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WRITTEN BY DENTAL PROFESSIONALS

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Jessica Simpson & Operation Smile

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HOW TO GET THE SMILE YOU WANT

SEDATION DENTISTRY
OVERCOMING FEAR AND ANXIETY

AGE ONE DENTAL VISIT
WHY YOUR BABY NEEDS ONE

PLUS CONSULTATIONS ON:
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THE CLEAR ALTERNATIVE TO BRACES

Dear DOCTOR®
DENTISTRY & ORAL HEALTH

Features

Cover Story

Also in this issue...

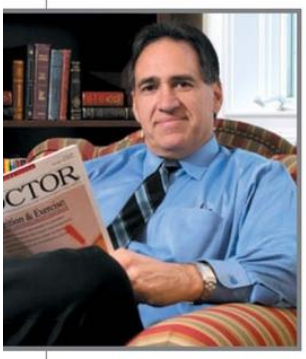
Consultations

Have a Dental Question?
Send an email to
consultations@deardoctor.com
or submit your question online at www.DearDoctor.com and have your question answered in an upcoming issue!

Makeover Contest Winner

We invite you to join us as we follow Brian's quest for health through "The Ultimate Dental Health Makeover" contest and what modern dentistry has to offer. We will show you how we provide him with beautiful aesthetics, proper function and most importantly the prospects for long term dental, oral and general health.

Dear Doctor – An Advocate for Children's Oral Health



In this issue you will find our first feature on pediatric dentistry, the *Age One Dental Visit*. This takes us "back to our futures" – starting with the health of our most important treasures – our children. In an upcoming issue, we will feature the world's most ubiquitous disease – *Dental Caries (Tooth Decay)*; a completely preventable disease that today is still causing needless pain and suffering to say nothing of the escalating costs running in the billions for care. But this raises a much larger question. Millions of otherwise healthy children are not covered by dental insurance, and still others with disabilities have few places to turn for treatment. In fact, the U.S. Surgeon General has called oral disease a "silent epidemic".

God Bless Americans! Where governments have not yet responded, non-governmental organizations (NGOs) have stepped in to help fill the void. A few examples:

National Children's Oral Health Foundation (NCOHF): An estimated 4 million U.S. children have dental problems so severe they have trouble eating, sleeping and learning. They are building a network of exemplary non-profit facilities to ensure the delivery of outstanding oral health care, education and prevention services to the nation's most vulnerable children. Their goal is to treat 5 million children most in need through more than 500 centers throughout the US and to begin providing global support to developing nations.

American Dental Association (ADA's) "Give Kids A Smile®" Campaign: The nation's dentists provide free oral health care services to half a million children from low-income families at more than 2,000 sites nationwide on the first Friday of February each year, during National Children's Dental Health Month.

Operation Smile: Throughout the world, Operation Smile volunteers repair childhood facial deformities while building public and private partnerships for sustainable healthcare systems for children and families. Together, they give children smiles, change their lives and heal humanity. Operation Smile currently supports international and local, in-country medical missions to 33 countries.

Please help support the NCOHF, the ADA's Give Kids a Smile program and Operation Smile. Corporations, dental companies and private entities have helped fund these NGOs; you can help too. In addition call your local, state and federal officials to advocate on behalf of underserved children.

Dear Doctor strives to educate members of the public not only about individual concerns, but also the concerns of the community and general public. You can help! *Dear Doctor* is dedicated to advocating on your behalf through education. As our subscriptions and readership increase, we will be a more effective advocate for not only individuals but for the community at large. Let us continue to hear from you with your questions and comments.

Our profound thanks once again,

Mario A. Vilardi, DMD
President/Publisher

Garry A. Rayant, BDS, DDS, LDSRCS, MS
Editor-in-Chief

VOLUME 2, ISSUE 2

Dear DOCTOR®
DENTISTRY & ORAL HEALTH

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Dear Doctor - Dentistry & Oral Health magazine represents the finest consumer resource for education and information on topics of dentistry and oral health. We invite all health care professionals interested in contributing to this exciting new forum for public well-being, to contact our editorial department at 866-429-8188, email us at editorial@deardoctor.com, or visit our website at www.deardoctor.com/authors.

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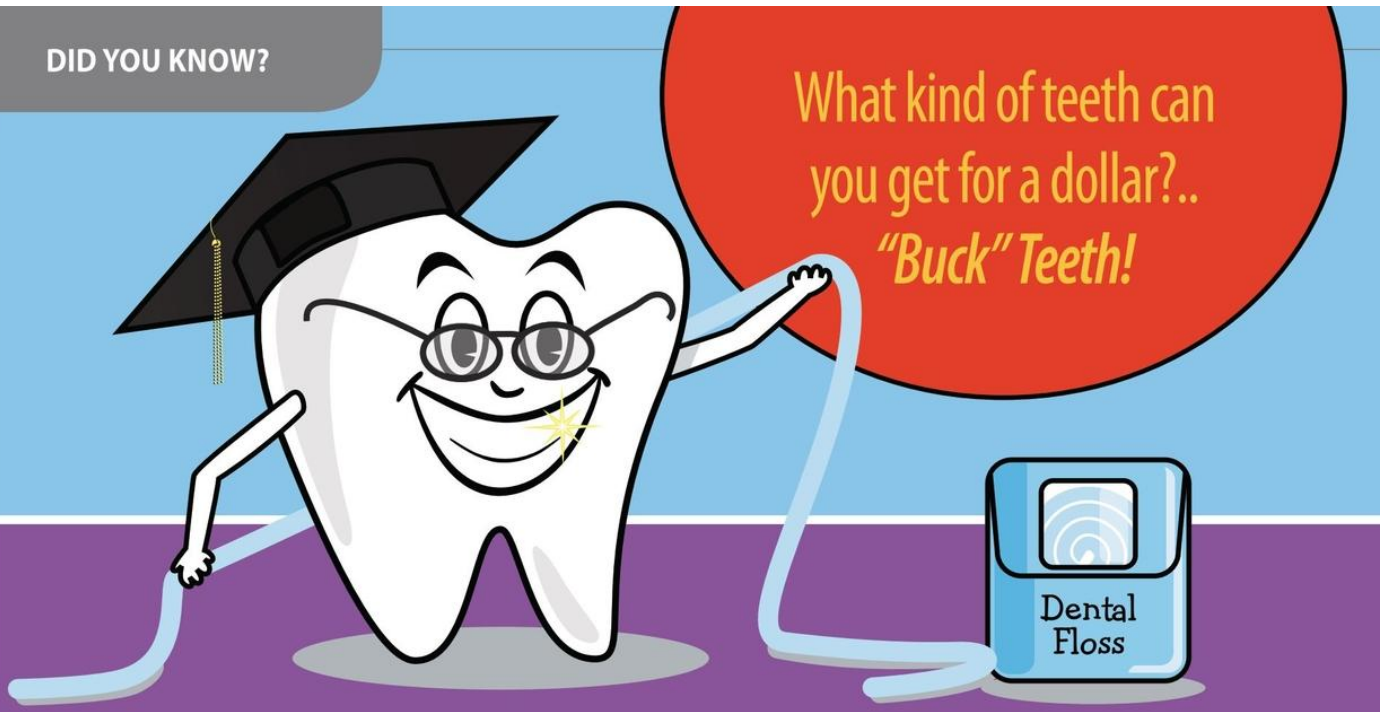


Why are they called "wisdom teeth"?

Third molars have been referred to as "teeth of wisdom" since the Seventeenth Century and simply "wisdom teeth" since the Nineteenth Century. The third molars generally appear much later than other teeth, usually between the ages of 17 and 25 when a person reaches adulthood. It is generally thought among linguists that they are called wisdom teeth because they appear so late, at an age when a person matures into adulthood and is "wiser" than when other teeth have erupted.

Lately, science has added some credence to the idea that the third molar does indeed erupt when a person is "wiser". Recent research has shown the brain continues to grow and develop right on through adolescence: in fact, most researchers believe the brain does not reach full maturity until the age of 25. Perhaps, then, our ancestors weren't so far off the mark – that the eruption of "wisdom teeth" is a sign that the carefree days of childhood have given way to the responsibilities of adulthood.

While your teeth may last a lifetime, the lifespan of your toothbrush is only 3 to 4 months!

Toothbrush Maintenance

Care for your toothbrush to help maintain a healthy smile!

- Rinse your toothbrush after each use. Be sure that no toothpaste or debris remains in the bristles.
- Air dry your toothbrush. Allow the toothbrush to dry thoroughly. Avoid storing it in any type of covering or closed container.
- Replace your toothbrush every 3-4 months or sooner if the bristles become worn or frayed.

Who is widely credited with the introduction of the collapsible tube of toothpaste?

Dr. Washington Sheffield is widely credited with the introduction of the collapsible tube of toothpaste. In 1850, Dr Sheffield, a 23 year old dentist practicing in New London, CT, began using his own invention of a pleasant tasting, nice smelling tooth cleaning paste in his practice. The toothpaste, which he named Crème Dentifrice, was so well received by his patients that the demand prompted a large scale production of the tooth crème to be sold publically. His tooth crèmes were sold in porcelain jars and entire families might dip their toothbrushes into the same jar before brushing-hardly a very hygienic practice. In a building near his office, Dr. Sheffield set up a laboratory to create and manufacture his product to the community.

Decades later in 1892, Dr. Sheffield's son was visiting Paris, France, where he observed artists using collapsible metal tubes for paints and inks. Upon his return, he introduced his father to the idea of somehow utilizing the tubes for his toothpaste. Dr. Sheffield ran with the idea and the rest is history. In 1896, Colgate began packaging its Colgate Dental Cream in collapsible tubes, imitating Sheffield's idea. The collapsible metal tube revolutionized toothpaste manufacturing and marketing. What began in a dentist's own laboratory evolved into a product that was being mass-produced in factories, mass-marketed and sold nationwide.

(American Dental Association)

DID YOU KNOW?

Traveling Abroad?

Tips for Dealing with Dental Emergencies

Are you planning a vacation outside the U.S.? Don't have your vacation ruined by a toothache. Prior to traveling abroad a thorough dental examination is important especially if traveling to developing countries or remote areas without access to safe dental care.

Emergency dental care abroad may be hard to find, uncomfortable, expensive, or even dangerous. Most of us take for granted the high U.S. standards for infection control and safety. We seldom think about the fact that sterile instruments, gloves, disposable needles and safe water are not always routine in parts of the world. Dentists practicing in the U.S. are held to high standards of care and must follow infection control guidelines for disease prevention. The standards for educating and licensing dental professionals also vary in foreign countries. In the U.S., dentists have been educated in accredited schools and have taken national and state boards prior to receiving a license to practice.

Before you travel...

Schedule an appointment with your dentist giving adequate time to complete any necessary dental treatment. Pressure changes especially during air travel can cause pain in an untreated tooth.

- Have decayed or cracked teeth treated
- Congested with sinus problems? It may be from or affecting your teeth
- Schedule a cleaning, especially if you have any type of periodontal (gum) disease or bad breath
- Sensitive teeth should be checked before you travel
- Complete all root canal treatments

Emergency dental care abroad may be hard to find, uncomfortable, expensive, or even dangerous.

Seeking safe emergency dental care while you're traveling...

Along with your passport, carry travel information including names and phone numbers of organizations to contact in case of a dental or medical emergency. Some good sources to contact in an emergency are:

- A local hotel concierge.
- Americans living in the area or American military personnel.
- The International Assoc. For Medical Assistance To Travelers - a network of doctors and medical institutions around the world - (www.iamat.org) (716) 754-4883.
- American Consulate or American Embassy in the country you are visiting.
- In Europe - American Dental Society of Europe (ADSE) (www.adse.co.uk) Phone: 011 44 141 331 0088.

To obtain *A Traveler's Guide To Safe Dental Care* visit The Org. For Safety and Asepsis Procedures (www.osap.org)

Don't let a dental emergency dampen your vacation. Be sure to have your teeth in great shape prior to leaving home.

We've got mail

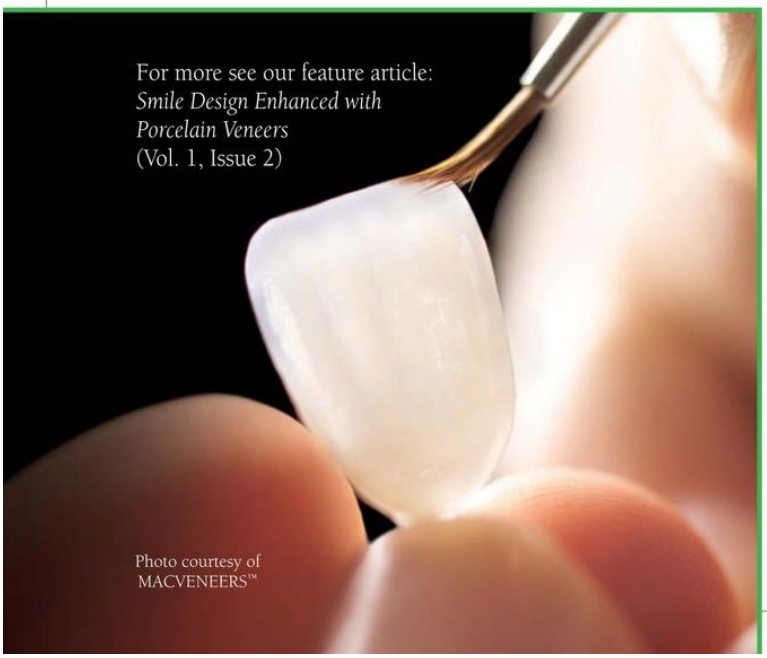
Email your dental questions to consultations@deardoctor.com

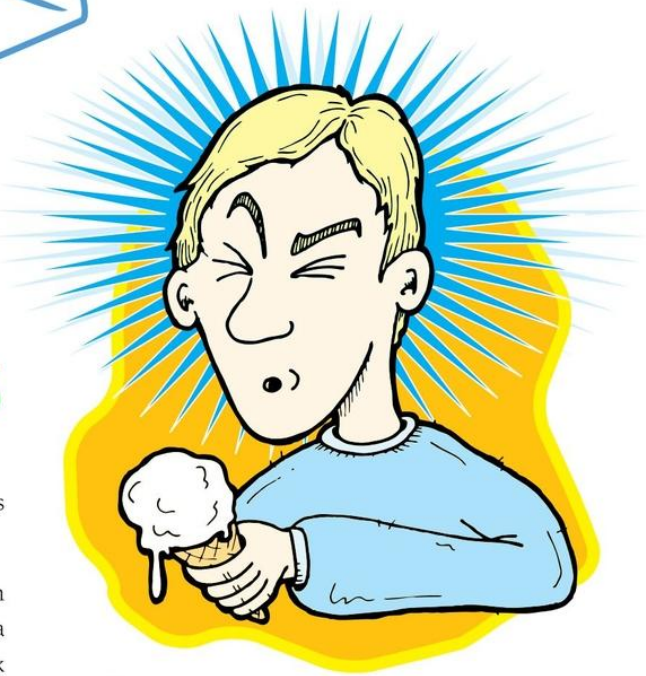
Porcelain Veneers

Question emailed by Linda from Pennsylvania

Question: I was surprised to find out how much money veneers are for me to cover my front teeth. Why are they so much?

Answer: This is an important topic that is covered in some depth in our feature article on Porcelain Veneers (see below). There is a great deal of work that goes into making porcelain veneers look lifelike. The process includes your dentist's assessment of your situation, making a mockup of the final result, then preparing the teeth and having the veneers made by an expert dental technician (the artist behind the veneers), and finally proper placement and cementation. Like great art, it is expensive to get veneers to look natural. But think of it this way, if you get veneers that are well done and they last for many years, the cost may well be worth it not only financially, but also in terms of your well-being. Amortized over the life of the veneers, maybe a good job won't seem so expensive. Speak to your dentist for more details.





Crown Sensitivity

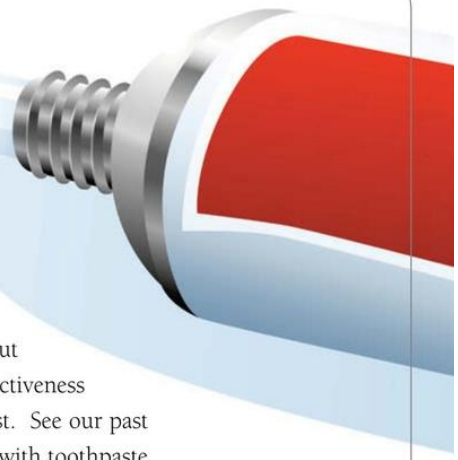
Question emailed by Cathy from Georgia

Question: After having a crown put on, how long should you experience sensitivity?

Answer: Sensitivity is variable and therefore a difficult question to answer because of its "multi-factorial" nature. That's a great way we in the healing arts have of saying there are many factors that can cause it. What is the nature of your sensitivity? Are you sensitive to hot, cold, sweet, touch, pressure, biting? How much decay was there is the tooth, how close to the pulp (that contains the nerve) was it, is the nerve inflamed; is the tooth (are you) younger – therefore more likely to experience sensitivity. The best advice I can give you is to ask your general dentist who is in the best position to know these answers, particularly the dentist who placed the crown. Also, you can review *Dear Doctor's* past consult on "Tooth Sensitivity" for more detail.

