



www.azadmed.com



azaadtejaratpars

@azadmed2

88 98 80 63 - 6

PATIENT EDUCATION MAGAZINE
WRITTEN BY DENTAL PROFESSIONALS

Dear DOCTOR[®]

DENTISTRY & ORAL HEALTH

Porcelain VENEERS

ARE THEY RIGHT FOR YOU?

BAD BREATH

MORE THAN JUST
EMBARRASSING!

DENTAL IMPLANTS

YOUR THIRD SET OF TEETH

+ *Consultations in...*

Tooth Staining, Clear Orthodontic Aligners,
Sensitive Teeth, Saving Broken Teeth and more...

PLUS...
Win!
THE ULTIMATE
DENTAL HEALTH
MAKEOVER



Also inside:

An interview with
Dr. Kathy Fields,
co-creator of
Proactiv[®] Solution

We would like to take this opportunity to thank our advertisers who have contributed to our publication. We believe *Dear Doctor* is the finest patient/consumer magazine in dentistry today. You can trust *Dear Doctor* and you can trust our advertisers. Our advertisers are evaluated by *Dear Doctor* to ensure that you have access to wonderful healthcare products.

Platinum Advertisers



Gold Advertisers



Silver Advertisers

MACVENEERS™

Nimbus®

OOLITT®

Dear Doctor is a proud supporter of the:



Because every child deserves a healthy smile™

serious gum disease

— stroke

— heart disease

— diabetes

Is there a connection between the health of your mouth and the health of your body?

A growing body of evidence suggests that maintaining healthy teeth and gums is important not only to the health of your mouth, but may be important to your overall health.


Colgate Total has a unique, patented formula that creates a protective barrier that fights germs for a full 12 hours. That helps to prevent and reduce gum inflammation from gingivitis, a mild form of gum disease, which if left unchecked may lead to serious

gum disease. Emerging scientific research is associating serious gum disease with other diseases like heart disease, diabetes and stroke.

Learn more about the health of your mouth and the health of your body. Visit ColgateTotal.com.



COLGATE TOTAL. FIGHTS GERMS FOR 12 HOURS.

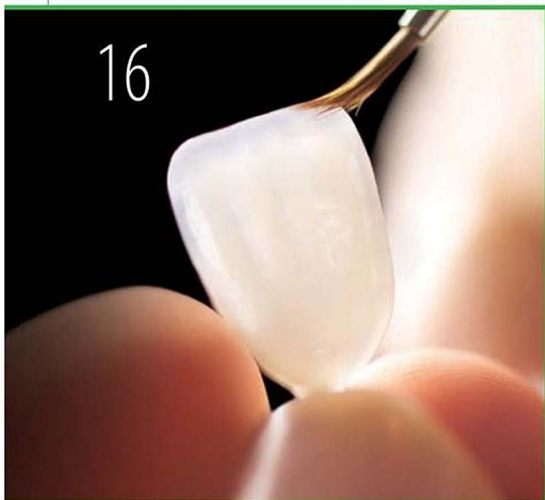
 "The ADA Council on Scientific Affairs' Acceptance of **Colgate Total** toothpaste is based on its finding that the product is effective in helping to prevent and reduce tooth decay, gingivitis and plaque above the gum line and bad breath, when used as directed."

Colgate Total is approved for the prevention of gingivitis. Not approved for the prevention or treatment of serious gum disease or other diseases. Ask your dental or medical professional about the emerging research on the mouth-body association. ©2007 Colgate-Palmolive Co.

Dear DOCTOR[®]

DENTISTRY & ORAL HEALTH

Features



16 | Smile Design Enhanced with Porcelain Veneers

In part two of the series on Smile Design, *Dear Doctor* takes an in-depth look at Porcelain Veneers, a superior yet minimally invasive technique for smile enhancement. We'll explain not only when they're appropriate, but also when they're not... By Dr. Dean Vafiadis

38 | Dental Implants – Your Third Set of Teeth

A serendipitous discovery fifty years ago paved the way for one of dentistry's most exciting, natural looking and successful tooth replacement systems. Learn how dental implants might just possibly change your life....By Dr. Edwin Rosenberg

50 | Understanding Gum (Periodontal) Disease

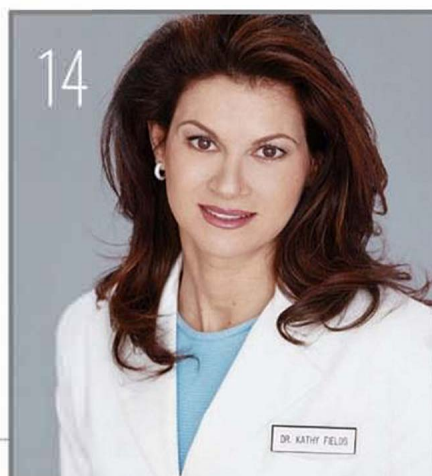
Have your gums ever bled when you brushed or flossed? This most commonly overlooked simple sign may be the start of silent (*periodontal*) disease leading to tooth loss. Learn what you can do to prevent this problem and keep your teeth for life.....By Dr. Max Listgarten

60 | Bad Breath – More Than Just Embarrassing

The bane of humans for thousands of years, bad breath may be no more than the result of poor oral hygiene – or a sign of a more serious, underlying condition. Get the facts on what causes bad breath, and what you can do about it....by Dr. Ernest Newbrun



14 | Chocolate - Is It a Double Whammy?
Dear Doctor Interviews Dr. Kathy Fields,
 co-creator of Proactiv[®] Solution – the world's #1
 selling acne treatment and prevention system



Consultations



COSMETIC & RESTORATIVE DENTISTRY

26 | Tooth Staining

Getting to the cause of tooth discoloration is the first step toward successful treatment
by Dr. Raymond Goepfrich

28 | Immediate Dentures

A transition which can be traumatic both emotionally and physically
by Dr. Walter "Jack" Turbyfill

ORTHODONTICS

30 | Clear Orthodontic Aligners

An Alternative for Adult Orthodontics
by Dr. Bella Shen Garnett

ENDODONTICS

34 | Sensitive Teeth

The "ouch" can range from a twinge to downright excruciating
by Dr. Michael Cobin

PEDIATRIC DENTISTRY

36 | Mouthguards

Properly fitted and used, they protect your child's teeth during contact sports
by Dr. Ray Padilla

IMPLANTOLOGY

48 | Implants vs. Bridgework

Considerations to help you decide what is right for you
by Drs. Wendy & Michael Spektor

PERIODONTICS

58 | Saving Broken Teeth

Crown lengthening is a small surgery with big benefits
by Dr. Jeanne Salcetti



ORAL HEALTH

68 | Toothpaste

Are there positive reasons to use toothpaste?
by Dr. Thomas Schiff

DENTAL HYGIENE

70 | Dental Hygiene Visit

A true value in dental healthcare
by Margaret Walsh, RDH, MS, EdD

ORAL SURGERY & MEDICINE

72 | Chewing Tobacco

Smokeless tobacco sounds harmless but it's not!
by Dr. John Greene



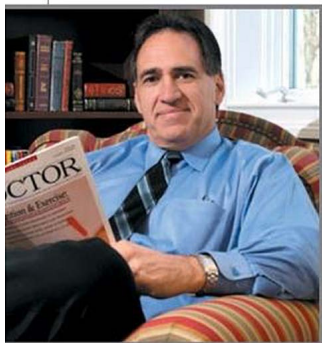
Have a Dental Question?

Send an email to consultations@deardocor.com or submit your question online at deardocor.com and have your question answered in an upcoming issue!

“If you have knowledge, let others light their candles with it.”

Winston Churchill (1874-1965) British Politician

Dear Doctor is the realization of a dream to empower you, our patients, with knowledge that will help you become better partners with your health care professionals in making informed health care decisions.



In our combined sixty years of experience treating patients and teaching students in both clinical and university settings, we have sought a way to bring more information to the public in an innovative, informative and engaging way. Over these many years we have found that the best patients are those who are full partners in the clinical decision-making process.

However, the clinical setting, by design, imposes limits on our ability to educate you, our patients, to the best of our ability and to fully answer your many relevant and important questions. Our answer to this dilemma is contained in the pages of the magazine you now hold in your hands. *Dear Doctor* is designed to bridge that gap by providing a way to facilitate your understanding of current topics in all specialties of dentistry and oral health.

The following pages contain feature articles on current topics, as well as consultations and treatment planning cases illustrated by real patients presented from both the doctor and patient perspectives. All the feature articles are written by experts in their fields using lay terminology that is easy to comprehend.

We have purposely designed our magazine to be interactive. Each article has a selection of anticipated questions along with answers. Your feedback is important and we need to hear from you so that we can answer more of your questions and concerns. As dental health care professionals we hope to use this new vehicle as a forum to continue our efforts to advocate for your health care needs. Please email us or go to our website (www.deardocor.com).

A final note, as with all new efforts we realize that the culmination of this dream of *Dear Doctor* does not come from us alone. We dedicate this issue to our many mentors who have given of their great knowledge, skill, time and understanding in such an unselfish and loving way.



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

Sincerely,
Your students,

Mario A. Vilardi, DMD
President/Publisher

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

Dear DOCTOR®

DENTISTRY & ORAL HEALTH

PRESIDENT/PUBLISHERDr. Mario Vilardi - mvilardi@deardoctor.com**EDITOR-IN-CHIEF**Dr. Garry Rayant - grayant@deardoctor.com**CREATIVE DIRECTOR**David Vilardi - dvilardi@deardoctor.com**COPY EDITORS**Susan Thompson
Kristen Vilardi
David Webster
Karin Falcone**EDITORIAL BOARD**

Joseph R. Carpentieri, DDS (Cosmetic & Restorative Dentistry)
 Martin Chin, DDS (Oral Surgery & Medicine)
 Susan D. Karabin, DDS (Periodontics)
 Barry S. Kayne, DDS (Orthodontics)
 Max Listgarten, DDS (Periodontics/Oral Health)
 Alan M. Meltzer, DMD, M.Sc.D (Implantology)
 Steven R. Potashnick, DDS (Cosmetic & Restorative Dentistry)
 Martin Rayman, DDS (Pediatric Dentistry)
 Louis F. Rose, DDS, MD (Periodontics)
 Edwin Rosenberg, DMD (Implantology)
 Louis Rossman, DMD (Endodontics)
 Stephen R. Snow, DDS (Cosmetic & Restorative Dentistry)
 Steven B. Syrop, DDS (Oral Surgery & Medicine)
 Dr. Arnold Weisgold, DDS, FACP (Cosmetic & Restorative Dentistry)
 David Zegarelli, DDS (Oral Surgery & Medicine)

PRODUCTIONDavid Vilardi
Ben Vincitore**SPECIAL CONSULTANT**LouAnn Sabatier
Everett E. Robinson, IV**ADMINISTRATIVE ASSISTANTS**Cynthia Costa
Deborah McGarvey**CONTRIBUTING PHOTOGRAPHER**

Michael Polito

ILLUSTRATION

David Vilardi

AUTHOR INFORMATION

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

PUBLICATION INFORMATION

Dear Doctor® magazine is published quarterly by Dear Doctor, Inc. Subscription rate is \$14.95 per year, \$24.95 for two years. To subscribe, visit our website at www.DearDoctor.com.

