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DENTISTRY & ORAL

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DENTISTS & COMEDIANS
KEEP US SMILING

DENTAL IMPLANTS

YOUR PROFESSIONAL
OPTIONS FOR CARE

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METAL FREE RESTORATIONS

+

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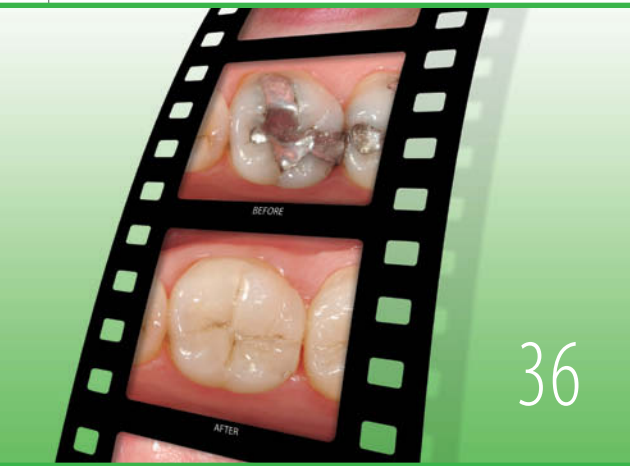
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Dear DOCTOR®

DENTISTRY & ORAL HEALTH

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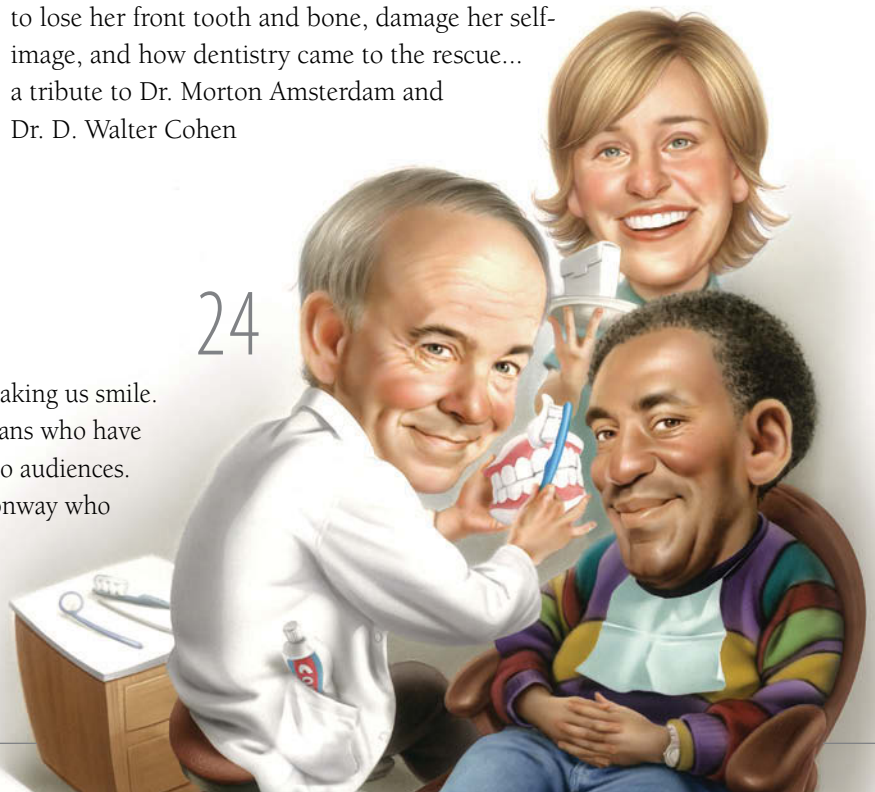
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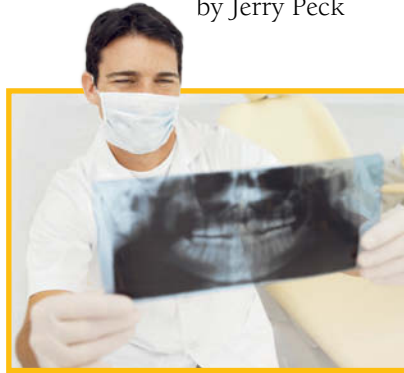


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The focus of The Ultimate Dental Health Makeover Contest is to restore people to health, both physically and emotionally. Lorna is an excellent example of a person who will truly benefit from the dentistry provided by this contest thanks to our sponsors and the dentists who represent *Dear Doctor*.

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“For those who went before us, we stand on your shoulders”



Dr. Mario A. Vilardi

These were the opening lines of our first issue of *Dear Doctor*, for without the influence of great teachers and mentors one's life work sometimes does not go further than a dream.

In this issue we inaugurate our new “Patient Care” section in which we look at how the uniqueness of the Doctor/Patient relationship plays out in partnerships to plan and manage treatment. We explore from both your perspective as a patient, and ours as doctors to produce the healthiest and most beautiful results possible.

Our “Patient Care” Section is dedicated to the life's work of our mentors Drs. Morton Amsterdam and D. Walter Cohen. It is hard to describe in words the contribution of these giants not only to dentistry but to life. There are not many people who live to become legends in their own life times, preceptors in their fields, great teachers, mentors, and not least of all valued friends.

Intuition, “the special ability to sense or know immediately without reasoning” was the guiding light that led this famed partnership of Dr. Morton Amsterdam and D. Walter Cohen to conceptualize and develop treatment regimes for the management of advanced dental disease far ahead of their time. Many of their concepts have been scientifically and clinically validated over the ensuing decades and are the basis for today's treatment norms. They inspired and created arguably one of the greatest and most respected postgraduate programs in the world, in the fields of periodontics and periodontal prosthesis (advanced restorative dentistry).

These great men gave so much more, this is just a part of their legacy. They imparted too, an understanding of what it truly means to be a doctor and healer in an imperfect world. As their mentors gave to them, their charge was to “give back” to their students, which we believe to this day is their greatest joy.

Their footprints can be felt throughout the pages of *Dear Doctor Magazine*. The seeds they have sown in their students have borne fruit throughout the world, in the generations of teachers, researchers and immensely gifted and talented clinicians, who are in turn today's teachers and mentors.

We dedicate this issue of the magazine to Dr. Morton Amsterdam and D. Walter Cohen who epitomize mastery in excellence in multidisciplinary case management which we will showcase in our future issues.



Dr. Garry A. Rayant

Humbly, your students,

A handwritten signature in black ink, appearing to read 'M. Vilardi'.

Mario A. Vilardi, DMD
President/Publisher

A handwritten signature in black ink, appearing to read 'G. Rayant'.

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

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**Hot
Tip**

Did you know that you should **wait 30 to 60 minutes** after drinking soda before brushing your teeth?

Acidic beverages and foods damage the tooth surface by actually “softening” the enamel. Brushing immediately after consumption causes further damage by removing the softened surface. You should wait 30-60 minutes before brushing your teeth allowing the calcium particles in your saliva to actually “rearden” the tooth.

See page 34 for more information about dental erosion!

Canker sores *are not* contagious

At some point, many of us have suffered from canker sores, which should not be confused with cold sores or fever blisters. Cold sores are caused by the herpes virus (HSV1) and usually occur on or around the lips, but can occur inside the mouth on the gums, tongue and palate especially in an acute case. Canker sores are small, painful red bordered ulcers with a white or yellowish base. They occur inside the mouth generally on the more moveable tissue; under the tongue, cheeks, and inside the lips. While their exact cause is uncertain it is thought that fatigue, stress and trauma seem to increase the likelihood of recurrence. Unlike cold sores, canker sores are not contagious.

The only treatment is to reduce pain and irritation because the ulcers heal on their own in 7-10 days. Over-the-counter products, pastes or ointments containing “benzocaine” a topical anesthetic, provide temporary relief and promote healing. You can also:

- Rinse with an antimicrobial mouthrinse or warm saltwater
- Maintain good oral hygiene
- Avoid hot or spicy foods to minimize irritation

If your canker sores persist or if a sore does not heal, see your dentist or doctor to verify the diagnosis.



Do you know the meaning behind the official symbol of dentistry?

The official emblem of dentistry was adopted by the American Dental Association (ADA) in 1965.



A MYTHOLOGICAL HISTORY

Its origin dates back to ancient times and to Asclepius, one of the earliest gods associated with health renowned for his healing abilities, humane treatments and remedies. He can be recognized by his staff entwined with a single snake. In ancient cultures the snake shedding its skin symbolized rejuvenation, healing and rebirth. The best known of his children include Hygieia, from whose name the word “hygiene” is derived and Panacea from which the word “panacea” a cure-all or universal remedy originates.

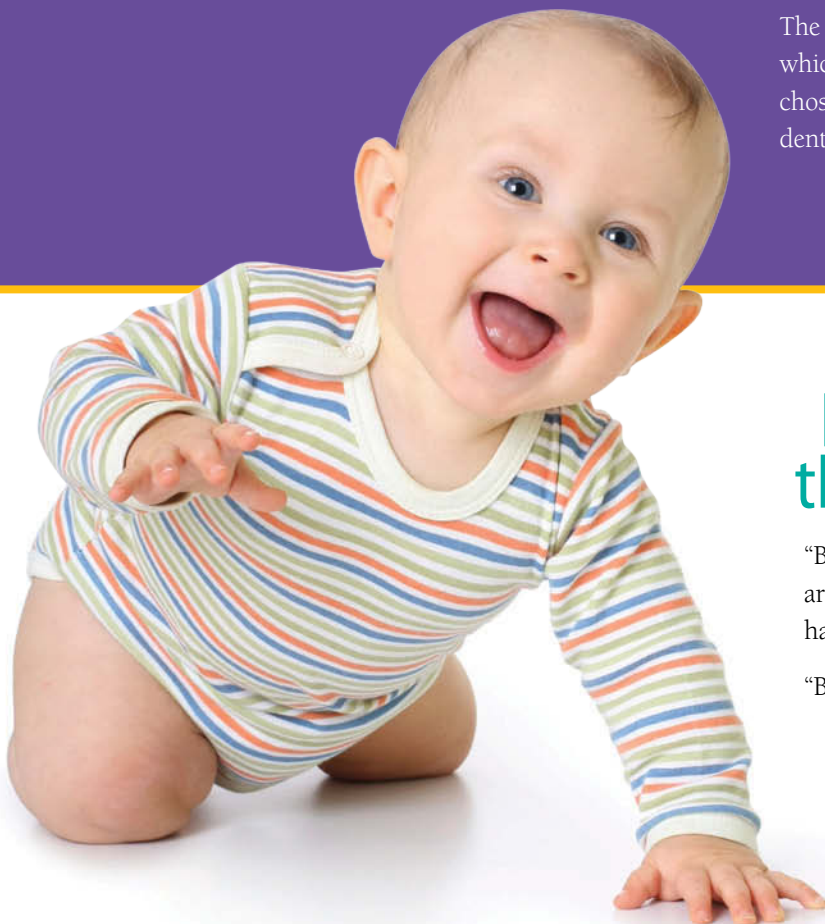
(R. Leadbetter 2000)

THE DESIGN

The ADA uses as its central figure a variation of the staff of Asclepius. In the background of the design are branches of 32 leaves and 20 berries, representing the number of permanent and primary teeth. The symbol is surrounded by an intersecting triangle and circle forming the periphery of the design. The Greek letter Δ (delta) represents the letter D in the word dentistry. The Greek letter O (omicron) represents “odont” meaning tooth.

THE OFFICIAL COLOR

The design uses as its background color a shade of lilac which is the official color of dentistry. The color was chosen to trim dental schools’ graduation caps, gowns and dental emblems.



At birth, newborns have already formed their 20 primary teeth!

“Baby” teeth begin pushing up through the gums around the 6 month mark and by age 3, most children have a full set of primary teeth.

“Baby” teeth are important because they aid a child in:

- Chewing (the first step in digestion)
- Speaking
- Providing shape and form to the face
- Maintaining space for the permanent teeth

TRUE OR FALSE ●

Is a person in their 20's who has never used any kind of tobacco or alcohol still at risk for developing oral cancer?

TRUE! The fastest growing segment of the oral cancer population is young, non-smoking individuals, very different from the historic profile of those who got oral cancer 20 years ago. The reason is the sexually transmitted Human Papilloma Virus (HPV16). If the current trend of HPV16 incidence continues, it is likely that in 10 years it will out pace tobacco as the number one cause of oral cancer. Because of this, when dentists now screen their patient populations, they no longer can easily identify who is at high risk. **They have to screen everyone old enough to have had sex**, the mechanism by which the Human Papilloma Virus is transferred.

Oral cancer is not uncommon. Think of it in this way. 100 people are going to be newly diagnosed with oral cancer every day, 365 days a year. 24 people will die from oral cancer each and every day or roughly one person every hour of the day 24/7/365. The early stages of oral cancer are for the most part, painless, and unfortunately may not be preceded by a sore or anything in the mouth that you may notice. Only a professional examination by a dentist or a hygienist who knows what they are looking for may unmask this terrible disease early enough to ensure treatment with a high survival rate. Avoid risky sexual behaviors.

Oral Cancer is dangerous! See your dentist for regular dental checkups but make sure you have an oral cancer screening exam at least once a year!

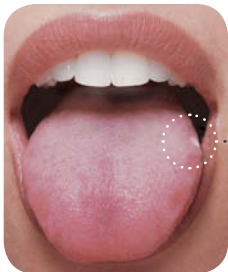
I don't smoke
I don't drink
I'm still at risk
for oral cancer



Choose a dentist that
keeps you safe™

Ask your dentist about the BrushTest™

–the painless screening test of “everyday” oral spots
that is helping to make oral cancer preventable.



» **How common is oral cancer?**

Oral cancer kills as many Americans as melanoma (skin cancer), twice as many as cervical cancer, and is now rising among women, young people and non-smokers.

» **I've heard of cancers being detected early, but how can oral cancer be prevented?**

Everyone has a small spot in their mouth at one time or another. The vast majority of these common spots do not contain any pre-cancerous cells, but a few of them do. Only a lab test can tell them apart. The BrushTest is the only painless way to determine if any of your common oral spots needs to be removed. Thereby preventing oral cancer years before it can start.

» **How does the BrushTest work?**

The sample from your spot is sent to a BrushTest lab where imaging systems based on missile defense technology are used to help specialized pathologists identify one unhealthy cell among 100,000. Rest assured, if your dentist “BrushTests,” you’re protected by one of the most accurate tests in medicine.

To find out if your dentist is among the 30,000 dentists routinely screening small oral spots with the BrushTest™ call us at 877.71.BRUSH (877.712.7874)

For more information visit us on the web at www.BrushTest.com

The Dental Universe

Sun (General Dentist)

The Center of the Dental Universe

General Dentists are at the center of our dental universe. As your Family Dentist, they are the trusted professionals who guide and maintain your family's dental health and when necessary will involve the help of the "Dental Specialists," represented by the other planets in our dental solar system. Licensed to carry out all procedures in dentistry, general dentists are most familiar with preventive, family, basic restorative and cosmetic care, but may take advanced training in specialty areas of interest for example Cosmetic Dentistry. They are your first line of defense in preventing, diagnosing and treating dental and oral health problems. Typically, they repair teeth damaged by decay and treat mild to moderate gum disease. If a tooth is so heavily damaged that it can't be repaired, some general dentists will carry out extraction and tooth replacement. As the brightest star in the dental galaxy, they direct all of your treatment needs by either providing your care or referring you for treatment to the "Dental Specialists," recognized by the American Dental Association (ADA). After obtaining a DDS or DMD dental degree, dental specialists receive 3 years or more of additional advanced training in their specialty area.

Planet Perio

The Gum Doctor

If your gums bleed, are inflamed or infected, you may need to see a "Periodontist" (peri-around, dont-tooth), a dentist who specializes in the treatment of diseases of the supporting structures of the teeth. Periodontists, like architects, make sure the foundations are healthy – everything that connects you to your teeth including your general health. They carry out plastic surgical reconstructive and cosmetic procedures involving the periodontal structures, including sinus surgery and dental implant placement.

Planet Ortho

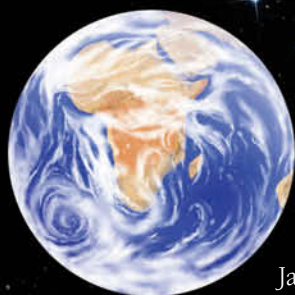
The Brace Doctor

Poorly aligned teeth may require an "Orthodontist," who treats malocclusions (improper bites) using "braces" or clear aligners to straighten them (ortho-straight). Orthodontists know how to move teeth into the right position based on understanding of growth and development, alignment and occlusion (bite) - how teeth come together and function in harmony with the jaw joints. This dental specialist is familiar to most people, since braces are common among adolescents and now, even adults.

Planet Endo

The Root Canal Doctor

If you have a tooth that is badly damaged, your dentist may recommend root canal treatment, which may require the skills of an "Endodontist" (endo-inside), a specialist in diagnosing and treating infections of the pulp tissues containing the nerves of the teeth. Despite a popular misconception that root canal treatment is painful, an endodontist is the specialist who actually relieves the pain of a bad toothache.



Planet Prosthodontist

The Crown & Bridge Doctor

If you have missing teeth, you may be referred to a “Prosthodontist” (prosthodontist – prostho-artificial). Prosthodontists specialize in restoring function by creating complete dentures, natural tooth crowns and implant crowns – the parts of the teeth visible in your mouth. Jaw joint problems, grinding habits and sleep disorders related to mouth breathing are also part of this specialty.



Planet Pediatric Dentist

The Kid Doctor

Babies and young children may begin with, or be sent to see a “Pediatric Dentist,” who specializes in the needs of children from the time they start teething in infancy into adolescence when they have all their permanent (adult) teeth. They emphasize prevention and treat children in ways that make them comfortable and that lead to formation of good dental habits. In addition, pediatric dentists use specially designed equipment and decorate their offices with children in mind.



Planet Public Health Dentist

The Government Doctor

Although you may never see a “Public Health Dentist,” they serve the community rather than the individual, focusing on planning for the public’s dental health; applying dental research and administering group dental care programs. The Public Health Dentist’s goal is to prevent and control dental and oral disease and promote dental health through organized community efforts and public policy.

Planet Oral Surgery

The Face & Jaw Doctor

“Oral Surgery” is a specialty devoted to “maxillo-facial” (head and neck) diagnosis and surgical treatment. It involves exodontia (removal of teeth), surgery for disorders and diseases of the jaws, fractures associated with trauma and orthognathic surgery (jaw repositioning to assist in orthodontic treatment). It also includes sinus surgery for bone regeneration in preparation for dental implant placement. Oral surgery training overlaps with medical training and includes anesthesia (conscious sedation or general anesthesia) to facilitate in-office treatment.