Colorless Toothpaste

Question emailed by Karen from Tennessee

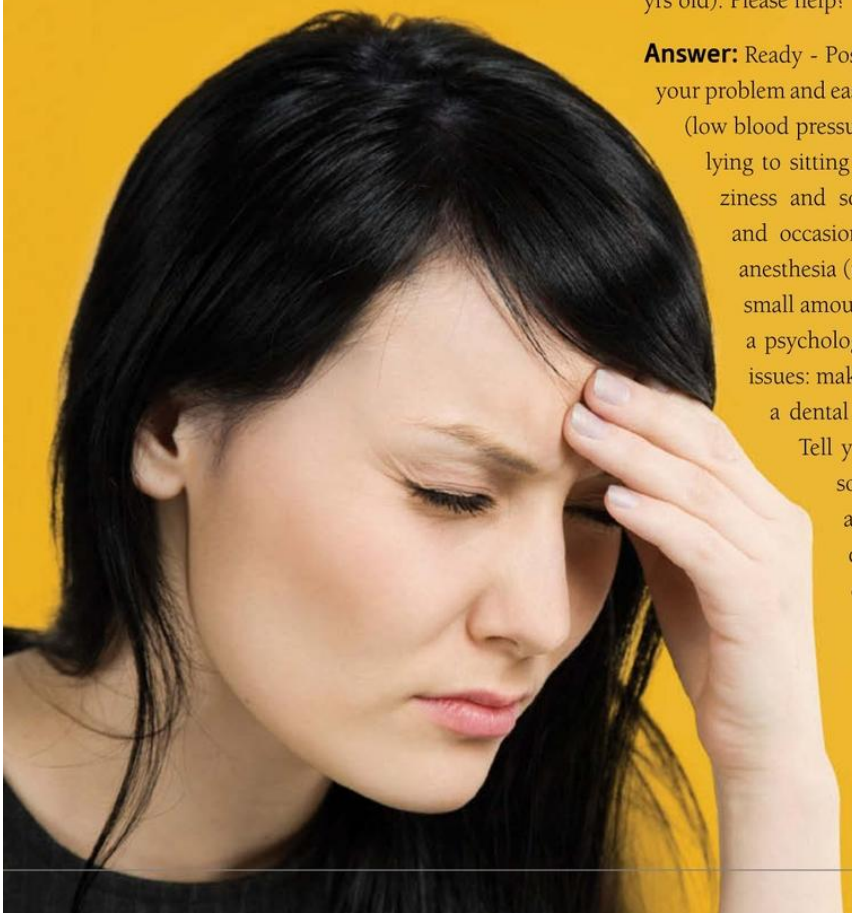


Question: What is clear toothpaste? Where can I buy it & what brand?

Answer: Are we right in assuming that you are looking for clear toothpastes because of allergies? Please let us know so we can help you more fully. You could possibly go "on line" and find some brands you could purchase. The concern about recommending toothpastes that don't have the ADA "seal of approval", is that their effectiveness cannot be guaranteed. You may be paying a premium for a benefit that might not exist. See our past consult on "What's in a toothpaste?" and write us again on what your past experience with toothpaste has been and why you want a "clear" toothpaste, or discuss the issue with your dentist.

Dizzy in the Dental Chair

Question emailed by Denise from Pennsylvania



Question: 3 years ago I had a crown made for my tooth and when I got up after the procedure I got very dizzy. Since then I am afraid of lying down to have dental work. I have called every dentist in my area asking if I could please sit up during treatment, but no one including my own dentist will do this. I remember as a child sitting up (I am 50 yrs old). Please help?

Answer: Ready - Postural Hypotension!! That's what's at the root of your problem and easy to fix. Postural (body position) – Hypotension (low blood pressure) usually results when suddenly going from a lying to sitting or standing position which may result in dizziness and sometimes fainting. Dizziness, lightheadedness and occasionally fainting can also occur right after local anesthesia (tooth numbing shots) – largely as a result of the small amount of adrenalin in the shots (and sometimes just a psychological response to fear). Best way to avoid these issues: make sure you eat something light before you go for a dental appointment, don't go on an empty stomach. Tell your dentist you have a history with this issue, so that precautions can be taken to avoid them and to accommodate you. It is very difficult to do good dentistry today without a patient lying down, however sometimes you don't have to be completely lying down, depending on what needs to be done. Discuss your issue fully and directly with your dentist because this is a very easily fixable situation.

Brian's Makeover Has Begun!

THE ULTIMATE DENTAL HEALTH MAKEOVER!

Congratulations Brian, winner of *Dear Doctor's* "Ultimate Dental Health Makeover Contest"

We would like to introduce you to Brian. We invite you to join us as we follow his quest for the best that modern dentistry has to offer, in providing him with beautiful aesthetics, proper function and most importantly the prospects for long term dental, oral and general health.

"I look forward to being healthy and feeling comfortable when I smile."

Brian was chosen as our winner by *Dear Doctor* experts after selecting his case from a nationwide pool of entrants and ultimately from a group of semi-finalists whose problems ranged from single tooth issues to complex full-mouth reconstructions.

We want our readers to know that even people with simple dental problems can win "The Ultimate Dental Health Makeover Contest". Complexity or length of treatment time are not disadvantages, so hang in there and enter our contest for the next time around.

Brian's case presented a wonderful opportunity for our readers to learn about the many options available to him and to follow his progressive treatment step by step through to completion.

We would like to thank and recognize the generosity of our corporate sponsors and our participating *Dear Doctor* dentists, who are providing our contest winner with this tremendous gift valued at over $32,000.

The following examination and treatment records were performed by Dr. Wayne Sutton of Sonoma County, California. Dr. Sutton is one of *Dear Doctor's* participating dentists who recognizes and values the role of patient education in the care of his patients. He is known as an outstanding restorative dentist with years of experience treating cosmetic cases.

BRIAN'S STORY

"My name is Brian and I am 38 years old. I have lost some teeth due to trauma, and have not had them replaced. Some of my other teeth are chipped and wearing unevenly. I'm frustrated with the color and appearance of my teeth. I feel embarrassed by the wear that shows on my front teeth and the silver fillings that show when I smile. I would love to be able to smile without being self-conscious.

I have not had regular dental care for the past few years. Although I grew up having regular care, I have just let things slide. It's not that my teeth aren't important, but I think that my attitude has been, 'if it doesn't hurt I'm OK'. This thinking has already caused me to lose a few teeth and I don't want to lose more. I look forward to being healthy and feeling comfortable when I smile [Figure 1].

I never thought that I could actually be the winner of the Ultimate Dental Health Makeover contest. I am really grateful to Dear Doctor magazine and Dr. Sutton."

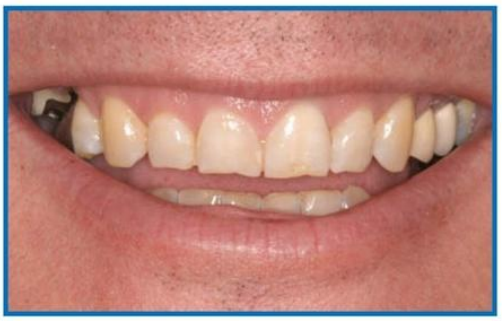


Figure 1: Brian's smile – notice the wear and chipping of Brian's front teeth, the missing teeth in his upper right and the show of metal when he smiles.

DR. SUTTON'S CLINICAL EXAMINATION

Medical History and General Health: As with any patient about to undergo any form of dental treatment a full medical history was taken by Dr. Sutton. "Brian was in excellent general health and taking no medication. A non-smoker with a history of infrequent smokeless tobacco use, Brian was cleared to proceed with dental care" stated Dr. Sutton.

Head and Neck examination: As part of a complete dental evaluation (which was undertaken after being selected as a semi-finalist), Brian's full clinical examination included examining the outside of the head, neck and face; skin, eyes, jaw joints, muscles, lymph nodes and lips [Figure 2].

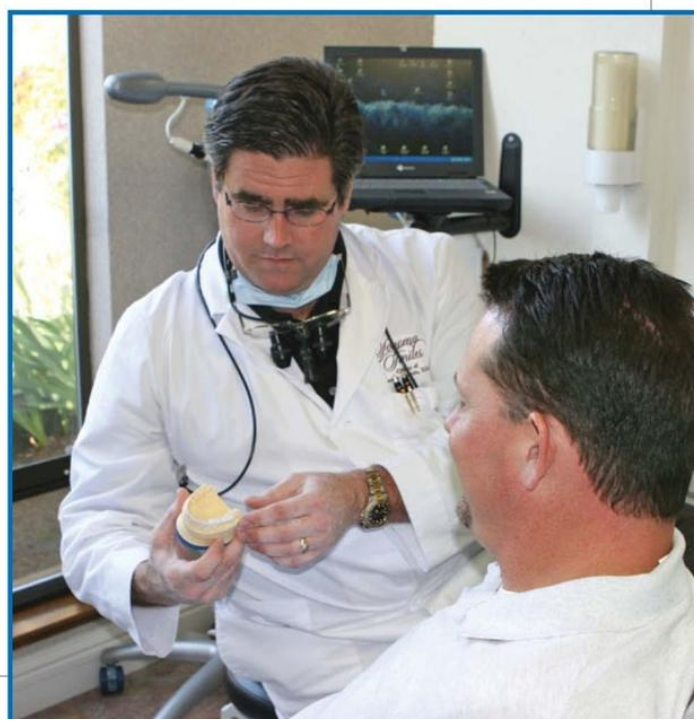


Figure 2: Dr. Sutton consulting with Brian during his initial examination.

ORAL EXAMINATION

An initial examination starts with an all important oral cancer screening. An oral cancer screening exam should be part of every dental examination the first time a doctor sees you. All the tissues of the mouth should be screened and reviewed even before examining the teeth. Although oral cancer is rare, it's one of the few things in dentistry that can be life threatening if not detected early.

Figure 3: Dr. Sutton used the painless OralCDx BrushTest™ to take a sample to determine whether the tiny white spot found under Brian's lip contained any precancerous/cancerous cells.

One of the initial findings during Brian's oral examination was a small white lesion (abnormality) inside his upper lip [Figure 3]. With his history of infrequent smokeless tobacco use which is a risk factor for oral cancer, the OralCDx BrushTest™ was used to investigate this lesion. Thanks to OralCDx, an accurate and innovative cancer screening test has been developed for these situations (read more below). This painless test works by rotating the bristles of the brush against the oral spot collecting cells for evaluation.

Brian's sample was sent for computer-assisted laboratory analysis. In *Dear Doctor's* next issue, Brian's cancer screening results will be reported.

CLINICAL EXAMINATION

Clinical examination of Brian consisted of evaluating all the teeth and periodontal tissues (supporting structures of the teeth) as well as the functionality of Brian's teeth. This included taking a full set of dental radiographs (x-rays) and study models (molds) of his mouth to further study his occlusion (bite). Photographs were taken for this article and for the planning of his future smile. After all findings and tests were reviewed, Brian's dental issues were identified and a treatment plan (plan of action) was created.

INITIAL CARE

Brian had some minor gingivitis (gum inflammation) and needed a review of his daily oral hygiene techniques to assist in more effective removal of dental plaque. His initial treatment consisted of oral hygiene review, scaling, root planing (deep cleaning) and polishing to return his periodontal tissues to health.

Enter to win at www.DearDoctor.com

bridgework orthodontics veneers crowns implant fillings

Enter to Win a Makeover!

THE ULTIMATE DENTAL HEALTH MAKEOVER!

*See website for terms & conditions

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Dear Doctor and our advertising contest sponsors want your dreams to come true. Whether you need crowns, implants, veneers, orthodontics, periodontics.... whatever you need, we will provide it. If you win our contest, all of your dental treatment will be paid for. Our goal is to provide you with **The Ultimate Dental Health Makeover**!!! Enter now* by visiting our website at www.DearDoctor.com. Good luck!

Dear DOCTOR
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Visit www.DearDoctor.com and Enter to Win!*

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Figure 4: After the extraction of Brian's tooth, GEM 21S® was mixed with the grafting material below (BioOss® Collagen) to create the most favorable healing possible.

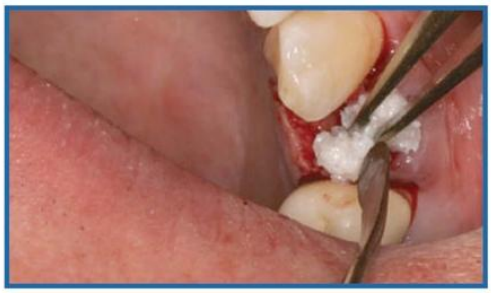


Figure 5: The placement of BioOss® Collagen saturated with GEM 21S® into the extraction socket.

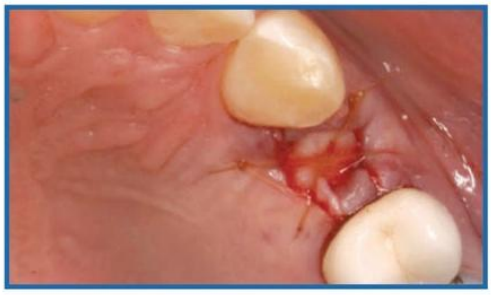


Figure 6: A gum graft taken from Brian's palate was used to cover the bone graft in the extraction socket.

Brian's oral hygiene review began by educating and training him in the use of the original "Nimbus" toothbrush and floss technique previously described in *Dear Doctor* - "Oral Hygiene Behavior".

The "upper left first bicuspid" had a root canal infection, which had been retreated twice and had not responded favorably to the therapy; a fracture was suspected. This tooth was extracted by a periodontist (specialist in the supporting structures of the teeth) and replaced with GEM 21S® growth factors [Figure 4] and BioOss® Collagen grafting material [Figure 5] manufactured by Osteohealth in order to preserve the remaining bony socket. This procedure was accomplished comfortably with local anesthesia (local numbing of the area) and was very atraumatic (a-without, trauma-injury) to surrounding structures. A small gum tissue transplant [Figure 6] from the patient's mouth was used to seal the small extraction site hole. Ibuprofen medication was used to prevent both swelling and post-operative pain.

THE MODERN EXTRACTION

When a tooth is removed, the socket which had contained the tooth tends to melt away or "resorb". It's similar to taking the ice cream out of a cone and having the remaining soggy cone just collapse. Since the bone is critical to tooth replacement and to the maintenance of aesthetics, it is extremely important to preserve all of the boney tissue of the socket, or to rebuild it if it has already been destroyed by disease. Periodontists, oral surgeons as well as general dentists will often place bone grafts in the extraction sockets at the time of the extraction to prevent or minimize the amount of bone tissue change that occurs during the healing process. This allows ideal implant positioning and placement by creating the most favorable opportunity for the most functional and aesthetic result.

NIMBUS® – GENTLE AND EFFECTIVE PLAQUE REMOVAL

The Nimbus® toothbrush company believes that "when a toothbrush is so comfortable that you can't wait to brush – that's a toothbrush!" The Original Nimbus® toothbrush has an innovative soft "multi-tufted, micro-fine" bristle design. Unquestionably, it is uniquely designed to be effective and efficient in plaque control, yet gentle to the surrounding gum tissues. The microfilament design allows the soft bristles to be placed and used gently between the gums and teeth for efficient bacterial plaque removal, while preventing damage to the gums from "overzealous" brushing. Their "do not harm " principle is built into every toothbrush.

For more information,
visit www.NimbusDental.com

NIMBUS®

SUMMARY OF BRIAN'S FIRST STAGE OF TREATMENT

This concludes the first stage of Brian's therapy. Our purpose in presenting this material is to help our readers and patients gain an appreciation for what modern dentistry has to offer. By providing you with this information and education, we hope to fulfill our mission by empowering you to make better and informed healthcare decisions with your dental healthcare professionals.

"I am looking forward to the day when my dental issues are a thing of the past!"

Brian

IN UPCOMING ISSUES...

Dear Doctor will be providing you updates on Brian's treatment progress which includes:

Oral Cancer test results provided by: OralCDx®

Bone healing results provided by: Osteohealth® REVOLUTIONIZING REGENERATION™

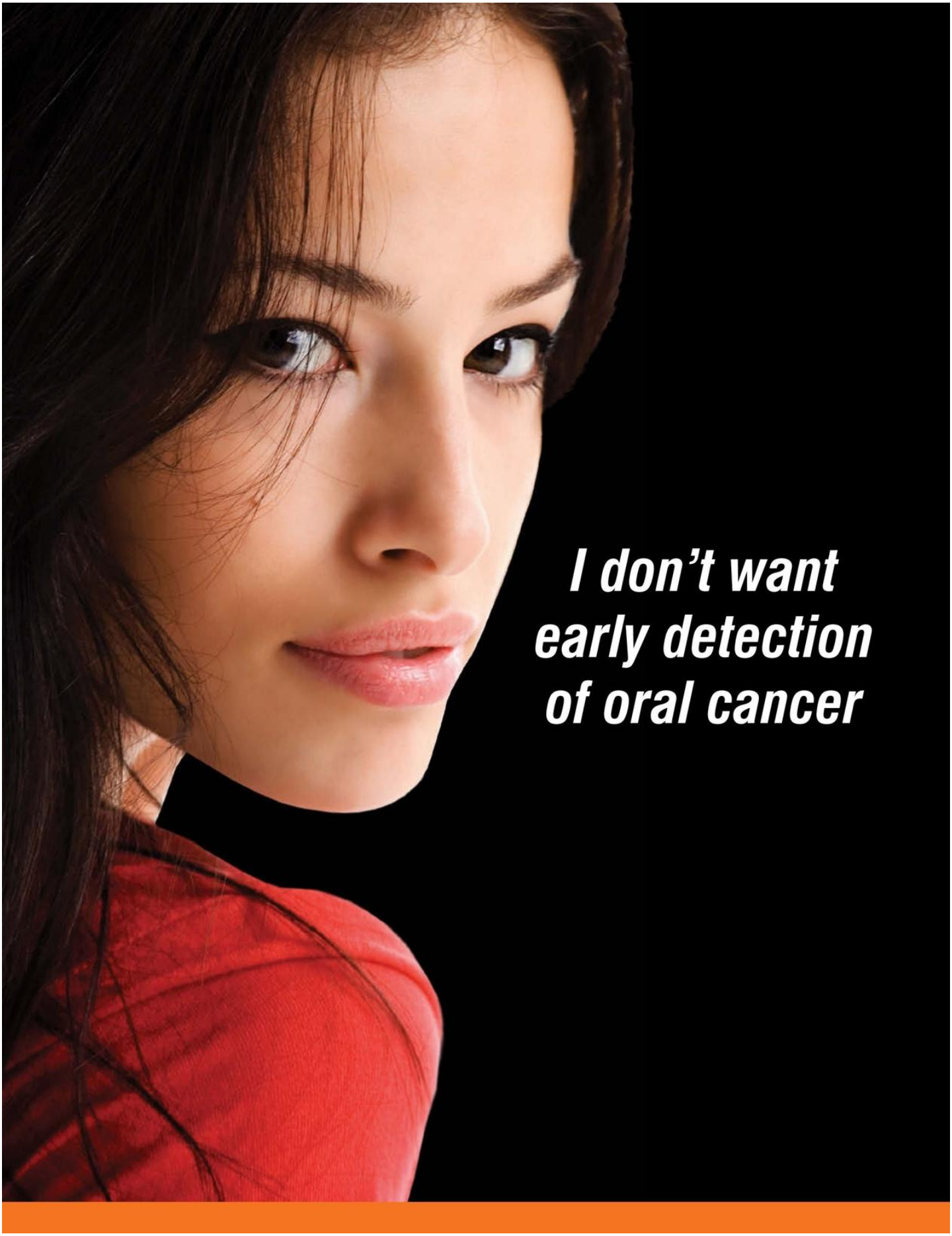
Dental Implants provided by: BIOMET 3i™

Porcelain Veneers & Crowns provided by: Serenity Smiles A Cosmetic Dental Lab

About Brian's Makeover Dentist

Dr. Wayne Sutton is recognized as one of the premier cosmetic dentists in Sonoma County, California. He has received extensive training in cosmetic dentistry through the Pacific Aesthetic Continuum in San Francisco. He is one of a select group of cosmetic dentists to be recognized as an Official Dentist of the Mrs. Globe – Mrs. USA Pageants. Dr. Sutton is an active member of the American Academy of Cosmetic Dentistry, the Dental Organization for Conscious Sedation, the Academy of General Dentistry and the American Dental Association.
Visit www.DearDoctor.com/sutton to learn more about Dr. Sutton!