The consumer health information in *Dear Doctor®* is for informational and educational purposes only and is not a substitute for medical advice or treatment for any dental conditions. The contents of this publication should not be interpreted as a recommendation for a specific treatment plan, product, course of action or dental care provider. This publication does not offer medical advice and nothing contained in the publication is intended to constitute professional advice for medical diagnosis or treatment. You should not use this publication to diagnose a medical or dental problem or disease and you should promptly seek professional medical or dental care if you have any concern about your health. Never disregard the advice of a dentist or health professional, or delay in seeking such advice, because of something you read in this publication. This publication should not be substituted for regular consultation and visits with your dental care provider. Reliance on any information provided in this publication is solely at your own risk. Readers are urged to consult other sources as well as to obtain direct consultation with a dentist or dental specialist when making decisions about their health care.

The views and opinions expressed in the articles appearing in this publication are those of the author(s) and do not necessarily reflect the views and opinions of the editors, the editorial board, or the publisher. As a matter of policy, the editors, the editorial board, and the publisher do not endorse any products, medical techniques, or diagnoses, and publication of any material in this magazine should not be construed as such an endorsement.

All contents © 2006-2007 Dear Doctor, Inc. (Registered in U.S. Patent and Trademark Office) All rights reserved. No portion of this publication may be reprinted or otherwise reproduced without written permission from the publisher. *Dear Doctor®* is exclusively owned and operated by Dear Doctor, Inc. Printed in the U.S.A.

(866) 429-8188 • www.DearDoctor.comDear Doctor Inc.
2 Summit Court, Suite 304
Fishkill, NY 12524

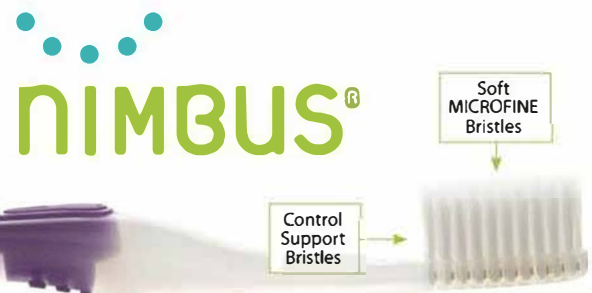
Healthy Smiles Begin

with NIMBUS®
The ORIGINAL MICROFINE® toothbrush

NEW!
Online
Ordering!
NimbusDental.com

Soft, Gentle & Effective!

Here's something revolutionary that actually makes sense. Designed by a dentist, the original NIMBUS® MICROFINE® toothbrush uses a unique tapered bristle technology mounted on a comfort-engineered handle. The extra-fine tapered bristles fit easily between the gums and teeth to clean those very difficult to reach places where bacterial plaque collects.



Order online at NimbusDental.com
or call 866.646.2871

DID YOU KNOW?

“Midnight Rider” - Dentist and Forensic Specialist!

One of America's most famous dentists was actually better known for his legendary “Midnight Ride” than for his dentistry. Prior to riding all night warning the Colonists of the approaching British troops, Paul Revere was advertising his dental services in the Boston newspapers. A metalworker by trade, the resourceful Revere increased his income when business was slow by turning his mechanical skills and talents into other businesses, namely dentistry and copper plate engraving. Copper plate engraving, a new technology at that time in history, enabled illustrations to be printed in magazines, pamphlets and books. This skill allowed Revere to advertise his dental practice in Boston newspapers from 1768-1770.



Of all his businesses dentistry was certainly the most unlikely. With no formal training he became known for creating and fitting false teeth. Using his skills as a metalworker and craftsman, he carved, cleaned and wired false teeth into his patients' mouths.

As if he was not assured a place in history, Paul Revere is also credited with being the first dentist in forensic medicine. General Joseph Warren was among the first to be killed in the Battle of Bunker Hill and was hastily buried. After the evacuation of Boston, his body was exhumed for proper burial. Revere reinforced the identity of his patient by recognizing the wiring that he had used to fasten an artificial tooth in the general's mouth. So began the use of dental records in forensic medicine.

(Paul Revere Memorial Association)

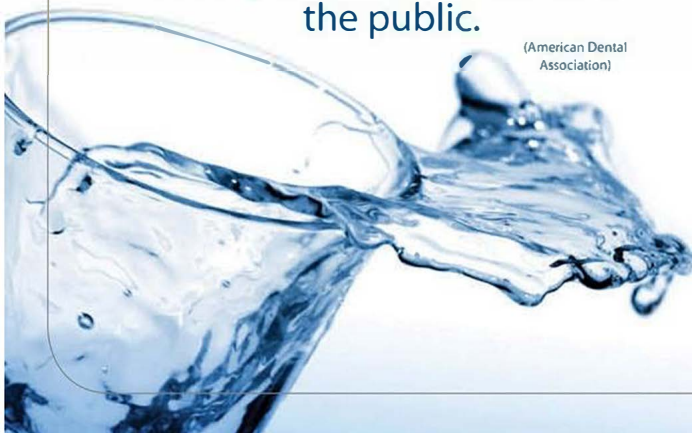
In 1945, the cities of Newburgh, New York and Grand Rapids, Michigan began the water fluoridation era when they added sodium fluoride to their public water systems. In the decade that followed, the first fluoride toothpaste was marketed to the public.

(American Dental Association)

Did you know that swimming can cause toothstaining?

Frequent swimming may cause yellowish or dark brown stains on the teeth. Competitive swimmers, or those who swim more than six hours a week, are exposing their teeth to large amounts of chemically treated water. According to the Academy of General Dentistry, pool water is more alkaline (has a higher pH) than saliva causing the proteins in the saliva to quickly breakdown forming organic deposits on the teeth. These hard deposits known as “swimmer's calculus”, most often appear on the front teeth. Regular visits to the dentist or hygienist are highly recommended for those who swim competitively.

(Academy of General Dentistry)



Finally, This Dermatologists' Acne Treatment That Makes Blemishes Disappear, Leaves Your Skin Softer and Smoother!



Vanessa Williams, introducing Proactiv® Solution on national TV:

"I've had acne since I was sixteen. I've tried it all... Then I found the best. It's called Proactiv Solution and I use it everyday because it works."

SAVE OVER 50%



Individual results will vary.



AFTER

Patrina Gunsolley
Age 38,

"If it could help me, and I've had acne for so long, it could help anybody. I really tried everything and Proactiv is the only thing that's worked."

And Just a Few More of The Many Happy Users of Proactiv® Solution:

"Ever since I've been using Proactiv Solution, I've had a very clear face."

—Alex Cummins, Age 26, San Francisco, CA

"I don't have to hide my blemishes, they're hidden for me. The Proactiv just kills them."

—Cory Sklar, Age 22, Tampa, FL

"My face was very red, very bumpy, when I started using Proactiv Solution. In four days the redness was gone, and there's no pain."

—Maggie Snyder, Age 36, Renton, WA

proactiv® SOLUTION

- ✓ A Fast, Gentler Way to Heal and Help Prevent Breakouts!
- ✓ Leaves Your Skin Smoother, Softer, Healthier-looking!
- ✓ Women, Men and Teens Report Smoother, Healthier, Clear Skin!



CLEAR, SMOOTH, BEAUTIFUL SKIN CAN BE YOURS, EASY AS 1, 2, 3:

- 1. Renewing Cleanser.** Provides the proven medication, Benzoyl Peroxide in just the right concentration to attack acne-causing bacteria—without causing redness and peeling! Plus gently buffs away oil, dirt and dead skin cells that clog your pores.
- 2. Revitalizing Toner.** Refreshing, alcohol-free formula with soothing botanicals hydrates, cools, and rejuvenates your skin. Lifts away impurities, makes skin smoother, and helps to balance skin tones!
- 3. Repairing Lotion.** Medicated formulation penetrates deeply into pores to attack bacteria at their source, before they can cause blackheads, whiteheads or pimples! Yet it's so gentle, your skin can clear up without dryness, redness, irritation or the chemical smell of those ordinary over-the-counter products. All you see and feel are the beautiful results!



THE COMPLETE DERMATOLOGISTS' SYSTEM FOR LESS THAN THE COST OF ONE OFFICE VISIT!
ONLY \$19.95

That's over a 50% savings off the individual product prices!

A \$20.00 Value!

2 FREE BONUSES when you order now!

• Refining Mask

This luxurious, soothing, naturally medicated mask was designed exclusively for people with acne. It will deep clean and help end your skin problems even faster.

• Face The Facts

This valuable book by Dr. Rodan and Dr. Fields uncovers all the myths about the causes of acne. It will answer all your medical questions about healing and preventing blemishes.



CALL NOW! 1-877-862-7731

YES! I would love to have clear, smooth, blemish-free skin! Send me my Proactiv® Solution 30-day kit with a risk-free 60-day guarantee! One complete system for only \$19.95 plus \$5.95 shipping & handling via PRIORITY MAIL (U.S. funds only). CA, IA, NC & PA residents please add applicable sales tax.

Payment method:

Check or Money Order enclosed for \$25.90 (19.95 + 5.95 s/h) plus applicable sales tax, payable to Proactiv® Solution.

Charge my VISA M/C AmEx Discover

Signature _____

Acct. # _____ Exp. _____

By ordering now, you'll be automatically enrolled in the Proactiv® Solution Clear Skin Club. After 30 days, you'll automatically receive a new 60-day kit (less two free bonuses) every two months, and you'll look in the low price of only \$19.95 per month (plus s/h and any applicable sales tax per shipment), charged to the credit card provided above, for as long as you are a member. There are no minimum number of kits to buy, and you can cancel future shipments by calling customer service at any time.

Name _____

Address _____ Apt. # _____

City _____ State _____ Zip _____

Phone (_____) _____

(in case we have a question about your order)

CALL NOW, OR MAIL TO:

Proactiv® Solution, c/o Guthy-Renker®,
P.O. Box 362965, Des Moines, IA 50336
www.proactiv.com



335-329589



Dr. Katie Rodan and Dr. Kathy Fields, Stanford-trained Dermatologists, spent over five years perfecting their Proactiv® Solution, while seeing and prescribing treatments for more than 1000 patients a month! Now, you can benefit from their expertise—without any costly office visits or prescriptions!

Combines The Most Effective Medications With The Finest Skincare Ingredients!