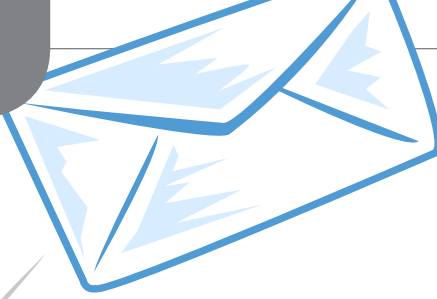
Planet Hygiene

The Cleaning Specialist

A star for sure is the “Dental Hygienist.” Known for keeping your family healthy they provide the foundation of oral and dental health – prevention (behavior change through diet, oral hygiene instruction and smoking cessation), thorough evaluations and the best cleanings under the sun.



For more information about the dental specialties visit www.ADA.org



We've got mail

Email your dental questions to consultations@deardoctor.com



Dry Mouth

Question emailed by Brian from Toronto

Question: What causes dry mouth?

Answer: Xerostomia (*Xero – Dry, Stomia – Mouth*) is one of the most common un-talked about conditions yet it affects millions. Causes range from the usual daily dry mouth on waking to smoking, alcohol and coffee drinking as well as from medications, salivary gland and general disease. Mouth dryness is a subjective symptom rather than a disease itself, but can be a reflection of underlying problems.

The mouth is prone to discomfort and disease once it is robbed of the protective (*antibacterial*) benefits of normal saliva flow – normal moistening of mouth membranes. People with insufficient saliva are especially at risk for root decay and fungal infections such as “thrush”. They also have decreased resistance to loss of tooth substance due to attrition, abrasion and erosion.

Assessment and diagnosis is a critical first step to determine whether the problem is either local (*in the mouth*) due to habits, drugs, medications or systemic (*general body*). Help can range from anything as simple as good daily oral hygiene, keeping well hydrated – drinking enough water, especially with fluoride - to taking local agents or prescribing medications that promote more saliva flow. Watch for further articles on this important topic.

Help can range from anything as simple as good oral hygiene or drinking lots of water to taking local agents or prescription medications!

This little lozenge can make a big difference for Dry Mouth Sufferers!

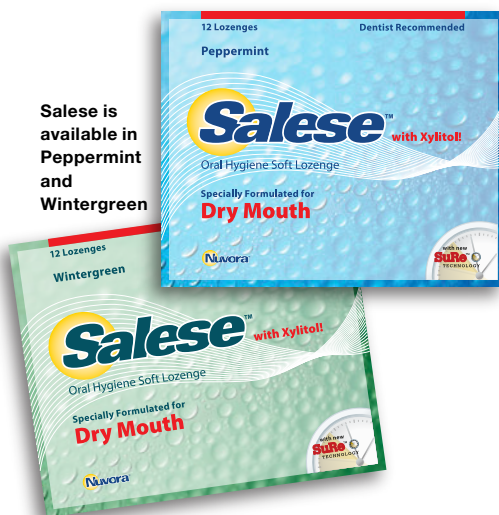


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A unique polymer combined with essential oils, Xylitol and a moisture-retaining ingredient creates an extended contact time in the mouth to fight bacteria and help dry mouth sufferers' oral hygiene. Simply place Salese in your mouth, without biting or chewing, and let it slowly dissolve. You can move it around as desired – no need to keep in one place.



Salese is available in Peppermint and Wintergreen

with Xylitol!

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Please mention code DD to receive a 10% discount on your first order.



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store.nuvorainc.com

Chipped Teeth

Question emailed by Angela from Pennsylvania

Question: Is chipping your teeth bad and does it depend on how much has chipped?

Answer: Chipping your teeth is not a good thing; it means that you have lost or are losing valuable tooth structure. If you're asking the question, we are assuming you have probably already chipped a tooth that isn't causing much pain or discomfort so hopefully it isn't a large chip.



Photographs provided by Dr. Jeff J. Brucia

Most often teeth chip as a result of injury or trauma which is accidental. For people who clench or grind their teeth as a result of stress, much higher forces are placed on the teeth than normal. Even holding foreign objects like nails, pens or paper clips between the teeth can also cause them to both wear and chip. Sometimes teeth are used for the wrong purposes like trying to remove bottle caps – not a good idea!

As teeth wear, it is not abnormal to see small pieces of enamel, the outer covering of the teeth, to become unsupported, so that little pieces chip off. This exposes the underlying dentin which wears more quickly since it is not as strong as the enamel. In many cases, dentistry can repair chipped teeth with “adhesive” or “bonding” techniques with tooth colored filling materials. These techniques are easy, painless, and successful in returning the teeth to normal shape, looks and function. For large amounts of tooth loss, crowns (caps) over the remaining teeth may be necessary. Sounds like it is time, and a very good idea to see or find a dentist.



Toothbrush Lifespan

Question emailed by David from California

Question: How do you know when it's time to change your toothbrush?

Answer: Good question! If you are using the correct kind of brush, and with a gentle action, a toothbrush should last at least three months. We recommend a soft “multitufted” brush that can clean easily between the gums and teeth without force. All that is needed to remove dental “bacterial” plaque is a gentle grip, holding the brush like a paintbrush and used in a gentle “jiggling” motion. Allow the brush to dry out between uses or keep two brushes, one for morning and the other for evening. When the bristles start to splay or get soft it's generally time for a new brush. As they say, a new broom sweeps clean.

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with

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"Being able to smile without feeling self-conscious was a reality I was beginning to believe I would never see. Winning this makeover is truly a dream come true!"

Lorna's Dreams Are Coming True!



Our 3rd Ultimate Dental Health Makeover Contest Winner

We would like to thank the following contest sponsors for helping us make Lorna's dreams come true:



For more information about these wonderful companies, their products and their services visit www.DearDoctor.com/sponsors

We are very proud of *Dear Doctor's* Ultimate Dental Health Makeover Contest and are pleased to announce our third contest winner, Mrs. Lorna Ficker from Poughkeepsie, New York. At a time when we are all challenged by this difficult economy, we would like to thank our generous sponsors for enabling *Dear Doctor* to provide this opportunity to as many people as possible. Providing patients with good health and the benefit of a positive self-image is irreplaceable. Please take note of our sponsors for their commitment to oral health as they are going above and beyond advertising.

Lorna is absolutely thrilled to be our new contest winner and her treatment will include periodontics, orthodontics, endodontics, and cosmetic dentistry. Her periodontal treatment will consist of oral hygiene instruction, scaling, and root planing. Orthodontic therapy is needed to improve the alignment of Lorna's teeth when she smiles and she will also need four root canals. Her cosmetic dentistry will consist of porcelain veneers as well as porcelain crowns. This treatment will take place over the next year. We will provide you with follow-ups as treatment progresses.

About Lorna's Makeover Dentist



Dr. Richard K. Whalen has been practicing dentistry since 1992, and currently practices in Poughkeepsie, NY. A graduate of the State University of New York at Stony Brook, Dr. Whalen's extensive experience allows him to offer a wide variety of treatment to each of his guests. He is a member of the American Dental Association,

International Association of Comprehensive Aesthetics, American Academy of Cosmetic Dentistry, and Academy of General Dentistry. Visit www.DearDoctor.com/whalen to learn more about Dr. Whalen.

Read about Lorna's makeover progress in upcoming issues of *Dear Doctor!*

Enter to win at www.DearDoctor.com

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Our **New** Makeover Contest Has Begun!

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COMEDIANS THAT MAKE US SMILE!

For years, comedians and dentists have shared one common trait... the ability to make us smile!

As far back as the ancient Greeks, comedians have taken the common routine of life and turned it into comedy and farce. Dentistry especially has provided one of the richest veins of material for stand-up, skits, situation comedies and even books. It seems everyone remembers a favorite comedy routine about visiting a dentist: toothaches, drills, shots – practically anything dental – whose memories still bring a smile or chuckle.

Maybe it's old-fashioned nervousness or anxiety people may have about seeing the dentist, or the somewhat unbelievable notion that something as small as a tooth can cause such a big ache. Or, maybe it's just because one of the best-known anesthetics is commonly known as "laughing gas."

Whatever the reason, our favorite comedians often draw from dentistry with hilarious takes, that drown us in tears of laughter. Don't get us wrong, dentists don't take their profession or their mission lightly. But it's always good for the soul to take a lighthearted look at ourselves and what we do once in awhile, to help us empathize in seeing things from a patient's point of view.

So, in the spirit of good humor and of course smiling, here's a sampling from some of our favorite comedians and their take on dentistry. We can't guarantee that generous doses of these comedians will necessarily improve your dental health, but they will certainly improve your mental health.



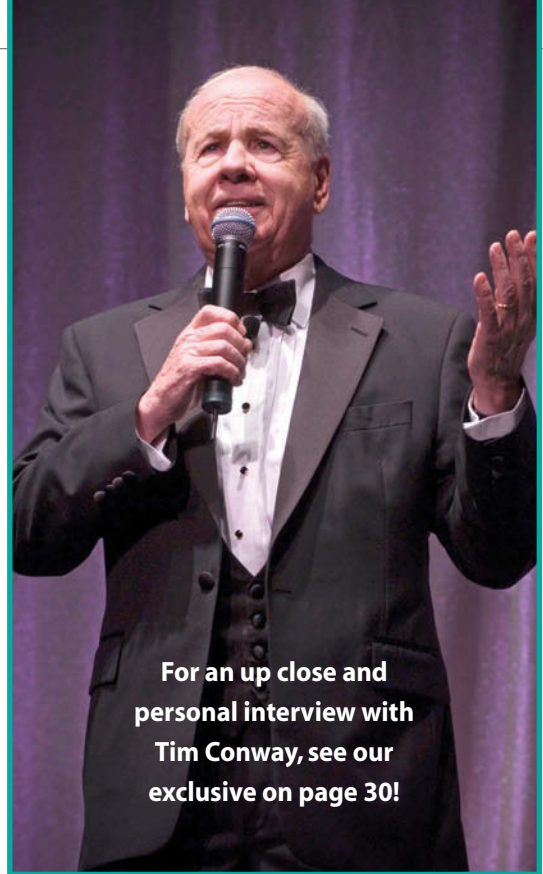
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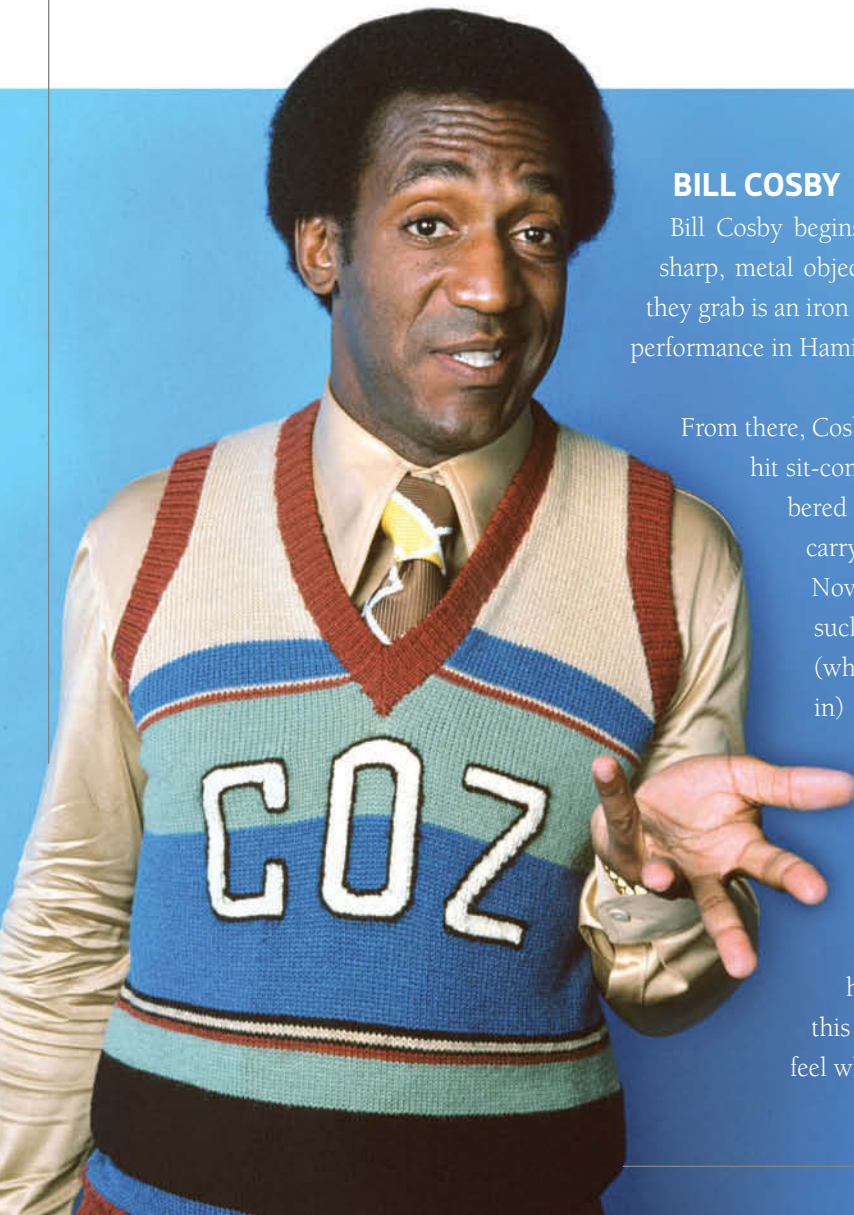
TIM CONWAY

Tim Conway has perfected his loveable, bumbling “everyman persona” before delighted audiences for five decades. While many remember him as the naive Ensign Parker on *McCauley’s Navy*, most readily identify him with *The Carol Burnett Show*. While on this 70’s hit variety show he created numerous characters that not only left the audience doubled over, but his cast mates as well.

In one classic skit, Conway played a clumsy dentist attempting to administer Novocaine to his patient, fellow cast member Harvey Korman. Over the course of the skit he managed to numb his own hand, his leg and his face. Somehow, though, he figured out how to maneuver his temporarily palsied limbs and even succeeded in swatting a fly with his numbed hand. The only body part he didn’t seem to be able to numb was his patient’s, Harvey Korman’s mouth, but he did succeed in cracking him up.



For an up close and personal interview with Tim Conway, see our exclusive on page 30!



BILL COSBY

Bill Cosby begins, “Dentists tell you not to pick your teeth with any sharp, metal object. And then you sit in their chair, and the first thing they grab is an iron hook.” (from Bill Cosby: Himself, a 1983 video of a live performance in Hamilton, Ontario),

From there, Cosby, who also reigned on television in the 1980s with his hit sit-com *The Cosby Show*, delivered up one of the best-remembered monologues on visiting the dentist. Picture: a dentist carrying on small talk while maneuvering an injection of Novocaine in your mouth and placing a suction tube that sucks up your face. Then you are left alone by the dentist (who has exited to laugh at you while the anesthesia kicks in) while the numbing causes your face to slide off your skull, as your bottom lip lands in your lap.

Cosby crescendos with a side-splitting rendition of how someone would talk under the influence of Novocaine. You can’t just hear it – you have to watch his facial expressions and sight gags to appreciate how this consummate performer nails what we all sometimes feel when we’re in the dentist’s chair.

ELLEN DEGENERES

Ellen DeGeneres took up the oral hygiene torch with gusto in her 2003 book, *The Funny Thing Is...* Her advice is passionate, straightforward – and hilarious:

“Hygiene is important anyway, as we all know. So take your time and brush, then floss. Flossing is key. You must floss. Don’t even think for a second that you can get away with not flossing. Always floss. I can’t stress it enough. If you get nothing else from this book, I hope you not only think to yourself ‘I must floss,’ but pass it along to loved ones and acquaintances -- floss, floss, floss. Now, what was I saying?”

She further writes that one of the things she does upon rising in the morning (after checking off “get up” on her list of daily tasks) is measure the remaining floss on her roll. DeGeneres seems obsessed with floss – as all of us should be, or so she advises.

No wonder she won a “Flossy” in 2004 from the National Flossing Council for extolling the virtues of good oral hygiene. Not resting on her laurels, she continued her crusade at Tulane University’s 2006 commencement ceremonies. She made her surprise entrance wearing a bathrobe: “I heard everyone was going to be in robes.” And, she left this gem of wisdom with the graduates: “Remember to exfoliate, moisturize, exercise and floss.”



THE THREE STOOGES

The Three Stooges (Moe, Larry, Shemp/Curly) were best known for their extreme physical slapstick. Moe, their bossy leader, tries to whip (and slap and punch and eye-gouge) his dimwitted cohorts into line from one disaster to another.

In one memorable short, the window-cleaning trio is mistaken for dentists by a patient with a terrible toothache. Curly applies the anesthetic (a large wooden mallet), and Moe, now the self-proclaimed “surgeon,” pulls the offending tooth. Panicking, the Stooges stuff a glob of cement into the patient’s mouth that hardens before they can get the tooth back in. The dentist and their boss enter just as they are blasting (yes, blasting!) the cement out of the patient’s mouth. They make their escape out the window onto a scaffold as the charge detonates. The result? The patient wakes up to find his toothache cured. The Stooges, though, aren’t so lucky as their scaffold lands on top of a police officer – and the chase continues.





RODNEY DANGERFIELD

For a man who “got no respect,” the late Rodney Dangerfield was one of America’s most popular comedians during the Sixties, Seventies and Eighties. The former aluminum siding salesman introduced his self-deprecating persona on *The Ed Sullivan Show*, and from there became a regular act on such venues as the Las Vegas strip and *The Tonight Show*. With popping-wide eyes, Dangerfield would nervously tug on his tie and tell his audience how absolutely no one – wife, kids, parents and, yes, numerous members of the healthcare profession – treated him with respect.

In one gag, he tells his audience how he asked his doctor what was wrong with him because when he looked in the mirror he felt like throwing up. The doctor said, “I don’t know but your eyesight is perfect.”