For more information about *Dear Doctor's* makeover contest or to enter for a chance to win visit our website at www.DearDoctor.com.


I don't want
early detection
of oral cancer

I want my dentist to help prevent me from ever getting it…

by "BrushTesting" any tiny spot I may have.

Make sure your dentist is among the 30,000 dentists who help prevent oral cancer years before it can start by "BrushTesting" common sesame seed-sized spots.

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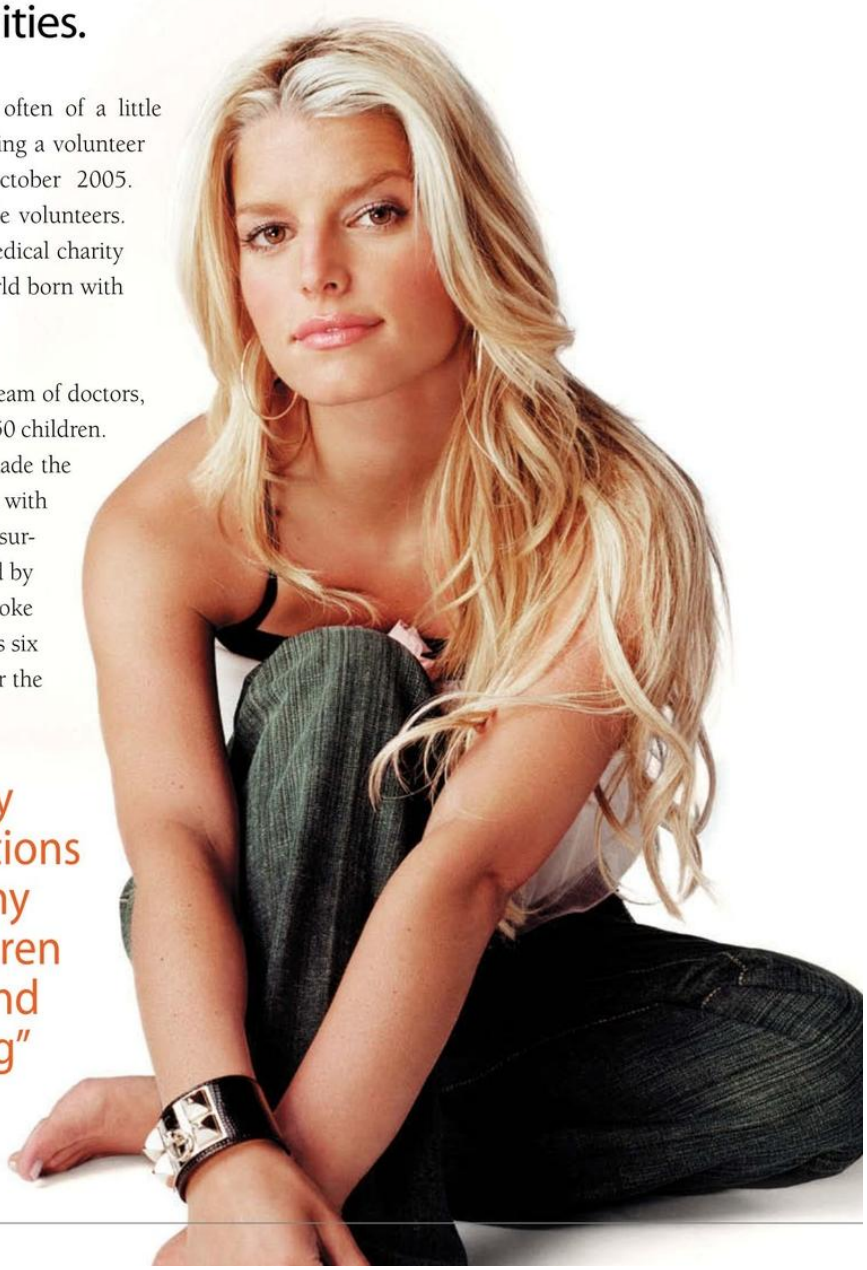
Changing lives one smile at a time

With Jessica Simpson and other celebrities helping to raise awareness, Operation Smile is bringing new hope to children born with facial deformities.

Actress and singer Jessica Simpson speaks often of a little Kenyan child named Boke who she met during a volunteer medical mission to Nakuru, Kenya in October 2005. Simpson was with a team of Operation Smile volunteers. Operation Smile is a worldwide children's medical charity dedicated to treating children around the world born with facial deformities.

During their two-week mission, the medical team of doctors, nurses and dental professionals treated over 250 children. But it was the little 1 1/2-year old girl who made the biggest impression on the star. Simpson stayed with Boke from her initial evaluation through her surgery and recovery. She was even more touched by the efforts the little girl's father made to bring Boke to the mission site – he sold one of the family's six cows, his primary source of income, to pay for the twelve-hour trip to Nakuru.

"To witness the truly miraculous transformations in the lives of so many desperate needy children was both powerful and personally rewarding"



That experience deepened Simpson's commitment to use her celebrity to highlight the work of Operation Smile. "My experience in Kenya with Operation Smile was incredible. To witness the truly miraculous transformations in the lives of so many desperate needy children was both powerful and personally rewarding," says Simpson.

PHOTO BY JOE SIMPSON

On a volunteer medical mission with Operation Smile a little Kenyan girl named Boke touched Jessica Simpson's heart.

Cleft lips and palates affect individuals in many ways, but it is the emotional and social toll from their facial disfigurement that brings the most anguish. Their self-image and involvement with others can be deeply affected, especially their all-important ability to smile.

Fortunately though, it is an anguish that has been nearly eradicated in the United States through modern plastic surgical techniques. Of the 1 in 800 U.S. births that result in cleft lip or palate, most are corrected during the baby's first week after birth.

Infants in the developing world, however, are not so fortunate. The global rate of occurrence is 1 in 500 births, and most are not corrected – many nations lack the surgical facilities and doctor training in the techniques necessary to treat these children. Some of these nations have cultural beliefs that subject children with uncorrected facial deformities and their families to a lifetime of social ostracism.

Operation Smile CEO and Co-founder Dr. Bill Magee (center) with a patient and father during a medical mission in Asuncion, Paraguay.

The aim of Operation Smile is to bring what is the norm in this country to the rest of the world. For 26 years, Operation Smile has organized and coordinated medical missions around the world for one purpose – to give each child they treat the chance to smile without embarrassment. According to the organization, their medical and dental volunteers have treated more than 115,000 children in 33 countries over the last 26 years, including over 9,200 free surgeries last year.

It all began with a New Jersey couple's participation in a medical mission to the Philippines in 1982. Dr. William Magee, a plastic surgeon, and his wife Kathleen, a nurse and social worker, joined a group of medical volunteers who traveled to Naga City on a short-term mission to help repair cleft deformities in children. The experience left them thrilled and dismayed – excitement for the results in the children they were able to treat, angst for the 200 that had to be turned away.

In the operating room during an Operation Smile medical mission, doctors change a child's life forever.

During an interview several years ago, Dr. Magee explained why their trip to the Philippines inspired them to start Operation Smile. "It was guilt – we saw hundreds of children and saw many more turned away. We knew that this group was not planning to return. So we planned another trip, but when we saw how many people were suffering because of their facial deformities, we had to keep on going back."

Today, Operation Smile oversees not only medical missions, but an array of educational and research programs. The organization has brought hundreds of doctors from around the world to the United States to receive specialty training in surgical techniques. Operation Smile also conducts research to improve the future of children born with facial deformities.

PHOTO BY ERIC OVERMAN

During Operation Smile's 2007 medical mission to Lima, Peru, Molly Sims holds Christopher while he has his photo taken during screening.

The obvious impact of their work has brought them broad support, including a number of celebrities. Billy Bush, host of *Access Hollywood*; Molly Sims, star of the television program *Las Vegas* and one of today's most well-known models; and Roma Downey, who starred in the television program *Touched by an Angel*, lend their support as "Smile Ambassadors" to build awareness for Operation Smile.

Jessica Simpson is one of the most committed and involved of Operation Smile's spokespersons. A friend introduced her to the organization and in 2003, she became Operation Smile's International Youth Ambassador. That same year, one of the two finalists on *The Apprentice* television show organized a benefit concert for Operation Smile as his final project, headlined by Simpson at the Trump Taj Mahal in Atlantic City. Featured on the show's season finale, the concert raised over $70,000, including a $25,000 on-stage pledge from show host Donald Trump.

PHOTO BY MARC ASCHER

Families walk as many as 12 hours for a screening in the hopes that their child will be one of the lucky few selected for surgery.

It was her 2005 Kenyan trip, though, that truly solidified Simpson's role in the organization. Several months later in March 2006, she accompanied Dr. Magee to Capitol Hill to meet with several members of Congress and their staffs. The meetings served to highlight not only the efforts to transform the lives and smiles of those children they were able to treat, but also Operation Smile's role in reinforcing the United States' efforts to promote international peace and aid.

Last year, during Operation Smile's 25th Anniversary Gala in Los Angeles, Simpson spoke from the heart about not only the life-changes the organization brings to children but also the effects on her own life, and the lives of all those involved with Operation Smile. She movingly expressed what motivates everyone willing to give of their time, talents and treasure for children with facial deformities: "I hope you understand how sincere my heart is when I tell you that these kids [around the world] deserve to smile."

Thanks to celebrities like Jessica Simpson, the public is becoming more aware of Operation Smile's work. And, thanks to its many volunteers, donors and supporters, thousands of children have something to smile about.

To make a difference in a child's life you can donate by visiting their website at www.operationsmile.org or calling 1-888-OPSMILE.

Operation Smile Quick Facts

In less than 45 minutes and for as little as $240, Operation Smile can change a child's life by giving the gift of surgery.

Operation Smile has 219 dental volunteers worldwide including pediatric dentists, orthodontists, and general dentists.

Operation Smile has been honored with many prodigious awards in recognition of outstanding contributions made to alleviate human suffering. Among these awards, include the Conrad N. Hilton Humanitarian Prize and more recently the President's Call to Service Award.

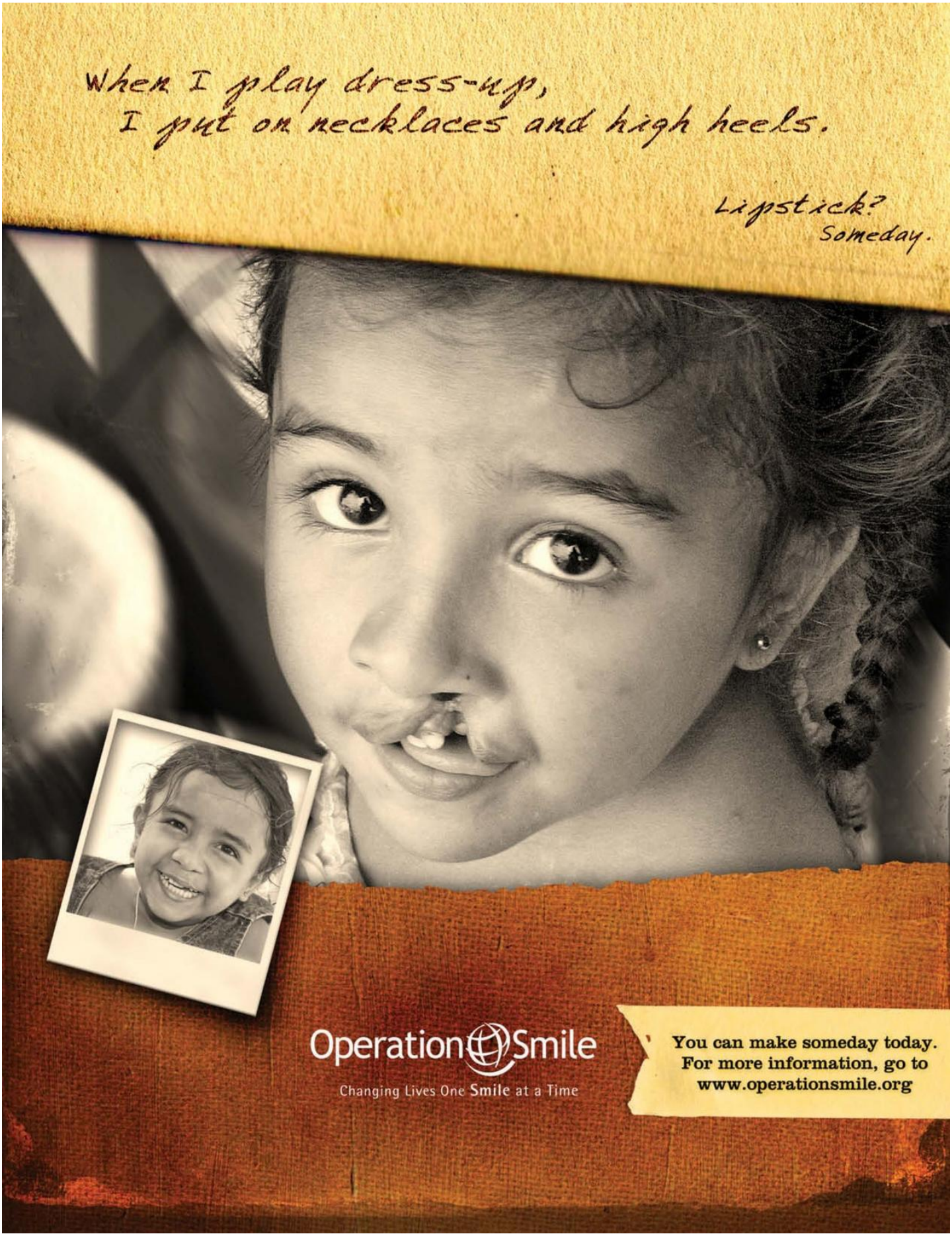
The U.S. Care Network provides a network of resources to assist families in the United States with children born with facial deformities. Access the Operation Smile Website for a list of Referral websites and a Physician Resource List to have a case reviewed.

The World Care Program brings children and young adults, through sponsorships, to the U.S. for surgeries that are too complicated to be performed during missions.

SOURCES:

Operation Smile News Release, March 16, 2006; "Operation Smile Int'l Youth Ambassador Jessica Simpson, Operation Smile CEO and Co-founder Dr. Bill Magee Jr. and Rep. Trent Franks (R-AZ) to Meet With Members of Congress;" http://www.operationsmile.org.

http://www.hourofpower.org/interviews/bill.magee.html


When I play dress-up,
I put on necklaces and high heels.
Lipstick?
Someday.
Operation Smile
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You can make someday today.
For more information, go to
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GREAT EXPECTATIONS

Is what you get what you want?

The Patient's Perspective

an analysis by *Dear Doctor*

Does your dentist see what you see – and vice versa? Can you really communicate how you want to change your smile?

While beauty is definitely in the eye of the beholder, a person's own perception of what looks good is an important factor in achieving a satisfying result when enhancing someone's smile. Most of us understand that we want our teeth to look wonderfully bright and natural, but not like ultra-white "Chiclets " all in a row.

While there are several ways modern dentistry can alter the appearance of a smile by changing teeth, ranging from composite resins to porcelain veneers and crowns, this article discusses how you as an individual perceive what looks natural and what doesn't – and how to go about communicating with your dentist what you want to change in your teeth and smile.

PERCEPTIONS AND THE ART OF DENTISTRY

Does your dentist see what you see – and vice versa? Can you really communicate how you want to change your smile? These are important questions – so let's start by examining what information is available to us from research on this important issue. Recent studies address this critical subject regarding communication between the public at large as a non-professional group and dental professionals, who may or may not "get" what you are trying to say about what you see and want to change in your smile.