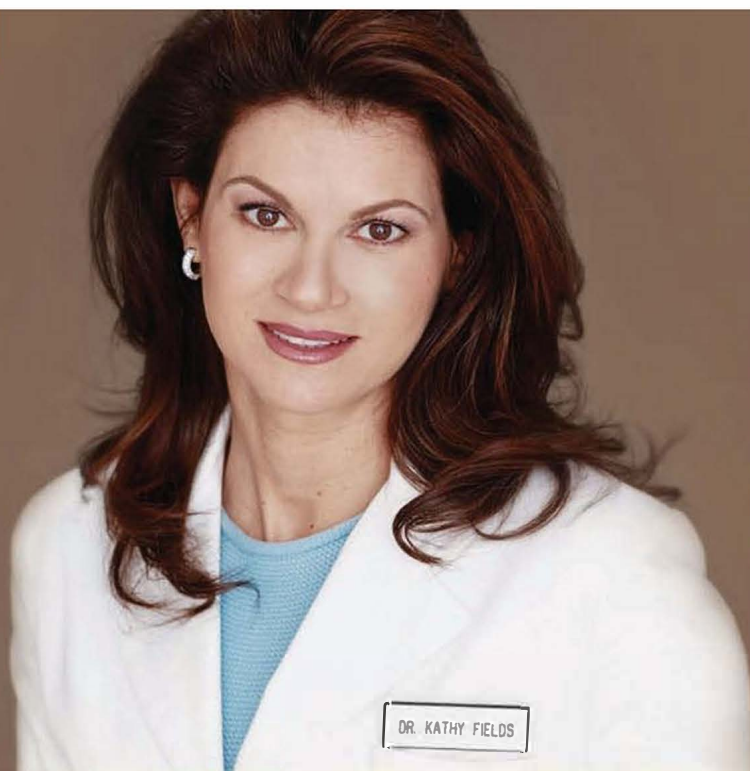
Proactiv® Solution is the only system to fight your blemishes proactively, before they surface, while nourishing your skin with soothing, healing formulations that are lightweight, smell fresh, and feel luxurious. So your skin starts to look smoother, clearer, fresher in just days! Results vary.



©1997-2007

GUTHY-RENKER®

Dear Doctor interviews
Dr. Kathy Fields,
co-creator of Proactiv®
Solution – the world’s
#1 selling acne
treatment and
prevention system



Too much of a good thing may lead to tooth decay, acne – or both.

Dear Doctor: Dr. Fields, we recently received the following question from Amy in Virginia:

I’m already a lifelong “chocoholic” at age 16. Not only did I recently get my first cavity, but I’m also having bad facial breakouts. Life is really stressful right now – do I have to give up chocolate?

Dr. Fields: No, you don’t have to give up chocolate – but you should try modifying your stress.

To understand that, let’s talk about why you are encountering bad facial breakouts. Acne is an extremely common condition that affects up to 90% of teenagers. It can present itself on the face, chest and back in a variety of ways: a few blackheads, whiteheads or small red bumps, or as numerous deep nodules.

The causes of acne stem from both genetics and fluctuating hormones, particularly in the teenage years. Stress is a strong promoting factor, because it increases the level of the hormone cortisol, which affects oil glands in the skin. This increase initiates a complicated process leading to breakouts.

After decades of study on diet, there is no strong evidence in the literature that chocolate causes acne. However, one study has shown that people who drink numerous glasses of no-fat or low-fat milk (or the yogurt equivalent) did see an increase in acne breakouts perhaps due to the high glycemic (sugar) content or the hormones found in milk. On the other hand, a non-carbohydrate diet does not prevent acne.

Since each person may have unique triggers, it’s important to try to learn what triggers the breakouts, like menstrual cycle, environmental changes and mechanical irritation – picking the skin.

“It’s good dietary practice to keep your sugar intake low and confined to meal times for both your general and dental health.”



Dear Doctor: What about the prevention and treatment of acne?

Dr. Fields: Acne is a very complicated skin condition and can be successfully treated with a combination of low strength medicines used full face everyday to heal the blemishes you have and prevent future breakouts. When your skin is clear it means the medicines are working, so stay on the medicines to stay clear.

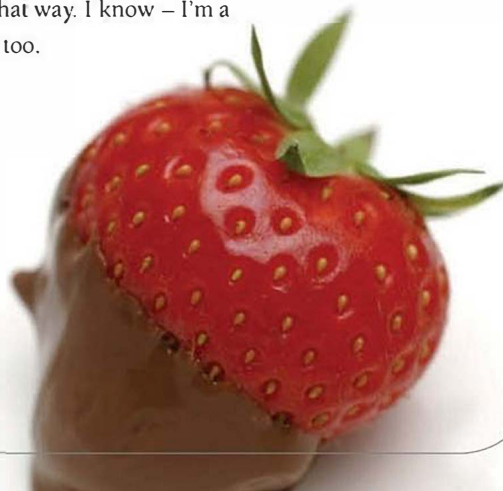
Dear Doctor: How did you come up with this approach to treatment?

Dr. Fields: It’s the same philosophy your dentist uses when telling you to brush and floss daily to prevent disease and promote health. The best way to treat skin disease is to prevent it by using the right medicated skin care on a daily basis. We can’t easily change a patient’s genetic destiny, nor can we change their hormonal level without putting them on medication such as birth control – and it’s very difficult to modify stress levels. What we can do though, is treat the skin very effectively with medicines that work and then continue to prevent the process.

Dear Doctor: What about the tooth decay aspect of the question from a medical viewpoint?

Dr. Fields: It’s good dietary practice to keep your sugar intake low and confined to meal times for both your general and dental health. Snacking between meals on sugary foods and beverages is particularly bad. There is some evidence that chocolate in its natural state may have natural anti-cariogenic (prevents tooth decay) activity; however, most chocolate in the form we’re familiar with has high sugar content.

So you don’t have to give up chocolate, but consume it wisely and in moderation, it may even be more enjoyable that way. I know – I’m a chocoholic too.



Smile Design Enhanced with Porcelain Veneers

By Dean C. Vafiadis, DDS

Part 1 of this series on smile design gave an overview of the many facets involved in beautifying smiles by design and the many ways of interpreting what is normal or ideal. Our first article discussed the role of the dentist as diagnostician, artist and scientist in meeting you the patient to decide the best course of action for your particular situation. A detailed analysis of your smile is critical to the correct assessment and the appropriate procedures for change or enhancement.

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

Porcelain veneers within reason allow for the alteration of tooth position, shape, size and color. They require a minimal amount of tooth preparation – in this case reduction (approximately 0.5 mm of surface enamel) – and are, therefore, a more conservative restoration than a crown, which requires significant removal of sound tooth structure. Although not the only alternative for all esthetic abnormalities, they are truly a remarkable restoration when they are the treatment of choice.

WHAT IS A VENEER?

Simply stated, a veneer is a thin covering over another surface. In dentistry a veneer is a thin layer of dental restorative material, usually porcelain that replaces enamel.

Porcelain was named after its resemblance to the white, shiny Venus-shell, called in Old Italian “porcella”. The curved shape of the upper surface of the Venus-shell resembles the curve of a pig’s back (from the Latin porcella - a little pig). Properties associated with porcelain are high strength, hardness, glassiness, high durability, translucence and high resistance to chemical attack.

Dental porcelain is a type used by dental technicians to create bio-compatible life-like crowns and bridges for dentistry. As you will note from the cases shown, dental porcelains in the right hands can make for spectacular tooth imitations by mimicking tooth enamel perfectly. This is also a testament to the artistic skill of the laboratory technicians with whom the dentist partners in producing life-like precision veneers to create your enhanced smile. The dentist will usually specify a shade of porcelain, corresponding to a set of mixtures of porcelain powder used in the laboratory. The powder corresponding to the basic tooth color is mixed with water, and then placed in an oven for “firing”. Further layers of porcelain are built up to mimic the natural translucency of the enamel of the tooth.