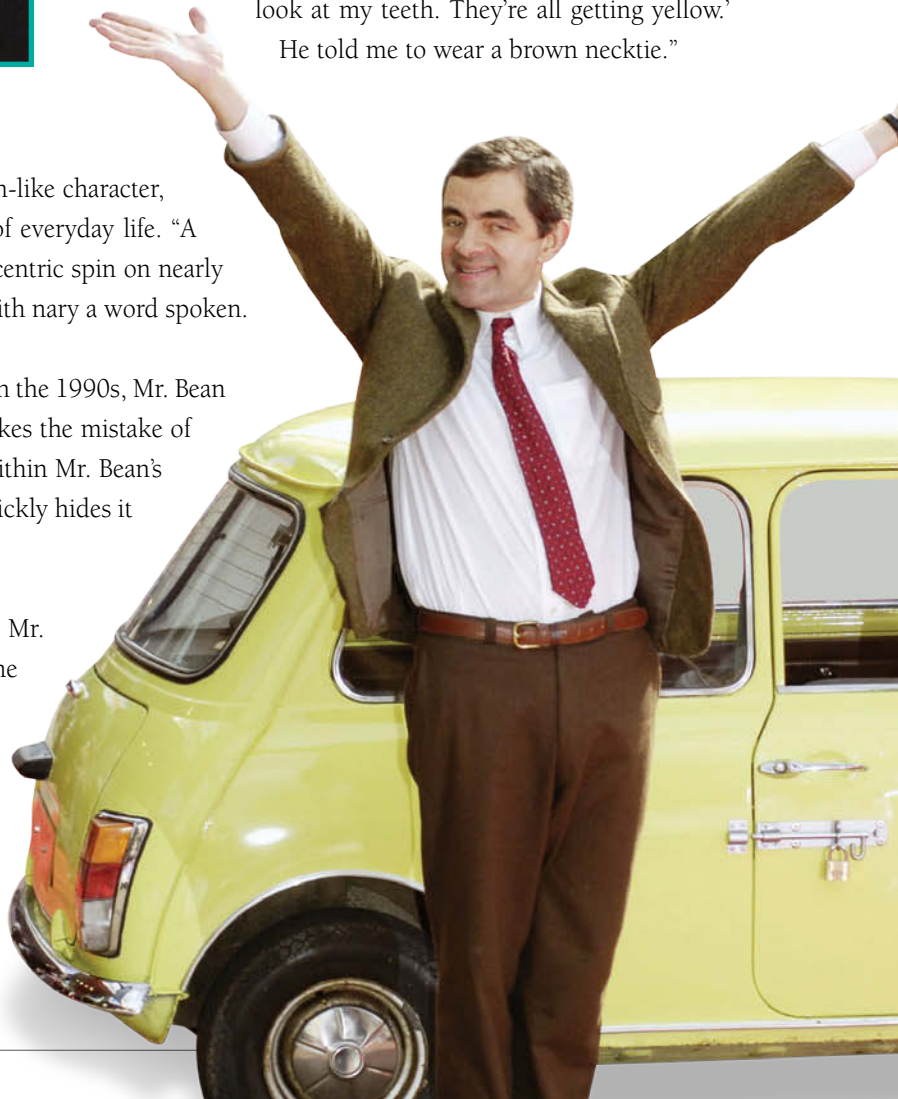
As you would expect, Dangerfield’s dentist must have shared the same clinic space with his other doctors: “I saw my dentist, too. Another beauty. I said to him, ‘Doc, look at my teeth. They’re all getting yellow.’ He told me to wear a brown necktie.”

MR. BEAN

Mr. Bean, British comedian Rowan Atkinson’s Chaplin-like character, always has a unique way of dealing with the trifles of everyday life. “A child in a grown man’s body,” Mr. Bean applies an eccentric spin on nearly everything – sometimes with disastrous results and with nary a word spoken.

In one of the half-hour television episodes produced in the 1990s, Mr. Bean arrives at his dentist after a late start. The dentist makes the mistake of turning his back and leaving an anesthesia syringe within Mr. Bean’s reach. Mr. Bean proceeds to play with it, and then quickly hides it by his side when the dentist returns.

When the dentist hits a sensitive spot in his mouth, Mr. Bean reacts by accidentally jabbing the dentist in the leg with the needle. This starts a chain of events that leaves the dentist incapacitated and Mr. Bean’s dental care in the hands of – Mr. Bean. The resulting hilarity could easily be used as a warning against self-dentistry.





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“The sexiest dental magazine this side of the Atlantic.”

The Philadelphia Inquirer



Tim Conway

Up Close and Personal with
a Comedy Legend

“All of us on *The Carol Burnett Show* took pleasure in bringing happy moments to our audience.”

Tim Conway is still making people laugh – just as he did in the Golden Age of Television

For eleven television seasons, viewers tuned into the hit variety series *The Carol Burnett Show* if for no other reason than to watch Tim Conway “torment” his fellow cast members, especially Harvey Korman. With a graceful slapstick touch, impeccable comedic timing and a quick improvisational wit, Conway always seemed to find a way to make Korman, Burnett and every other unfortunate soul in the sketch collapse in spasms of belly laughs.

The son of an Irish father and Romanian mother, Conway grew up just outside Cleveland, Ohio. After attending Bowling Green State University, he served a stint in the U.S. Army (“defending Seattle,” he says), after which he began working for local television and radio stations. Moving to New York City in 1956, Conway got his first big break when he landed a regular spot on *The Steve Allen Show*.

In the early 1960s, Conway co-starred in the hit sitcom *McCale’s Navy* with Ernest Borgnine and Joe Flynn. As Ensign Charles Parker, Conway gave America a glimpse of the bumbling but loveable soul they would see again in numerous characters Conway later created: Amos Tucker in *The Apple Dumpling Gang*, the Old Man and Mr. Tudball on the Burnett show and Dorf in satirical “how-to” videos Conway produced in the 1980s.

Now in his seventies, Conway has yet to succumb to retirement. He recently provided the voice of Barnacle Boy on *SpongeBob SquarePants* and Freddy Frog on *Garfield’s Fun Fest*. He’s also written and published a children’s book, *Little Leo’s Big Adventure*.

Conway recently talked with *Dear Doctor* about his life and pertinent to our interests, that hilarious dental sketch from *The Carol Burnett Show*.

Vicki Lawrence, Harvey Korman, Carol Burnett and Tim Conway provided weekly laughter by creating memorable comedy skits on *The Carol Burnett Show*.



Q & A with Tim Conway

We've all heard the saying "laughter is the best medicine." How has being in the business of laughter contributed to your health?

I am seventy-five years old. If I hadn't spent most of my life laughing and making others laugh, I would feel like seventy-five. As it is, I never grew up. I consider myself about eight years old – make that seven.

Explain the process that goes into creating a memorable sketch. How much is refined or revised before actually performing it in front of an audience?

I don't think you create memorable sketches, they create themselves. The Novocaine portion of the dentist sketch wasn't planned – it just happened. That's the magic of comedy; you never know when it is going to sneak up on you and make you laugh.

Speaking of that sketch, whose idea was it to do it on dentists? Have you ever had a fear of dentists?

The dentist sketch came from my dentist who, while a dental student working on a student patient, administered Novocaine and stuck the needle into his own thumb. Need I say more? He numbed his own thumb and didn't want to mention it to the patient. I did the same thing to Harvey, only he didn't know it was coming. The idea of Novocaine was a surprise to him; he hadn't seen that part of the sketch until we were taping.

Did the taping go as planned or did Harvey's laughter cause you to alter the script or throw it out completely? How much of that sketch was improvised?

The sketch was taped the actual way we performed it. Carol always wanted the show to have a "live" feel to it so we left in everything as it happened.

You managed to crack Harvey up with laughter quite a bit and in this scene especially. Was it your intent to get him to crack?

My object was to find places in the sketch where I knew I could break up Harvey. I don't think I ever missed. If I tried something to make him laugh, and it didn't work, I'd just stare at him until he finally would crack. But I admit, he was a very easy target. To us, the show was about breaking each other up.

When you did this skit, did you have any idea it would be as memorable as it has become? Over 700,000 people have watched it on YouTube.

Back then I had no idea which, if any skit would become a part of pop culture and induce laughter in future generations. All of us on *The Carol Burnett Show* took pleasure in bringing happy moments to our audience and I'm grateful that we continue to bring smiles to people.

“There are no guarantees in comedy, but I assure you I’ll try any material that I think will make you laugh.”

When did you realize that you wanted to be an entertainer and how did you get into comedy?

I was the smallest kid in my class so I had to be either funny or get smacked around. I was funny on the first day of school and I’ve tried to stay funny especially in ‘Big and Tall’ stores.

Who were some of your heroes or inspirations as far as comedy goes?

I was definitely inspired by Sid Caesar, Steve Allen, Jackie Gleason, Red Skelton, Bob Newhart, Rowan and Martin, Dick Van Dyke, Don Rickles, Don Knotts, Harvey Korman, and of course, the Master – Carol Burnett. And as you may have noticed, Laurel and Hardy stole a lot of stuff from me.

Has your mouth ever gotten you in trouble?

A lady in the men’s section in a department store mistook me for a clerk and asked me where my underwear was. So, I showed her, and she called security. Some comedy has a penalty.

You are probably best known for your role on *The Carol Burnett Show*, an eleven-year stint that garnered five Emmy Awards, a Golden Globe and numerous accolades from critics. Talk with us about those years.

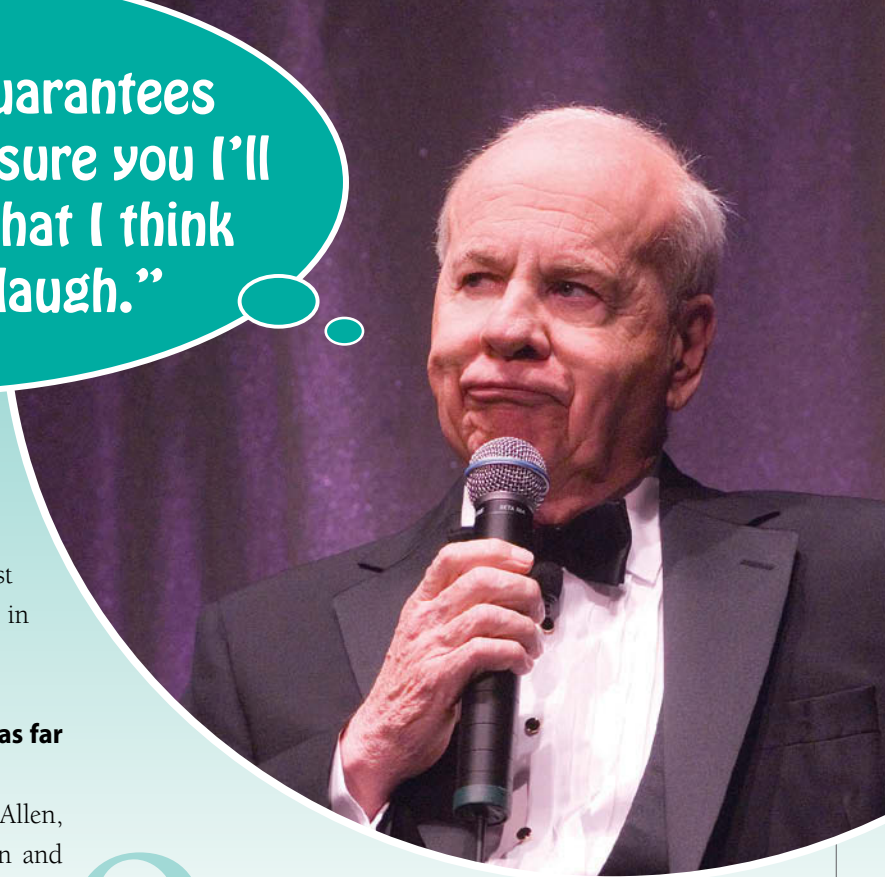
I think that sometimes I receive awards because of my acceptance speeches, though the speeches never have anything to do with my work or the award or the organization giving the award. I remember one year I thanked the people who put in the new Mark Twain Hole at the local Tarzana Pitch and Putt. Another year, Harvey and I walked up and stood by Red Foxx before he finished calling out the other nominees. We both lost and just sat down while the award was presented to the winner. Once, Harvey won an award and I just followed him on stage and while he accepted the award, I made faces. He didn’t thank me.

Tell us about your new children’s book. How will it make children smile?

My granddaughter Courtney slept between my wife Charlene and I until she was seven and every night she would ask for a story. I must have told her the story of Little Leo’s Big Adventure a thousand times, but she always wanted to hear it over and over. Leo, by the way, was her white fluffy puppy. I decided to pass on the story for other children to enjoy, along with very beautiful and artistic illustrations. Leo’s escapades reflect some wonderful moral lessons that kids can easily grasp – that it’s fun to be nice to others and life is full of adventures and good people.

Speaking of family and morals, your reunion shows with the cast of *The Carol Burnett Show* have done very well. Do you think the special was a success because people are hungry for that kind of fun, family-friendly entertainment?

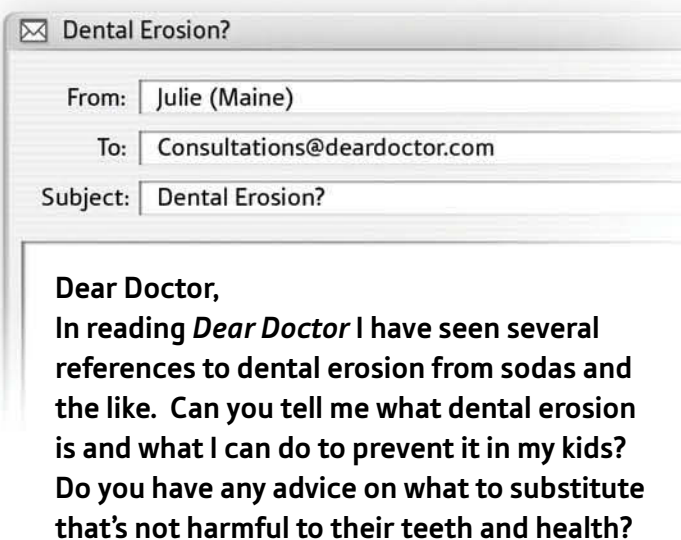
People are looking for the “next” *Carol Burnett Show* to come along. Will it? It won’t if it has foul language, violence or nudity and I don’t see the networks producing many shows without them. It looks like the internet is going to be the answer. The Christian TV Network is going to be a network of family entertainment where a show like the Burnett Show could thrive. Will I be part of it? You can bet on it.



Dental Erosion

Dissolving tooth surface enamel with your favorite cola, soda or sport drink

A Consultation with Dr. Anderson T. Hara



Dear Julie,

Thank you for your question as dental erosion is becoming an important topic in dentistry. We are certainly beginning to see more of it and it is a real problem.

Dental erosion is the dissolving of the surface enamel of teeth by acids found in popular soft drinks, carbonated cola beverages, natural fruit juices as well as sports and high energy drinks. Have you ever noticed right after drinking something acidic or sucking a lemon that your teeth feel almost gritty? – That is probably erosion at work.

The chemical erosion that we're talking about is not like tooth decay ([cavities](#)). It is actually the direct effect of acids, usually from beverages and some foods, attacking the outer enamel tooth surface. It is unlike tooth decay in which acid is produced by bacteria present in dental plaque attacking specific sites of teeth. Another difference is that although brushing after meals may be beneficial in

helping to prevent tooth decay, in cases of enamel loss by erosion tooth brushing may actually make it worse and in fact accelerate it. This happens after excessive consumption of acidic foods and/or beverages, when the tooth surface actually becomes microscopically “softened”; brushing may completely remove this affected tooth layer. In this case, waiting 30 to 60 minutes before brushing will allow time for acid neutralization and tooth re-mineralization by saliva ([calcium particles re-harden the tooth surface](#)).

Once lost, this surface layer cannot be naturally recovered. Therefore, dental erosion can cause continuous and irreversible tooth surface loss, which can be detrimental in the long-term, affecting the form ([shape](#)), function and esthetics of the teeth. In more aggressive cases, for example in bulimia ([a psychological condition in which acid from vomiting erodes the teeth](#)) it develops even more quickly and may even be associated with tooth pain.

Two chemical properties of beverages have been used to define their erosive potential. First, the acidity of the beverages, measured in something scientists call “pH” values – the lower the pH the more acid it is and second is its “buffering” capacity – a measure of its resistance to neutralization by saliva – the natural defense against acids in the mouth. The greater the buffering capacity of the beverage the longer it takes for the saliva to neutralize it. Carbonated cola beverages, sports and high-energy drinks as well as natural fruit juices have been reported to have a low pH and a high buffering capacity. Other factors involved include the type, concentration, and amount of acid; exposure frequency; duration of the exposure and temperature.

Since consumption of these soft drinks includes younger age groups, attention has been focused on the susceptibility of primary and permanent teeth to erosion by the use of soft drinks. Teeth in children and teenagers may be more easily eroded by acids since they haven’t had extensive exposure to fluorides, which makes the enamel harder and more resistant to acid dissolution.

Some advice – try to stop drinking these types of acidic beverages, even fruit juices are related to the development of dental erosion. Try nature’s own – water! Milk is also a good alternative however asking a kid to replace colas and sports drinks with milk may not be very realistic. In fact, there are studies showing that in many cases milk has been replaced by soft drinks, but it’s definitely worth a try. If this is not realistic, try to reduce the frequency of ingestion of acidic beverages by confining them to mealtimes. Definitely don’t sip on them all day long. It takes the saliva 30 minutes to an hour to neutralize their effects - so one acidic drink per hour and the surfaces of your teeth are continually bathed in acid.

Acidic beverages enriched with calcium are also good alternatives. Due to nutritional concerns, calcium has been added to some soft-drinks and natural juices. Research studies have shown that the presence of calcium can reduce the erosive potential of these types of soft drinks. Finally, avoid swishing these drinks in the mouth before swallowing, this maximizes erosion. Try to sip on drinks through straws instead to reduce the contact between these acidic beverages and your teeth.

Sincerely,
Anderson T. Hara, DDS, MSD, PhD

ABOUT THE AUTHOR

Anderson T. Hara, DDS, MSD, PhD

Anderson T. Hara, DDS (1997), MSD (2001), PhD (2004) degrees from the School of Dentistry of Piracicaba at the State University of Campinas, Brazil; Assistant Professor, Director of Dental Erosion Research Program Oral Health Research Institute, Indiana University School of Dentistry. He has published more than 30 research articles in peer-reviewed international scientific journals. Currently, he is conducting several research projects, most of them focusing on dental erosion, dental remineralization and related topics.



Milk and water
are great
alternatives
to colas and
sports drinks.
Milk provides
calcium to help
remineralize
teeth.