One study set out to determine the differences in perceptions of lay persons and dental professionals. The study looked at variations in tooth size and alignment and their relation to surrounding gums and other facial features that make up a smile. The results are very enlightening because they show that there are varying levels of differences, which can actually aid the dentist artistically when making specific treatment recommendations.

There is no doubt that dentists look at smiles differently than non-professionals – which actually makes perfect sense. Dentists as a group are (and should be) more discerning of issues such as crown (tooth) length, midlines (how the teeth line up with other facial features) and gum-to-lip distance, to name a few.

According to the same study, lay persons place more importance on other features of facial aesthetics. For example, individuals rated mouth expression and lip shape as more noticeable than other "strictly dental" characteristics.

VIVE LA DIFFERENCE

The art of "making smiles" lies in the dentist's ability to integrate the individual's personal perceptions of what is important and what he or she considers necessary to be aesthetically pleasing. It is the dentist as artist who must incorporate natural elements of dental anatomy and scientific knowledge into smile design. You must have confidence and trust that your dentist hears what you're saying and that you are able to communicate what you want to look like. Indeed, trust is critical in this relationship with something as important as your smile, which is now in the hands of a dental professional.

Part of building the necessary trust is to accept that there will always be differing levels of perception between patient and dentist; minor variations in areas of smile analysis and design need not be an important concern to you. What is important, though, is for you and your dentist to understand what gets communicated in this encounter.

With a professionally trained and experienced eye, your dentist will actually see more dental possibilities than you do. It is therefore the responsibility of the dentist to inform and educate you so that you're better able to make your own personal choices.

On the other hand, the old axiom "If it ain't broke don't fix it" is also a good principle to follow, at least aesthetically speaking. In other words, if you're happy with certain characteristics of your smile, leave well enough alone.

BLUEPRINTS FOR SUCCESS

It doesn't matter if you're having a total "smile-makeover" or just changing one tooth, the ability to preview the change to your appearance may be critical to your ultimate happiness. Computer imaging is a great tool to allow you to visualize a potential change before your dentist even touches a tooth.

A second way a dentist can help us see ourselves before work begins is to actually make a mock-up of the proposed dental work in white tooth-colored wax on models of your mouth. A third way is to build up your teeth with tooth-colored composite resin, which is yet another way of changing tooth shape, size and aesthetics.

Another great tool in dentistry is the "Provisional Restoration" [Figures 1 and 2]. This has become a critical tool in testing the understanding between the dental professional and patient. A provisional restoration allows time for adaptation, to see if the proposed smile changes work for you and if they are compatible with gingival (gum) health, phonetics (speech) and biting function.

The provisional restoration has become a critical tool in testing the understanding between the dental professional and patient.

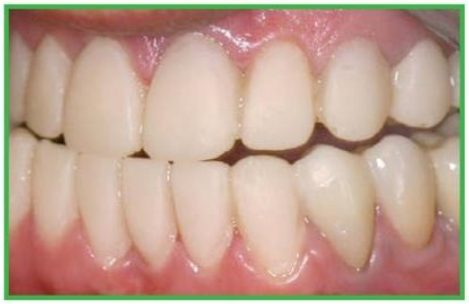


Figure 1: An example of a "provisional restoration" – a try-out smile to assess changes in size, shape, color, speech, biting function and more before final changes are made.

Figure 2: The final restoration replacing the provisional materials with permanent porcelain veneers and crowns.

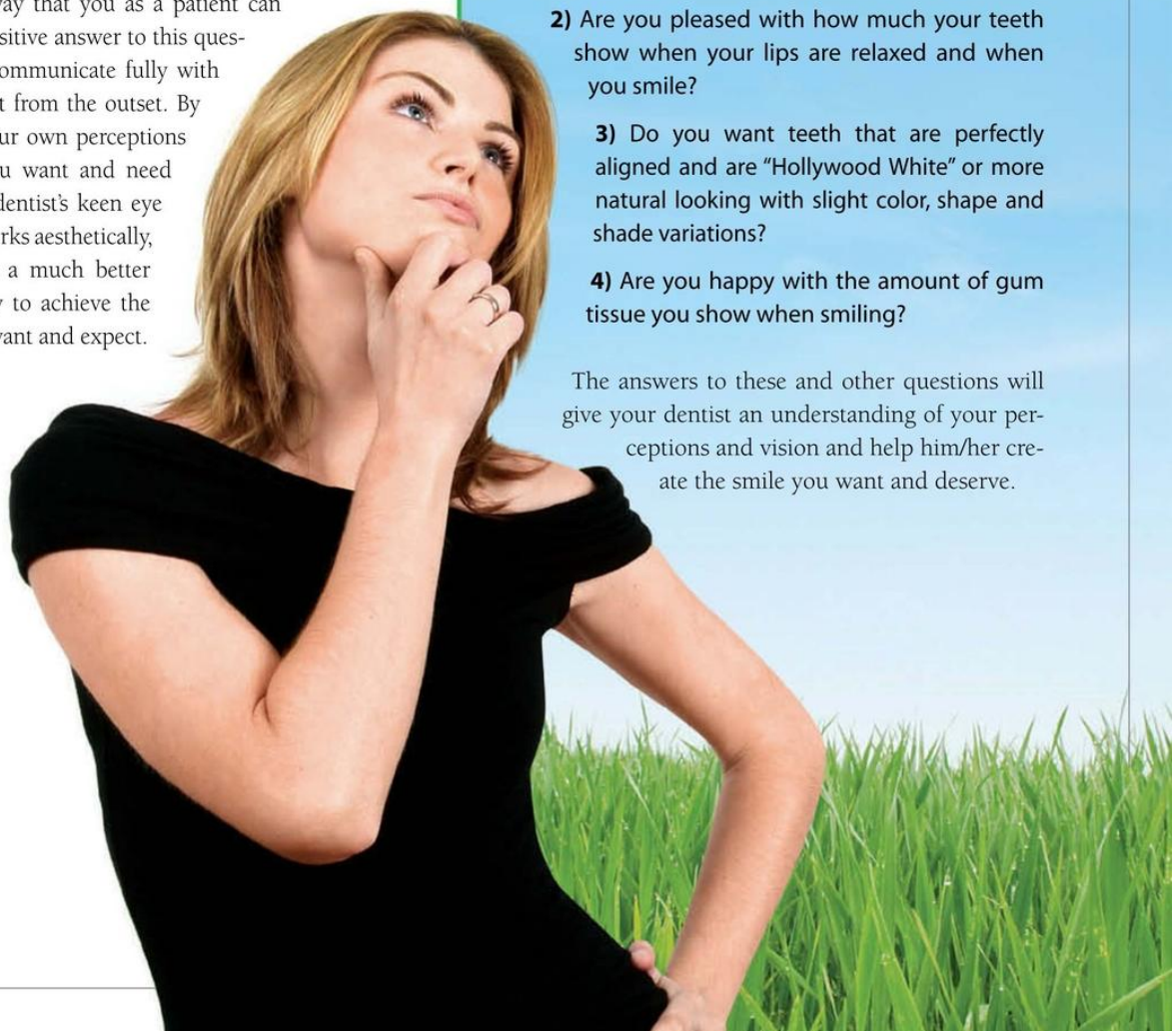
Figures 1 and 2 provided by Dr. Richard K. Whalen

If the provisional restoration works, the final restoration is guaranteed to work. The essential difference between the provisional and the final restoration is the materials from which they are made. The final porcelains are more durable and longer lasting than the plastics generally used for the provisional restorations.

The dentist will take impressions of the provisional restoration and communicate all of the relevant information in that blueprint to a "dental technician". Arguably, the most beautiful, lifelike tooth replicas are made of porcelains, in which case it is the ceramist – a dental technician skilled in the art and science of bringing these glass-like materials to life – who is entrusted with this responsibility.

SHADES OF DIFFERENCE: IS WHAT YOU SEE WHAT YOU GET – OR WANT?

The only way that you as a patient can ensure a positive answer to this question is to communicate fully with your dentist from the outset. By merging your own perceptions of what you want and need with your dentist's keen eye for what works aesthetically, you'll have a much better opportunity to achieve the smile you want and expect.



QUESTIONS TO ASK YOURSELF

Dentists appreciate it when you can describe what changes, likes or dislikes you have regarding your smile. Can you describe the changes, whether subtle or large, that you would like? For example, it's a good idea to take pictures and magazine images with you on your first appointment to better describe to your dentist how you think you'd like your smile changed. Please remember that these pictures should be used as general guidelines; you are not looking to have someone else's smile. Images of how you'd like to look (or once looked, with the help of past photos) provide helpful information to your dentist. You should take time to ask yourself a few questions so you can more accurately communicate to your dentist what changes you would like to make:

1) What do you like or dislike about your teeth regarding color, size, shape and spacing?

2) Are you pleased with how much your teeth show when your lips are relaxed and when you smile?

3) Do you want teeth that are perfectly aligned and are "Hollywood White" or more natural looking with slight color, shape and shade variations?

4) Are you happy with the amount of gum tissue you show when smiling?

The answers to these and other questions will give your dentist an understanding of your perceptions and vision and help him/her create the smile you want and deserve.

The Doctor's Perspective

an analysis by Dr. Gerard Chiche

AN EXPERT DENTIST'S PERSPECTIVE

When a person comes to consult for aesthetic treatment - smile change or enhancement - the consultation appointment is divided into a **"conventional" evaluation** (with charting, periodontal (gum), occlusal (bite) and radiographic (x-ray) surveys, as well as diagnostic study models) and an **"aesthetic" evaluation** involving an aesthetic analysis and a focus on the patient's subjective aesthetic requests.

TWO TYPES OF PATIENTS

The media image displayed in many advertisements has a very strong influence in contemporary dental treatment. In my opinion, today's smile is becoming an increasing part of a youthful dynamic appearance. It is characterized by whiter teeth, which often fall beyond the range of traditional shade guides ("Hollywood White").

From my standpoint as a clinician, it is possible to identify two types of people: "Perfect-Minded" (the Hollywood Smile) and "Natural-Minded."

THE "PERFECT-MINDED" PATIENT

Patients who fall into the category of the "perfect-minded" will typically expect maximum regularity and alignment along with maximum brightness [Figure 3]. Part of the art of smile enhancement and imparting a natural appearance is to make certain features invisible and other features more visible. This is really where science and art meet in dentistry. Knowing what can and cannot change to create the perception of reality is a very important concept, not only for smile enhancement but for the human body generally. Nobody is completely the same on each side, but if there are significant differences between the right and left sides, they can become noticeable and distracting.

To ensure that a smile looks right it will be critical to provide patients with a smile that is symmetrical. In other words, if you were to draw a vertical line down the middle of the face,

Figures 3 and 4 were in collaboration with Dr. Basil Mizrahi

Figure 3: An example of a "perfect-minded" patient's veneer restoration with perfect crown form and bright, white tooth color.

Dentists can identify two types of people: "Perfect-Minded" and "Natural-Minded"

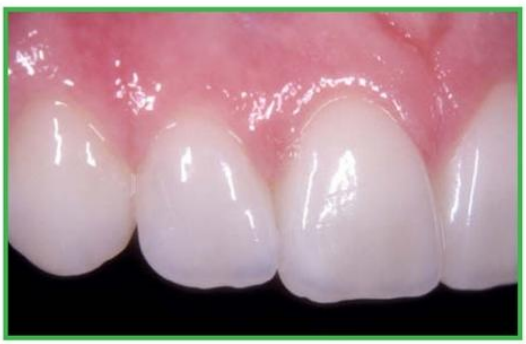


Figure 4: An example of a restoration showing minor irregularities on the incisal edges (tips) of the teeth with a more natural tooth color blending into the adjacent teeth for a "natural-minded" person.

which we call the midline, that line would be directly between the front teeth, and around it the smile will look "balanced" from one side to the other. This is also true in a horizontal dimension, creating a regular smile line that matches the curvature of the lower lip. Now each tooth type is made to fit into this framework with symmetrical central incisors, lateral incisors and canines, along with gum lines that also match from one side to the other.

THE "NATURAL-MINDED" PATIENT

Adding artistic "natural" touches to teeth can make them look just different enough to create real character. Those individuals who want a more natural or subtle look, what I call the "Natural-Minded," will typically expect a general sense of regularity and alignment along with definite "brightness," but do not wish their teeth to be noticed at every turn. In any pleasing smile, tooth symmetry is found close to the midline; therefore the central incisors – the two upper front teeth – must be mostly symmetrical with only minor irregularities [Figure 4].

The main "asymmetry" (a-without, symmetry-matching), where individual characterizations can be added, can be provided between the lateral incisors, the teeth on either side of the two front teeth. The canines ("eye" teeth) will also provide minor asymmetry, as their gingival margins (gum lines) and their cusp tips (points of the teeth) do not need to be level horizontally. The depth of the incisal embrasures (the way the teeth line up and change shape going from the front to the back of the mouth) should be of a natural depth in addition to providing a natural progression. These pictures also illustrate the need to provide these individuals with subtle "polychromatic effects" ("poly"-many, "chromatic"-color), mimicking in every detail what makes teeth look normal and absolutely natural.

Figure 5: The restorations (veneers) the patient presented with were dark in color and lifeless in appearance.

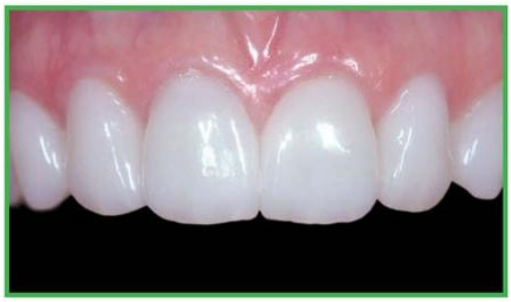


Figure 6: Replaced restorations showing a bright, vibrant smile uniform in color with new porcelain veneers.

COMMUNICATING WITH THE DENTAL LABORATORY TECHNICIAN

When planning a "shade prescription", one must be aware that the most frequent shade variation of a front tooth is observed at the incisal third (biting edge). These are the technical details that need to be communicated in depth to the ceramist.

For the "Perfect-Minded" patient, the next most frequently observed category is when the shade distribution is nearly uniform, resulting in a monochromatic appearance ("mono"-one, "chroma"-color).

There are three typical scenarios that can be transmitted to the dental ceramist:

1. Lightly Monochromatic Shade Design

It is very common to find patients who are so displeased by the dark appearance of their teeth [Figure 5] that they end up requesting a very monochromatic (uniformly colored or all white) look with high brightness [Figure 6]. The shade prescription given to the dental ceramist is uncomplicated due to a lack of incisal (biting edge) color effects.

2. Lightly Monochromatic Shade Design with Color Effects

The typical natural incisal effects (biting edge) found on unworn incisors impart a very pleasing effect to the tooth shade overall. They include:

- Transparent incisal tip – an almost see-through effect of the tips of the teeth [Figures 7 and 8]
- Dentin streaks or mamelons (natural tooth characteristics especially on newly erupted or unworn teeth)
- Proximal translucency (an almost see through where adjacent teeth meet)

TERMS USED IN COLOR AND SHADE:

For the past fifty years or so the standard communication for the appearance of tooth structure has been color. Hue describes the general color group of a tooth, a characteristic established at birth. Chroma is the saturation of color within that hue color group. Certainly color and hue are important components to tooth description, but alone they are not adequate. There are additional and important tooth characteristics that also require communication to the laboratory technician-ceramist. Additional variables are required, including optical density and brightness. Optical density means the translucency of the tooth, the degree to which light is reflected or transmitted. Value is the brightness of the tooth.

3. Lightly Polychromatic Shade Design

There are situations where several shades and various degrees of discolorations coexist in the same mouth; conversely, there are situations where different ceramic systems (types of porcelain) are present and do not perfectly match one another [Figure 9].

In such situations, the rule is to aim for maximum patient acceptance of the "restorations" [Figure 10]. This generally means that the central incisors are kept a slightly higher value than the other front teeth. If the value of the central incisors ends up a slightly lower value - due to some excessive translucency, for example - then it is very likely that the patient will reject the final result, even with the best designed proportions, display and length.

Figures 7 and 8 were in collaboration with Dr. Sean McCarthy

Figure 7: An example of how the laboratory technician can make a crown look very natural with a transparent incisal edge (tip) on laboratory models.

Figure 8: The same crown from above placed into the patient's mouth creating a very natural appearance.

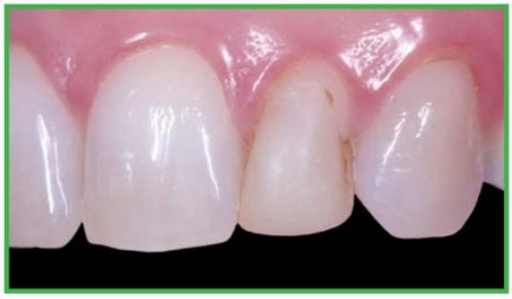


Figure 9: An example of teeth showing multiple colors from various materials used for the same patient.

Figure 10: An example of how slight color variations using the same materials can create a very attractive and natural appearance.

IN SUMMARY

Communication between you as the patient, your dentist and the laboratory technician are critical to the process of providing the best possible smile enhancements to meet your expectations. Research has shown that there are differences between individuals' perceptions and those of dental professionals regarding not only teeth but other factors affecting smiles and facial appearance. The dentist's role as health professional also includes educator and artist in this unique process, as the interpreter and creator of your vision of "beauty" [Figures 11 and 12].

The use of a special blueprint such as a "provisional restoration" is a useful tool to help envision potential changes before they are truly finalized. This can help ensure the most aesthetic and functional result for achieving your vision. Now the person in the mirror really can be the true you.

Acknowledgement
Figures 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12, are reproduced from the textbook by Chiche G., Aoshima H..: Smile Design. Quintessence Pub. Co. Inc. Chicago 2005.

Figure 11: Old composite restorations and a single crown before replacement.

Figure 12: The same person illustrating how natural a smile can look once you and your dentist have successfully worked together to achieve the desired result.