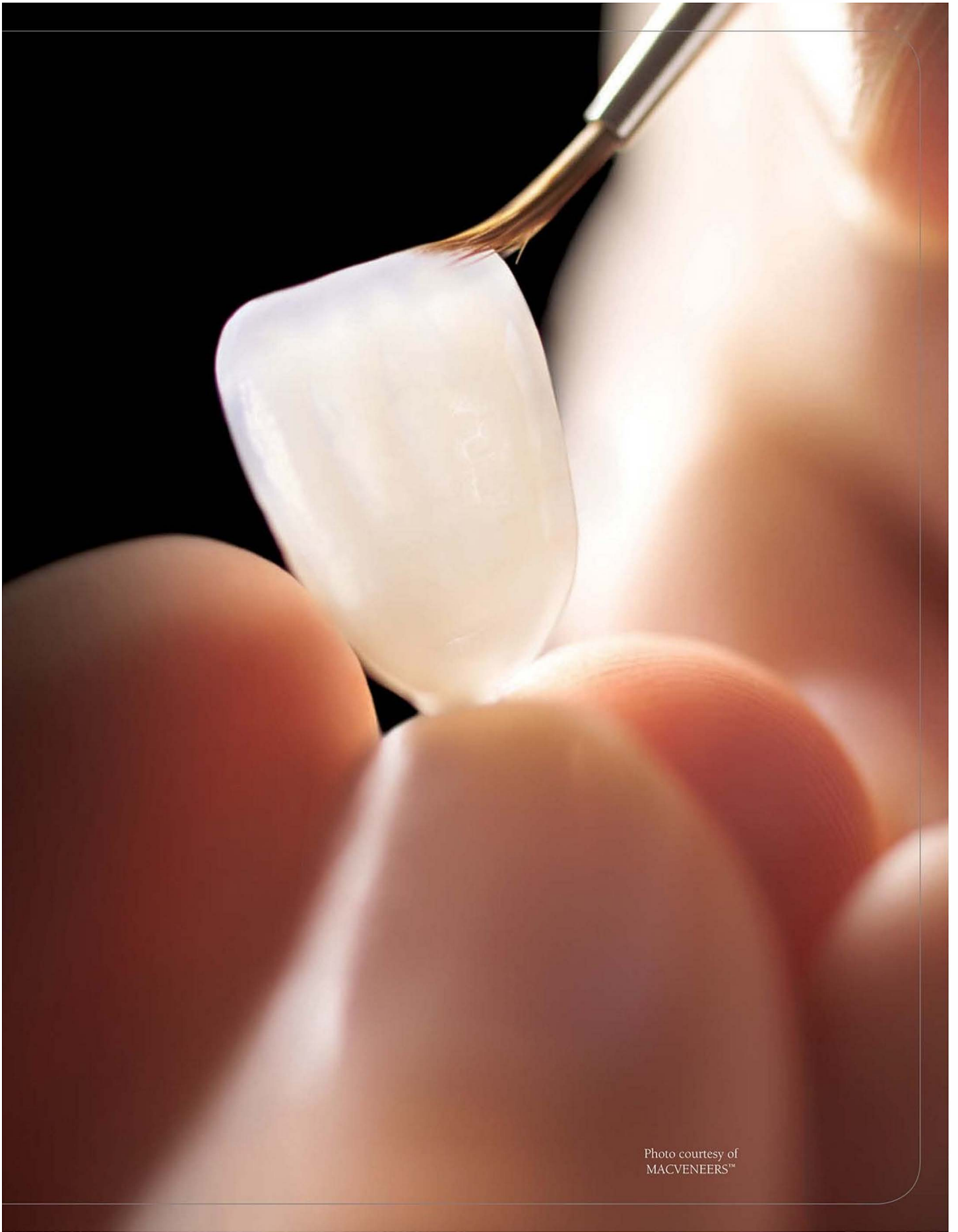


Photo courtesy of
MACVENEERS™



Figure 1: Original smile before veneers



Figure 2: Smile after "Hollywood White" veneers

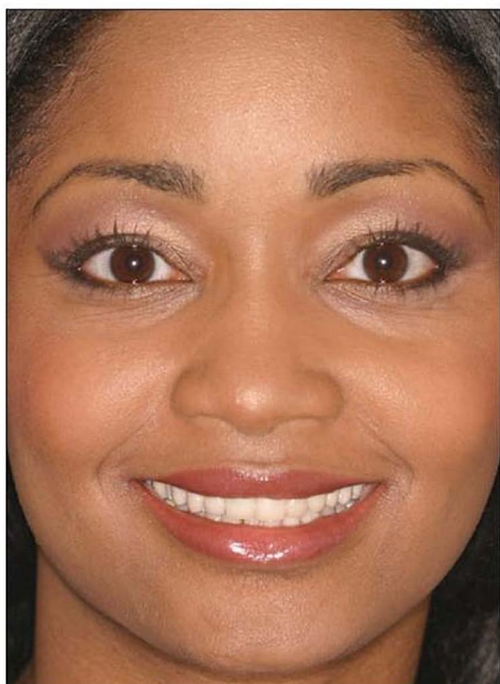


Figure 3: Portrait photo after "Hollywood White" veneers

A laminate is a material constructed by uniting two or more layers of material together in a process called lamination (in common parlance, lamination refers to sandwiching an object or material between layers of plastic and sealing them with heat and/or pressure, usually with an adhesive). The laminate structure refers to the combination of tooth, bonding interface and veneer complex. The veneer shell replacing the removed tooth enamel is chemically bonded to the underlying tooth surface with which it becomes part.

Before a patient can successfully receive veneer treatment, certain aspects related to his or her dental health and tooth structure must exist, verified by a smile analysis:

- The teeth are in more or less normal position;
- Sufficient tooth structure needed for veneers exists;
- Symmetrical gingival (gum) contours are present, which allow for the proper "framing" of the teeth necessary for a beautiful cosmetic result [Fig. 1,2 and 3].

What veneers can do – porcelain veneers are an excellent solution for correcting small or medium spaces between teeth, imperfections in tooth position (e.g., slight rotations), poor color, poor shape or contours, as well as some minor occlusal (bite) related problems. Porcelain veneers can allow for dramatic improvements for patients who have worn their teeth by bruxism (grinding of one's teeth through habit patterns) or fractured teeth [Fig. 4,5 and 6].

What veneers can't do – in considering the limitations of porcelain veneers, we should be reminded of another important definition of "veneer" – a deceptive, superficial show or a façade. So too, there are situations that the technique cannot correct, such as poor tooth position, large discrepancies in root position, poor bite relations and poor profile.

Many of these situations first require some form of orthodontics to move the teeth into proper position – for both function and esthetics. This important diagnostic determination is critical and defines the "brilliance" of your dentist. Porcelain veneers are an excellent form of tooth restoration, but as with any material used in the mouth, it does have limitations. There is no substitute for your dentist's expertise and consideration

of your specific needs obtained from his or her diagnostic evaluation – they are critical to assure the successful result of a beautiful smile.

SMILE ANALYSIS

After a traditional dental exam has verified the health of all underlying structures, the dentist begins a smile analysis, using facial measurement formulae relating teeth to the face and other techniques to customize the appropriate sized teeth to each specific individual.



Figure 7: A mock-up smile of tooth colored (white) wax

A computer imaging process is used to digitally replicate the patient's smile and then fabricate a mock-up smile made of tooth-colored (white) wax [Fig. 7]. This is used to make the provisional teeth after the diagnostic visit.

Provisional teeth are often used and are a benefit to patients because they can be worn for up to two weeks, creating, in effect, a “trial smile” – one of the rare instances in medicine or surgery where we can view and evaluate changes before the final result.

The provisional stage gives patients the exciting prospect of becoming full partners with their dentist in choosing from available colors and shapes. Patients interact with their dentists through feedback and information before deciding upon the final restorations that a gifted technician will exactly replicate in the porcelain veneers.

Now here's where the art in dentistry is really important. Your dentist and dental technician must carefully choose the right color for the porcelain veneers, As you will note this is complex:

Typical colors of natural teeth have three basic dimensions:

- hue, the color tone – red, blue or yellow;
- chroma, the intensity of color or saturation of the hue; and
- value, the relative darkness or lightness of the hue.

However, when looked at three-dimensionally, teeth have a variety of these combinations.



Figure 4: Original smile showing wear and shortened teeth



Figure 5: Establishing normal tooth length with veneers



Figure 6: Portrait photo showing “Enhanced White” veneers



Figure 8: Original smile before veneers



Figure 9: Smile with "Natural Color" veneers



Figure 10: Smile with "Enhanced White" veneers



Figure 11: Smile with "Hollywood White" veneers

When changing people's smiles, the patient has a choice of matching their existing tooth color known as "Natural Color." Patients can enhance their tooth color in two more ways; a much brighter "Enhanced White" color; or, like some celebrities, a dazzling version known as a "Hollywood White" color. Each of these colors usually has the same chroma and hue chosen by the dentist and the laboratory technician. The difference between these three enhanced smiles is the value of that chroma [Fig. 8, 9, 10, 11 and 12].

With the different shade guides that are created by the porcelain companies, the dentist or the lab technician can blend the shade and color that best represents the patient's expectations [Fig. 13]. The technician will choose several different colors and textures to mimic an existing tooth color or create a new brilliant color that the patient and the doctor have agreed on.

Since most of the tooth is still remaining after preparation, the veneer will act like a "contact lens" and transmit the original color of the tooth, and then be enhanced with the colors the technician baked into the porcelain.



Figure 12: Portrait photo showing "Enhanced White" veneers

SOME FACTS YOU SHOULD KNOW ABOUT PORCELAIN VENEERS

- Since they require approximately 0.5 mm of tooth reduction, porcelain veneers are not considered a reversible form of treatment.
- Occasionally, the preparation of a porcelain laminate veneer does not necessitate the use of a local anesthetic. However, for those patients that are particularly sensitive or anxious, a local anesthetic is advisable.
- The laboratory time required for the fabrication of a porcelain laminate veneer is approximately one week, although this may vary.
- You can expect some sensitivity to hot and cold. This is normal and is due to the removal of a small portion of the tooth's enamel covering. This sensitivity should disappear a few days after the placement of the veneers.
- The insertion or cementation of your laminate veneers can be accomplished once again with or without local anesthetic. This visit is usually longer in length. The laminates are placed with a light-sensitive resin hardened with the use of a white light, effectively bonding them to your teeth.
- Once placed, your laminate veneers are very strong and will resist most of the forces placed upon them by a normal diet. Porcelain is a glass and like glass it is strong, but brittle. Therefore, you should avoid anything that will tend to stress the laminate veneer. Opening pistachio nuts with your teeth, chewing on bones or candy apples is probably not a good idea. As with most things, common sense should prevail.

Once placed, your laminate veneers are very strong and will resist most of the forces placed upon them by a normal diet.

Figure 13: Dentists use a shade guide to determine the best veneer color for a patient's teeth

MAINTENANCE OF YOUR NEW PORCELAIN VENEERS

The maintenance of your porcelain laminate veneers is relatively simple. Here are some recommendations:

1. Brush and floss as you normally would to prevent dental problems. Porcelain veneers are one of the kindest restorations to gum tissues that we currently have in dentistry. Don't be afraid of damaging your laminates by either flossing or brushing. Any non-abrasive fluoride toothpaste is acceptable. A good home care regimen will insure the esthetic success of your laminate restorations for years to come.
2. If you are known to be a bruxer or clencher, i.e. you have a habit of grinding your teeth, please let your dentist know. He or she will fabricate a protective "occlusal" or bite guard for you to wear to minimize the stresses placed upon your teeth while you sleep.
3. Approximately one week after the placement of your laminates you will be asked to return to the office for a treatment evaluation. This visit is extremely important. It gives your dentist the opportunity to evaluate the placement of the laminates, the gum tissue response and to answer any questions you might have regarding your new smile. Regular maintenance and dental check ups are recommended so that your veneers and oral health can be reviewed periodically.



Veneers have no higher incidence of decay provided they are properly cared for with regular flossing and brushing with toothpaste.

FREQUENTLY ASKED QUESTIONS ABOUT VENEERS

1. What happens to my teeth after veneers, and will I ever get cavities?

The integrity of veneered teeth is only marginally compromised, and the veneer is bonded to the existing teeth. There is no higher incidence of decay provided the veneers are properly cared for as previously mentioned with regular flossing and brushing with toothpaste. In general, it is good dental advice to keep your sugar consumption low and confined to meal times to prevent decay.

2. How long will porcelain veneers last?

In my experience they can last from seven to twenty years. While the veneer itself is inert and non-living, the tooth or teeth to which they are attached and the surrounding gum tissues are living and may change. For example, gum line shrinkage may expose or reveal root surfaces. If a veneer comes off it can generally be rebonded. If it chips it can sometimes be rebonded or otherwise replaced.

3. If I have my upper teeth treated with porcelain veneers, will my lower teeth still be a different color, or more yellow?

This is certainly a factor that will be discussed during your evaluation and smile design so that everything

matches and blends well. Most patients usually whiten the lower teeth with whitening (bleaching) procedures to ensure a good match.

4. Do porcelain veneers stain with normal things like tea, coffee and wine?

Porcelain veneers should never stain; however, if your teeth have a propensity to stain you should try to avoid or minimize the behaviors that lead to staining and look after them as recommended above with normal hygiene and maintenance procedures.

5. Does dental insurance cover porcelain veneers?

Some insurance companies will cover up to 50% of the fee they deem customary. However, it depends upon what your employer has contracted for with your insurance company rather than what your dentist is charging. Don't forget your dentist also has to pay the dental technician who actually fabricates the veneers, a critical component in the fee.

Dear Reader,

Your questions are very important to *Dear Doctor* because they shape our future editorial content. If, after reading this article, you have any questions please email us at questions@deardoctor.com or submit your questions via our website at deardoctor.com.

