bacteria travel throughout our body and some of these bacteria end up crossing the placenta in pregnant women (something researchers had assumed did not happen) and causing inflammation in other areas of the body, including our arteries.



Gum disease, which affects everyone from children to the elderly and everyone in-between, has its beginnings in our busy lifestyles. You brush only once a day because you're too tired to brush at night, you "forget" to floss regularly, you get busy and miss a dental appointment or maybe two or three. Then, at your next dental visit, your dentist informs you that you now have "pockets" and a receding gum line – yet you had no indication that your gums were at risk. That's because gum disease, like high blood pressure, is a "silent" disease. You don't know you have it unless you visit a dentist.

You can easily prevent periodontal disease, however, and your first step is reading this e-book. You'll learn how periodontal disease affects your whole body health and how you can ensure your mouth – and by extension, your body – is happy and healthy for years to come. I hope you enjoy this e-book. I'd love to hear your feedback!

Dr. Helaine Smith

Please feel free to post this e-book on your blog or email to whomever you believe would benefit from reading it. **Thank you!**

THE SKINNY ON PERIODONTAL DISEASE

People often think that they have the first symptoms of periodontal disease when they notice their gums bleeding while brushing – and will bring this up when they next visit the dentist. In fact, bleeding gums is a sign of gingivitis, which is irritation of the gums due to tartar build-up (and lack of flossing). Your dentist may recommend that you increase the number of cleanings with your hygienist from twice a year to three or four times a year in order to remove the plaque if it's building up faster than normal. (Some people can go six months and have little plaque build-up, others need to see the hygienist more frequently.)

THE FACTS:

ABOUT PERIODONTAL DISEASE

- It's a chronic, ongoing disease.
- The bacteria can do harm throughout your body.
- One treatment is not enough to "cure" it.
- It progresses and thus needs to be maintained.
- Antibiotics do not cure periodontal disease.
- Brushing and flossing every day is your best method of prevention.

If gingivitis is left untreated for years, it becomes periodontal disease -- the inflammation of the tissues surrounding and supporting the teeth (i.e. your gums). In the early stages of periodontal disease, you'll rarely feel any pain or notice any evidence, such as red gums, which is why approximately 40% of the U.S. population unknowingly has periodontal disease. This is why it's important you **visit the dentist regularly**, as only he or she can detect periodontal disease in its early stages.

Eventually, periodontitis – a much more serious infection that can lead to progressive deterioration of the alveolar bone which supports the roots of the teeth – can develop. In its later stages, periodontitis can lead to tooth loss, elevated blood sugar levels, and an increased risk of heart attack and stroke. It can exacerbate pre-existing respiratory conditions and diabetes, and pregnant women with periodontitis are more likely to give birth to pre-term, low-birth-weight babies or to develop a potentially deadly condition known as

What is the root cause of periodontal disease? One word: Bacteria.

We have over 500 bacteria which live constantly in our mouths – with about six of them harmful enough to cause periodontal disease and cavities. These bacteria adhere to the surface of teeth, forming plaque and tartar, which in turn harbor more bacteria. This is why brushing your teeth daily is a good thing – not so much because it prevents cavities but because you remove the bacteria.



The early symptoms of periodontal disease can be subtle. Initially, you may only notice a little redness in your gums, but left untreated this inflammation can cause “pockets” to form around the roots of the teeth, where bacteria make themselves at home. The bacteria grow and proliferate – attacking tissue and bone and resulting in loose or lost teeth. Other indications include receding gums, persistent bad breath, pus between the gums and teeth, and changes in the way your teeth fit together when you bite.



Amazingly enough, despite a huge campaign by the American Dental Association (ADA) to help consumers take care of their oral health, periodontal disease still affects 30 – 50% of the U.S. population, and about 10% of those affected have severe forms. My colleague, Dr. Abboud, a periodontal specialist, refutes this fact. **He says that over 30% of those with the disease have a severe form of it.**

Wow! So if you're brushing your teeth and removing bacteria, how does periodontal disease even get a foothold in the mouth? READ ON!