The Natural Beauty of Tooth Colored Fillings

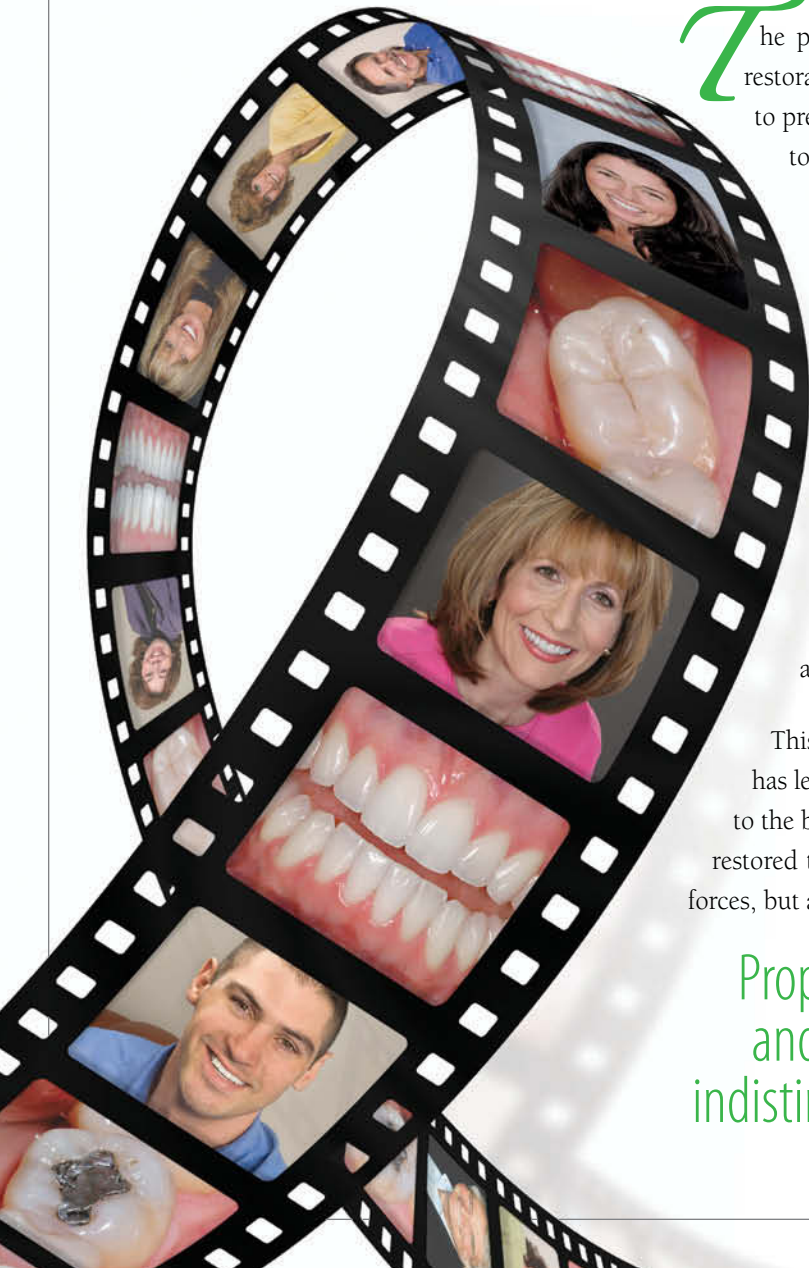
By Pascal Magne, DMD, PHD

The public's demand for aesthetic tooth colored (metal free) restorations (fillings) together with the dental profession's desire to preserve as much natural tooth structure as possible has led to the development of special "adhesive" tooth colored restorations. And this demand is not limited to front teeth.

It is now clearly established that a new "Biomimetic Approach (bio – life, mimetic – mimicking) to dentistry is possible through the structured use of tooth-like materials such as composite resins and porcelains. Scientific studies and clinical experience have validated their use as both safe and predictable. These changes have significantly impacted upon the way modern dentistry is practiced. Indeed, we may have even entered the so-called "post-amalgam era." These techniques are also suitable for children's teeth and can incorporate fluoride to reduce decay rates.

This article will review this evolution and the process that has led to the development of materials that bond successfully to the building blocks of the teeth, enamel and dentin. Properly restored teeth not only function and wear normally under biting forces, but also look indistinguishable from natural teeth.

Properly restored teeth function and wear normally, appearing indistinguishable from natural teeth.





BEFORE



AFTER



**TEETH AND MATERIALS
– “BIOMIMETICS” - MIMICKING LIFE**

Teeth through their unique combination of nature’s materials constitute a perfect compromise between strength and resilience. This is interesting because these two materials, enamel and dentin, while in some ways are quite similar are also very different.

Enamel which forms the outer hard shell covering (the crown) of a tooth, is arguably the hardest substance produced by animals in nature. Made of very densely packed crystals of calcium (hydroxyapatite), it is this crystalline structure that provides its hardness, brilliance and translucent properties, as well as its resistance to wear. Once formed, enamel is quite inert since there is no living tissue within it.

Most of the properties of enamel are mimicked quite well by dental porcelains. Porcelains are a form of ceramic, inorganic non-metallic materials formed by the action of heat. Dental porcelains are made in many colors and shades; they are manufactured in a powder form corresponding to the primary colors of basic tooth structure which is mixed with water and then placed in an oven for “firing”- hence their ceramic nature. These porcelains when built up in layers can be made to exactly mimic the natural translucency, staining and contours of tooth enamel.

By contrast the inner core of the tooth and root are made of dentin which has a more porous nature, and is similar to bone. Dentin has a tubular structure, microscopic tubes made of a protein called “collagen” on to which calcium crystals are deposited. Through the living dentin, sensation is transmitted via nerve tissue in the pulp, a central chamber in the middle of the tooth.

Dental composite resins are the most common material used for tooth colored adhesive restorations today and have properties similar to dentin. They consist of “resin” - plastic (methacrylate, a commonly used plastic) and “fillers” made of silica (a form of glass). The fillers give the composites wear resistance and translucency (see-through properties).

**BONDING – NATURE INFLUENCING ART,
ART MIMICKING NATURE**

Scientific discovery and ingenuity have led to the successful bonding of composite resins to enamel, now in use for many years. The startling discovery of the nature of the interface (join) between dentin and enamel of teeth, paved the way for the principles employed in adhesive dentistry.

Successful bonding to dentin has required more research and understanding. Ultimately it has been achieved by a process in which the dentin surface is specially “prepared” and then “sealed”. “Immediate Dentin Sealing” (also called “resin coating”) creates

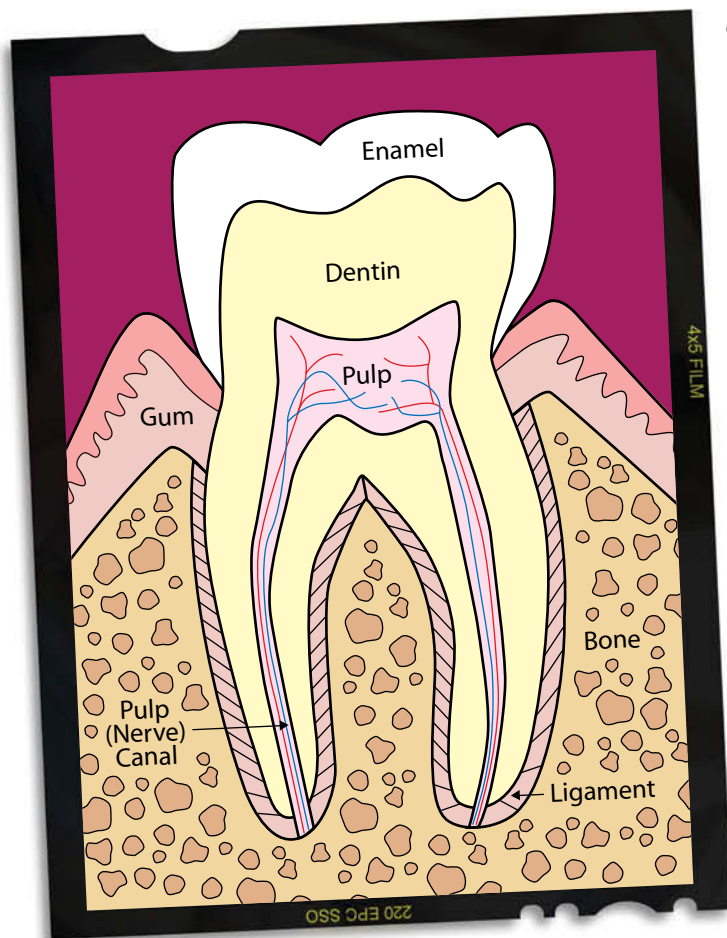
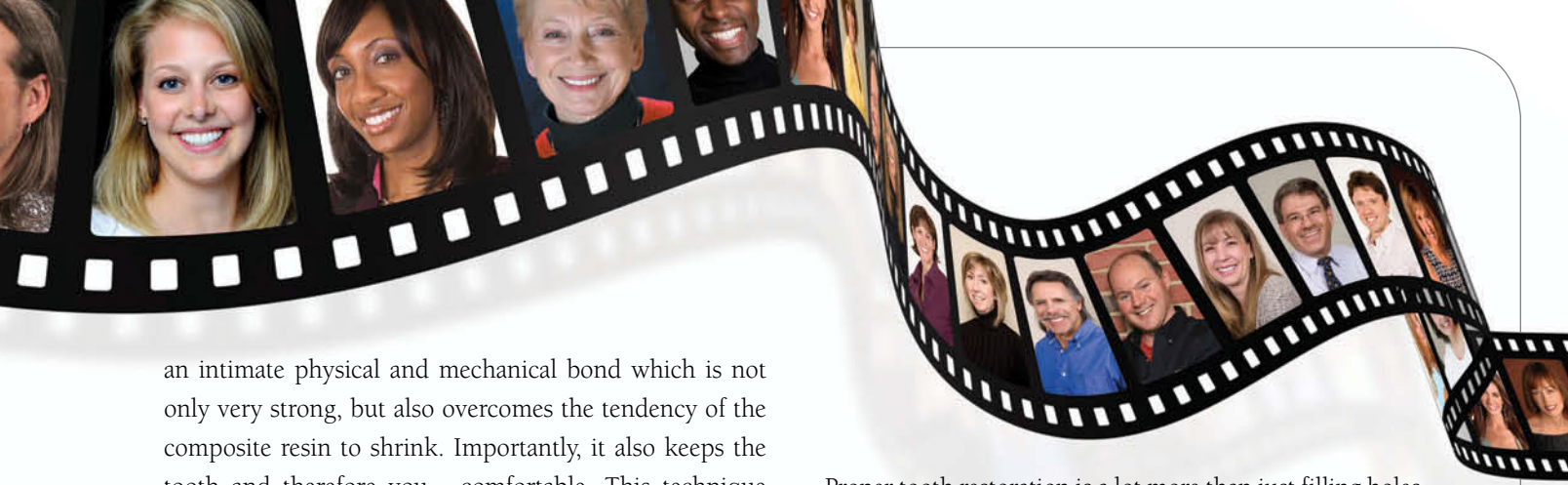


Figure 1: This illustration identifies the parts of a tooth.



an intimate physical and mechanical bond which is not only very strong, but also overcomes the tendency of the composite resin to shrink. Importantly, it also keeps the tooth and therefore you - comfortable. This technique forms the base to which further composite can be added for rebuilding lost tooth structure.

RESTORATIVE DENTISTRY'S CHALLENGE – REBUILDING TEETH

The restoration or rebuilding of back teeth from “the ground up” so to speak is dependent upon successful bonding to both enamel and dentin - the foundation of adhesive restorative dentistry. The goal of restorative dentistry is to return all of the destroyed or lost dental tissues of the teeth to full form (shape) and function - allowing biting stresses to pass through them. These adhesive techniques maximize preservation of tooth structure with minimal preparation (drilling) and allow the maintenance of their vitality and natural appearance.

The goal of restorative dentistry
is to return the teeth to full
form and function...

Major advances in this area have also resulted from the study and understanding of how the crowns of teeth actually flex or give under biting force and how dental restorative materials can be used to greatest effect. These newer materials have been developed to actually fuse with natural tooth material and match its behavior, both stabilizing and strengthening the restored tooth thereby reducing the rate of premature failure from fatigue or fracture. They also recreate very natural looking teeth.

HOW MODERN DENTISTRY MIMICS NATURE

Choosing which material to restore or rebuild teeth is a critical one based on scientific understanding and the experience and clinical judgment of your dentist.

Proper tooth restoration is a lot more than just filling holes. It is a unique art applied with scientific understanding. It is the shapes and location of the back teeth, the “premolars and molars” that allow their specialized function – chewing and breaking down food. A tooth’s internal shape and structure is the guide to how it must be rebuilt in order to be successfully restored. Older restorative concepts were based on the development of excessively strong and stiff materials (such as gold alloys) unable to yield and therefore contributed to failures of the remaining tooth substance around restorations (e.g. decay or cracking). Newer concepts tend to get away from the “stronger and stiffer is better” concept, and rather have moved towards safety principles using materials that mimic the properties of natural tooth structure.

MATCHING THE BEHAVIOR OF TEETH

Immediate Dentin Sealing - involves the formation of a resin coating which both seals and protects the dentin surface against bacterial leakage and sensitivity. Most importantly it keeps the tooth and you the patient comfortable. This is also the first layer of a sandwich-like structure known as a “hybrid layer” (resin coating) to which composite resin is bonded to rebuild tooth structure.

Dentin Build-up - following its sealing the dentin forming the core of the tooth can be rebuilt with composite resin, adding small layers at a time to fill voids or “undercuts”.

A disadvantage of the older amalgam (silver looking fillings) is that they require a special shape called “undercuts” to be cut into the tooth to hold them in. However, this can involve removal of healthy tooth structure. Too much undercutting can undermine and weaken a tooth resulting in less resistance under biting forces possibly leading to fatigue fractures and cracked tooth syndromes.

DIRECT, SEMI-DIRECT OR INDIRECT RESTORATIONS

Sounds like the way some people talk. “Direct, Semi-Direct and Indirect” all describe the techniques by which restorative materials are incorporated into the repair process.

They involve both the method and timing of events in the placement of aesthetic adhesive restorations in posterior (back) teeth today. Deciding which restorative material to use is driven by many factors, the most important of which are how much natural healthy tooth structure remains, its location and the many properties of the different restorative materials available today.



Figure 2: An example of a “direct” composite restoration (right) replacing an older, failing silver filling (left). Courtesy of the CDA journal.

Start by Being Direct – smaller amounts of tooth structure can be replaced directly into small cavities which have resulted from decay. These are direct (or “chairside”) techniques carried out in a single treatment visit using composite resins [Figure 2]. The direct technique is used for preventive as well as relatively conservative situations. Adding the material in small increments allows it to set in the mouth utilizing special lights. This allows complete setting of each increment and overcomes the problem of the shrinkage tendency. The dentist’s artistry can create

absolute tooth-like replicas – you’ll never know the teeth have fillings.



Figure 3: A photograph of two molar teeth with old silver fillings that are being replaced.

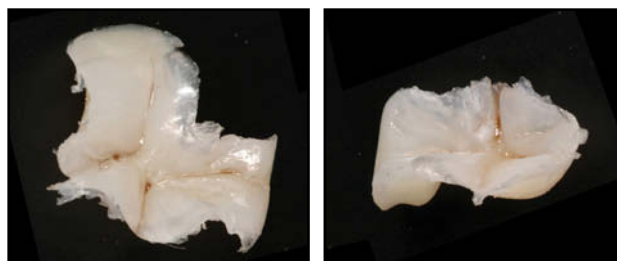


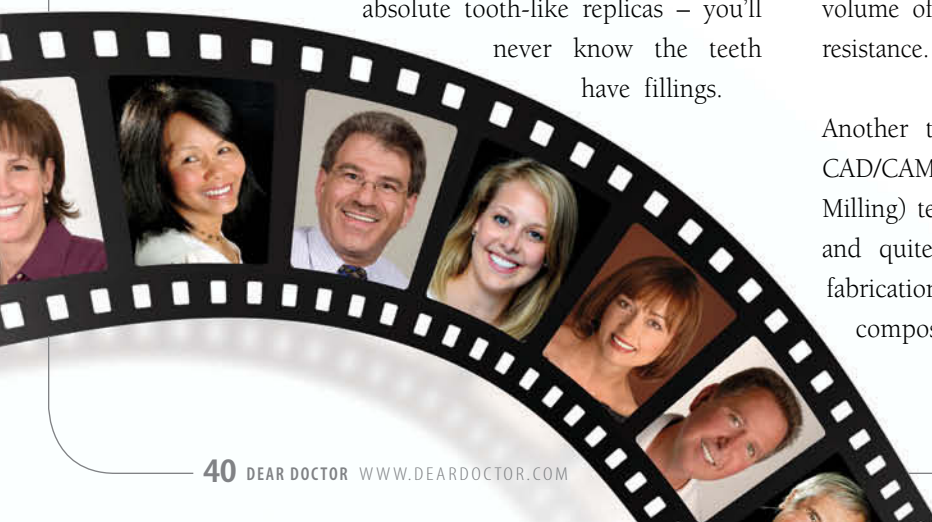
Figure 4: These fillings represent examples of a “semi-direct” composite technique finished outside of the mouth.



Figure 5: A photograph showing the beauty of the “semi-direct” technique restoring the molar teeth to their original appearance.

A Semi-Direct Technique – is necessary when a larger volume of tooth structure has to be replaced [Fig 3]. A similar layering technique is used, but the newly formed restoration can be removed and set or “cured” outside the mouth [Fig 4]. This compensates for the shrinkage of the larger volume of material and improves its strength and wear resistance. It is then finally bonded to the tooth [Fig 5].

Another technique for semi-direct restorations is the CAD/CAM (Computer Assisted Design/Computer Assisted Milling) technique for manufacturing “inlays”. This new and quite sophisticated technology allows “chairside” fabrication of restorations of harder and more durable composite or porcelain materials.



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Figure 6: A failing gold restoration.



Figure 7: Decay found underneath the gold filling.



Figure 8: Immediate dentin sealing after decay removal.



Figure 9: A dental laboratory fabricated "indirect" restoration.



Figure 10: The final restoration showing a beautiful result.

Indirect Techniques – are indicated where extensive tooth structure needs to be replaced. Essentially there is not enough tooth left to put a filling into, rather a restoration must be manufactured to replace most of the crown (**the visible tooth**). This may especially involve the cusps of teeth – the little peaks or points of the back teeth, and necessitates the use of stronger materials to compensate for this more extreme enamel loss.