ABOUT THE AUTHOR

Gerard Chiche, DDS

Dr. Gerard J. Chiche is the Chairman of the Prosthodontics Department at Louisiana State University School of Dentistry. He has given numerous programs nationally and internationally and holds membership in the American College of Dentists, the American Academy of Esthetic Dentistry and the American Academy of Fixed Prosthodontics. Dr. Chiche is consultant with Noritake Co. and serves as adjunct faculty at the Pankey Institute. He is the recipient of the 2003 LSU Alumni Award and the recipient of the 2003 Educational Community Achievement Award from the Seattle Study Club for best dental educator of the year. Dr. Chiche is a world-renowned expert in esthetic dentistry and smile design with a distinctly European flair.

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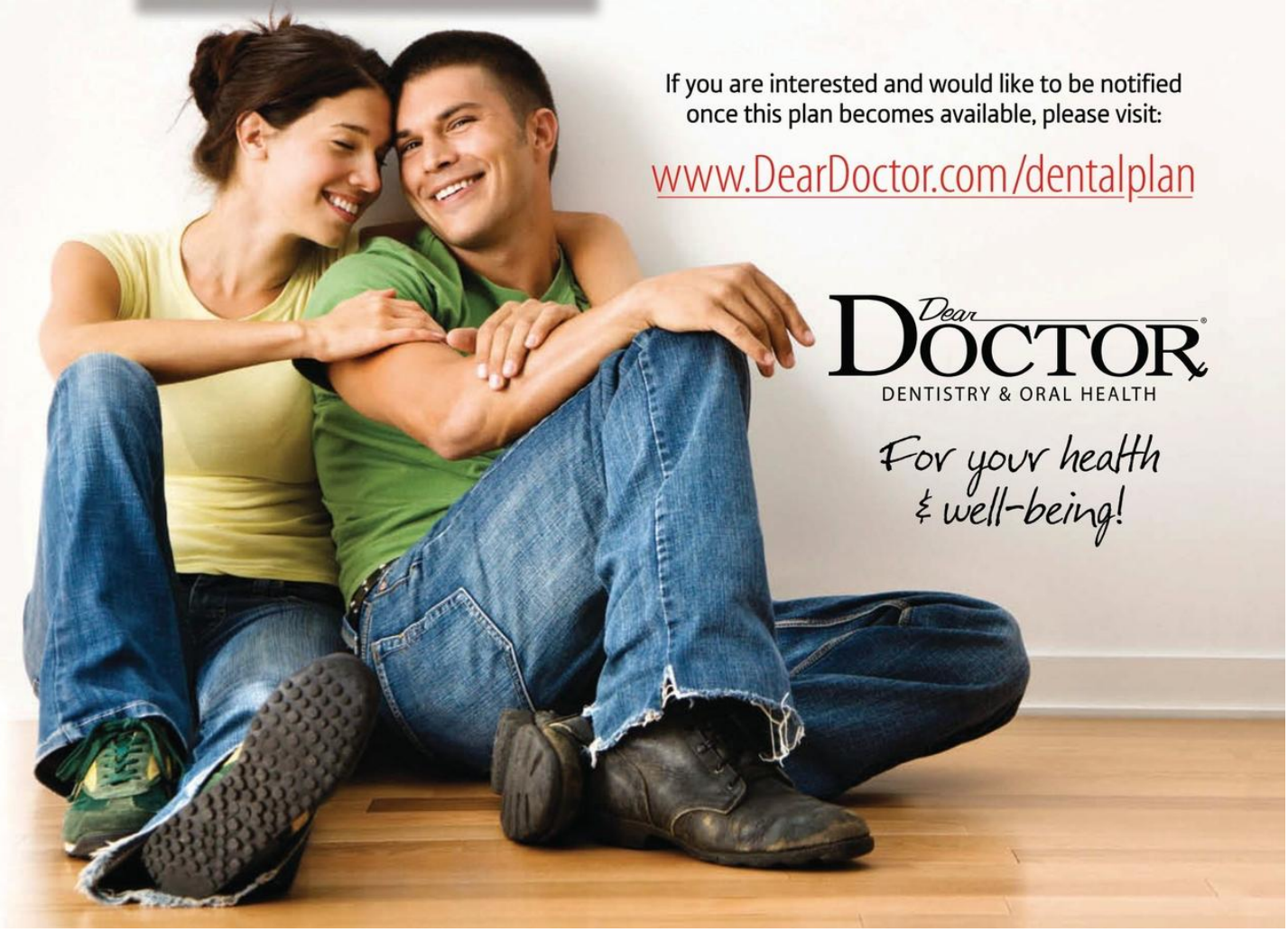

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Porcelain Veneers

How long will your porcelain veneers last?

A Consultation with Dr. Mike Malone

Porcelain Veneers?

From: Shannon (Tennessee)

To: Consultations@deardoctor.com

Subject: Porcelain Veneers?

Dear Doctor,
I want to improve my smile for my upcoming birthday celebration. My dentist has suggested veneers for my front teeth which are quite discolored. I don't want to be shortsighted or just get them for vanity. I really want to know how long they'll last?

Dear Shannon,

If your teeth are discolored, veneers are probably a good way to go. In cases of severe tooth discoloration which are generally caused by "intrinsic" staining (staining to the tooth structure itself); as in teeth that are non-vital (when the living pulpal tissue in the center of the tooth has died), discoloration caused by fillings, tetracycline antibiotic staining and other reasons, your dentist may recommend that your teeth be whitened as best as possible before applying the veneers to enhance the result.

If your dentist is recommending veneers, we can assume that the teeth cannot be evenly whitened or matched by other means. Porcelain laminate veneers are among the most aesthetic means of creating a more pleasing and beautiful smile. They allow for the alteration of tooth shape, size and in your case color. They require a minimal amount of tooth preparation (reduction) and are, therefore, a more conservative restoration than crowns, which requires significant removal of healthy tooth structure. Although not the only alternative for all aesthetic abnormalities, they are truly a remarkable restoration when they are indeed the treatment of choice. Simply stated, a veneer is a thin layer of dental restorative material, usually made of porcelain, that replaces enamel and which is bonded on to the remaining underlying tooth.

Done properly, your dentist will first create a mock-up smile made of wax on models of your teeth. This is used to make "provisional" veneers at the preparation appointment. These provisional teeth, a plastic or composite material, are a real benefit of this technique because they can last for a few weeks to several months if necessary, creating, in effect, a "trial smile" so that you can see and evaluate changes before the final result. The provisional stage allows the exciting prospect of visualizing and trying the changes before they're made permanent. You can interact with your dentist through feedback and information before deciding upon the final veneer restorations and participate in choosing colors and shapes. A talented dental laboratory technician can exactly replicate the provisional teeth in the porcelain

veneers. Veneers can make for wonderful tooth imitations by mimicking tooth enamel perfectly. The whole process may therefore take some time and you should allow two to three months to complete the process comfortably although they can be made in a shorter time frame.

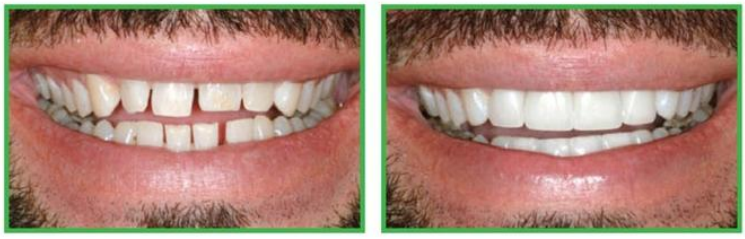
Within reason, you can eat almost anything with veneers. Anything that tends to apply a hefty twisting movement to the veneers may cause them to break. Porcelain is a glass, and like glass it tends to shatter if bent. If you grind your teeth at night you may need to wear a night guard to protect your veneers.

I don't think you're being shortsighted or just getting veneers for vanity; they are an excellent restoration for discolored teeth which can't be treated by other means. In addition, your question about longevity is appropriate and reasonable. Veneers can last from seven to twenty years or more. While the veneer itself is inert and non-living, the tooth or teeth to which they are attached and the surrounding gum tissues are living and may change. For example, gum line shrinkage may expose or reveal root surfaces. If a veneer comes off it can generally be rebonded to the tooth. If it chips it can sometimes be rebonded or otherwise replaced.

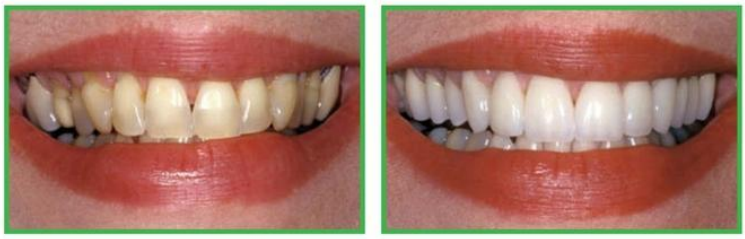
In the final analysis, veneers are a great idea and can help you obtain a beautiful smile for your birthday and possibly more than 20 years later!

Sincerely,
Mike Malone, DDS, FAGD

Example 1: An example of how porcelain veneers increase the length of a patient's front teeth while closing spaces and dramatically improving the smile.



Example 2: The pre-treatment photograph (left) shows the patient with narrow front teeth resulting in spaces and an unattractive smile. A beautiful smile was created by establishing a normal tooth form and length.



Example 3: The pre-treatment photograph (left) shows discolored teeth and worn composite restorations. The post-treatment photograph (right) shows the aesthetic brilliance of porcelain veneers.

Porcelain laminate veneers are among the most aesthetic means of creating a more pleasing and beautiful smile.

ABOUT THE AUTHOR

Mike Malone, DDS, FAGD

Mike Malone DDS, FAGD, is an accredited member and a past president of the American Academy of Cosmetic Dentistry. Dr. Malone is a member of the American Dental Association, the American Equilibration Society and the Pankey Alumni Association. He is the official cosmetic dentist for the Miss Louisiana USA and Miss Louisiana Teen USA pageants. He is a part time clinical instructor at the LSU School of Dentistry, lectures internationally on predictable techniques for adhesive porcelain restorations, and practices cosmetic and restorative dentistry in Lafayette, LA.

Implant Aesthetics

How your personal biology influences implant aesthetics

A Consultation with Dr. Harold S. Baumgarten

Dear Ellen,

Thanks for bringing up this issue which is important to all dentists who are trying to make implant crowns look as natural as possible, especially where they show in what dentists acknowledge as the "Smile or Aesthetic Zone".

In the front of the mouth, especially for upper teeth, and in a case like yours, where the gum line shows at "full smile", it is indeed more challenging to make the implant and crown connected to it look lifelike. Here are a few of the reasons;

Firstly, in order to place an implant successfully (the root replacement for a tooth), there has to be enough bone to "anchor" it, somewhat like having enough of a cone in which to place the ice cream. Like ice cream, bone tends to melt away when a natural tooth root is removed. In addition there needs to be sufficient bone attached to the adjacent teeth, because it is the bone levels on the adjacent teeth that support the "papillae", the little triangles of gum

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tissue that fill the spaces between the teeth. If that bone is lost on the adjacent teeth, there is no guarantee that the papillae will regenerate, or simply put, come back. It becomes even more difficult if two adjacent teeth are missing and need to be replaced, in which case another alternative to implants, such as bridgework may be a better option.

The position of the implant and how the crown emerges from the gum tissue is another factor which needs to be considered carefully. Thicker gum tissue types are also easier to work with than thinner types, as they are more forgiving and hide more (see *Dear Doctor Vol. 1, Issue 3 – Genetics & Gum Tissue Types*).

Very often, provisional crowns are fitted before a final crown is made, so that different crown shapes can be tried that look, feel and function correctly. The degree to which the implant is submerged beneath the gum is also important to allow this effect.

More recently the design of the head or top of the implants have been changed to both maximize and help further stabilize the bone and gum tissues around them for aesthetic reasons [Figure 1]. The technical term for this is "platform switching" which changes the biological orientation of the tissues from vertical to horizontal. This is not to blind you with science, but more to let you know that the profession is making every endeavor to make tooth replacement with implants as successful and predictable for the long term use as possible [Figure 2].

As with most issues in dentistry, careful assessment of your individual situation is critical to planning and management guaranteeing as good a result as possible. It is also important to know that people are biological systems, not machines, so although it's possible to replace parts like teeth with implants, we rely on healing to do the rest, which means that end results are not always as predictable as we would like. Before any procedure, you are strongly advised to review with your dentist all the risks, benefits and alternatives available to you.

Watch for an upcoming feature article on this important topic.

Sincerely,
Harold S. Baumgarten, DMD

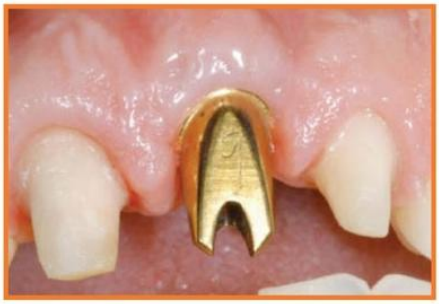


Figure 1: An example of a "gold abutment" that takes advantage of modern implant technology (hidden beneath the gum) which stabilizes the result for maximum "smile" benefit.

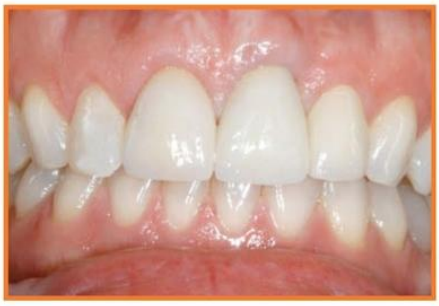


Figure 2: A beautiful cosmetic result where the implant crown is as beautiful as the crowns on the natural teeth.

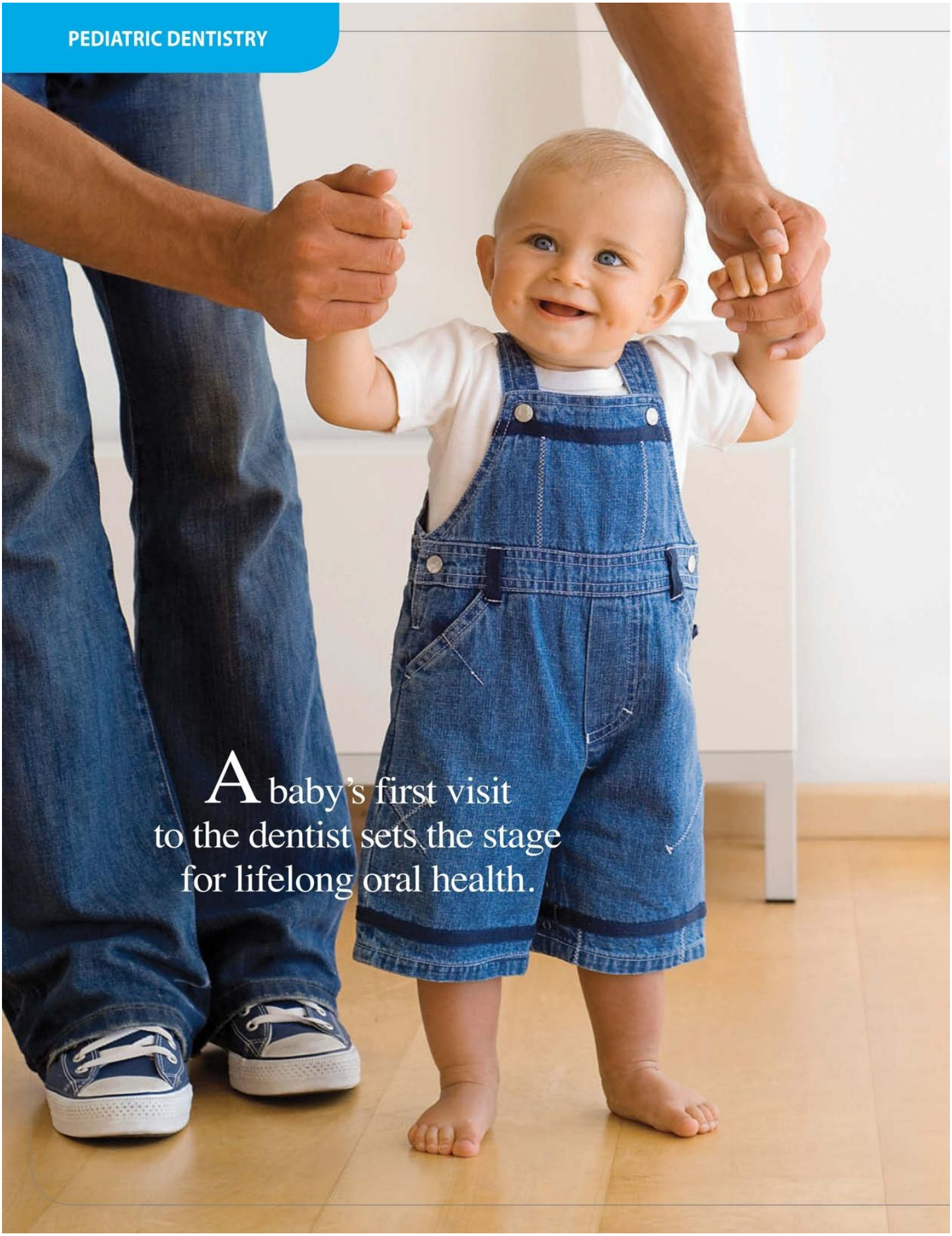
Very often, provisional crowns are fitted before a final crown is made, so that different crown shapes can be tried that look, feel and function correctly.