LIFESTYLE CHOICES AND MEDICAL CONDITIONS THAT MAY MAKE YOU SUSCEPTIBLE TO PERIODONTAL DISEASE

Not everyone knows that things like smoking, tongue jewelry, and even carrying the XX chromosome (that's right – your gender) can pre-dispose you to periodontal disease.

Smoking and Tobacco Use

Did you know that smokers are known to lose more teeth than non-smokers? The Centers for Disease Control and Prevention report that only about 20% of people over age 65 who have never smoked are toothless. For daily smokers, that figure is a staggering 41.3%!

The figures aren't surprising given that studies have shown that tobacco use may be one of the most significant risk factors in the development and advancement of periodontal disease. In addition, the chemicals in tobacco affect the small blood vessels, making it harder for smokers to heal after periodontal treatment or oral surgery.

And, according to an article, "Smoking and periodontal disease," in *Critical Reviews in Oral Biology and Medicine*, the evidence suggests that periodontal disease is less in former smokers than in those who continue to smoke. The authors note, "Further evidence of the role of smoking in periodontal disease comes from studies of patients who



stop smoking. **If smoking is associated with increased risk for periodontal disease, a reduction or elimination of tobacco use should reduce this risk and should be beneficial to the patient. There is good evidence that the prevalence of periodontal disease is less in former smokers than in those who continue to smoke."**

Smoking cigarettes is not the only culprit here. Smokeless tobacco can cause gums to recede, eventually leading to loss of the bone and tissue that hold teeth in place. And, pipe and cigar smokers experience tooth loss at rates similar to cigarette smokers. Even marijuana has been found to contribute to gum disease. As I note in my e-book, *Healthy Mouth, Healthy Sex!*, (www.helain smithdmd.blogspot.com), long-term use of pot can cause periodontal disease – according to a study posted in the February 2008 *Journal of the American Medical Association (JAMA)*. The researchers found that "after controlling for tobacco smoking and other important confounders, regular exposure to cannabis smoke was strongly associated with the prevalence and incidence of periodontal attachment loss by age 32 years."

I know that quitting is easier said than done. If you do want to stop smoking, ask your dentist or physician for support in taking the first steps. If you do continue to smoke, be sure to see your dentist regularly so that he or she can check for periodontal disease.

Women and Periodontal Disease – It's the Hormones!

Even though women generally take better care of their teeth than do men, we still get hit with a double whammy due to our gender: hormone fluctuations and a pre-disposition to periodontal disease. Hormonal fluctuations impact women from puberty to old age and affect many tissues – including gum tissue.

During **puberty, pregnancy,** and even **menstruation,** hormones can cause increased blood circulation in the gums, leading to gingivitis. The same bone loss that causes osteoporosis in menopausal and post-menopausal women may also lead to periodontal disease, and some women experience menopausal gingivostomatitis, which causes gums to look dry or shiny, bleed easily, and become abnormally pale or dark in color.

According to the *Journal of Periodontology*, at least 23% of women ages 30 to 54 have periodontitis – the advanced form of periodontal disease. The figures are even higher for **older women, with 44% of those ages 55 to 90 (who still had their teeth) having periodontitis.** Osteoporosis, a bone disease in which bone density is reduced, is a significant factor for women in this age group, although it bears mentioning that osteoporosis can also affect men. Eventually, the density of the bones supporting the teeth decreases, reducing the teeth's firm foundation.

Nursing mothers should also note that insufficient calcium consumption while



nursing can lead to inflammation of the periodontal tissues and bone loss around the teeth and gums, according to the Journal of Periodontology.

What can you do to ensure your mouth – and your body – remains healthy?

- If you're planning on getting pregnant or have recently become pregnant, see your dental professional in order to determine if you have periodontal disease.
- See a dentist immediately if you notice bleeding gums during brushing, persistent bad breath, loose or separating teeth, or pus between the gums and teeth
- Keep your dentist informed about any medications you're taking or changes in your health history.
- If you have osteoporosis, be sure to discuss your condition with your dentist.
- Brush and floss regularly – but you already knew that, right?