ABOUT THE AUTHOR



Dean C. Vafiadis, DDS

Dr. Dean Vafiadis earned both his DDS degree and certificate in prosthodontics from New York University College of Dentistry, graduating as one of the youngest prosthodontists in New York City. He has served on the faculty at NYU Dental School since 1995, teaching prosthodontics and implantology, as well as serving on the NYU board of directors. A prolific career in teaching, lecturing and writing has gained him both national and international recognition. He has published an array of articles on implants and esthetics and has been a keynote speaker at such prestigious institutions as the Mayo Clinic and the Bethesda Naval Academy among others. He is professionally affiliated with numerous dental organizations and is actively involved in teaching dental professionals.

The editorial content in this magazine is a forum for you and your families 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.

Coming Soon!

Introducing *Simplicity*... a dental plan that makes sense!



- ✓ Easily Affordable
- ✓ No Waiting Periods
- ✓ No Pre-Authorizations
- ✓ ALL Dental Procedures Covered
- ✓ No Yearly Minimums or Maximums

If you are interested and would like to be notified once this plan becomes available, please visit:

www.DearDoctor.com/dentalplan

Dear
DOCTOR
DENTISTRY & ORAL HEALTH

*For your health
& well-being!*





The artist behind the veneer

An ode and testament to the dental technician....

“Good dental porcelains in the right hands can make for spectacular tooth imitations by mimicking tooth enamel perfectly”

Those hands belong to a talented group of artisans, dental laboratory technicians who are highly trained professionals in their own rights, certified and licensed under state jurisdiction. They perform the technically sophisticated and artistic tasks necessary for the fabrication and production of veneers, crowns and many other procedures that result in the exact mimicry of natural teeth, both in form and function. The partnership between dentists and dental technicians is unique, these are the people that ultimately make you our patients look good and if you look good, we look good. The crucial elements of the relationship are threefold: excellent dentistry; excellent communication; excellent technical results.

EXCELLENT DENTISTRY

The quality of the work your dentist does will have a direct bearing on the outcome of the work the dental technician can provide in return. For example, the dentist

will “prepare” your teeth by removing exactly the right and minimal amount of enamel to allow for excellent veneers. This requires a high degree of understanding and knowledge of the restorative materials, in this case the porcelains used, so that they are neither too thick nor thin, either of which could adversely affect the fabrication of the veneers. This among other critical information must be accurately communicated to the dental technician. The technician likewise must fully understand the role of the dentist, the handling and management of the materials, the porcelains to fabricate the veneers.

EXCELLENT COMMUNICATION

The transmission of precise information from dentist to technician is critical to the fabrication of the veneers. It requires the provision of exact models of the prepared tooth forms, and information regarding the shades, colors and shapes of the teeth to be replicated. Communicating

the information is also quite sophisticated, often requiring color corrected lighting, cameras and computers, all necessary elements of the prescription for success.

EXCELLENT TECHNICAL RESULTS

Empowered with these tools the technician can do his/her best to provide excellent results. Each element of this information will have a direct impact on the porcelain laminates to be made including how light will be both transmitted and reflected to give a natural effect. The end result; perfect fit, finish, visual and functional appeal of your new smile. What makes them excellent – nobody knows they're veneers, the technician's excellent work makes him/her invisible.

A little understood fact is that there is a price to be paid for the skills and art of technicians and the work they provide. Their services are contracted for by the dentist; generally speaking the greater the art, the higher the value. This is reflected in the value of the veneers, crowns or other services provided.

So as the great artist works with paint, brush and palette, the great chef with the freshest foods, ingredients and skills, so the dental technician understands both the science of the dental materials and the art in bringing them to life. The dentist and dental technician truly have a hand in glove relationship in the service of you our patients.

Photos courtesy of
MACVENEERS™

©2007 DTI Dental Technologies, Inc. Makeup by Shock Cosmetics.



MADA IS AN ACTUAL
MACVENEERS PATIENT &
MRS. GLOBE 2006.

MACVENEERS™
BY MICRODENTAL TECHNOLOGIES

*A Persuasive Smile...
find yours.*

VISIT a qualified MACVENEERS cosmetic dentist.

ASK for MACVENEERS by name, accept no substitute.

RECEIVE your new MACVENEERS Smile in as little as two visits.

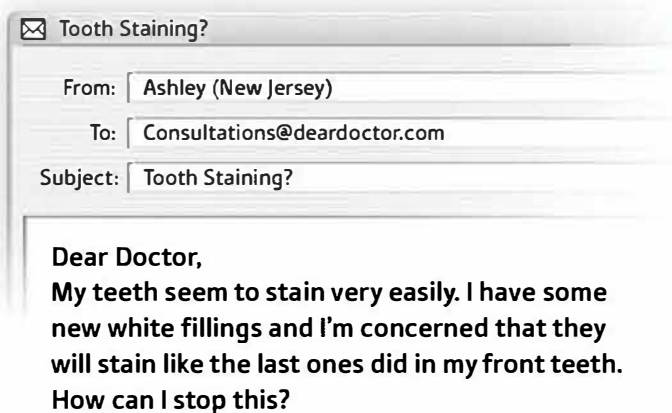
TEETH. The Ultimate Accessory™

ASK YOUR DENTIST ABOUT MACVENEERS
OR VISIT MACVENEERS.COM

Tooth Staining

Getting to the cause of tooth discoloration is the first step toward successful treatment

A Consultation with Dr. Raymond Goepfrich



Dear Ashley,

It's very important to first ascertain the cause of the staining in order to prevent it in the future. The topic of staining is quite complex, so here's a helpful guide.

There are basically two types of tooth staining or discoloration: extrinsic (**external**), which affects teeth from the outside; and intrinsic (**internal**), staining built into the structure of the tooth itself.

Extrinsic staining occurs because the microscopic pits, fissures and defects in the outer surface of tooth enamel are susceptible to the accumulation of stain-producing substances. These substances arise from a variety of sources: certain foods and beverages – particularly, red wine and tea with high tannin content, any form of tobacco, chromogenic (**color or stain producing**) oral bacteria, and topical medications. Any of these can be intensified by the accumulation of dental bacterial plaque, a result of inadequate oral hygiene.

Interestingly, many topical medications used for dental care have certain ingredients that can also cause

staining. Mouthwashes containing chlorhexidine (0.12%), a prescription antibacterial mouthrinse, or those containing cetylpyridium chloride, can cause dental staining after long-term use, particularly on acrylic, composite resin and porcelain restorations. Stannous fluoride, a component of some toothpastes may also induce brown discoloration.

Since saliva plays a major role in the physical removal of food debris from tooth surfaces, diminished salivary output may contribute to extrinsic discoloration. Diminished output that may lead to mouth dryness can arise from several causes such as salivary gland obstructions, chemotherapy, radiation treatments for cancer and multiple medications.

Intrinsic dental stains may arise from certain dental filling materials, next to adjacent tooth structure or the condition of the tooth itself. For example, if the tooth is largely replaced by filling material, or if it has had a root canal filling, it may have a different color than the adjacent teeth.

Once your dentist has identified the type and cause of staining, he or she can recommend an appropriate therapy.

Getting to the Root Cause of Staining

The fact that you have had a previous problem can help your dentist determine what kind of stain you have and the underlying cause. Also, certain physical characteristics and observations can provide clues as to whether the stain is extrinsic or intrinsic:

- Extrinsic stain colors are commonly brown, black, or gray; however, they can also include green, orange, and yellow.
- Extrinsic staining may be removed by polishing, while intrinsic staining cannot.
- Teeth with intrinsic discoloration may be red or pink. Under ultraviolet light, teeth with tetracycline antibiotic staining (**intrinsic**) may fluoresce yellow.
- When a single tooth is discolored, an intrinsic stain is suspected and may demonstrate signs of pulpal (**root canal**) disease.

Treatment Options for Staining

Once your dentist has identified the type and cause of staining, he or she can recommend an appropriate therapy. Medical treatment may likewise be warranted, particularly if drugs are causing mouth dryness, which predisposes to staining.

Treatment options include:

- Diet and habit modification – develop a strategy for either modifying or eliminating habits – like tobacco use or the consumption of certain foods – that cause or contribute to staining.
- Effective twice daily oral hygiene – the use of an appropriate toothpaste helps to prevent extrinsic staining. Most toothpastes help with this because they contain an abrasive, a detergent, and an anti-tartar agent – and many now contain tooth-whitening agents.

- Professional tooth cleaning and polishing – Some extrinsic stains may be removed with ultrasonic cleaning, followed by polishing with an abrasive prophylactic paste or an air-jet technique with an abrasive powder. This “micro-abrasion” may occasionally be used with bleaching.
- Fillings and Restorations – teeth discolored by dental caries (**decay**) or dental materials require the removal of the decay or restorative materials, followed by proper restoration of the tooth. The junction between filling (**restorative**) materials replacing lost tooth structure and the adjacent healthy tooth is very important. Even with well-placed and properly handled materials, the junction is still subject to plaque accumulation and therefore staining.
- Bleaching (**tooth whitening**) – as discussed in the Spring 2007 issue of *Dear Doctor – Dentistry & Oral Health*, this technique is a safe and relatively easy way to brighten stained teeth, and is used to treat many types of tooth discoloration. Bleaching includes two general types of techniques: vital, which is performed on “vital” teeth, i.e. the nerves are living and the discoloration is usually extrinsic; and non-vital, typically used to treat discolored teeth associated with root canal treatment. While vital techniques can be performed in-office or at home, non-vital whitening is strictly performed as an in-office professional procedure.

Consult with your Dentist

As with any dental condition, it's important to discuss your concerns with your dentist. With your motivation and his or her expertise, you should arrive at a therapy that can reduce or eliminate your discoloration problem.