Photos provided by Precision Craft Dental Laboratory

ABOUT THE AUTHOR

Harold S. Baumgarten, DMD

Dr. Harold Baumgarten earned a BA from Brooklyn College (1973). He earned a DMD (1977), certification in Periodontics (1981) and Periodontal Prosthesis - Fixed Prosthodontics (1982) from the University of Pennsylvania. He is currently Clinical Professor in the Department of Periodontics, University of Pennsylvania. He is an International lecturer and author on: Implant Prosthodontics, Advanced Restorative Dentistry, Esthetics, Occlusion and Computers in Dentistry. He is a member of the Academy of Osseointegration, Greater New York Academy of Prosthodontics, American Academy of Periodontology and the American Dental Association. He is in private practice limited to periodontics and prosthodontics.


A baby's first visit
to the dentist sets the stage
for lifelong oral health.

Age One Dental Visit

Why It's Important For Your Baby

by Joel H. Berg, DDS, MS

When parents or caregivers mistakenly say, "They are only baby teeth, they are going to fall out anyway" they have the wrong impression. The Age One Dental Visit sets the tone for lifelong dental health. The fact is, primary teeth serve as the guides for the permanent teeth and are critically important to the health and function of their adult successors. What's more, primary teeth are the child's teeth for most of childhood – children don't usually begin losing them until about age six, and the last primary teeth aren't lost until around age twelve. It's just as important to care for them as for the permanent teeth that come later.

AN OUNCE OF PREVENTION

What really is prevention anyway? Prevention in the truest sense of the word means stopping an anticipated problem before it even starts. The importance of primary teeth and preparing for a lifetime of good oral health are the main reasons why parents should bring their children to see a dentist or pediatric dentist (children's specialist), preferably before their first birthday. It's more than just a casual visit: even a one-year old needs a comprehensive examination and even some preventive applications. Parents will benefit from the guidance of "Family Oral Health Education" including: risk assessment for decay; training (hands on) in teeth cleaning; nutritional counseling and use of cups for drinking; fluoride recommendations based on individual needs and important follow-up appointments for monitoring based on the level of risk determined by your dentist.

The Age One Visit may also reveal underlying conditions that may indicate future problems, and determine how often follow-up visits might be needed. Children with low risk for oral or dental disease might only be seen annually or semi-annually until the primary (baby) teeth are all fully erupted in the mouth and in occlusion (biting function). Children assessed at high risk might be seen as often as every two to three months.

DIAGNOSING AND TREATING TOOTH DECAY

One of the prime purposes for an Age One Visit is to examine the child for a number of forms of tooth decay that can affect babies and small children. For many years, health and childcare professionals have recognized a specific pattern of such decay, known as Baby Bottle Tooth Decay (BBTD). BBTD was believed to be primarily associated with the use of a sleep-time bottle that contains a liquid with natural or added sugars such as formula, juice or Kool-Aid. It generally occurs between the ages of twelve to eighteen months.

In recent years, similar cases of early and severe tooth decay have been found in children who do not fit the classic BBTD pattern of bottle use. The term Early Childhood Caries (ECC) is now being used to reflect a broader concept of the problem of tooth decay in infants and young children. ECC includes cavities associated with many causative factors, mostly sugars. These include continuous use of a "Sippy-cup," at-will breast-feeding throughout the night, use of a sweetened pacifier or the regular use of sugar-based oral medicine to treat chronic illness.

ECC develops rapidly – the progression from the hard, outer enamel layer of the tooth into the softer, inner dentin can occur in six months or less. It first affects the upper front baby teeth, which usually erupt at around eight months of age, followed by the primary molars (back teeth), which begin to erupt at about twelve months of age. At its most severe stage, ECC may then affect the lower front teeth.

The extent and severity of ECC can vary depending on culture, the child's genetic makeup and socio-economic factors. On the other hand, ECC is really much like any other type of tooth decay, dependent on the presence of three conditions: specific bacteria in dental plaque on the teeth, unprotected teeth and the right mix of carbohydrates from food and drinks, such as natural or refined sugars.

For many years, health and childcare professionals have recognized a specific pattern of decay, known as Baby Bottle Tooth Decay (BBTD).

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"HERE WE GO ROUND AND ROUND" – BREAKING THE CYCLE OF DECAY

These conditions form a cycle of events, even in babies, that slowly unravel oral health: decay causing bacteria interact with the carbohydrates (sugars) to produce acid; the acid in continual contact with the teeth slowly demineralizes (dissolves) the tooth enamel; as demineralization continues, cavities form.

Because all three of these conditions must be present for a cavity to form, there are at least three opportunities for intervention: (1) eliminate or reduce the bacteria through oral hygiene; (2) reduce the presence and frequency of carbohydrates by dietary changes; and/or (3) make the tooth more resistant through the use of fluoride.

Age One Visits provide insight into these three opportunities for both the child and parents. For example, Age One Visits can help parents or caregivers learn the proper techniques for cleaning their children's teeth. Until a child is about seven years old, an adult needs to brush the child's teeth for them. Parents can allow

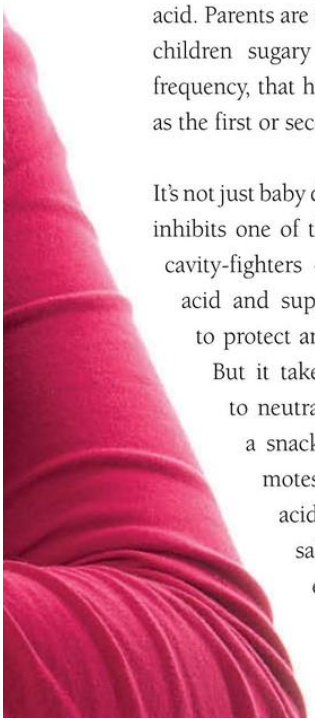
Until a child is about seven years old, an adult needs to brush the child's teeth for them.

the child to brush his or her own teeth, but at least once a day, preferably at bedtime, an adult should carefully and thoroughly brush the child's teeth.

The child's dentist can demonstrate the proper way to clean a child's teeth, a procedure that usually takes less than two minutes with a very small child's toothbrush or by simply wiping the teeth off with a wet cloth.

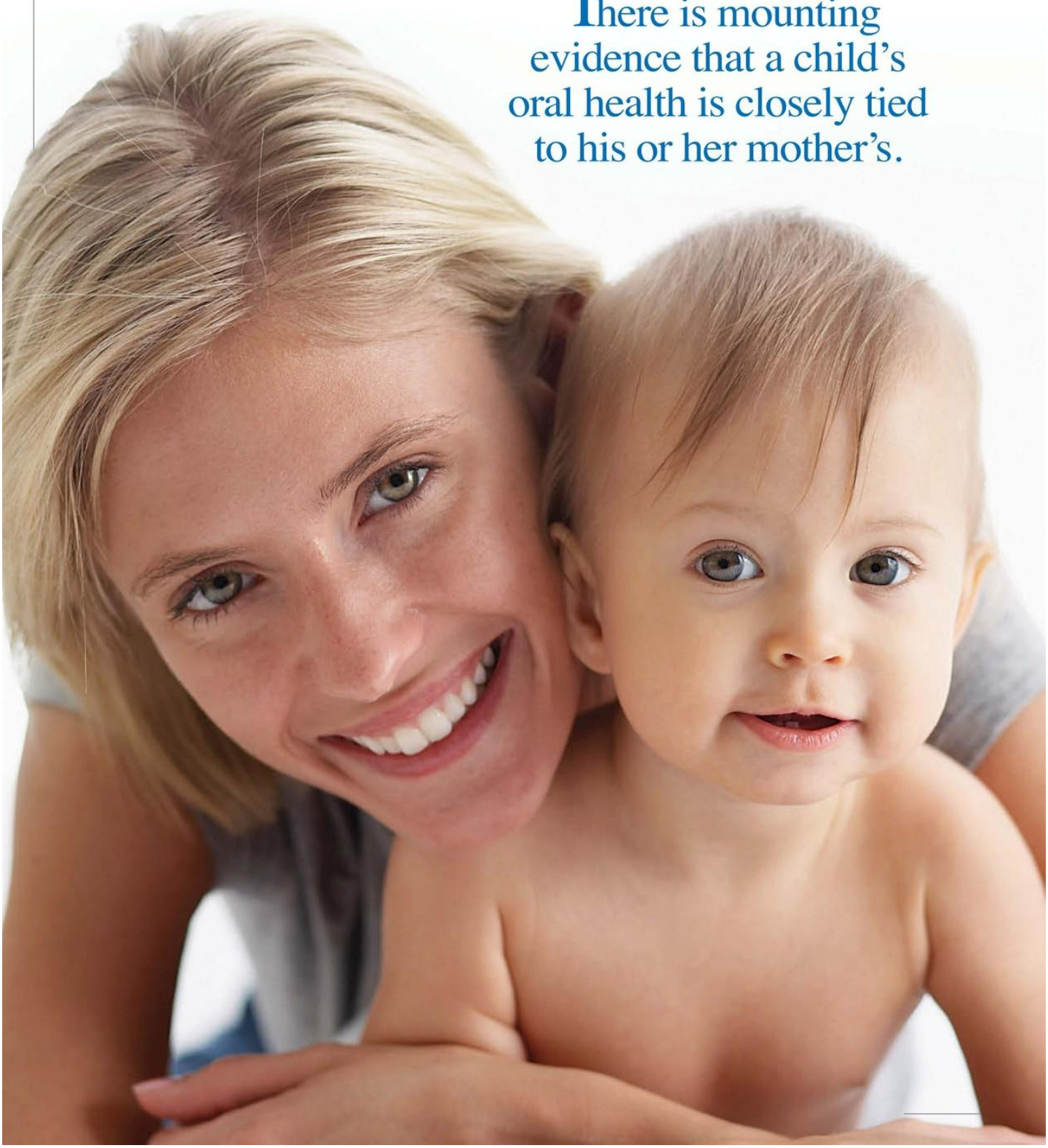
Dental professionals can also provide important information on the types of food and their frequency that promote a child's oral health. At first glance, many foods like cereals, granola bars, and similar snacks may seem healthy and good for a child to have throughout the day. They aren't – and neither are foods like raisins or fruit juices, even though they contain natural sugars and are full of vitamins and minerals. Carbohydrates in cereals, crackers, and granola bars will stick to the teeth where bacteria can easily interact with them over extended periods of time. And, regardless of whether the food contains processed or naturally-occurring sugars, bacteria metabolize both and form acid. Parents are advised to avoid giving their children sugary foods, especially in high frequency, that have any form of sugar listed as the first or second ingredient.

It's not just baby drool; frequent snacking also inhibits one of the mouth's most important cavity-fighters – saliva. Saliva neutralizes acid and supplies calcium and fluoride to protect and even reverse early decay. But it takes time – about two hours to neutralize the effects of acid. So, a snack every hour – which promotes the continual presence of acid in the mouth – won't give saliva the opportunity to work effectively.



BREAST FEEDING, BABY BOTTLES AND OTHER PRACTICES

- Generally, breast-feeding is highly recommended for babies and doesn't necessarily inhibit good oral health in young children. Breast milk by itself does not promote tooth decay any more than other forms of fermentable carbohydrates. On the other hand, once a child begins to consume foods or liquids in addition to breast milk, the combination of breast milk and other sugar-rich foods may potentially put the child at risk of developing ECC. Babies should be removed from the breast when they are finished feeding and children should not be allowed to nurse at will throughout the night.
- Baby bottles are frequently used by parents or caregivers to modify the child's behavior by giving it during sleep time to stop fussing or crying. Other methods of improper bottle-feeding include propping the bottle or round-the-clock feeding. All these practices promote the constant production of acid in the mouth, so the use of baby bottles should be limited to meal-times.
- Pacifiers dipped throughout the day in a variety of different sweeteners, including jam, corn syrup or sugar, results in frequent exposure of the teeth to fermentable carbohydrates and promote higher acid levels in the mouth.
- Children with chronic illnesses or special health care needs may also be at increased risk of ECC if their medication contains sugar. Also, certain medications such as antihistamines may cause decreased saliva production causing mouth dryness and diminishing the protective effects of saliva. Daily oral hygiene care for these children is critically important.
- Every time bacteria are exposed to sugars, either refined or "natural," they produce acid – so the more frequently a child eats sugar, the more frequently the teeth are exposed to acid. Frequent sugar exposures equals frequent acid exposures. Parents can therefore reduce the chances of their child developing cavities by limiting the frequency and amount of sugar their child consumes and not snacking on sugary products especially between meals.


There is mounting evidence that a child's oral health is closely tied to his or her mother's.

WHAT ABOUT FLUORIDE?

Finally, while oral hygiene and dietary changes require behavioral change on the part of the child's family, fluoride does not. Optimal water fluoridation requires no effort at all on the part of the family. Fluoride supplements might aid in the process of enamel formation, however, because fluoride works best when the teeth have fully formed and have erupted in the mouth. Treatments can be applied to the child's teeth at your dentist's or pediatric dentist's office and are important and quite routine.

The benefits of prenatal fluoride supplements remain poorly studied. There are many unanswered questions and it is somewhat controversial. Therefore, indications for prenatal fluoride supplementation have not been established. More research is needed to determine the advantages, if any, and the dosage levels for prenatal fluoride supplements.

OPPORTUNITY FOR PROMOTING THE ENTIRE FAMILY'S HEALTH

A child's oral health is closely related to the family's overall dental health and hygiene practices. The Age One Visit can educate parents or caregivers on the importance of their own good oral hygiene.

Children are not born with high levels of cavity-causing bacteria in their mouths. They acquire the bacteria from their caregiver, usually their mother, through close contact. These bacteria are transmitted through kissing, sharing eating utensils like a spoon or a glass, sharing food, or cleaning off a pacifier by mouth. The period when a child is most susceptible to acquiring the decay-causing bacteria is quite short, beginning as early as six months of age and continuing through approximately thirty-one months.

There is mounting evidence that a child's oral health is closely tied to his or her mother's. This is why it is important that caregivers of young children promote their own oral health through regular dental visits and proper hygiene habits. The Age One Visit is a good reminder – and a learning opportunity – for proper hygiene and care.

Diagnosis, prevention, education and treatment – the Age One Visit can cover a lot of ground for your baby's first visit to the dentist. Most importantly, the immediate diagnosis and treatment of emerging dental problems, as well as the long-term attention to good oral hygiene, can help build a foundation of good dental health for your child – and your entire family – that will last a lifetime.

ABOUT THE AUTHOR

Joel H. Berg, DDS, MS

Joel H. Berg, DDS, MS, is Professor and Lloyd and Kay Chapman Chair for Oral Health in the Department of Pediatric Dentistry at the University of Washington in Seattle, Washington. He is a board certified pediatric dentist, and is a trustee of the American Academy of Pediatric Dentistry. Dr. Berg has previously served as Vice President of Clinical Affairs at Philips Oral Healthcare, was Head of the Scientific Department for ESPE Dental, and was Director of Pediatric Dentistry at the University of Texas, Houston. He is the author of a multitude of publications regarding a variety of subjects, including restorative materials for children. His current research interests include the development of dental caries prevention programs using risk assessment models.

Minor Tooth Movement

How do you know if your orthodontic needs are minor?

A Consultation with Dr. Gary Hirsh

Minor Tooth Movement?

From: Amanda (Minnesota)

To: Consultations@deardoctor.com

Subject: Minor Tooth Movement?

Dear Doctor,
I need to have a gap closed between my two front teeth so I look great for my wedding. My dentist said that this is minor tooth movement. What does that mean and how long will it take?

Figure 1: An example of a large space (diastema) between a patient's front teeth that she wanted to close.

Figure 2: A removable orthodontic appliance was used to close the space.

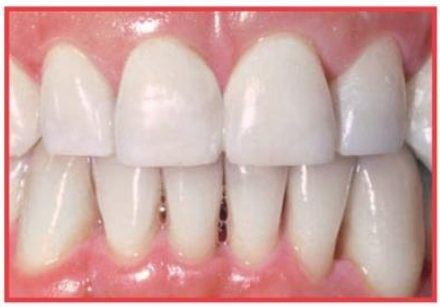


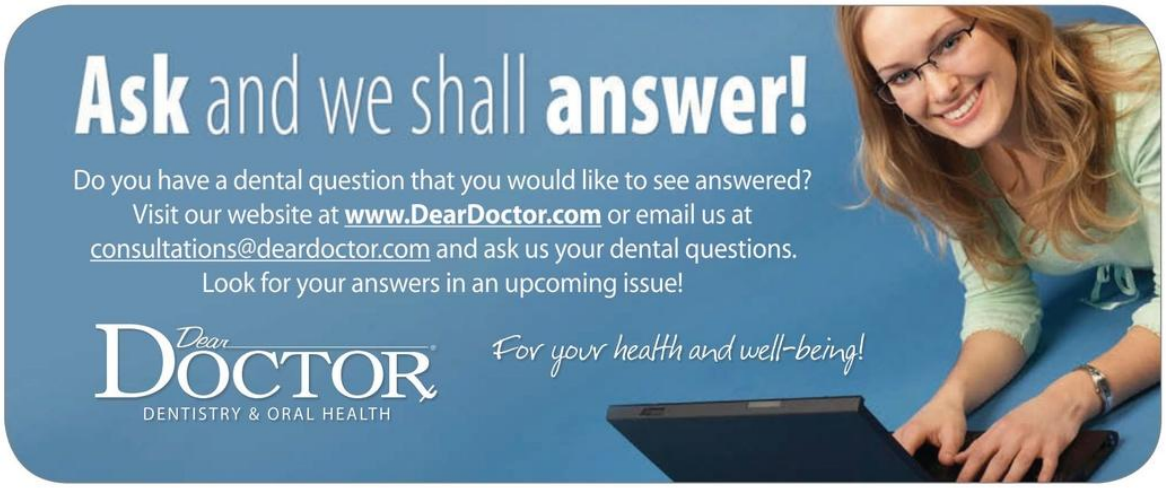
Figure 3: The final orthodontic result with the space closed.