Diabetes

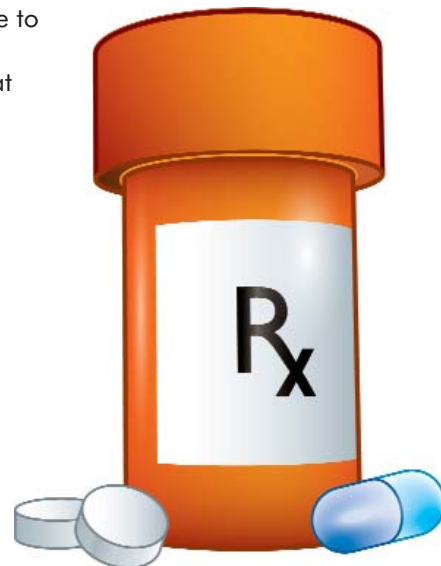
For those with diabetes, unstable blood sugar levels cause wounds to heal more slowly and break down the supporting tissues in the bone, so it follows that those with diabetes are more susceptible to periodontal disease.

In fact, according to the American Academy of Periodontology, **periodontal disease is the sixth leading complication of diabetes**, and diabetic patients are three to four times more likely than those without diabetes to develop a periodontal infection. And, a study published in the *Journal of Periodontology* found that people with poorly controlled Type 2 diabetes were more likely to develop periodontal disease than those who had their diabetes under control.

What's more, having periodontal disease can make it harder for patients to control their diabetes – so a vicious cycle can develop where one condition exacerbates another.

Medications

An unpleasant side effect of numerous medications, both prescription and over-the-counter (OTC), from cold remedies to antidepressants, is dry mouth. With a reduced amount of saliva to clean your teeth and battle bacteria, plaque and tartar have an opportunity to build up. Other drugs, particularly anti-seizure medications, calcium channel blockers, and drugs that suppress the immune system, can cause gingival



hyperplasia, an overgrowth of gum tissue that can make plaque removal difficult. This condition has also been found in individuals who abuse anabolic androgenic steroids. And recently there has been considerable controversy about whether a class of medications known as bisphosphonates, such as Boniva, which is used to treat osteoporosis, cancer, and Paget's disease, may cause osteonecrosis of the jaw, a condition in which reduced blood flow to the jaw causes severe damage to the bone. It's essential, therefore, to let your dentist know if you're being treated with bisphosphonates.

Indeed, it's important that you **let your dentist know about any and all medications you're taking**, whether prescription or over-the-counter, regardless of the condition being treated. Your dentist will know which medications can increase your chances of gum disease and will act accordingly.

Stress

Did you know that financial worries can take a toll on your teeth? It's true. According to WebMD, stress has been linked to innumerable medical conditions, from the common cold to hypertension and cancer. But most people don't know that because stress can reduce the body's ability to fight infection, it can significantly contribute to periodontal disease. Reports the *Journal of Periodontology*, "high levels of financial stress and poor coping abilities increase twofold the likelihood of developing periodontal (gum) disease." The American Academy of Periodontology thinks this is due to some patients resorting to smoking or poor eating habits to cope with stress, or having trouble getting adequate sleep, all of which can accelerate periodontal disease.



Tongue Piercing

Piercing of the lip, tongue and cheeks has become quite common among young men and women. However, barbell-type tongue jewelry – while sexy to some – does a real number on your teeth. According to a 2002 study by Loma Linda University published in the *March Journal of Periodontology*, long-term use of barbell-type tongue jewelry may increase the chance of tooth chipping and gum recession. The study found gum recession in 35% of subjects who had pierced tongues for four or more years, and in 50% of those wearing long-stemmed barbells for two or more years.



"During tongue movement, long-stem barbells are more likely to reach and damage the gums than short barbells," said Dimitris Tatakis, DDS, PhD, Professor of Periodontology at the Ohio State University College of Dentistry and co-author of the study, featured in the *Journal of the California Dental Association*. "Over time, this damage may cause the gums to recede, which can lead to more serious dental/oral complications."

The same CDA article also noted that 47% of young adults wearing either type of barbell for four or more years had chipped teeth. The prevalence of tooth chipping was significantly greater in those wearing short-stemmed barbells (1/4 inch to 5/8 inch) for four or more years.