Sincerely,
Raymond Goepfrich, DDS

ABOUT THE AUTHOR

Raymond Goepfrich, DDS

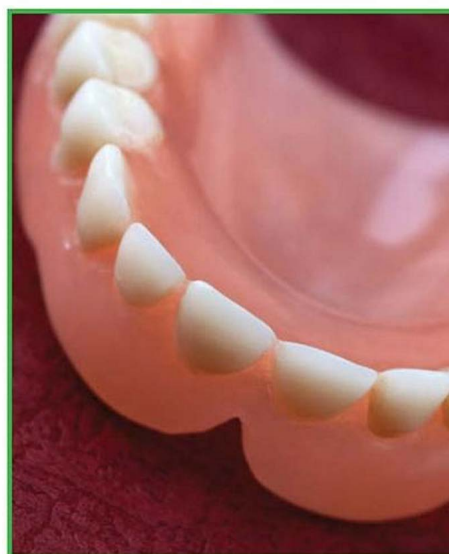
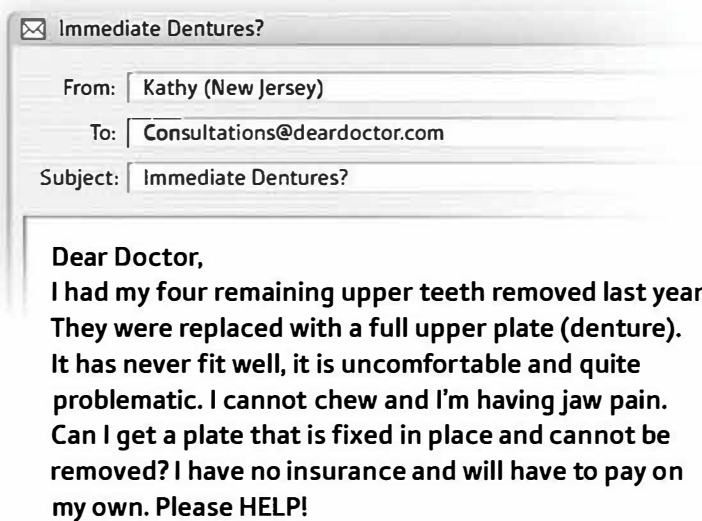
He received his DDS from the University of Maryland and followed with a four year General Residency in the Public Health Service. He taught Prosthodontics at the University of the Pacific, School of Dentistry. He was the founding and managing partner of Pacific Dental Associates in San Francisco, CA from which he retired in 1995 to pursue winemaking. Currently, he is the proprietor and maker of award winning red wines at “Goepfrich Estate Vineyard & Winery” in Dry Creek Valley, Sonoma, CA. He brings the same zeal and standards of excellence to winemaking that he brought to the practice of dentistry.

The editorial content in this magazine is a forum for you and your families 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.

Immediate Dentures

A transition which can be traumatic both emotionally and physically

A Consultation with Dr. Walter "Jack" Turbyfill



Dear Kathy,

Sorry you're having such a difficult time. First things first – if you're experiencing pain, go and see your dentist and let him/her examine your mouth to make sure that everything is healthy, and that there is nothing causing an underlying problem that is unrelated to the denture. If all is well, then we can focus on the problems with the denture itself.

Typically when people lose their last remaining teeth and "convert" to a full upper denture, it can be quite traumatic, both physically and psychologically. These types of appliances are actually called "immediate dentures", because they are placed immediately following the extractions so that patients are never without teeth. This way, the patient's

physical appearance is maintained and the ability to chew and speak is not compromised. The psychological part, at least for some, is that it's difficult to lose their last natural teeth and learn to feel comfortable with "false" teeth.

"Immediate dentures" are placed immediately following extractions so that patients are never without teeth

However, these immediate dentures are rather temporary in nature. As healing progresses after the teeth are initially removed, the gums shrink, sometimes quite a lot, leaving space underneath the dentures which can then move around. The dentures become difficult to tolerate making eating and speaking difficult. The best thing to do at this stage is simply to have the dentures "relined", which can be carried out by your dentist in no more than a day or two. This relatively quick

and inexpensive procedure usually makes them fit better and is a good interim remedy.

Once your healing phase is complete, your dentist will make your final denture. A new and accurate impression of your jaw will be necessary. This impression will be very accurate because all of your extraction sites have healed. The new denture will provide you with the greatest stability that a denture can attain for you personally, given the amount of bone support remaining. At this point, you will decide whether or not a denture satisfies your needs physically and emotionally. If you are not happy, see your dentist and ask about your restorative options. Those options include adding implants to improve your denture retention and stability or it may be possible to have enough implants placed to create a fixed bridge that will be just like your natural teeth.

The patient's physical appearance is maintained and the ability to chew and speak is not compromised

These options are not inexpensive, even for those with dental insurance, since the maximum dental insurance usually covers about one to two thousand dollars a year, and only a few companies cover dental implants at all.

It's probably best to go to your dentist to get an evaluation to find out exactly what's causing your discomfort and discuss all the many wonderful options available to people in your situation today.

Sincerely,
Walter F. "Jack" Turbyfill, DMD

ABOUT THE AUTHOR

Walter F. "Jack" Turbyfill, DMD

Dr. Turbyfill graduated from the University of Louisville in 1959. He studied with Dr. Earl Pound for many years and this relationship is responsible for his keen interest in prosthodontics. He is a member of the American Academy of Esthetic Dentistry, the American Academy of Restorative Dentistry and the American Academy of Prosthodontics to name a few professional organizations. He teaches and lectures throughout the world on the principles of complete dentures and removable prosthodontics. He maintains a private practice in restorative dentistry.

The editorial content in this magazine is a forum for you and your families 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.

would you know if you had
BAD BREATH?

Did you know
that the tongue is the
largest bacteria-harboring
site in the mouth?

Ask Yourself These Questions:

**Does a toothbrush
really clean your tongue?**

**Did you know there is
an intimate link
between oral bacteria
and diseases?**

**Why wouldn't you bring
major health benefits
to your entire family,
including yourself?**

Oolitt Advantage
offers tongue cleaners
for **all** age groups

*Oolitt is clinically
proven & highest rated
for comfort, ease
and effectiveness*

OOLITT®
Advantage

(813) 909-0058
www.oolitt.com

**HEALTHY MOUTH,
HEALTHY BODY**

Clear Orthodontic Aligners

An Alternative for Adult Orthodontics

A Consultation with Dr. Bella Shen Garnett

✉ Clear Orthodontic Aligners?

From: Cynthia (Washington)

To: Consultations@deardoctor.com

Subject: Clear Orthodontic Aligners?

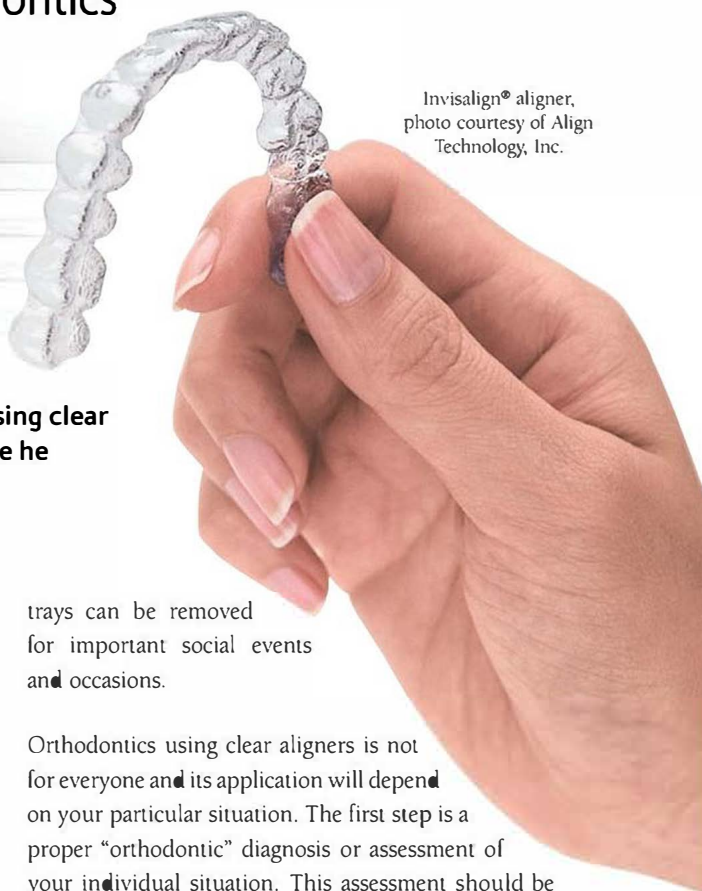
Dear Doctor,

I am a 31-year old woman. My husband, 35, is using clear aligners to have his teeth straightened because he didn't want braces. Will they work for me too?

Dear Cynthia,

Great question! Clear aligners are an alternative system to traditional braces that use a sequence of individual clear, removable "trays" to gradually straighten teeth. The alignment is accomplished with a series of trays each made of clear almost invisible plastic that completely cover the teeth; each tray is slightly different, and when worn for 20 hours a day for two weeks before going on to the next set in the series, will move the teeth into an improved position. The trays are computer-generated based on proper records and diagnosis of your specific situation. Results can vary widely depending on the skill and experience of the orthodontist or dentist, as well as the patient's compliance with continually wearing them.

Total treatment time can range from six months to two years. When treatment is well-planned, clear aligners can successfully realign or straighten teeth, close mild spaces, treat elongated teeth and tip teeth into better position. Generally speaking, clear aligners should only be used for adults instead of children. Many adults like your husband prefer this system since the



Invisalign® aligner, photo courtesy of Align Technology, Inc.

trays can be removed for important social events and occasions.

Orthodontics using clear aligners is not for everyone and its application will depend on your particular situation. The first step is a proper "orthodontic" diagnosis or assessment of your individual situation. This assessment should be performed by an orthodontist or a dentist with advanced training and experience in orthodontics.

Clear aligners are an alternative system to traditional braces that use a sequence of individual clear, removable "trays" to gradually straighten teeth

The assessment will consist of appropriate and specialized radiographs (x-rays) of the teeth, jaws and skull, along with photos and impressions, to make models of your bite. All this information is used to determine if orthodontics using clear aligners is right for you. The primary factor in

deciding whether you can use the system will depend on whether your teeth can be moved without compromising your overall dental health.



HOLDING BACK IS A THING OF THE PAST.
A NEW SMILE LETS YOU BLOOM.

If you're uncomfortable with your teeth, you could be holding back who you really are. But Invisalign's clear, custom-designed aligners can be an inconspicuous and removable way to get a beautiful new smile. Many complex cases that once required braces can be treated with Invisalign, often in about a year. So check with an experienced Invisalign provider to see if it's right for you. And let the real you bloom with a new smile.

STRAIGHT TEETH ARE WITHIN REACH. Get a free, no-obligation consultation with an experienced Invisalign dentist or orthodontist at www.invisalign.com/doctor2 or 866-417-3888



Subscribe Today!



Dear DOCTOR
DENTISTRY & ORAL HEALTH

For your health & well-being!

Get 4 issues
for only
\$14.95
8 issues for \$24.95

Subscribe in 3 Easy Ways!

- 1 Subscribe Online
Visit www.DearDoctor.com
- 2 Subscribe by Phone
Call (866) 429-8188
- 3 Subscribe by Mail
Send Payment by *Mail

*Send payment by mail to: Dear Doctor, 2 Summit Court, Suite 304, Fishkill, NY 12524 (include name and address)

When clear aligners work

The system is usually recommended for correcting mild to moderate crowding or spacing of teeth. It's ideal if you have a good "bite" – meaning your back teeth already fit together properly. With a good bite, biting forces distribute evenly on all of your teeth, which also protects the health of the supporting periodontal structures, the gums and bone. With a bad bite, forces are uneven, creating uneven wear and instability of the tooth position.