Dear Amanda,

Minor tooth movement usually refers to relatively simple movements of single or a few teeth by orthodontics or tooth straightening (ortho-straight, odont-tooth). Minor or simple movements also mean the teeth don't have to be moved very far, maybe a millimeter or two, just like in your case of closing a small gap between two front teeth. It also means that the appliances used are relatively simple in design and because the movements are minor the procedure generally takes months, not years.

There are a few caveats, important things that need to be observed and assessed to make sure that these minor movements can be carried out simply. As with everything in medicine and dentistry, correct assessment or diagnosis of the problem is essential to correct treatment. Take your situation for example, a small gap between your front teeth:

- Is there enough room to close the space without creating a bite problem with the lower teeth?
- Are the roots of the teeth in reasonably good position to allow for minor tooth movement to close the space? Radiographs (x-rays) will be essential to assess this and models may also be necessary for study purposes.



- Is there an involuntary tongue habit that has pushed the teeth forward and created the gap? – This could be difficult or impossible to fix.
- Is there a large "frenum" the little frond of tissue that runs between the teeth and up into the lip causing the teeth to separate? This may require a very minor and routine surgery to remove it and allow the teeth to stay together after space closure.
- Are the surrounding periodontal (peri-around, dont-tooth) tissues, the gum tissues and the bone healthy?

An orthodontist, a dentist who has taken advanced training in growth and facial development and tooth straightening mechanics; or an experienced general dentist who has taken advanced orthodontic training can answer these and other questions and carry out the minor tooth movement safely and uneventfully.

Depending upon the assessment, and bearing in mind that each person's diagnosis is individual, there are generally a few options for minor tooth movement treatment:

- Clear retainers – these are a computer generated series of clear retainers customized for your bite to move the teeth.
- Removable orthodontic retainers to which small springs or elastics are attached to facilitate the minor tooth movement.
- Traditional fixed orthodontic appliances, that are most commonly known as "braces" – small metal or clear brackets bonded to the teeth and through which tiny wires fit to move the teeth.

Whatever method is used for the tooth movement, it is important to understand that even when the teeth have moved into the new position and the space is closed, they must be retained or kept in the new position until the bone stabilizes around the teeth so that they will remain in the new position by themselves. This will mean wearing retainers for a few months.

From a planning standpoint this means you need to allow adequate time for the whole process, atleast several months to make sure your wedding smile is just right.

Sincerely,
Gary Hirsh, DDS, MS

ABOUT THE AUTHOR

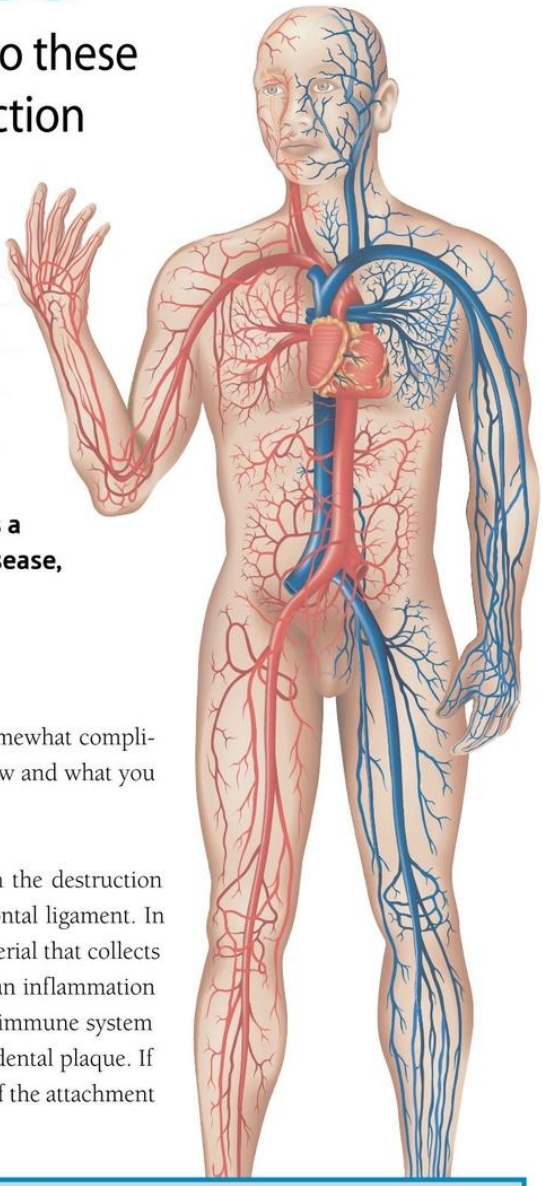
Gary Hirsh, DDS, MS

Gary Hirsh, DDS, MS, of San Diego, California is a board-qualified orthodontist focusing on the latest procedures in orthodontics. He has professional associations with the American Association of Orthodontists, The California Dental Society, and the Pacific Coast Society of Orthodontists. He is a past president of the Paul Revere Dental Club, The Neil Brahe Study Club, and the San Diego Orthodontics Study Club.

Periodontal Inflammation and Heart Disease

Similarities in the body's response to these two diseases may indicate a connection

A Consultation with Dr. Joan Otomo-Corgel



Periodontal Inflammation and Heart Disease?

From: Eileen (New Mexico)

To: Consultations@deardoctor.com

Subject: Periodontal Inflammation and Heart Disease?

Dear Doctor,
I have periodontal (gum) disease. I have heard there is a relationship between gum inflammation and heart disease, and with my family history of the latter, I'm worried. Can you give me some information and advice?

Dear Eileen,

You've asked an important question, although the answer is somewhat complicated. Here's what we in the dental and medical profession know and what you can do to protect your health.

Periodontal diseases ("peri" – "around;" "odont" – "tooth") result in the destruction of the attachment tissues of the teeth – the gums, bone and periodontal ligament. In some people, the bacteria found in their dental plaque – the soft material that collects at the gum line in the absence of effective oral hygiene – can cause an inflammation of the gums. This inflammation is actually a response by the body's immune system (resistance) to fight an infection threatened by the bacteria found in dental plaque. If not halted, this inflammation can ultimately lead to the destruction of the attachment tissues, resulting in bone loss and eventual tooth loss.

There are also factors that seem to be common to both periodontal and heart disease, which make some individuals susceptible to both types of disease.

There are also factors that seem to be common to both periodontal and heart disease, which make some individuals like you susceptible to both types of disease. Inflammation is a very primary way that bodily tissues respond to both trauma (damage) and disease, and can be the process by which both healing and/or disease begins. The occurrence and severity of inflammation depend in large part on the way an individual's particular immune system responds to specific types of bacteria.

There is convincing evidence that this same type of inflammatory response is associated with changes in blood vessels that cause both cardio-vascular (heart and related blood vessels) and cerebro-vascular (brain and related blood vessels) diseases. The relationship of periodontitis (inflammatory gum disease) to these diseases is supported by several studies. While there is strong statistical evidence showing an indirect link between these two types of diseases, we also have strong evidence that periodontal disease is associated with the entry of bacteria from inflamed gum tissues, as well as other inflammatory factors or "mediators," into the bloodstream.

The healthier you keep your mouth and body, the better your chances of reducing your risk for both periodontal and heart disease.

What we don't know right now, and what scientists are working hard to find out, is the nature of any direct relationship between these diseases and how exactly they interact. In other words, what is the mechanism at play in this complicated interaction of bacteria and the body's response by inflammation, and in what way might it progress to cause both heart attacks and strokes?

Researchers are now evaluating whether the treatment of periodontal disease alters the progress of cardiovascular disease. The early answer seems to be yes – initial studies indicate that treatment of periodontitis does reverse damage to blood vessel linings. The next step is to validate whether improvement in blood vessel function actually reduces the occurrence of stroke or heart disease.

So, as to what we know, moderate to severe periodontitis does appear to increase a person's risk for cardiovascular disease. Today, we also believe that reducing inflammation in the periodontal (gum) tissues may affect the progression of cardiovascular (heart and blood vessel) disease and its outcomes. However, we cannot say that periodontitis actually causes heart disease.

Future exciting research will focus on the complex relationships that occur within the body that alter, promote or reduce inflammation. Researchers are looking into the use of new classes of molecules called resolvins and lipoxins that promote the reduction of inflammation. Others are looking more closely at genetic variations and how environment, diet, age, habits, and physical activity alter the risk of all inflammatory diseases.

One thing is for sure: we can change and control external factors – good oral hygiene to reduce bacteria along with periodontal therapy, good diet and exercise for cardiovascular health. The healthier you keep your mouth and body, the better your chances of reducing your risk for both periodontal and heart disease.

Sincerely,
Joan Otomo-Corgel, DDS

ABOUT THE AUTHOR

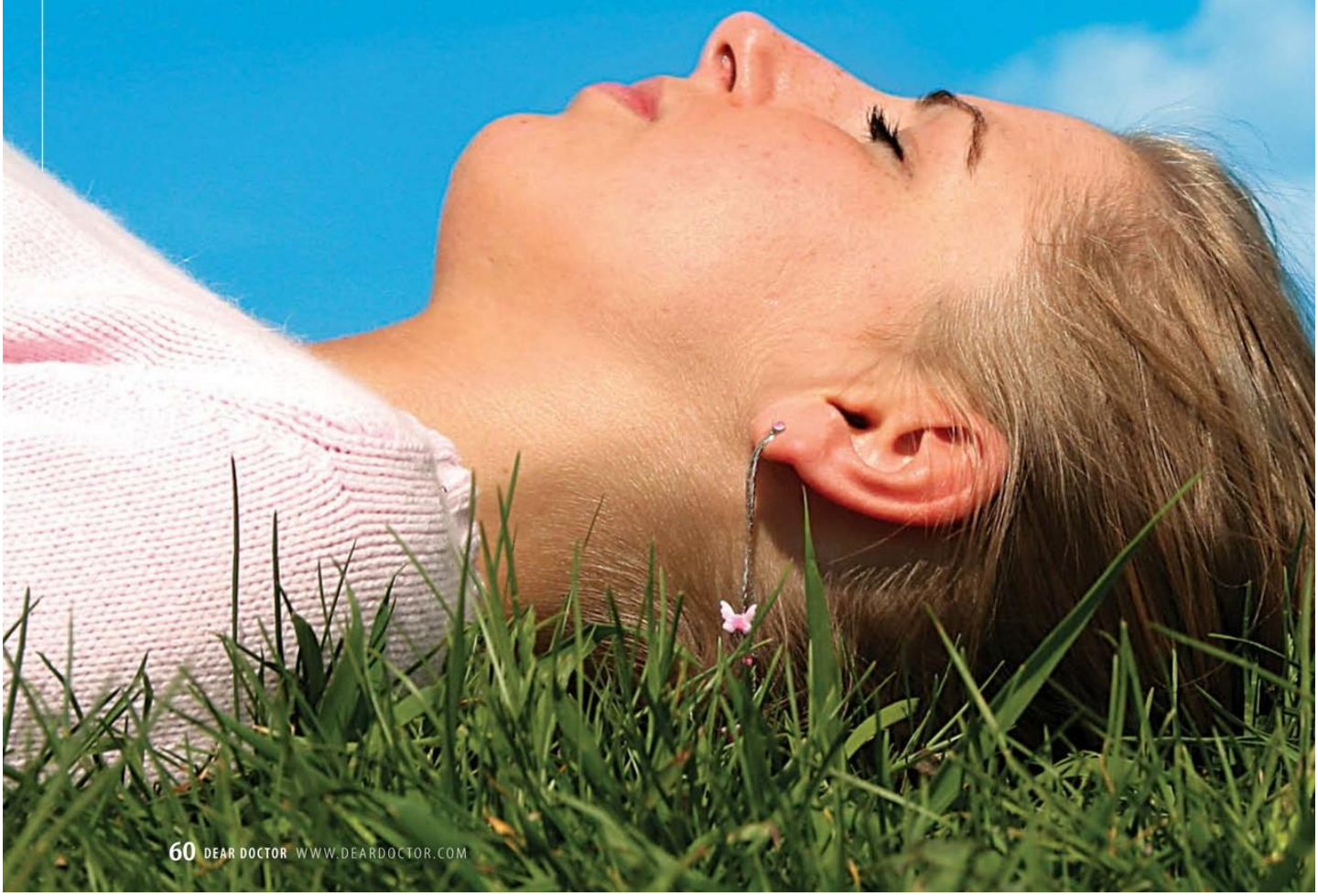
Joan Otomo-Corgel, DDS

Dr. Joan Otomo-Corgel is a graduate of the UCLA School of Dentistry and the School of Public Health. She has served as Adjunct Assistant Professor at the UCLA School of Dentistry, Department of Periodontics, since 1980; the Research Chair for the Greater Los Angeles VA Health Care Dental Service, and as a member of the faculty at the WLA City College of Dental Hygiene Department. Dr. Otomo-Corgel also maintains a private practice limited to periodontics, oral medicine and implantology.

ORAL SEDATION DENTISTRY

by Michael D. Silverman, DMD

Oral sedation allows you to relax both your mind and body, and focus on feeling peaceful rather than anxious



Are you someone who is anxious or fearful about dental treatment and even worries about it all the time? In Part One of this series, Comfortable Dentistry in the 21st Century "Overcoming Fear and Anxiety" we discussed how you can learn to overcome and cope with these negative emotions and become comfortable with modern dentistry so that you really do have the opportunity to have a "Lifetime of Dental Health."

While it might take some faith in the beginning to realize that this is possible, *Dear Doctor* describes exactly how to develop a relationship with the right dentist promoting:

- Open discussion of your fears and experiences in a calm and safe environment;
- The listening relationship that you need to feel safe and in which you have the time you need to go at your own pace;
- Ultimately allowing you to develop the sense of control you need to reduce automatic anxiety responses.

Part Two bridges the gap to the next step in making your dental visits even more comfortable with the help of oral sedation or anti-anxiety medication. These oral sedatives or "anxiolytics" (dissolve anxiety) are administered by mouth (orally) to help transition you from anxiety to comfortable dental procedures.

ANXIETY JUST MELTS AWAY

When you are afraid, your threshold for pain is much lower, you become hypersensitive to every sensation, prick, and noise. Fear and anxiety trigger the release of certain chemicals like adrenalin which put your "fight or flight" instincts on high alert. You anticipate that something is going to hurt and so you tense your muscles, even if it is subconsciously. In this heightened state of anxiety you experience more pain during and even after treatment. However this response can virtually be eliminated with oral sedation dentistry!

The whole purpose of oral sedation is to make you as comfortable and relaxed as possible. It allows you to let your guard down, relax both your mind and body, and focus on feeling peaceful rather than anxious. Your apprehension and hypersensitivity to pain melt away, yet you remain awake and in control.

Sometimes referred to as "comfortable" or "relaxation" dentistry, these terms are used to describe the feelings most people perceive during their dental visits, which are produced by oral sedation.

SAFETY AND EFFECTIVENESS

Oral Sedation dentistry allows you the confidence and peace of mind to experience dental procedures in a whole new way. Hours seem to pass like mere minutes so that necessary dental treatment can be performed comfortably. When you are relaxed you allow your dentist to be able to work more efficiently by focusing on the work at hand, with the confidence that you are comfortable.

A variety of oral sedative and anxiolytic medications have been developed especially for these purposes. They have been subjected to rigorous research and testing and have a long safety record after decades of use. In addition several have "amnesic" properties, meaning that you remember little to nothing after treatment.

The safety of sedation medications is measured by pharmacists and health professionals on a scale called the "therapeutic index". The larger the number is on the scale, the safer the drug. Oral sedatives and anxiolytics used in dentistry have the highest numbers possible on the therapeutic index, making them the least likely to cause an adverse reaction.

HOW TO ENSURE SAFETY – WHAT TO LET YOUR DENTIST KNOW

It is critical to provide your dentist with a complete health history including:

- Medical conditions for which you are being treated
- Any and all medications prescribed by a doctor
- Over-the-counter medications, remedies and vitamins (including aspirin)
- Alternative or herbal supplements: Many people seek relief from depression and anxiety symptoms with natural remedies like St. John's Wort and Kava Kava. These may have a mild interaction with oral sedatives, so it's critical that you tell your dentist if you are taking them. The medications and dosages for your oral sedation treatment can be adjusted to compensate for any interactions.
- Certain foods: Even something as seemingly insignificant as drinking grapefruit juice can have an effect on sedation. The enzymes in grapefruit interfere with the systems that metabolize (break down) certain oral sedation medications in your body, so you should not consume grapefruit 72 hours prior to or immediately after a sedation procedure.
- Also be sure to tell your doctor about factors like smoking and alcohol consumption, since these can influence the effectiveness of sedation medications.

ADMINISTER THE MEDICATION YOURSELF

Oral sedation is a popular treatment option for many people because it does not require injection, so if you're afraid of "needles", you needn't worry. In fact, once you're comfortable with oral sedatives, it may even be easier to have local anesthesia (numbing shots in the mouth) to further facilitate the ease of dental procedures.

Oral sedation is a popular treatment option for many people because it does not require injection, so if you're afraid of "needles", you needn't worry.

Medications are given orally (by mouth). They are either placed and dissolved under the tongue, or they can just be swallowed whole.

Many dentists prefer the sublingual (under the tongue) route which works even more quickly. Taken this way they are absorbed into the blood-stream more rapidly. Both methods are safe and effective and work in a matter of minutes. You can even try the medication the night before to see how it affects you and also ensure a good night's sleep.

PLANNING FOR YOUR APPOINTMENT

Once you and your dentist decide to use oral sedation for your next appointment, you will need to make some preparations:

- Your health history can affect your before-and-aftercare plans, especially for diabetics and smokers, so make sure your dentist knows about any medical conditions that you may have.
- You may be instructed to take oral sedation medication the night before your appointment to make sure you get a good night's sleep.
- You should not eat or drink anything six hours prior to your appointment unless directed by your dentist.
- Be prepared to take time off from work following your appointment. For short appointments, only half a day may be necessary. If a longer appointment is planned, make arrangements to take the remainder of the day off.
- You will need a companion to drive you to and from your appointment; you should not drive or operate heavy machinery until the medication has worn off; this will vary depending upon what drug has been prescribed – follow the directions exactly.
- Be sure to stay hydrated and drink lots of fluids following your appointment.