Before committing to any kind of mouth piercing, discuss the risk factors with your dentist. If you do have a pierced tongue, be sure to have a comprehensive oral exam to check for problem areas. To help eliminate fractured or chipped teeth, remove your tongue jewelry before eating and sleeping.

WHAT HAPPENS WHEN YOU DON'T TREAT PERIODONTAL DISEASE

As devastating as tooth loss is, periodontal disease has been known to dish out some even nastier consequences. I've already touched on the complications periodontal disease poses for people with **diabetes**, and the risk of **premature birth** and **low-birth weight in babies**. If you have periodontal disease, other negative health repercussions to look out for include:

Heart Disease and Stroke

Many studies have shown a connection between periodontal disease and cardiovascular disease, but until recently, the nature of the relationship between the two was unclear.

Now, a new study conducted at Howard University has shown conclusively that people with periodontal disease "whose bodies show evidence of a reaction to the bacteria associated with periodontitis may have an increased risk of developing cardiovascular disease," according to the American Academy of Periodontology. At the heart of the matter? A substance called "C reactive protein," which is present in elevated levels in people at higher risk of developing heart disease. CRP is elevated when inflammation is present, including inflammation of the gums.

And, periodontal disease can pose an increased risk for those with



existing heart conditions. If you have a heart condition, be sure to make your dentist or periodontist aware of it, and ask your doctor whether you should be administered antibiotics before dental procedures.

While continued research is needed to fully understand the relationship between periodontal and cardiovascular diseases, the results of this research are conclusive in at least one respect: **When you take care of your teeth and gums, you're also taking care of your heart.**

Preeclampsia, Low-Birth Weight Babies, and Miscarriages

In a new study by the University of North Carolina, researchers have linked gum disease in pregnant women with preeclampsia – a serious pregnancy complication that leads to high blood pressure, premature delivery, and in some cases even the death of the mother and/or child.

According to the Preeclampsia Foundation, the disease affects 5-8% of all pregnancies, and is particularly likely to affect women who are pregnant for the first time, and women over 40 years of age. Stated the research lead investigator, Dr. Michael Ruma, speaking to Reuters Health, "Maternal periodontal (gum) disease clearly contributes to an increased risk of preeclampsia, and our results demonstrate that this risk is further increased in the presence of elevated systemic inflammation." (You can read the study abstract at the *American Journal of Obstetrics and Gynecology* Website, April 2008 issue.)



If you're a woman and planning on becoming pregnant or have recently become pregnant, I urge you to see your dental professional in order to determine if you have periodontal disease. Recent research has also shown that **poor oral hygiene can cause serious pregnancy complications** – including miscarriages, premature births, and low-birth weight babies.

Back in what I refer to as the “dark ages,” but which was really only some 20 odd years ago, the medical establishment believed that because the fetus was relatively isolated and protected in a sterile environment, few organisms could pass the placenta and harm the fetus – including oral bacteria from infections in the mouth.

However, in 2001 and again in 2002, researchers proved that these oral bacteria could indeed cross the placenta and cause serious harm. In fact, according to an article in *Scientific American*, **infections are thought to account for between 30 and 50 percent of all premature deliveries** – including gum infections such as gingivitis and periodontal disease.

As you probably already know, when a woman gets pregnant, her body is suffused with hormones. This increased level of hormonal activity exaggerates the way the gums react to irritants in plaque. This irritation causes what’s known as “pregnancy gingivitis” – the build up of plaque on the teeth.

Gingivitis causes swelling, tenderness of the gums, and bleeding. If left untreated, gingivitis can become periodontal disease.

According to the American Academy of Periodontology, pregnant women with periodontal disease may be **seven times more likely to deliver their babies prematurely or deliver babies that are too small.** These complications are thought to be caused by a labor-inducing chemical found in the oral bacteria – bacteria which can and do cross the placenta to the fetus.

Hence, just as you would take your folic acid before getting pregnant and during your first trimester, **it's also very important that you have a full dental exam before you become pregnant.** You want to make sure you don't have gingivitis or periodontal disease and get it treated if you do. Then, once you are pregnant, it's also important that you check back in with your dentist during the first and second trimesters when gingivitis is most likely to occur.