Indirect techniques are used because the restorations can neither be made directly to the teeth, nor can they be placed the same day. Often aesthetics and dynamic occlusion (**biting relations**) are issues of primary concern in these situations. The skill of a dental laboratory technician is required to fabricate these more complicated porcelain restorations [Figures 6-10].

THE FINALE

Today's "Composite Resins" and "Porcelains" allow restorations encompassing moderate loss of tooth structure, but are also able to treat more perilous situations in which more significant amounts of natural tooth material have been lost. Unlike metal alloys, these newer materials bond directly to the remaining enamel and dentin of which the teeth themselves are made, both stabilizing and strengthening them. This has resulted in considerable improvements in tooth restoration; from a biologic aspect - preserving more natural tooth structure; an economic aspect - these newer materials are both more conservative and cheaper; and an aesthetic aspect – resulting in very natural looking teeth.

ABOUT THE AUTHOR



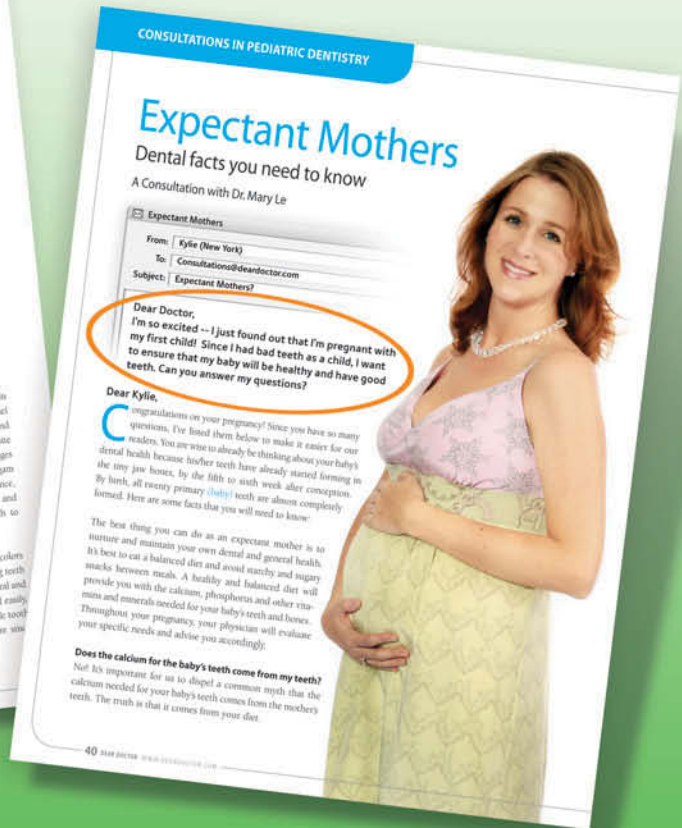
Pascal Magne, DMD, PHD

Dr. Pascal Magne is an Associate Professor of Esthetic Dentistry at the University of Southern California, School of Dentistry (USCSD). He graduated from the University of Geneva Dental School, Switzerland in 1989, obtained his Doctorate in 1992 and his Ph.D. degree in 2002. During this time, he completed his postgraduate training in fixed prosthodontics and occlusion, operative dentistry and endodontics. After two years of teaching and research at the U of Minnesota, Dr.

Magne returned to University of Geneva Dental School and assumed the position of Senior Lecturer in the Division of Fixed Prosthodontics and Occlusion until his departure for USCSD in February 2004. Dr. Magne authored the book *Bonded Porcelain Restorations in the Anterior Dentition - A Biomimetic Approach* which has been translated into eight languages and is considered one of the most outstanding books in the field of adhesive and esthetic dentistry. All of the laboratory work presented in this article was created by Dr. Magne.

The editorial content in this magazine is a forum for you and your family's dental concerns and is not influenced by commercial interests. No action should be taken based upon the contents of this magazine; instead please consult with your dental professional.

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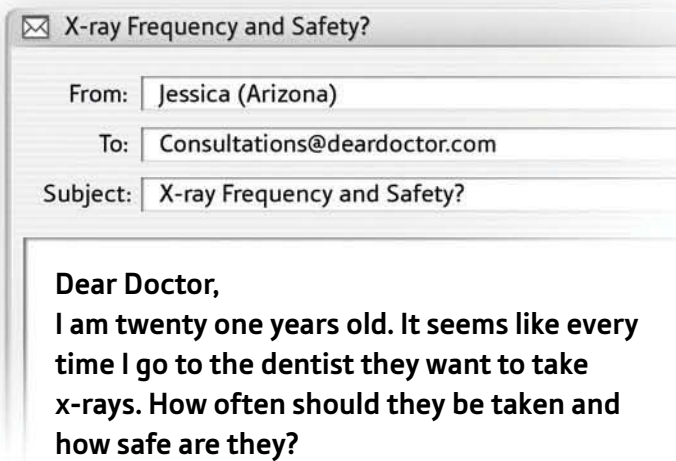
Dear
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X-ray Frequency and Safety

X-rays are safe and frequency depends on your dental needs

A Consultation with Jerry Peck, DLXT



Dear Jessica,

Thanks for this frequently asked and important question. First let's look at what "x-rays" are and why they're used. X-rays are a form of electromagnetic radiation, just like light, except they just have a much shorter wave-length. X-rays are a form of "ionizing" radiation which basically means they can penetrate body tissues which is what generally prompts concern. However it is just this property which makes them important diagnostic tools. They can penetrate soft tissues like skin and gums much more readily than hard tissues like bone and teeth causing different degrees of shadows. The shadows can be captured on film or digital receivers and are called radiographs (x-ray pictures). Because today's x-ray machines and image capturing techniques are so sensitive, the amount of radiation needed for diagnosis is negligible, almost next to nothing compared to what you get from every day background radiation.

First a little science: A millisievert (mSv), named after Dr. Rolf Sievert, famous for studying the biological effects of radiation, is the unit of measurement that allows for com-

parison of doses from different x-ray sources. We use this measurement to help determine what we call the effective dose (E), a way of calculating the safety factor of each x-ray exposure. Since we know our annual background exposure to natural x-radiation (all around us) is from 2 to 4.5 mSv, and more if you like to take airplane rides, we can then make a comparison to dental x-ray examinations.

Dental radiographs are completely safe; the average single digital periapical film (peri-around, apical-root end of a tooth) is equal to 1 microsievert (μSv) i.e. one thousandth of an mSv. For four bitewing radiographs, traditionally used to image the back teeth for decay (the little tabs you bite on are called bite-wings), the exposure is 4 μSv . The x-ray machines take images of only the necessary structures, so there is no scatter of the x-rays to other tissues. Your dentist may even take the precaution of making you wear a lead apron to shield the rest of your body.

A full mouth series of 18-20 radiographs (all the teeth) using "D" speed film is equal to about 85 μSv . "D" speed

Radiation Exposure Comparison Chart

Considering the average person is exposed to 2.0 - 4.5 mSv radiation a year, the amount of radiation received during dental x-rays is minimal.

Sources of Radiation		
Daily Environmental Exposure		0.01
1 Dental (Periapical) Film	0.001	
4 Bitewing Films	0.004	
18 - 20 Full Mouth Series Films "D" Speed		0.0085
18-20 Films "F" Speed	0.0055	
18-20 Films Digital	0.0039	
Digital Panoramic Radiograph	0.0018	
	0.005 mSv	0.01 mSv

A millisievert (mSv) is the unit of measurement that allows for comparison of doses from different x-ray sources.

film, long considered the gold standard in dental imaging, exposes the teeth to the "highest" radiation dose. Even with this, radiographs taken using "D" speed film equal just seven to ten day's background radiation. Today, most dentists taking a full series use "F" speed film or digital receivers. These receptors now equal the quality of "D" speed film and are much more sensitive to x-rays thus reducing exposure by as much as 80%. This means a full mouth series of radiographs taken with "F" speed film or digital receivers equal just a half day's background radiation.

How often radiographs are needed depends on your individual health needs. Your dentist will review your history, examine your mouth and teeth then decide whether you need radiographs and what type. For new patients, an overall screening is typically indicated using a very low x-ray dosage panoramic radiograph. As the name implies this gives a panoramic screening view of the head, neck, sinuses, jaw bones, teeth and more. It allows a determination of overall health status of all these structures and is used to detect hidden and importantly, "silent" conditions that don't cause symptoms (at least not until late stages) like cysts, cancers and of course tooth decay and gum disease.

After overall oral health and dental status have been preliminarily determined, more detailed images can be taken using smaller radiographs of individual teeth called periapicals, or bitewing radiographs for example. These routine pictures taken with a standard technique give your

dentist a multitude of information about tooth decay and periodontal (gum) disease (which results in bone loss), all imaged in great detail with extraordinarily little radiation.

Once your dentist has a track record with you and has made an evaluation of your individual risk for cavities or gum disease, he/she will be able to assess the interval and type of radiographs necessary to monitor you over time. At your age, it would not be uncommon for a dentist to recommend bitewing radiographs on an annual basis, but this will depend largely on your history, decay experience, number of fillings and many other factors which I am not party to.

You should discuss your concerns directly with your dentist and ask him/her to review them with you, you'll learn a great deal and probably feel a lot more comfortable when you have direct answers to your questions.

Sincerely,
Jerry Peck, DLXT

ABOUT THE AUTHOR

Jerry Peck, DLXT

Jerry Peck has been providing diagnostic images to the dental and medical communities for over 30 years. From 1972-1974, Mr. Peck received radiographic training at the University of the Pacific School of Dentistry. Mr. Peck is the CEO of a company which now consists of twelve imaging centers in both Northern and Southern California. His companies are considered leaders in both two and three dimensional imaging. He has lectured to the local dental societies and the dental communities of universities including, UCSF, UOP, UCSD and USC.

**IMPLANTS
OR BRIDGES**

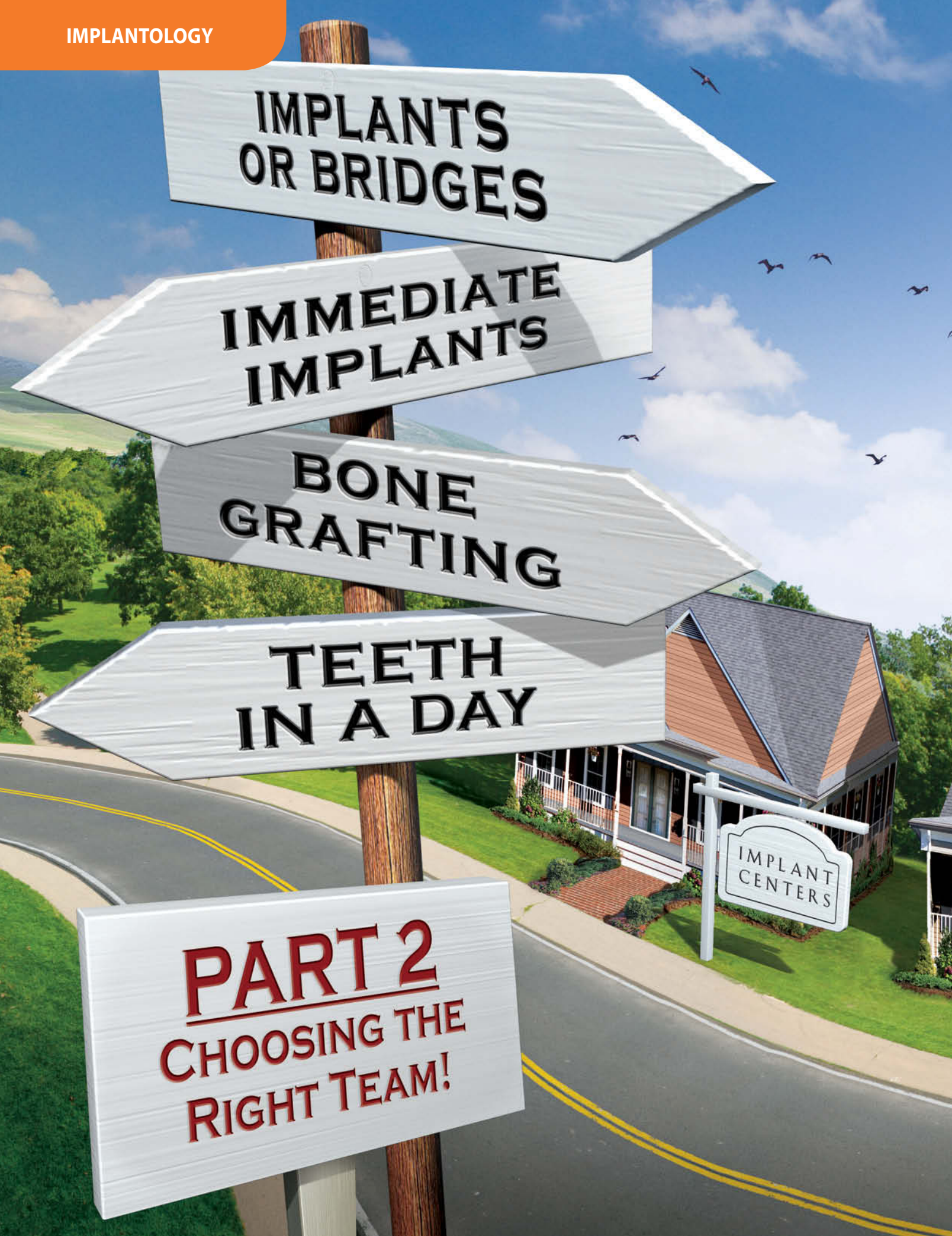
**IMMEDIATE
IMPLANTS**

**BONE
GRAFTING**

**TEETH
IN A DAY**

**PART 2
CHOOSING THE
RIGHT TEAM!**

**IMPLANT
CENTERS**



DENTAL IMPLANTS

Evaluating Your Professional Options for Care

by Cynthia Bollinger & Kathelene Williams-Turk, DDS

Millions of people throughout the world now have a better quality of life because of dental implants. Dental implants are the only tooth replacement option that preserves bone and doesn't compromise the health of adjacent teeth – and they can potentially last a lifetime. Implants are today's preferred choice for restoring your natural smile with replacements that look, feel and function like natural teeth.

In Part One of our series we discussed the problems that follow tooth loss – the loss of alveolar (tooth-supporting) bone, changes to the face and jaws – and the subsequent impact on personal and social well-being. Maintaining alveolar bone is necessary for proper tooth replacement with dental implants, which are state of the art dentistry. We also considered other tooth replacement alternatives and why implants, long term, are the most cost effective.

In Part Two, we'll discuss the most suitable dental health professionals for both placing implants and fabricating the teeth that attach to them. We'll also give advice on where to go – and why, as well as when and how to make these important choices.



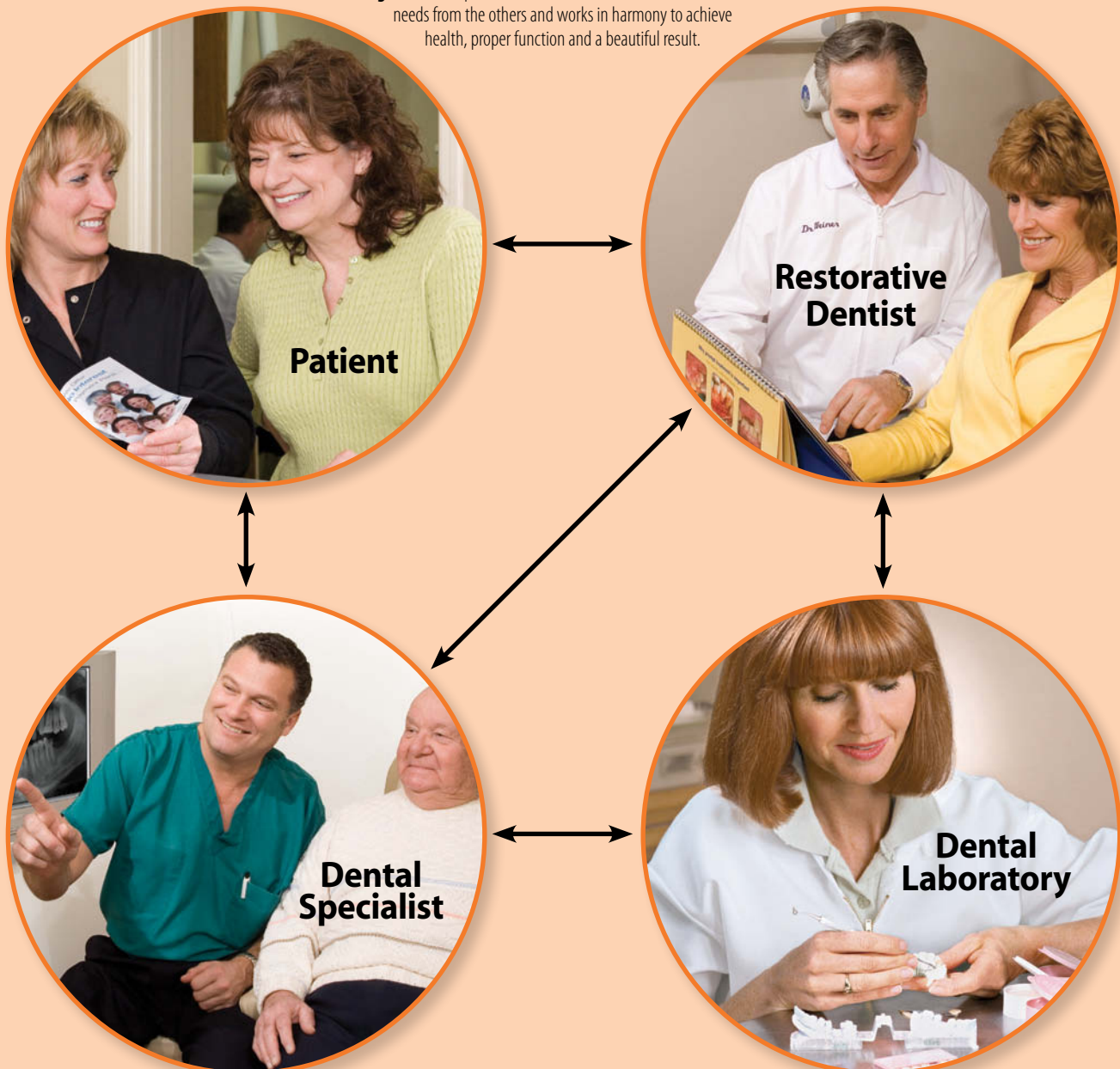
CHOOSING THE RIGHT DENTAL TEAM FOR SUCCESSFUL IMPLANT TREATMENT

What are the advantages of a team approach? Think of it this way: an experienced dental team is like a well-rehearsed and experienced orchestra – though each individual knows his particular instrument well, when they all play together in harmony with the other members of the orchestra, the end result is beautiful music [Figure 1].