WHICH MEDICATION IS RIGHT FOR YOU?

While your dentist will decide which medications are appropriate for your treatment, being familiar with the different drugs available can be helpful for you. Knowledge about oral sedation is not only powerful – it is empowering.

There are several commonly prescribed medications, including, but not limited to Valium®, Halcion®, Sonata®, Ativan®, Vistaril® and Versed®. With the exception of Vistaril® and Sonata® they all belong to a class of medications called benzodiazepines. Benzodiazepines are prescribed for the treatment of anxiety, insomnia, agitation, seizures, and muscle spasms. Taken in small doses, they are highly effective at relieving the above mentioned conditions.

Each medication has a different ***duration of action*** (how long it affects you) and different ***half-life*** (how long it remains in your body). Dosages can vary greatly depending on whether swallowed whole or placed under the tongue in addition to the treatment protocols for which the sedation is being used. The drugs take effect anywhere from 20 minutes to an hour. Some varieties of the medication have "amnesic" properties, meaning that you remember little or nothing of your time in the dental chair after the procedure is completed.

TYPES OF ORAL SEDATIVES

BRAND NAME	DESCRIPTION	DURATION (in hours)	1/2 LIFE (in hours)	GENERIC NAME
Valium® 	**Valium®** is the most widely recognized drug in the group. It has been around since the 1960's and is a well known sedative with time tested properties. Valium has a longer duration of action and half life than some of the other medications, so it is particularly useful for appointments where extensive dentistry is being performed.	6-8	20-100	Diazepam
Halcion® 	**Halcion®** is most well known for the treatment of insomnia. It is highly effective when used in oral sedation protocols, and can be used in conjunction with an antihistamine like Vistaril®. Like Valium®, it is a popular choice because of its amnesic properties and proven effectiveness. However, it has a shorter duaration of action and half-life than Valium® and is used for appointments under two and a half hours.	2-3	1.5-5	Triazolam
Ativan® 	**Ativan®** is commonly prescribed for the treatment of anxiety. It possesses many of the desirable effects of other benzodiazepines but also has amnesic properties. It is an effective sedative with a medium length duration of action and half-life. It is useful for appointments that are longer than two hours.	6-8	12-14	Lorazepam
Versed® 	**Versed®** has the shortest duration of action and half-life of all of the benzodiazepines, lasting about an hour making it ideal for short appointments or simple procedures. It has many of the same anxiolytic and amnesic benefits of other benzodiazepines, but is less commonly used because of its short duration.	1	1-3	Midazolam
Vistaril® 	**Vistaril®**, while classified as an antihistamine, commonly used to treat allergies, it has also been shown to have anxiolytic (anti-anxiety) effects. It works well in conjunction with many of the benzodiazepines but has no amnesic properties.	3-6	3-7	Hydroxyzine
Sonata® 	**Sonata®** is similar to Halcion® in that it is also commonly used for the treatment of insomnia. It is important to remember, however, that you are not intended to sleep through your oral sedation appointment. The goal is simply to be relaxed and comfortable throughout the procedure. Appointments using a Sonata® protocol most commonly last one hour or less.	1-2	1	Zaleplon

OTHER FORMS OF SEDATION DENTISTRY

Inhalation Conscious Sedation is also known as "Nitrous Oxide/Oxygen Sedation". Nitrous oxide, commonly and inappropriately called laughing gas, has been used by dentists for nearly 100 years. It is an excellent analgesic (pain reliever), but a less effective anxiolytic (anti-anxiety) medication. It is administered through a nasal hood, which is similar to a small cup placed over your nose. Nitrous oxide is extremely safe because it is mixed directly with oxygen to provide you with a feeling of euphoria or light-headedness. All bodily functions remain essentially normal. You may experience a tingling sensation from the use of nitrous oxide. However, its effects wear off almost immediately so there is no "hangover effect."

In combination with an oral sedative, nitrous oxide allows your dentist to fine-tune the exact amount of sedation needed to provide you with the best possible experience.

Intravenous (IV) Conscious Sedation also known as "Deep Conscious Sedation" is used by some dentists, and surgical specialists like oral surgeons and periodontists who must undertake specialized training and certification in IV use. With this type of sedation, medications are administered directly into the blood stream intravenously (intra-within, venous–vein). The main advantage of this method is that it works immediately and the level of sedation can be adjusted quickly and easily. There is a higher degree of risk associated with IV sedation since normal bodily functions especially heart rate, blood pressure and breathing can be altered necessitating specialized monitoring equipment. The drugs used for IV Sedation are more potent when given this way than when taken orally and amnesia may be more profound.

FINDING THE RIGHT DENTIST

Like any informed consumer, you will want to make sure that your dentist is qualified to provide sedation dentistry. It is a good idea to request information on your dentist's training, credentials, and the techniques that may be used prior to an appointment.

YOU ARE NOT ALONE

Talk to your dentist about your fears and concerns so that together you can decide on the best treatment for you. It's important to remember that dentistry has come a long way. Years of research have been dedicated to studying and finding methods to alleviate pain and anxiety. There are safe and time-tested options available to ensure that you have a positive and painless experience. Step out from under the shadow of fear and into the calm of sedation dentistry. You are not alone and you don't have to be afraid anymore.

ABOUT THE AUTHOR

Michael D. Silverman, DMD

Dr. Michael D. Silverman is a graduate of the University of Pennsylvania School of Dental Medicine. He founded the Dental Organization for Conscious Sedation in 2000 to educate dentists, their staff and the public on the crucial role of conscious sedation in dental practice. Dr. Silverman has taught thousands of dentists how to safely implement oral conscious sedation into their own practices and is recognized both nationally and internationally as a leader and educator in the field of conscious sedation. A consummate professional on the leading edge of dentistry, Dr. Silverman is a member of the Academy of General Dentistry, the American Dental Association, and the American Academy of Cosmetic Dentistry as well as a Diplomate of the International Congress of Oral Implantologists.

Teeth Polishing

A simple cleaning that makes your teeth feel really clean

A Consultation with Gina Dellanina, RDH, MS

Teeth Polishing?

From: Brenda (California)

To: Consultations@deardoctor.com

Subject: Teeth Polishing?

Dear Doctor,
I read your consultation about a dental hygiene visit recently and want to know what the difference is between a dental hygiene visit and a polishing? Will my insurance pay for polishing my teeth?

Dear Brenda,

The consultation about the dental hygiene visit really clarifies exactly what is done at each hygiene visit. It was hopefully more than meets the eye for most people and was meant to give a fairly in depth breakdown of a so-called "simple cleaning".

Polishing can be part of a dental hygiene visit. Depending upon your needs, their are different levels of a "cleaning" performed by a dental hygienist or dentist. Whether you have a prophylaxis (see definition below), periodontal maintenance or a scaling and root planing (deep cleaning) appointment will depend upon your periodontal (gum) health.

A "prophylaxis" pronounced "PRO-FIL-AXIS", "prophy" for short in the profession, comes from the Greek meaning to guard or prevent beforehand. Professional polishing of the teeth is a cosmetic procedure that removes plaque and stain from the tooth surface above the gum line. Polishing is performed on patients considered in good oral health by way of proper dental hygiene practices and preventive dentistry.

Prophylaxis is a specific term in dentistry from both a dental and insurance standpoint. The definition includes: "scaling and/or polishing procedures to remove coronal (meaning crown - the part of the tooth you see in your mouth) plaque and calculus".

Scaling is when a dentist or dental hygienist uses special instruments by hand to remove plaque, bacteria and hard deposits (i.e. calculus, sometimes referred to as tartar), which can coat your teeth causing them to feel rough or fuzzy. Scaling can be carried out by ultrasonic scalers (a device that vibrates by ultrasonic frequencies and squirts out water) and/or traditional hand instruments. Both methods can be used to smooth and clean the surface of your teeth. Polishing is done with a rubber polishing "cup", "prophy" paste and a motorized instrument that removes bacterial plaque and surface stains at the end of the appointment leaving your teeth shiny and smooth.

The word coronal is important because it specifies that

the cleaning is to include anything above the gum tissues, not below. Any type of cleaning below the gum tissues is related to a different type of cleaning procedure. Periodontal maintenance, a more involved periodic cleaning is for people with ongoing periodontal (gum) issues. Scaling and root planning is a deep cleaning below the gum line used to treat and manage periodontal disease (an infection of the gum and jaw bones). Both of these subjects are important topics as well but not discussed in great detail to answer your question.

Here's the answer to the insurance part of your question. The definition of prophylaxis conforms to the American Dental Association (ADA) Code D1110 - Prophylaxis – adult. "Removal of plaque, calculus and stains from tooth structures in the permanent and transitional dentition. It is intended to control irritational factors."

This is the code you or your dentist should submit to your insurance company with the appropriate documentation for re-imbursement. Most dental insurance companies do pay for one or two "Prophylaxes" or polishings under their definition, per year. However, insurance benefits vary and basically depend upon what your specific plan covers.

You raised an important question – hope this helps.

Sincerely,
Gina Dellanina, RDH, MS

ABOUT THE AUTHOR

Gina Dellanina, RDH, MS
Gina Dellanina, RDH, MS is the founder of Bubble Gum Smiles (a dental product company) and designer of the Prophy Aid™, a dental hygiene product. Gina has been practicing dental hygiene for 16 years. She graduated from UCSF with her BS in Dental Hygiene in 1991 and from UMAB with her Masters Degree in Dental Hygiene in 2000. She received her first patent in 2006 on the Prophy Aid®.

A Severe Toothache

It may come and go but you should still be examined

A Consultation with Dr. Brian Quesnell

A Severe Toothache?

From: Regina (Georgia)

To: Consultations@deardoctor.com

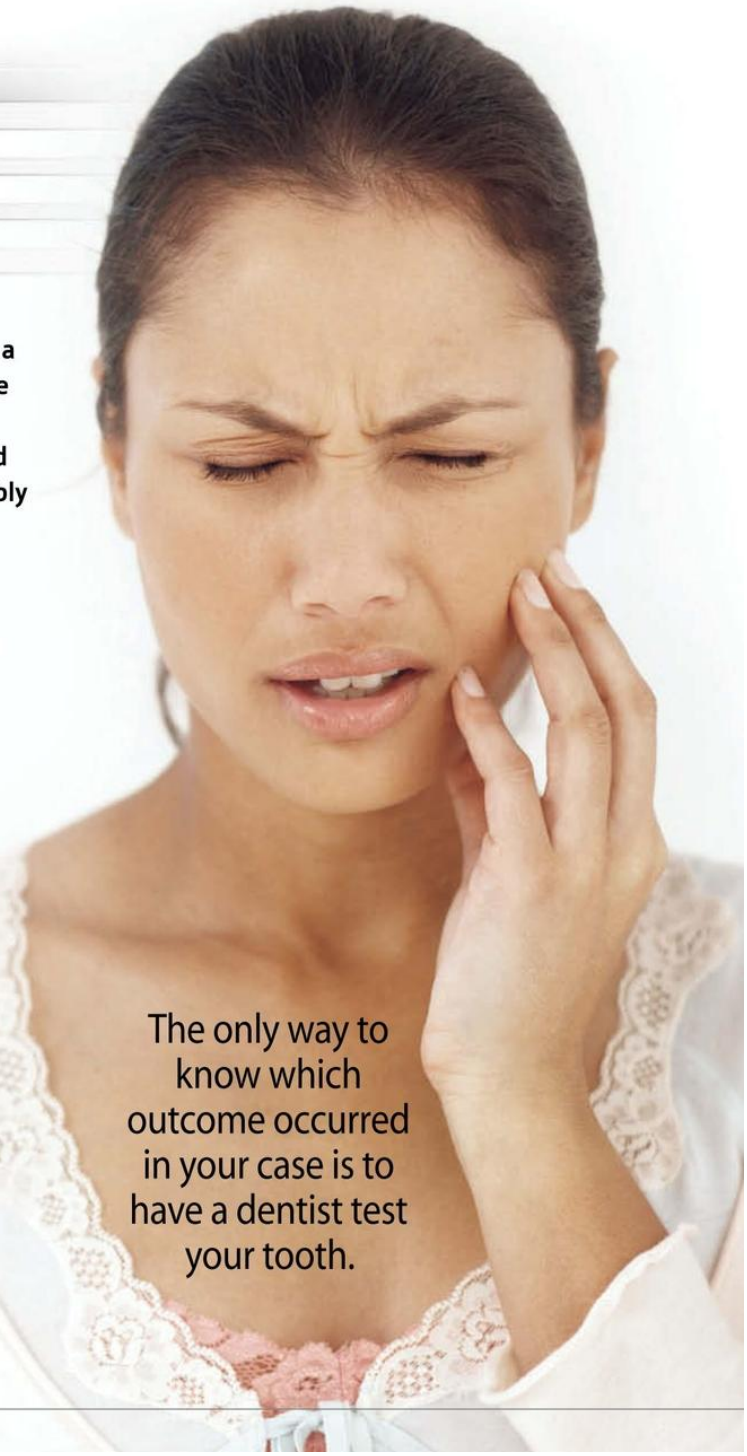
Subject: A Severe Toothache?

Dear Doctor,
I had a tooth filled a few months ago. It was a big filling and my dentist warned me that the decay he removed was close to the nerve. The tooth was quite sensitive to hot and cold for a while. The tooth then became unbearably painful for a day or two then the pain just went away. Am I OK now?

Dear Regina,

I'm not so sure you're OK now, here's why. Deep decay in a tooth that is close to the nerve, or more accurately the "pulp" of a tooth (which contains nerve tissues), may well result in inflammation, called quite literally "pulpitis". This inflammation is not much different than any other type of inflammation which occurs in our bodies, except the pulp is in an enclosed space and has no room to swell up. This hinders its capacity to heal on its own.

The temperature sensitivity you noted at first was probably the result of a low grade inflammation which resulted from the removal of the decay. Decay contains bacteria which must be removed to stop caries, the decay process, from progressing. If the decay is too close to the pulp it may be too late to stop the pulp from becoming infected and hence inflamed. This may be felt first as temperature sensitivity, but if the defenses of the pulp become over-



The only way to know which outcome occurred in your case is to have a dentist test your tooth.

whelmed, it dies. This is felt as severe or acute pain that typically lasts for a day or two. Then the pain actually goes away, because the nerves that transmitted the pain die along with the pulp tissue. The good news - no more pain; the bad news - it is the beginning of an infection, which can become quite chronic; i.e. slowly progressive and painless, until at some time in the future when it too can become acute and cause a painful abscess.

Having said this, there is also a chance, although rather minor, that the pain rapidly goes away because the nerve spontaneously heals. So the most accurate answer to your question is that what happened depends upon the extent of the decay and how the pulp of the tooth has responded.

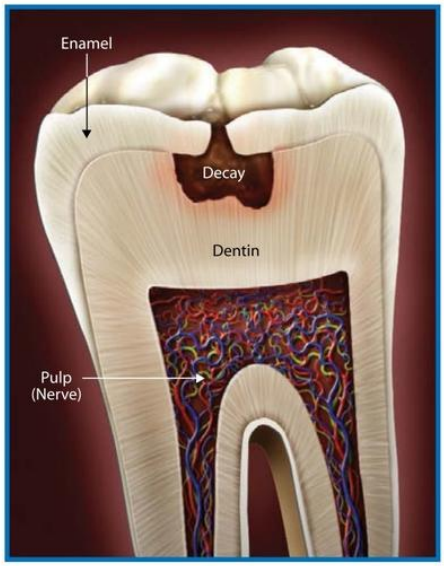


Illustration showing the decay close to the pulpal (nerve) tissue. This has the potential to cause pain.

The only way to know which outcome occurred in your case is to have a dentist test your tooth. Given your story, it is more likely that the nerve (pulp) has died and therefore the tooth's vitality (whether the nerve is still living or not) should be checked. This can be done very simply by testing the tooth to see if it responds to temperature, usually by the application of some ice to the tooth or other simple means.

If in fact the nerve is non-vital (the pulp tissue has died), root canal or endodontic treatment (endo – inside, dont – tooth) will be necessary. This is an everyday procedure in dentistry in which a small "access" cavity is opened from the top of the tooth to gain access to the pulp "chamber", the part of the tooth that houses the pulp. This allows for the dead pulpal tissue to be removed, the root canals to be cleaned, disinfected and prepared for a filling which seals the canals and thereby prevents further infection. Importantly, once the pulp and the nerve tissue it contains are no longer living, root canal treatment is almost completely pain free.

While simple root canal or endodontic treatment can be carried out by a competent general dentist, it is a speciality area of dentistry. Optimal endodontic treatment requires proficiency in the use of microscopes. An endodontist is a specialist in this area of dentistry who has taken advanced training in the diagnosis and treatment of these kinds of problems. Many general dentists perform root canal treatment procedures, but may defer complex cases to an endodontist. Your dentist will advise you about the status of the tooth and will refer you to an endodontist if necessary. Once endodontic treatment is completed, most teeth require a cap or crown in order to protect the tooth from fracture. This would be made by your general dentist.

So to truly find out what has happened and answer your question, you would need to be re-evaluated by your dentist or an endodontist who can properly diagnose what has happened and provide the appropriate treatment.

Sincerely,
Brian Quesnell, DDS

ABOUT THE AUTHOR

Brian Quesnell, DDS

Dr. Brian Quesnell completed his dental training through the general dentistry residency training program at UCLA and an endodontic residency at the University of Illinois. He has conducted clinical research and published his findings in leading dental journals throughout the U.S. and abroad, notably regarding the success rate of root canals in HIV patients. He currently practices Endodontics in California.

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