Respiratory Diseases

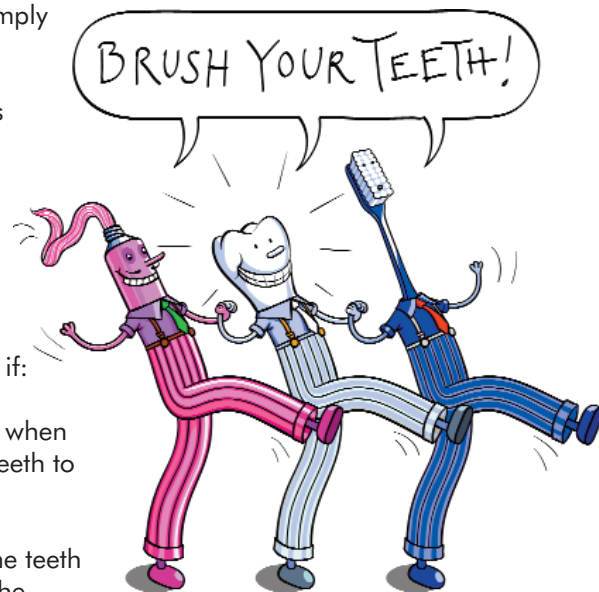
Researchers have found that bacteria from the mouth and throat can be aspirated into the lungs, where they may cause respiratory diseases, including pneumonia. This is especially likely to happen in people with periodontal disease. For those with existing lung conditions, the risk is particularly great. Those with chronic obstructive pulmonary diseases (COPD), which cause persistent obstruction of the airways, often have diminished protective systems, making it harder for them to eliminate bacteria from the lungs. Those with COPD should routinely rinse with Peridex, a germicidal mouthwash. Individuals on ventilators must have their mouths swabbed with chlorhexidine to prevent the bacteria from being aspirated into their lungs and colonizing.

PREVENTING PERIODONTAL DISEASE

Your Mother was Right – Brush Your Teeth.

The good news is, periodontal disease can be prevented – simply follow the tips below to maintain excellent oral health:

- Brush at least twice daily (ideally after every meal) and floss every day.
- Visit your dentist regularly (ideally twice a year for healthy kids and adults) and make sure a periodontal exam is part of your routine visit.
- Know the warning signs of periodontal disease and take them seriously. See your dentist or periodontist immediately if:
 - o Your gums are red, tender or swollen, or they bleed when you brush them. (That's right – it isn't "normal" for teeth to bleed when you brush them.)
 - o You notice that your gums have pulled away from the teeth or are receding. (Your teeth look "longer" because the roots are showing.)



- You have persistent bad breath.
 - You see pus between your gums and teeth.
 - You have loose teeth.
 - You notice a change in the way your teeth fit together when you bite or a change in the fit of your dentures.
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- Let your dentist know about any and all medications you are taking, whether prescription or over-the-counter, regardless of the condition being treated.
 - Be sure that your physician *and* dentist know about any other changes in your medical or dental history, and other issues that could have an impact on your treatment, especially if you are pregnant, have diabetes, a heart condition, osteoporosis, or a family history of periodontal disease.
 - If you're in a high-risk group for periodontal disease because you smoke or are overweight, seek medical support to quit smoking or lose weight.
 - Look for a toothpaste (such as Colgate Total) with triclosan, a mild antimicrobial proven to reduce plaque and gingivitis if used regularly.



TREATING PERIODONTAL DISEASE

If you have gingivitis, your dentist may suggest that you schedule dental cleanings more frequently than the standard twice-yearly visits. He or she may also recommend that you use a toothpaste or mouth rinse specifically designed to fight gingivitis. Some of these products may require a prescription. Dentists and periodontists may prescribe antibiotics to treat periodontal disease, but do so very selectively due to concerns about overuse of antibiotics and the risk of bacterial resistance to these drugs.

If you have some bone loss, or the gums have receded from the teeth, your dentist may also recommend a non-surgical, intensive deep cleaning method called scaling and root planing (SRP). Scaling removes the plaque from above and below the gumline, while root planing smoothes rough areas on the roots, which may harbor the bacteria that contribute to the disease. The gums are better able to reattach to this smooth, clean surface.