Implants are normally placed by dental surgical specialists (*periodontists and oral surgeons*) and in some cases general dentists who have undertaken special training in implantology and surgery. Implant placement requires planning and involves collaborative efforts between the surgeon (*dental specialist*), restorative dentist (*general dentist or prosthodontist*) and dental laboratory technician who is responsible for building the crowns on successfully integrated implants.

THE SUCCESSFUL TEAM APPROACH

Figure 1: An experienced team understands what each member needs from the others and works in harmony to achieve health, proper function and a beautiful result.



**INSUFFICIENT BONE
- “REGENERATION” IN OUR
GENERATION**

Sufficient bone volume for implant placement is vitally important to proper tooth placement resulting in both the most natural-looking and properly functioning tooth. Today there is general scientific agreement supporting the concept that when a tooth is removed a bone graft placed into the extraction site will minimize inevitable melting away of bone or “resorption.” Maintaining “bone volume” following removal of a tooth will facilitate implant placement in the best possible position.

Understanding the principles of wound healing now allows for regeneration of bone to occur using a variety of techniques. Most include opening the gingival (gum) tissues to expose the bone and then augmenting the existing or remaining bone by adding bone grafting materials to it. Healing of the bone can be enhanced by the utilization of membranes which cover the grafts and act like little subterranean band-aids to “guide bone regeneration”. Along with other biologically active molecules (found normally in the body) these techniques promote and enhance healing. In addition, excellent techniques exist for replacing and adding gingival gum tissues [Figures 3-8].

These surgical procedures are generally carried out by a periodontist or oral surgeon skilled and experienced in these techniques, especially in advanced situations. When creating new bone for implant placement, particularly in the upper jaw where sinuses are involved and bone grafting is necessary, these procedures are more predictably carried out in the hands of a specialist or a general dentist who has taken special and advanced training.

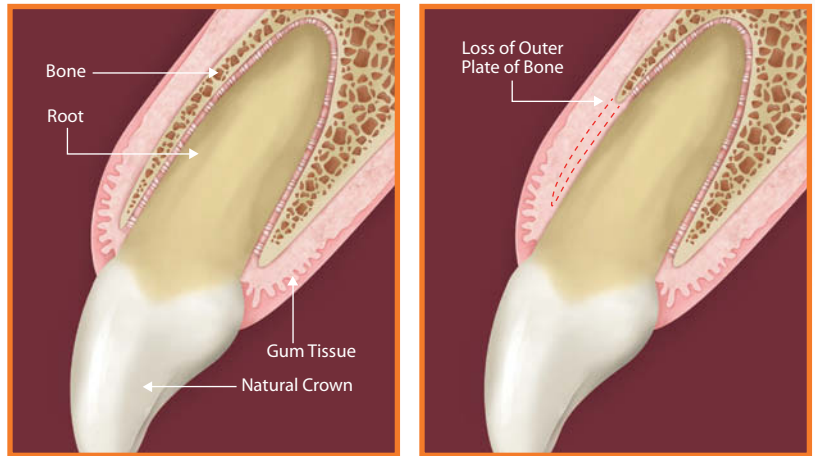


Figure 3 & 4: (Left) This illustration shows the normal anatomy in cross section of a tooth in the proper bone housing. (Right) This illustration shows an example of a tooth missing the outer plate of bone.

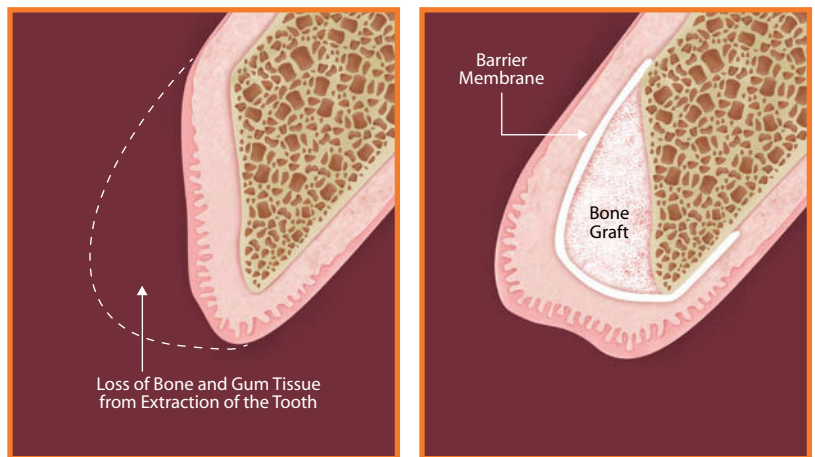


Figure 5 & 6: (Left) This illustration shows what happens when a tooth is extracted that is missing the outer plate of bone. Note the diminished bone volume which is too small for an aesthetically pleasing implant. (Right) This illustration shows how a ridge (bone graft) augmentation appears in cross section with a barrier that protects the graft.

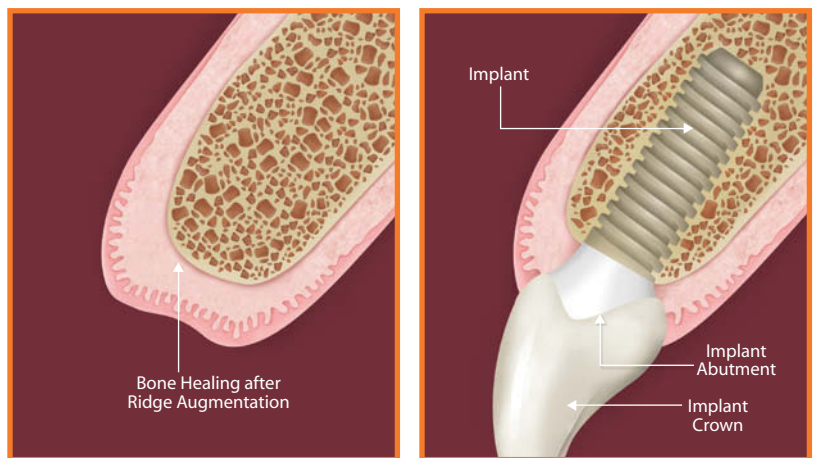


Figure 7 & 8: (Left) This illustration shows the repaired bone after 6-9 months of healing. (Right) This illustration shows the relationship of an implant and crown to the repaired bone.

Ask your dentist why over **3 MILLION** people are smiling!

If you are one of the thousands of people in the United States each year who have teeth extracted because of decay, periodontal disease, infection or trauma, **Bio-Oss®** and **Bio-Gide®** can help save your smile!

Bio-Oss® and **Bio-Gide®**, the natural system for bone regeneration, are the materials of choice by many of the nation's leading Dentists. Together, they are a safe and effective way to reduce the bone and gum loss that normally occurs following tooth extraction which often results in functional and cosmetic defects.

Ask your dental professional about **Bio-Oss®** and **Bio-Gide®**, the natural system for ensuring the function and beauty of your smile.



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IMPLANT PLACEMENT AND POSITIONING

Sometimes described as “top down treatment planning,” the teeth to be replaced are recreated in a wax model form by a dental laboratory technician. The idea is then to establish the position of the underlying bone and to make sure the implant(s) is properly aligned (down) with the wax tooth form (top). The implant position can then be predetermined using a combination of specialized radiographs (x-rays) and imaging technology to assure success and in the process avoid major structures like nerves and air sinuses [Figure 9].

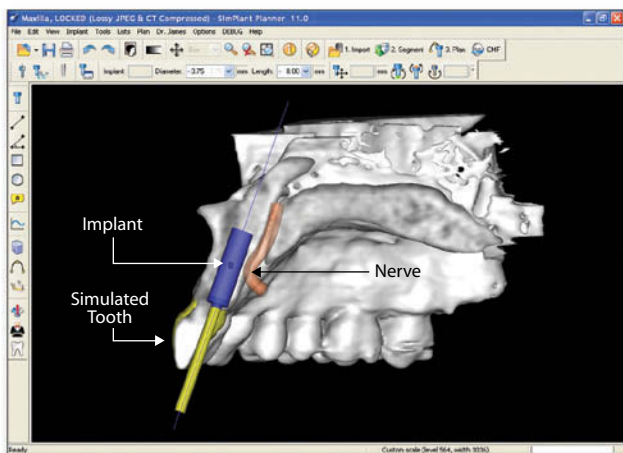


Figure 9: Using CAT scan technology, a dentist can verify that there is sufficient bone to place an implant in the right location for an aesthetically pleasing crown. (Photo courtesy of Materialise Dental Inc.)

From this information surgical guides are made to assist the surgeon in precise implant placement; this in turn will assure the restorative dentist (general dentist or prosthodontist) that a crown will fit in the right position. If the bite will not accommodate implant placement, orthodontic treatment (braces carried out by an orthodontist) may be necessary to reposition teeth.

This process is analogous to the scuba diving adage, “Plan the dive and dive the plan.” A lot of preparatory work goes into initially deciding where an implant is going to be placed long before the actual surgery.

Finally, even with all the appropriate diagnosis and preparatory work, it’s not a slam dunk – surgical know how does count. Surgical technique is in part an art, dependent

upon proper knowledge, training and experience that can take years to acquire. It really comes down to this: every expert is an artist in his/her own field. Working on his/her particular canvas with all the appropriate information and experience at hand, the surgeon creates a work of art using materials with which he/she is most familiar.

CROWN MANUFACTURE AND PLACEMENT

After the successful osseointegration (osseo – bone, integrate – join or fuse with) of the implant(s) to the jawbone your general dentist or prosthodontist (crown and bridge specialist), together with a skilled laboratory technician, will make a crown to fit on top of the implant that will precisely mimic a normal tooth both in form and function. Even this is not a simple task. It requires accurate record-taking and the transfer of this information to the dental laboratory for “abutment” fabrication (the part that fits into the implant and holds the crown in place). The crown of the tooth is then made of porcelain-like materials that look and function exactly like natural teeth. Implant success rates are extremely high and give patients many years of function and satisfaction.

TECHNICAL CHALLENGES

– AESTHETIC AREAS & “TEETH IN A DAY”

Achieving acceptable aesthetic results with implants is most challenging in highly visible areas like the front of the mouth, particularly in people who show not only teeth but the gum tissues as well. In these cases the whole tooth/gum tissue complex must be recreated including the papillae, the pink gum tissues that fill the triangular spaces between healthy teeth. It’s at this point where knowledge and experience really come to the forefront.

There is a lot of advertising about “teeth in a day” where implant results can seemingly be achieved in a lot less time. In the right circumstances where multiple implants replace missing teeth, and where crowns (the portion of the teeth you see in the mouth) can be attached to them in such a way as to prevent any movement, “teeth in a day” is a possibility. This is accomplished by “splinting” the crowns to multiple implants – a precise fitting splint that keeps them movement free. However, this still requires

Make A Lifestyle Improvement.

Implant dentistry is the most advanced therapy available to replace missing teeth.

Dental implants may offer you:

Improved health, enhanced appearance, greater self-confidence and a better quality of life.

Ask your dentist today about how dental implants may give you the closest thing to beautiful, natural teeth.



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multiple appointments for proper assessment, diagnosis and treatment-planning prior to “teeth in a day”. It also requires experience, great precision and care.

In some instances implants can be placed directly into extraction sockets and occasionally temporary crowns placed simultaneously. This also includes single tooth replacement, but stabilizing an implant in this situation is even more precarious and critical for success.

Our advice can be distilled to this: successful dental implant treatment can't be accomplished overnight and shouldn't be hurried. Anyone who is serious about dental implant treatment should first secure the services of well-trained and experienced dental professionals. Embracing this prudent route will greatly enhance the chances of a successful outcome.

QUESTIONS TO ASK YOUR DENTIST

Doctors who are actively involved in implant dentistry should be more than willing to provide patient testimonials and references, as well as before and after photos of their cases. Also, ask about membership in professional associations related to implant dentistry. It does not certify proficiency, but it is a statement of commitment to this growing area of dentistry.

- 1 If the doctor who is surgically placing the implants is an oral surgeon or a periodontist, they have had a residency program in surgical procedures as part of their training. Pose the following questions to assist you in selecting the right option for implant treatment:
 - How long have you been placing implants, and how many implants do you place each year?
 - Do you have before and after photos to show the results?

- 2 If a general dentist will be placing the implants, ask them the following questions about training:
 - How many surgical training courses have you taken?
 - Do you routinely attend continuing education courses on implants?

- 3 If your treatment plan requires procedures to enhance the final aesthetic and functional results, such as bone augmentation, ask how many of these procedures the doctor has performed.

ABOUT THE AUTHORS

Cynthia Bollinger



Ms. Bollinger has been a consultant in the dental implant field for over 22 years. She is the founder and director of the Institute for Dental Implant Awareness (IDIA), a non-profit consumer education organization that provides objective, comprehensive information about dental implants and missing teeth. The IDIA publishes patient education materials and visual aids on dental implants developed

by Ms. Bollinger. She also developed the Standard of Care program with the IDIA Advisory Board and their legal consultant, Art Curley.

Kathelene Williams-Turk, DDS



Dr. Williams-Turk graduated from University of Colorado School of Dentistry in 1990. She completed a general practice residency at the Denver General Hospital, Colorado and Sepulveda VA Hospital, Sepulveda, California. She opened a satellite dental clinic for the VA in Bakersfield. Dr. Williams-Turk has been practicing general and implant restorative dentistry

since 1994 in Southern California. She is on the Institute for Dental Implant Awareness Advisory Board.

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FREQUENTLY ASKED QUESTIONS (FAQ)

1 Where should I go to start the process of considering dental implants?

The time-honored starting point is your general dentist, the professional on the front lines who is in the best position to preliminarily assess all your dental needs. It is then his/her responsibility to refer you to the appropriate specialists who, in the context of a team, can help you make the right choice for your health, appearance and well-being.

2 What is the responsibility of a dentist when you visit his/her office?

Every licensed dentist is responsible for a complete examination of your oral and dental condition even outside the confines of his/her specialty if they are dental specialists. They are also responsible for communicating their findings and your treatment needs to you. Any dentist, whether a general dentist or specialist, has to first examine your overall oral and dental condition, even if they only want to place implants. It is their medical and legal responsibility.

3 How do I know if my general dentist is qualified to do dental implants?

Your general dentist is responsible for diagnosing and maintaining your overall oral health. With so much new knowledge and science to keep up with he/she may have varying levels of knowledge in specialty areas like implants. You have to do your due diligence. Trust is the most important aspect of the doctor/patient relationship. If you're not comfortable you must ask the necessary questions to assure you are.

4 What should I know and be told before I undertake dental implant surgery?

Your dentist or specialist is required to review an informed consent procedure. This is to establish that you have been told and are comfortable with all the risks, benefits and alternatives of the procedure(s) being recommended. You will be asked to sign an informed consent form, a copy of which becomes part of your medical record together with a copy for you.

5 Implant "Super Centers" have been opening in my area advertising that they are the experts in dental implant treatment. What about them?

This new concept is based on the premise that if the surgical specialist, the restorative dentist and the dental laboratory technician are under the same roof, implant treatment is more "convenient" for patients. While it is more convenient to have treatment completed in one location, the most important consideration should be whether or not the implant center has doctors with the experience and skill to provide the best possible aesthetic and functional results for each individual patient. When considering a procedure that involves surgery and impacts overall health, appearance and well-being, expertise should outweigh convenience. Avoid the traps of advertising hype by asking the right questions.

6 Can you tell me more about "teeth in a day" advertisements?

Some implant centers advertise "teeth in a day," implying that anyone can get their replacement teeth in one day, or even in just an hour. Unfortunately, relatively few patients are candidates and the advertising creates false expectations for the typical dental implant patient. The fact is that even the patients who qualify for this procedure do not actually receive their replacement teeth in one day. There is preliminary diagnostic work that is necessary prior to the "day" that they have treatment. And it's a very long day, for those that do qualify.

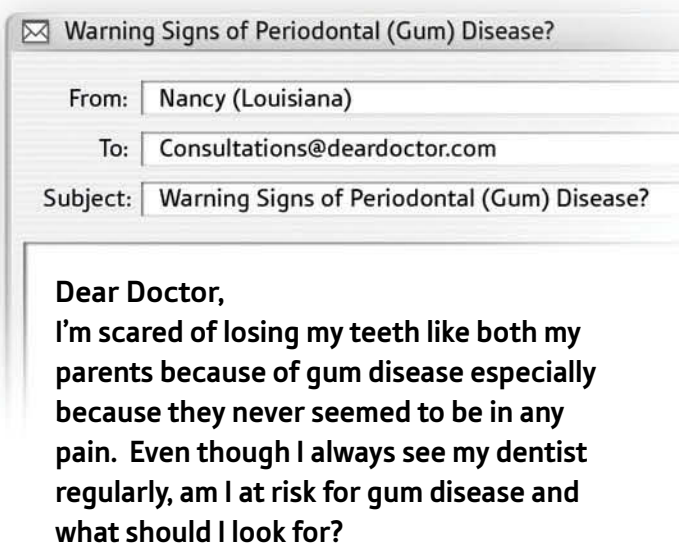
7 There are general dentists and prosthodontists who promote that they provide both the surgical and restorative aspects of dental implant treatment themselves. Is this OK?

It is important for you to determine – and for them to tell you – whether they are dental implant specialists or not. If they do decide to do implants, they must have taken extra training to be proficient in implant treatment as required by law to treat to the same standard as specialists. It is their responsibility to tell you that you have the right to see a surgical specialist if you prefer.

Warning Signs of Periodontal (Gum) Disease

Don't wait until it's too late

A Consultation with Dr. Todd Jones



Dear Nancy,

This is an important question; generally speaking periodontal (gum) diseases (peri-around, odont-tooth) are chronic diseases and sometimes described as silent - silent in the sense that they don't cause any symptoms that might be readily associated with disease or a problem.