If clear aligners are improperly planned, bite problems can develop. Another side effect (not unique to this system) involves cases where "recession" (shrinking of the gums) can occur by tipping teeth too far out of the bone in an attempt to make them straight. There are other cases where the back teeth don't fit together properly after inadequate treatment planning. Again, problems can occur with any orthodontic treatment if it is not planned and/or applied correctly.

When clear aligners may not be right for you

For some moderate to severe crowding or spacing, or more complex cases, this system may not be the treatment of choice. Traditional braces may be necessary in cases where the bite is really off such as when the teeth in the upper and lower jaws don't meet well, creating too much overbite or even under bite. An underlying skeletal discrepancy (the jawbones don't line up properly) may also indicate that braces may be the better treatment option.

That being said, assessing a "malocclusion" (poor tooth or bite alignment) is complex and must be fully understood in order to choose the right treatment option. There are several movements that are difficult and less predictable with removable clear aligners, like closing extraction spaces, uprighting teeth, opening severe deep bites, rotating, torquing or other more complex movements requiring more sophisticated techniques. These movements are easily accomplished with traditional braces; however, with careful treatment planning and "staging" of clear aligners, experienced practitioners can successfully accomplish many of these finishing movements.

Orthodontics with clear aligners is not a one-size or one-price-fits-all treatment. Ultimately, the final results depend heavily on who treats you – which may vary from one doctor to another. In reality, orthodontic treatment is art as well as science. Treatment planning cases and moving the teeth efficiently and realistically is based on careful and proper diagnosis and experience. Another factor with clear aligners is that some systems are not using computer generated movements and are poor imitations of the most recognized, state-of-the-art clear orthodontic aligning system used in dentistry today. Ask your dentist about which system is recommended.

Sincerely,
Bella Shen Garnett, DMD, MMSc



Smile with traditional braces



Smile with clear braces



Smile with Invisalign® aligners

Generally speaking, clear aligners should only be used for adults instead of children

ABOUT THE AUTHOR

Bella Shen Garnett, DMD, MMSc

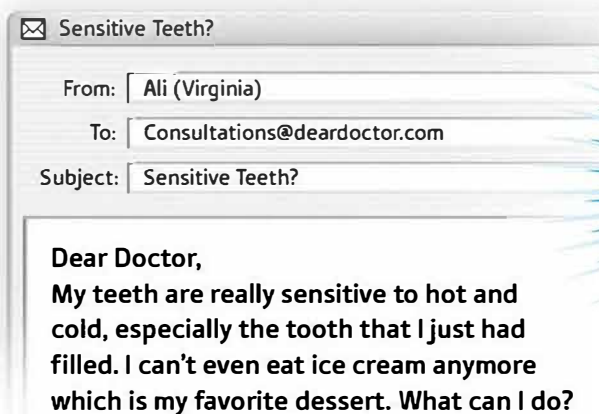
Bella Shen Garnett is a Board Certified Orthodontist. Dr. Shen Garnett graduated from Stanford University and graduated Cum Laude from the Harvard School of Dental Medicine and received the Award of Excellence. She continued her orthodontic training at Harvard and received a Masters in Medical Science. She is currently an Associate Professor of Orthodontics at the University of Pacific and maintains a private practice limited to orthodontics.

The editorial content in this magazine is a forum for you and your families' 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.

Sensitive Teeth

The “ouch” can range from a twinge to downright excruciating

A Consultation with Dr. Michael Cobin



Dear Ali,

It sounds like you have generalized sensitivity from many teeth, and possibly the one you had filled recently may be the worst. Let's see if we can provide some direction to help you deal with this problem.

Tooth sensitivity is largely caused by exposure of a tooth's dentin. The enamel covering of the tooth is inert; that is it has no nerve supply and therefore protects the teeth from temperature and pressure changes. When dentin is “exposed” (most often caused by gum recession), the dentin, which contains nerve fibers, will let you know that it is responding to heat, cold or touch the only way that it knows how – by saying “ouch”. That “ouch” can range from a twinge to downright excruciating.

Brushing: Sometimes Too Much of a Good Thing

The causes of recession can vary, but a common one is an excessive and improper brushing technique, especially

Ice cream is a “double whammy” – it causes sensitivity from the combination of both cold and sweet.



for individuals with genetically thin gum tissues. Once exposed, the dentin of the root surfaces can become vulnerable to erosion by acids

and irritation from sweets, primarily in the form of sugars. Ice cream is a “double whammy” – it causes sensitivity from the combination of both cold and sweet. Worn and hard bristle toothbrushes, citrus fruits, sodas, candies and many other things can irritate dentin once exposed.

The mechanism of tooth sensitivity is still being investigated. The dentin consists of tiny little tubules which contain living cells encased in a hard bone-like substance of the dentin. It's thought that pain is felt by “transduc-

tion” (trans = through; duct = tube), by differences in pressure set up from the outside of the tooth to the inside – the pulp.

Decay, of course, can also cause tooth sensitivity. As the destructive process of decay works into the structure of a tooth, it finally invades the pulp chamber containing the nerves, increasingly irritating them and escalating the level of pain. If the nerve becomes infected and dies, the acute pain can be very severe, second only to having a baby or passing a kidney stone, or so we’ve been told.

The removal of decay prior to placing a filling can lead to sensitivity. For this situation, a dentist may typically place a lining or desensitizing material to protect the tooth from sensitivity; however, it may take a while, from a few days to a week, for the tooth to calm down. As teeth age they tend to become naturally less sensitive as more dentin is laid down inside the tooth, which is called “secondary dentin”. This causes the pulp to constrict and get smaller. As a result of this process, the dentin thickens and becomes less permeable reducing sensitivity. Ice cream may once again be enjoyable.

Taking Steps to Minimize Sensitivity

So what can you do about it? First, don’t brush the affected teeth too hard or too often – or even try stopping for a few days and see if it helps. The goal of brushing is quite simple: to remove plaque. This only requires a very gentle action with a soft brush.

Second, use a toothpaste containing fluoride. Fluoride increases the strength of the tooth surfaces and makes them more resistant to attack by acids, sweets and excessive brushing. You should actually use the fluoride toothpaste like an ointment so that it’s in contact with the affected site in a more concentrated way and for a longer time

period than when brushing. There are toothpastes on the market containing potassium products for sensitivity, but studies show their effectiveness is quite variable.

Another treatment for dentin sensitivity is really aimed at applying a barrier to cover the sensitive areas. These barriers range from concentrated, professionally-applied fluoride varnishes to filling materials that are chemically bonded to cover and replace lost tooth structure.

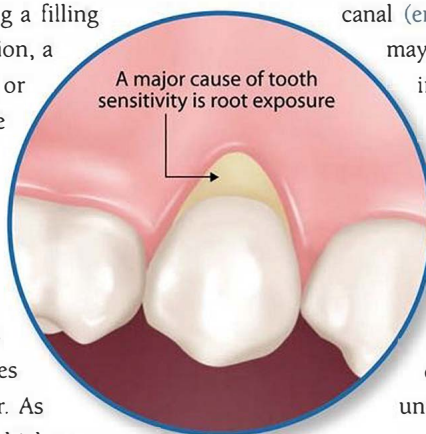
If the sensitivity of the tooth you just had filled does not improve and becomes more painful, endodontic or root canal (endo – inside, dont – tooth) treatment may be necessary. This is because increasing sensitivity resulting in pain from heat and biting, or prolonged pain from exposure to cold, may be signs that the pulpal (nerve) tissue inside the tooth is irreversibly damaged.

If the sensitivity persists, you should see your dentist for a more detailed diagnosis, so the cause can be located, understood and treated effectively.

Good luck; I hope this helps.

Sincerely,
Michael Cobin, DMD

As teeth age they tend to become naturally less sensitive



ABOUT THE AUTHOR

Michael Cobin, DMD

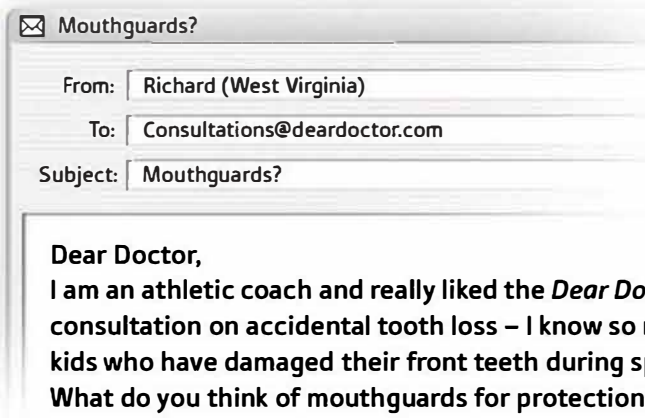
Dr. Cobin received his degree in biological sciences and chemistry from Rutgers University and graduated at the top of his class from the University of Pennsylvania, School of Dental Medicine. He then completed a post-graduate internship in Oral Surgery at Philadelphia General Hospital followed by a two-year postdoctoral residency in Endodontics at the University of Pennsylvania. Dr. Cobin has been a Clinical Instructor of Endodontics at the University of Pennsylvania and UCLA. Specializing in Microscopic Endodontics and Microsurgery, Dr. Cobin is currently teaching Endodontics to general dentists and specialists from all over the world. He is in private practice limited to Endodontics.

The editorial content in this magazine is a forum for you and your families 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.

Mouthguards

Properly fitted and used, they protect your child's teeth during contact sports

A Consultation with Dr. Ray Padilla



Dear Richard,

It is generally recommended to use a dentist fabricated custom made mouthguard during any activity that could result in a blow to the face or mouth. Fractured, broken and dislodged teeth can be extremely painful and expensive to fix or replace, aside from the anxiety and discomfort caused by injury. An ounce of prevention is worth a pound of cure.

A properly fitted custom made mouthguard can help prevent broken teeth and injuries to the lips, tongue, or jaw. It will stay in place while you are wearing it, making it easy for you to talk and breathe.

There are three types of mouthguards: the stock guard where there is no attempt at fit; the mouth-formed "boil-and-bite", which offers a poor fit; and the

A properly fitted custom made mouthguard can help prevent broken teeth and injuries to the lips, tongue, or jaw

custom mouthguard made by a dentist which has the best fit because it is made from a mold of your mouth. They are designed to help buffer an impact or blow that otherwise could cause broken teeth, jaw injuries or injuries to the soft tissues (gums, lips or tongue). Mouthguards are used most commonly in contact sports, such as boxing, football, hockey and lacrosse. Other sports where mouthguards are recommended are basketball, soccer, water polo and rugby.

You should choose a custom mouthguard that is resilient and tear-resistant, fits properly and is comfortable, easy to clean, and does not restrict speech or breathing. The medical/dental literature states that store bought stock or boil and bite mouthguards do not offer the same protec-



tion as a custom made mouthguard. Dr. Andrew Greasley in 1998, in the British Journal of Sports Medicine reported that “the boil and bite mouthguard afforded only slightly more protection than no mouthguard at all”. In 1993 Dr. Park reported at the 1st International Symposium of Biomaterials that “Unless dramatic improvements are made, boil and bite mouthguards should not be promoted to patients”.