Dentists, periodontists, and oral surgeons perform periodontal procedures like SRP and a wide range of other oral surgical procedures. The degree of discomfort and healing time varies with each individual. If you suffer from severe anxiety when visiting the dentist, he or she may use conscious sedation procedures, including oral tranquilizers, to help you relax.

If you've lost teeth, you may be a candidate for dental implants or implant-supported dentures. These new dental technologies give you a smile that looks and feels so natural that you'll forget you even have "false" teeth! During the dental implant procedure, the periodontist places a small titanium pin inside the jawbone to mimic the root of the missing tooth. A dentist then builds a crown on top of the implant,

which acts like a tooth. Because dental implants are integrated into your jawbone, they prevent bone loss and the gum recession associated with bridges. They look and feel natural and eliminate the worry and nuisance that come with dentures and bridgework – and last a lot longer, too.

Full Mouth Rehabilitation is another option for individuals who've lost teeth due to periodontal disease.

Full Mouth Rehabilitation replaces lost teeth and corrects imperfections in the bite by following an individualized treatment plan which may combine the use of orthotics and dental restorations (such as porcelain veneers, crowns, or inlays). Full Mouth Rehabilitation restores a patient's smile and appearance, and can also help resolve pain and discomfort in the jaw, as well as headaches, due to an improper bite.

It's important to remember that periodontal disease is a chronic disease that must be dealt with on an ongoing basis. It's impossible to completely eliminate all the harmful bacteria that can accelerate the progression of the disease, so a regular cleaning regimen – generally every three months – is essential.

What exactly is a periodontist and how do they differ from general dentists?

A periodontist is a dentist who has received additional training in the diagnosis and treatment of the periodontium – the tissues that surround and support the teeth. Periodontists receive three *additional* years of training after dental school in an American Dental Association accredited residency training program. They specialize in the treatment of all forms of periodontal disease. After completing their residency program, periodontists may also earn certification by the American Board of Periodontology in a rigorous peer review process.



About Dr. Helaine Smith

Since graduating from dental school in 1991, Dr. Helaine Smith has been driven to provide the very best in dental care and advanced cosmetic dentistry procedures. Not satisfied with providing general dentistry, Dr. Smith sought advanced dental training at the Las Vegas Institute for Advanced Dental Studies. She is now one of two percent of dentists in the United States who provide full mouth reconstruction. In addition, Dr. Smith is a Fellow in the Academy of General Dentistry – an award granted to dentists who have more than 500 practice hours and have passed a comprehensive 400-question examination.

Her hard work and dedication to providing outstanding dental care resulted in Dr. Smith being named "First Runner Up" for the annual Cosmetic Practice of the Year Award competition in 2006. And, she's been twice voted Boston's Best Dentist by Community Newspapers' Readers Choice Awards. Dr. Smith currently practices at her Boston cosmetic dental spa and at her family dental practice in Dedham, MA.

Dr. Smith combines her drive for success with a desire to give back to the community. An active member of Operation Smile and Cape CARES, two groups that send volunteer dentists and physicians all over the world, Dr. Smith has been part of eleven volunteer missions to third world countries. She provides care to children with cleft lip and palate from remote mountain villages in numerous Latin American countries.

To book Dr. Smith to speak about dental marketing or dentistry, please contact her at www.helainesmithdmd.com. You can also check out her blog at www.helainesmithdmd.blogspot.com.

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If you enjoyed this e-book, then you'll enjoy Dr. Smith's bi-monthly e-newsletter, "Successful Smiles." Based on her real-life experience drawn from working with hundreds of Boston cosmetic dentistry patients over the last ten years, "Successful Smiles" is a cosmetic dentistry newsletter featuring lively articles about the transforming power of cosmetic dentistry and great dental care. Subscribe today at: www.helainesmithdmd.com/newsletter.html

You can also download her e-book, "Healthy Mouth, Healthy Sex!" A "G-rated" informational book, "Healthy Mouth, Healthy Sex!" explains how poor oral health can adversely affect your sex life. You can find Dr. Smith's "Healthy Mouth, Healthy Sex!" e-book at:

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