For example a lot of people get **bleeding gums** when they brush and erroneously think they're brushing too hard or it's normal. But actually any bleeding of the gum tissues is not normal and should be considered a warning sign of gum disease. You'd actually have to brush quite hard and damage healthy tissue in order to get bleeding. Gum tissues bleed because of dental (bacterial) plaque or biofilm, caused by inadequate daily oral hygiene practices. When left around the gum line for prolonged periods of time, anywhere in excess of twenty four hours or more, the gum

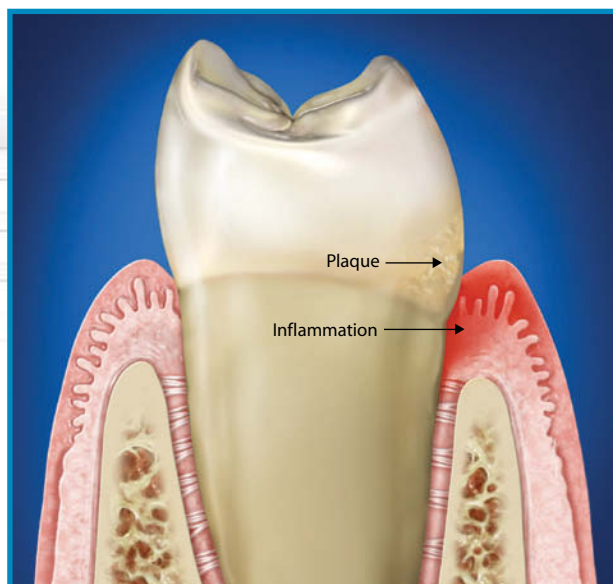


Figure 1: Gum tissues bleed because of dental (bacterial) plaque or biofilm, caused by inadequate daily oral hygiene practices. You might notice a redness of the gum tissues at the gum line and this may also appear as slight swelling.

tissues respond by becoming inflamed – this quite rapidly becomes a chronic inflammation [Figure 1].

Chronic inflammation, or as it is sometimes called “frustrated” healing, results from persistent inflammation because the bacteria are still present and continue to perpetuate the inflammation.

For some people this chronic situation may minimize gum tissue breakdown, but for those prone to periodontal disease, the inflammation may win over the attempts at healing. The tissue attachment to the teeth (the ligament or membrane that connects the teeth to the bone) “unzips” for want of a better expression, creating pockets of infection. As bone is slowly (chronically) lost around the teeth, if left unchecked it will ultimately lead to tooth loss. It's actually a little more complicated, but this gives you the general picture.

While bleeding gums is often a first warning sign, **bad breath** is one of the most common signs especially for those who hate or refuse to floss. Plaque just loves to collect in the protected areas between the teeth making them especially prone to gum inflammation.

That leads to the next sign, if you're really looking you might notice a **redness of the gum tissues**, at the gum line. This may also appear as slight **swelling of the gums** and in time this might lead to **receding gums** especially if the tissues are thin. Some people may experience varying degrees of **sensitivity of the gum tissues** when they brush, or if there is recession the exposed roots may be sensitive to hot or cold.

As this silent disease progresses over time, maybe years, bone loss will cause **looseness of the teeth, movement or migration** into a new and unstable position, and ultimately tooth loss. The rate of progression will depend on the particular type of periodontal (gum) disease you have. That's where the genetic aspect comes in since you inherit disease resistance factors from your parents. It is possible to test for "genetic susceptibility" to periodontal disease today and to assess your risk factors.

Sometimes dental plaque (bacterially) caused gum diseases change in nature and become "acute". That means they are no longer silent but become suddenly painful and sore. This is usually when a **periodontal abscess** develops which I'm sure you read about in the last issue. When bacteria get walled off inside a periodontal "pocket" the body's defenses get overwhelmed - a little localized war ensues between the bacteria in the pocket and the body's defense mechanisms. This results in a localized collection of pus and extra bone loss - and then it's not silent anymore - you'll know because the area becomes **painful, swollen, red and may even discharge pus**.

So there you have it, these are the most common warning signs and symptoms. It's also important to note that you

can have periodontal disease with no easily recognizable warning signs, especially if you are a smoker because smoking tends to mask the effects of gum disease.

But it really does sound like you're doing the right thing. Unquestionably a family history of gum disease may put

Bleeding of the gum tissues is not normal and should be considered a warning sign of gum disease.

you at greater risk for periodontal (gum) disease, but that doesn't mean that it's inevitable. Regular dental checkups, excellent oral hygiene techniques like brushing and flossing and good general health (good nutrition, not too much stress and not smoking) will keep

you on the road to healthy teeth for a lifetime, just like they're supposed to be.

Don't wait until it's too late. For further questions or concerns be sure to see your general dentist or a periodontist (a dentist who specializes in the diagnosis and treatment of disorders of the periodontal tissues – the gums, periodontal membrane and bone connecting the teeth to you!)

For further information visit the American Academy of Periodontology website www.perio.org.

Sincerely,
Todd Jones, DMD, FCDS

ABOUT THE AUTHOR

Todd Jones, DMD, FCDS

Dr. Todd Jones graduated from the dental school at the University of British Columbia in 1990. He served as a Captain practicing dentistry in the Canadian Armed Forces until 1993 when he left the service to return to the University of British Columbia to pursue specialty training in the field of Periodontics and Implant Dentistry. He graduated in 1995 and successfully completed the National Specialty Examination of the Royal College of Dentists and the Provincial Specialty Examination of British Columbia to qualify as a Board Certified Specialist. He holds a Fellowship with the College of Dental Surgeons of British Columbia. Dr. Jones has lectured throughout North America on subjects in Periodontics and Implant Dentistry.

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Signs and Symptoms of a Future Root Canal

Why evaluations are needed!

A Consultation with Dr. Jamshid Faghih

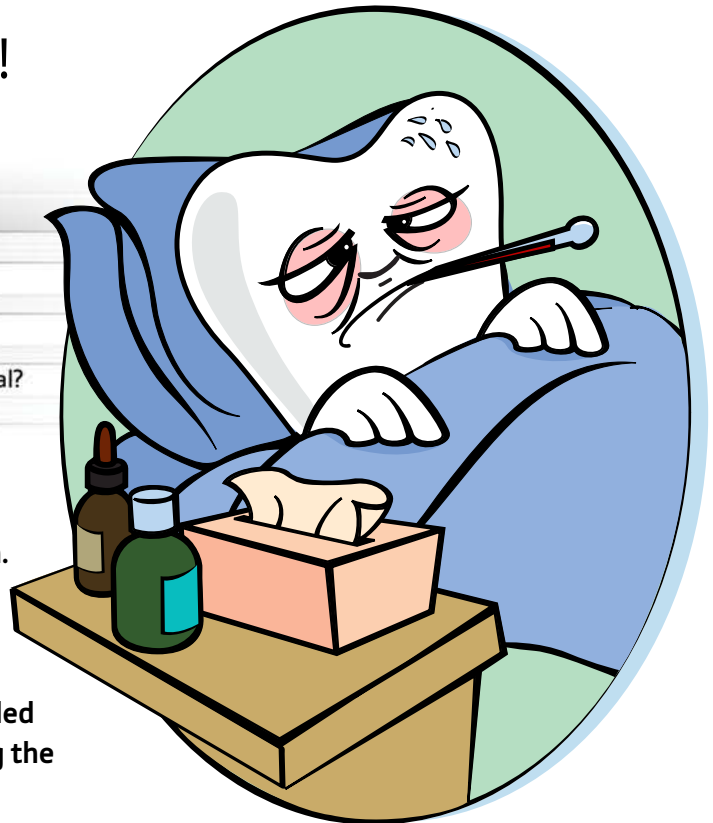
✉ Signs and Symptoms of a Future Root Canal?

From: Janet (Illinois)

To: Consultations@deardoctor.com

Subject: Signs and Symptoms of a Future Root Canal?

Dear Doctor,
 Two months ago I had a tooth prepared for a crown and one week later, I had horrible pain. Ibuprofen helped a little, but after a few weeks the pain was completely gone. Is it possible that the nerve is healing in the tooth and that I do not need the recommended root canal treatment? Also, I am still wearing the temporary crown, will that wear out?



Dear Janet,

You are describing exactly what happens when deep decay in a tooth reaches the “pulp chamber” or root canal in a tooth. It is not uncommon when teeth also have large fillings, and the fillings break down or decay around their edges or margins.

Once the pulp gets infected, i.e. the living tissue inside the tooth dies, including the nerves – that’s when the pain as you described it, is “horrible” or what we call acute. Acute pain comes on very quickly, is very intensely painful and then goes away fairly quickly after two or three days, as opposed to chronic

pain which lasts a lot longer. Acute pain from a root canal infection can be excruciating. Because it is inflammatory in nature, anti-inflammatory drugs such as ibuprofen are somewhat helpful, but sometimes stronger medication is needed which needs to be prescribed by your dentist or endodontist ([root canal specialist](#)).

When all the tissue in the pulp chamber dies, including the nerve, the pain may go away (temporarily), but the infection doesn’t.

When all the tissue in the pulp chamber dies, including the nerve, the pain may go away (temporarily), but the infection doesn’t. It slowly travels through the end of the root and into the bone – so now you feel it slightly when you bite

on the tooth. This secondary pain is transmitted through other nerves that live in the periodontal ligament (peri- around, odont-tooth), the lining membrane which joins the tooth to the bone. If left untreated you may either develop an acute (painful) abscess or a chronic abscess – a more longstanding and silent infection, silent means that you might not feel it at all. So it really is time for a root canal treatment, just as the endodontist suggested. If the nerve has died, the treatment won't hurt and it will certainly save the tooth.

As for your question about a temporary crown, yes it will wear out – it is after all temporary. Once the root canal treatment is completed a permanent crown will protect the tooth. My advice is to go and get the root canal treatment and final crown without delay. Hope this explains what you've been feeling and what you need to do.

Sincerely,
Jamshid Faghiih DDS, MDS

Questions to ask your dentist

- Is it possible for my tooth to recover without a root canal?
- If so, what can I do to allow the nerve to heal?

ABOUT THE AUTHOR

Jamshid Faghiih DDS, MDS

Dr. Faghiih graduated from the University of Pittsburgh, School of Dental Medicine with a degree in Endodontics and Master's Degree in Dental Science. He was a part-time faculty member at the University of Pittsburgh, School of Dental Medicine. Dr. Faghiih is an active member of the American Academy of Endodontology and the Washington State Society of Endodontists. He is also a proud member of the American Dental Association, Washington State Dental Association, and Seattle King County Dental Association. Dr. Faghiih has 15 years experience in dentistry of which 11 years have been focused on Endodontics.

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Patient

BRITTANY'S PROBLEM

A Patient's Desire For Implants Without Adequate Bone

Dedicated by the Alumni Class of 1977 of the Periodontics and Periodontal Prosthesis Post-doctoral Program, University of Pennsylvania, as a tribute to Dr. Morton Amsterdam and Dr. D. Walter Cohen.

Each article in *Patient Care* will highlight the unique role of the “Doctor/Patient” relationship and how the specialties of dentistry converge in assessing, planning and managing your care. We will explore individual situations and problems - from both your perspective as a patient, and ours as doctors. As we journey together to understand how dental and oral health problems are transformed by state-of-the-art dentistry, you will witness beautiful, functional and long lasting results.

PATIENT'S CONCERNS – IN BRITTANY'S WORDS

“My name is Brittany and I have been concerned about my smile for a number of years now. I have finally reached a stage in my life where I just want to be able to smile and laugh without being self-conscious. I lost a front tooth in my early twenties following a car accident and I have been wearing a removable partial denture ever since. I just feel sad when I want to smile and have to take my teeth out at night. I have been hearing a lot about dental implants and wonder if they will work for me. My family dentist told me that something better could be done, but I would need to consult with a specialist because I had lost too much bone to have an implant. He told me he would send me to see someone who he trusted and with whom he would work closely.”



Care

Dear Doctor's Patient Care section is dedicated to Dr. Morton Amsterdam and Dr. D. Walter Cohen honoring their pioneering vision and life's work. Their influence continues to shape successive generations of dentists to aspire to excellence in contemporary dental care.

How multiple disciplines in dentistry plan and manage your care!

DOCTOR'S PERSPECTIVE

General Dentist: Brittany had been a regular patient for many years and had been unhappy with her smile since losing a front tooth in her twenties. The trauma not only resulted in the loss of her tooth, but also damaged the gum and underlying bone. She was wearing a removable partial denture to provide support for her lip as well as replacement of the missing tooth, bone and gum tissue. She wanted a permanent tooth replacement that would allow her to smile and improve her self-confidence. Brittany needed to consult with a periodontist, a dentist who specializes in the diagnosis and treatment of disorders and diseases of the supporting structures of the teeth - the gums and bone.

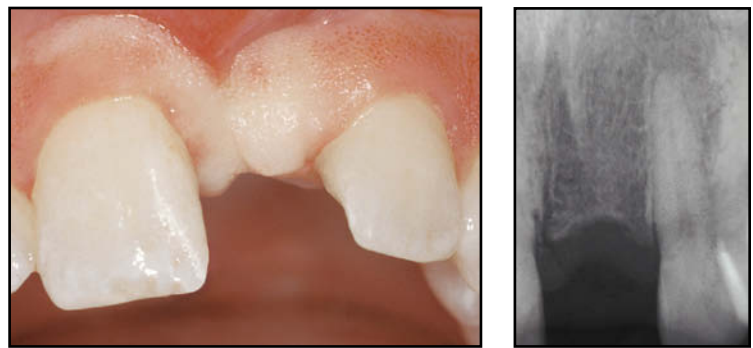


Figure 1 & 2: (Left) This photo shows an extraction of a tooth that is missing the outer plate of bone. The bone volume is too small for an aesthetically pleasing implant. (Right) This x-ray shows that the vertical component of bone is excellent, but also demonstrates the limitation of a two-dimensional x-ray as we know that there is insufficient bone horizontally.

Periodontist: A complete evaluation was performed and included a medical history, a comprehensive clinical examination and a head, neck and oral cancer examination all of which were normal. As the result of the accident she lost her left upper front tooth, creating a significant bone and gum tissue deficiency [Figure 1]. The partial denture provided a service by maintaining the correct space for a properly sized tooth replacement although it caused some deterioration of the bone and gums. A dental radiograph (x-ray) shows that the amount of bone was acceptable vertically but our exam revealed insufficient bone horizontally [Figure 2].

A CT scan (x-ray) is used to reveal in "3D" exactly how much tissue has been lost and how much bone is needed to provide support for a dental implant.



BRITTANY'S SOLUTION

COORDINATED TREATMENT PLANNING

Teamwork between a general dentist and a specialist is critical for a successful result. Brittany's options were discussed and the best choices for treatment were evaluated and presented to her for approval. The treatment plan included: sequencing and co-ordination of the treatment – who does what and when and the amount of time and the costs involved.

THE TREATMENT PLAN

The periodontist's role was critical because without bone regeneration a dental implant was not possible. Implants were her best option because they don't decay and don't involve the adjacent teeth. The tricky part is creating great esthetics by making the implant look natural [Figure 3].

There are two options for placing the implant:

- A)** A "One-Stage" implant with an immediately placed temporary crown on the same day or;
- B)** A "Two-Stage" or "delayed" crown placement.

Step 1 – Periodontist: Restoring Brittany's smile required a surgical procedure known as a "ridge augmentation" to first enhance the volume of bone [Figure 4]. This procedure is technique sensitive but when executed well can dramatically enhance the ability to replace missing teeth with great implant results. After 7 months of healing, the implant can be placed.

Step 2 – Periodontist: With sufficient bone volume recreated, an implant could then be successfully placed [Figure 5]. A "one" stage implant has an increased potential for failure because once an immediate crown is attached to the implant it is more difficult to stabilize it in the bone. The decision was therefore made to place a safer and more predictable "two" stage implant. The time for implant healing is two to six months following placement. Correct implant placement was ensured by using a surgical guide that was developed from the patient's CT scan image.

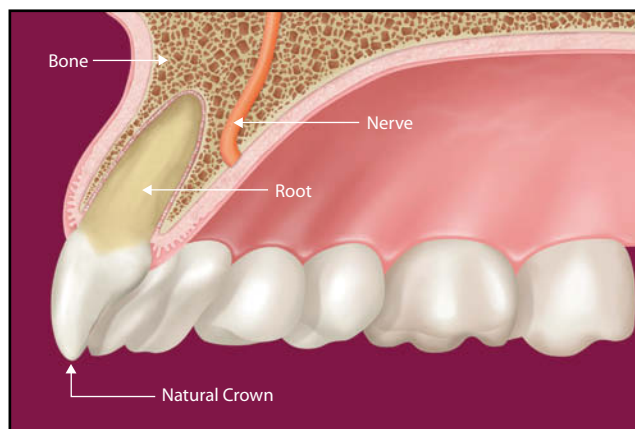


Figure 3: This illustration is an example of the information a CT scan image will provide showing the normal relationship between a tooth, the bone and the gum tissue.

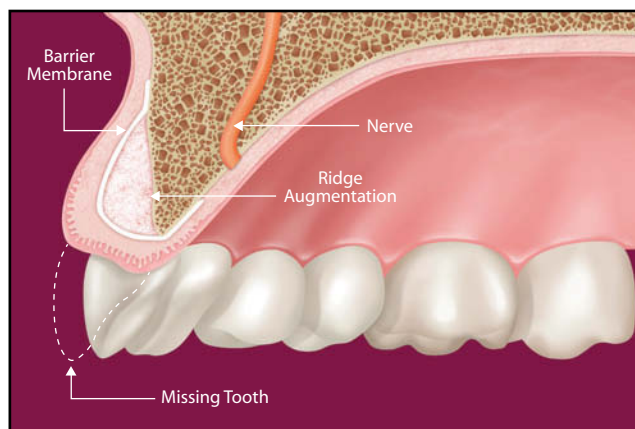


Figure 4: This illustration is an example of what a CT scan will show when inadequate bone is present. It also shows what a ridge augmentation surgery would look like after a bone graft and "barrier" membrane is used to regenerate lost bone.

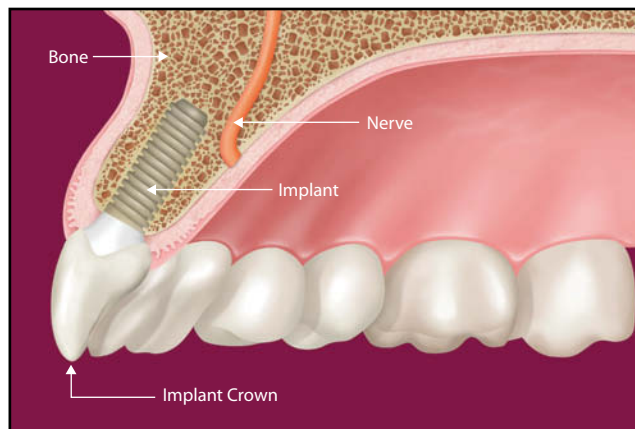


Figure 5: This illustration shows the successful completion of a ridge augmentation creating adequate bone for a dental implant. Dentists can use this information from a CT scan to design a surgical template for accurate implant placement.

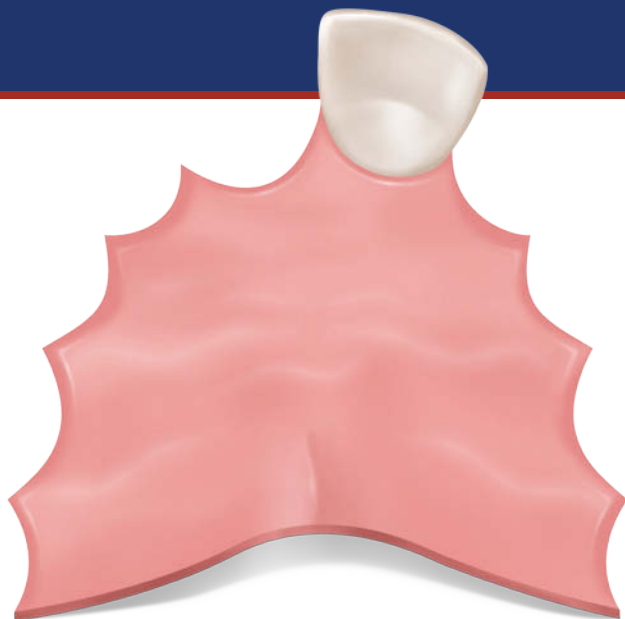


Figure 6: This illustration shows how a removable partial denture can replace one front tooth. Note that the palate is covered by plastic to obtain enough retention to stay in place during use.

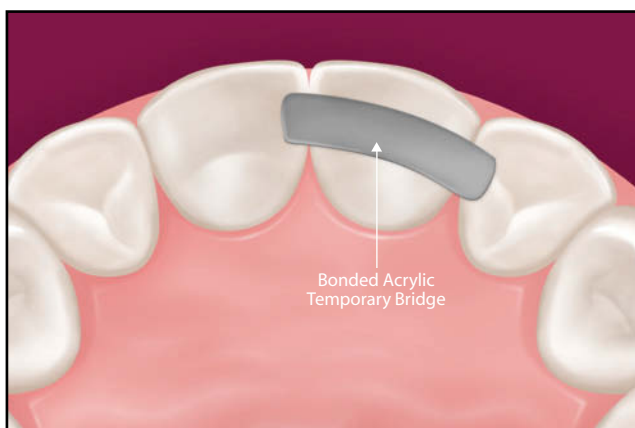


Figure 7: This illustration shows a bonded acrylic temporary bridge replacing a front tooth - convenient and trouble free.

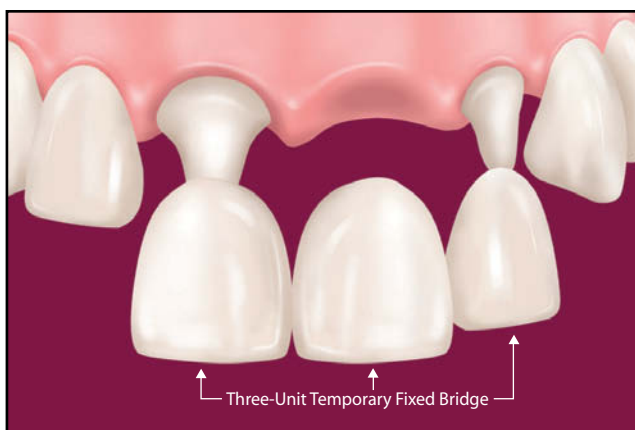


Figure 8: This illustration shows a temporary fixed bridge. This option is only available when the adjacent teeth need crowns and when a fixed bridge is not the treatment choice.

TEMPORARY TOOTH REPLACEMENT OPTIONS

Step 3 – General Dentist: For a delayed implant placement, there are three different temporary tooth replacement options to consider:

1) A removable partial denture – the advantages include: easy to make, inexpensive and can be easily removed for cleaning and hygiene. The disadvantages are that it covers the palate, creates food stagnation under it and it may be unstable during function making the user self-conscious. However, for Brittany the choice of a removable partial denture was not possible because any movement following bone regeneration surgery could compromise new bone formation necessary for a successful implant [Figure 6].

2) A bonded acrylic temporary bridge – generally a plastic tooth is chosen that is the size, shape and color of Brittany’s adjacent teeth. This plastic tooth is “bonded or glued” to the adjacent natural teeth. The advantages of a bonded bridge are: it is semi-permanent, doesn’t damage adjacent teeth or cover the palate. The disadvantages include: the bonding can break if something hard is chewed, it must be removed during surgery requiring re-bonding and also additional expense may be incurred especially if repair is necessary [Figure 7].

3) A temporary fixed bridge – used only in cases where adjacent teeth already have crowns. For natural “untouched” teeth with no need for crowns, this is not a good option [Figure 8].

In Brittany’s case, a bonded fixed tooth replacement was chosen to replace her missing tooth because it would apply no pressure on the healing surgical site [Figure 7].

BRITTANY'S FINAL RESULT

FINAL RESULT

Step 4 – Periodontist & General Dentist:

After three months of healing below the gum tissue, the implant was exposed and the bonded temporary tooth was replaced with a temporary crown attached to the implant. Following healing, the general dentist achieved an excellent result when he placed the permanent crown on the implant, matching the adjacent teeth exactly (Figure 9). An x-ray of the implant and the final crown (Figure 10) shows the bone attaching to the implant and the implant-crown intimately fitting together.



CONCLUSION

The collaborative effort between periodontal surgeon, restorative dentist and laboratory technician is critical to the final result. If the surgeon does not place the implant in the correct position, the general dentist cannot achieve the desired result. If the general dentist does not establish the natural shape and size of the patient's tooth form, the cosmetic result as well as the long term health of the implant can be compromised. Special recognition must also be given to the laboratory technician as a team player for his artistry involved in recreating a life-like tooth. Dental healthcare professionals working in harmony with 21st century know how and technology can recreate beauty, function and long term health.

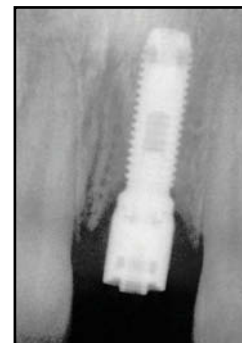


Figure 9 & 10: (Top & Left) This photograph shows Brittany's beautiful smile and a clinical closeup showing the normal appearance of her implant and gum tissue. (Right) The x-ray shows the implant and bone tissue relationship.

“While there may be many different ways to treat a patient, there can only be one correct diagnosis.”

Dr. Morton Amsterdam

ABOUT THE AUTHORS

Dr. Ira Eisenstein, Dr. David Garber, Dr. Josef Goultschin, Dr. Richard Levitt, Dr. Alan Morris, Dr. Steven Potashnick, Dr. Garry Rayant, Dr. Ed Rosenberg, Dr. Alan Rosenfeld, Dr. Michael Schacter, Dr. Nathan Shapiro, Dr. Mark Snyder and Dr. Mario Vilardi.

The Class of 1977, Periodontics and Periodontal Prosthesis Post-doctoral Program, University of Pennsylvania.

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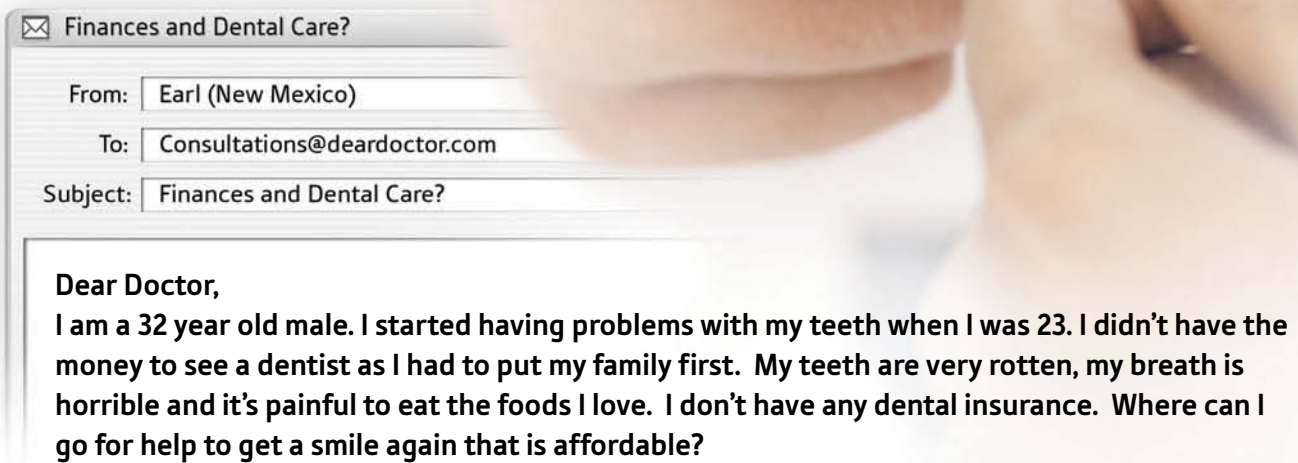
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Finances and Dental Care

A strategy and plan of action for people with financial limitations

A Consultation with Dr. Allen Wong



✉ Finances and Dental Care?

From: Earl (New Mexico)

To: Consultations@deardoctor.com

Subject: Finances and Dental Care?

Dear Doctor,

I am a 32 year old male. I started having problems with my teeth when I was 23. I didn't have the money to see a dentist as I had to put my family first. My teeth are very rotten, my breath is horrible and it's painful to eat the foods I love. I don't have any dental insurance. Where can I go for help to get a smile again that is affordable?

Dear Earl,

Unfortunately I hear this from too many people and from those that don't have insurance, especially in these tough economic times. Here are some pointers for you and others in similar situations:

First, you can begin to take charge of your oral and dental health, by good preventive strategies and practice.

That means good daily oral hygiene, removing dental (bacterial) plaque, the soft whitish sticky film that collects at the gum line in the absence of effective daily oral hygiene habits. Dental plaque is the primary cause of the two major dental diseases, dental caries – tooth decay, and periodontal (gum) disease.

Second, you can empower yourself by addressing your

diet and nutrition. Oral health and general health are intimately related; in fact many argue that they are one and the same. You may review *Dear Doctor's* feature articles on "Dental Decay" and "Nutrition and Oral Health", the basics of which are to empower you to help yourself, your family and your friends in a way that you may never have considered before.

All these "Self Help" strategies and practices encompass the basics of prevention and health maintenance.

A relationship has been shown between periodontal (gum) disease and systemic (general body) disease, particularly diabetes and cardiovascular (cardio-heart, vascular-blood vessel) disease so its also a good idea to see your physician and get a physical exam.

You can empower yourself by addressing your diet and nutrition.

For those who are unfortunately struggling to fix broken teeth and smiles, these measures will go a long way to halting dental disease progression, and in fact ensuring that dental treatment, fillings, crowns and periodontal surgery last for a long time.

Third, there are a number of options you can consider pursuing to get treatment. You should seek out a dentist who you feel comfortable with – let him/her examine you so that they can come up with a plan of action to repair what dental problems you have and let you know how much it may cost. The dentist should consider your financial concerns and stage your treatment to address the immediate concerns of pain and arresting dental/ periodontal disease first. If you are not satisfied with the answers to your questions, do not be afraid to get another opinion.

Most all dentists will make some kind of financial arrangement with you to pay over time or finance your care through a specially designed “third party” financing. Your employer may consider covering you with dental insurance or starting a cafeteria plan where a portion of your earnings are set aside to pay for dental/medical care and which are then not taxable.

There are a variety of other ways to reduce costs of care including going to a local dental school/university where care usually costs less and where you will be treated by dental students under supervision. These are a few of the many options. Chances are the longer you put things off, the worse they'll get and the more expensive they will become, so at least get an evaluation and consultation. Once your dental health is stable, prevention is the most cost effective way of maintaining your oral and dental health. Hope this helps and good luck.

Sincerely,
Allen Wong, DDS

ABOUT THE AUTHOR

Allen Wong, DDS

Allen Wong, DDS - Arthur A. Dugoni School of Dentistry, University of Pacific, Assistant Professor and directs the Hospital Dentistry program for medically compromised patients, those with special needs and dental fear requiring general anesthesia. He is a diplomate of the American Board of Special Care (Hospital) Dentistry; a fellow of: American College of Dentists, International College of Dentists, Academy of Dentistry International, Pierre Fauchard Academy; World Congress of Minimally Invasive Dentistry; Special Care Dentistry Association, and American Academy of Developmental Medicine and Dentistry.

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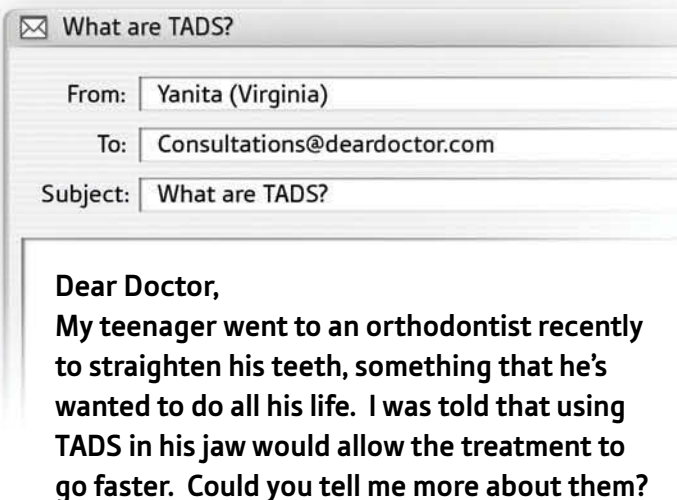


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What are TADS?

Transitional mini implants to help move teeth more quickly during orthodontic treatment

A Consultation with Dr. Mark Yanosky



Dear Yanita,

Thanks for your question. TADs – Temporary Anchorage Devices, which comprise mini-screws and mini-implants are a new technology used to more accurately control the movement and positioning of teeth and reduce time of orthodontic treatment ([orthomovement, dontic-teeth](#)).

But first a little background to help make sense of the whole issue. Orthodontic appliances, commonly known as “braces” describe the small brackets that are placed on teeth through which small flexible wires are threaded. These small wires put light forces on the teeth; the wires tend to straighten themselves to their undistorted forms and consequently “move” the teeth with them. The reason the teeth move is due to the nature of the tissues that make up the “periodontal ligament complex”. They are living, constantly changing and “remodeling”. The periodontal ligament is elastic ([movable](#)) – there is micro-movement of the teeth all the time even with biting forces. Fibers of

the periodontal ligament insert into the teeth through a substance called cementum and on the other side into the bone. When a light force is placed on a tooth on the “tension” or pulling side, new bone, ligament and cementum are formed. On the pressure side, cells will remove bone and ligament to allow the tooth to move. It is akin to pushing a stick through sand - sand accumulates behind the stick and is pushed away in front of the stick.

“Anchorage” in orthodontics can be defined as the resistance to tooth movement, just like an anchor on a boat is used to stop it moving. Anchorage comprises teeth or groups of teeth designed to be immovable, which are used to apply forces against - thereby moving only the mal-positioned teeth into better position. The problem is always to avoid the anchor units from moving. It's like having a bunch of kids on roller skates pushing against a single kid on roller skates. If the bunch is big enough, only the single kid will move – anchorage is like an uneven tug of war.

Now, the situation can be made much simpler if the anchor units themselves are immovable. Take the skates off the group of kids and there's no way the one on roller skates will ever win that tug of war no matter how big he/she is. Enter TADS - Temporary Anchorage Devices - non-moveable devices that can be strategically placed to allow forces to be applied to move the teeth that need moving without compromising the position of teeth that don't need to be moved.

Orthodontics can be made much simpler if the anchor units themselves are immovable.

TADS consist of mini-screws or mini-implants that are temporarily placed into the bone of the jaws to be used as non-mobile anchor units to facilitate tooth movement - and which can then be removed once they've done their job. They are quite small, can be placed using simple local anesthesia (numbing shots in the area) and involve extraordinarily minor discomfort.

They are retained by the mechanical locking or meshing with bone around them, not fusion to bone as with regular dental implants. They are "self tapping" (just like tiny screws) and are placed with a minute driver. TADS have very close bone to screw contact which is critical to their stability. They are lower in cost and easier to place than traditional dental implants, requiring no waiting time and are simple to remove.

They can basically be used to correct both skeletal (jaw) position and dental (tooth) position discrepancies - within reason.

Dental radiographs (x-rays) are used to survey the tooth root position adjacent to the area of TAD placement to make sure there are no vital structures in the path like nerves or sinuses. Wherever possible the TADS are placed through gum tissue into bone (sounds terrible, but really isn't - no worse than a little pressure when the area is numbed). It is important that they are stable and kept clean either by swabbing with antibacterial rinse or brushing daily.

Orthodontists who will be using these devices have the clearest understanding of where they should be placed. Oral surgeons, periodontists and some general dentists who have undertaken specialized training in surgical treatment are generally more experienced and comfortable in placing TADs. Generally, placement will require collaboration between orthodontist and surgeon for correct positioning and placement.

Using mini-implants such as TADs is a rapidly developing technology. TADs are becoming a necessary part of orthodontic practice by allowing for accurate and predictable tooth movement and positioning by providing stable non-movable anchor units.

Ask your orthodontist or general dentist for more information and how and where they could be used to best help your orthodontic situation.

Sincerely,
Mark Yanosky, DMD

Questions to ask your dentist

- Why are TADS beneficial in my situation?
- If we use TADS, how much time will that save before my braces can be removed?

ABOUT THE AUTHOR

Mark Yanosky, DMD

Dr. Mark Yanosky received his Bachelor of Science degree from Birmingham-Southern College, and his D.M.D. degree with honors from the University of Alabama, School of Dentistry; Certificate of specialization and Master of Science in Orthodontics from the University of Iowa; Diplomate of the American Board of Orthodontics. Dr. Mark Yanosky is in the private practice of orthodontics. He has lectured nationally and internationally on many orthodontic topics and has published articles in several professional journals.

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