(Left) Custom mouthguard created from mold of patient's teeth. (Lower) Custom mouthguard worn by child. Notice all of the lower teeth hit appliance.



Patients need to take care of their dentist fabricated custom made mouthguards by doing the following:

- Rinse before and after each use, or brush with a toothbrush and toothpaste;
- Occasionally clean the mouthguard in cold, soapy water and rinse thoroughly;
- Transport the mouthguard in a sturdy vented container;
- Don't leave the mouthguard in the sun, in hot water, or in any hot environment;
- Regularly check for wear, see your dentist and replace the mouthguard when necessary.

Ask your dentist if he or she can make a custom mouthguard for you or your child. It should fit more comfortably than a retail version, and offers the best protection for your smile.

Sincerely,
Ray Padilla, DDS

ABOUT THE AUTHOR

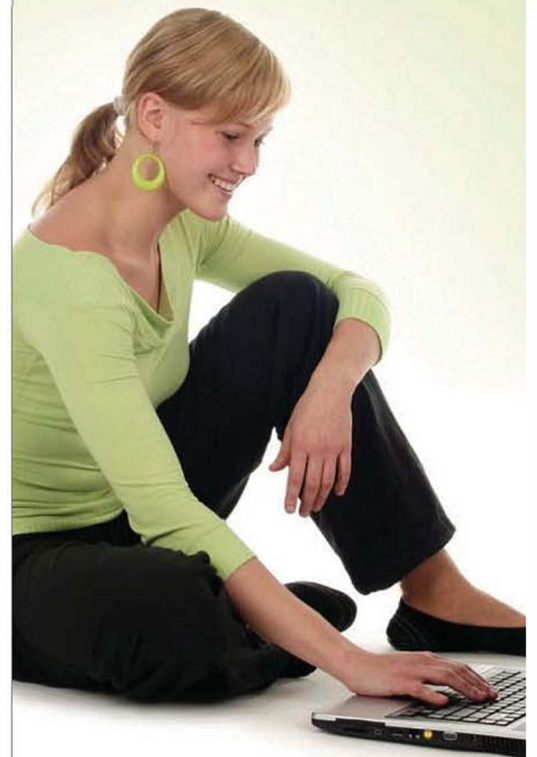
Ray Padilla, DDS

Ray R. Padilla, DDS graduated from California Western University (USIU) in 1973 with a degree in Chemistry/Biology; gained his DDS from the University of Southern California School of Dentistry and was honored with the Pediatric Dentistry Award in 1978; he has expertise in Sports Dentistry, a topic about which he has written and lectured on extensively and to which he has devoted much of his professional career. He is affiliated with the International Society for Dentistry, Sport and Trauma, the Academy for Sports Dentistry (Board of Directors 1993-98), National Youth Sports Foundation for the Prevention of Athletic Injuries and lectures on sports dentistry at the UCLA School of Dentistry. He is the team dentist for UCLA Athletics, the Los Angeles Galaxy, the Los Angeles Avengers, and the USA National Soccer Teams. He also maintains a private practice.

The editorial content in this magazine is a forum for you and your families 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.

Ask... and we shall answer!

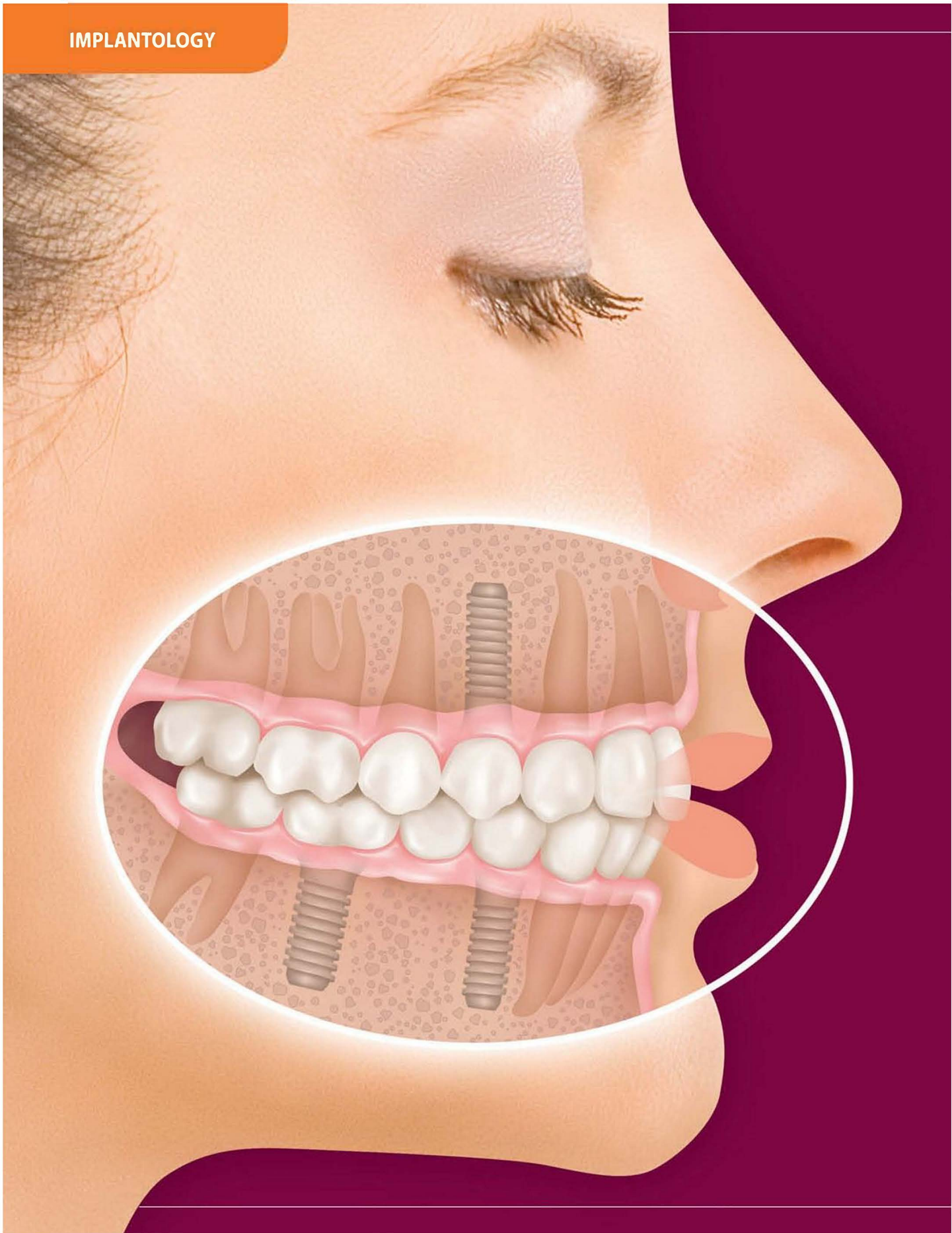
Visit www.deardoctor.com
or email us at
consultations@deardoctor.com
and ask us your dental questions.
Look for your answers in an
upcoming issue!



Dear
DOCTOR
DENTISTRY & ORAL HEALTH

For your health & well-being!

IMPLANTOLOGY



DENTAL IMPLANTS

Your Third Set of Teeth

by Edwin S. Rosenberg, B.D.S., H. DIP. DENT., D.M.D., F.I.C.D., F.A.C.D., F.C.P.

OVERVIEW

There is no question that over the last two decades dental implants have revolutionized tooth replacement and the practice of dentistry. The concept of dental implants is not new, the earliest recorded attempts of their use were discovered in the Mayan civilization dating back to 600 A.D. Today's highly successful dental implants consist of root replacement for a natural tooth, to which a crown is attached, just like the teeth in your mouth when you smile, there is no visible difference. In addition they do not decay and are relatively free from developing gum disease. As with most treatment modalities in dentistry today, this not only involves scientific discovery, research and understanding, but application in clinical practice. The practice of implant dentistry requires expertise in planning, surgical placement and crown fabrication; it is as much about art and experience as it is about science. It also requires teamwork between you, the patient, your dentist, an implant surgeon and dental technician. This is an overview article on implant dentistry, more on individual topics will follow in future issues to provide you with the knowledge you need to make informed choices together with your dental health professionals.

IMPLANTOLOGY



The above illustration shows the assembly necessary to restore an implant with a crown. The assembly consists of an abutment with a screw that fits into the implant and a permanent crown which is then cemented onto the abutment.

WHAT IS A DENTAL IMPLANT?

Teeth essentially can be thought of as having two main parts, the crown, the part above the gum tissues, and the root, the part that is suspended in the bone by the periodontal ligament (*peri-around, odont-tooth*) which keeps the tooth in place. A dental or endosseous implant (*endo – inside, osseous – bone*) is actually a root replacement, but unlike the root of a tooth it becomes anchored in the bone of the jaw, formerly occupied by a tooth or teeth. The amazing thing about currently used dental implants is that they actually fuse with, or “integrate” into the bone, a process known as “osseo-integration” (*osseo-bone, integrate – to become part of*). They are for the most part made of commercially pure titanium, a metallic substance used for many years in medicine and dentistry because it is not rejected by the body, being osteophilic (*bone loving*). The actual process of osseo-integration is essentially a biochemical fusion of living bone cells and bone substance to an oxide layer that forms on the surface of the titanium.

CHANCE FINDINGS IN SCIENCE

As with many scientific advances the discovery of osseo-integration was happily, quite by chance! In 1952, Dr. P. I. Branemark, a Swedish orthopedic surgeon was studying healing in the bones of a rabbit limb. He inserted a small optical chamber through which healing changes in the minute blood vessels of the bone could be observed. When the study was completed it was noted that the optical chamber, made of titanium had fused to the bone and could not be removed. Nearly all currently used dental implant systems in their multiple shapes and sizes utilize this magical bone loving property of titanium.

The amazing thing about currently used dental implants is that they actually fuse with, or “integrate” into the bone...

EARLY APPLICATIONS OF IMPLANTS IN DENTISTRY

One of the many successful applications of osseointegration has been in dentistry with the development of dental implants; root form replacements for missing teeth. Significantly, the application of implants in dentistry was researched for approximately 25 years before becoming available for clinical use in dental practice. Dental implants were first introduced for people who had lost all their teeth and who had great difficulty stabilizing or tolerating dentures, largely because they had lost so much jaw bone upon which dentures rest. Because dental implants fuse to the bone they stabilize it and prevent further bone loss. Resorption, is a normal and inevitable process in which bone is lost when it is no longer supporting or connected to teeth. Only dental implants can stop this process and preserve the bone.

Since their introduction into dental practice in the late 1970s dental implants have undergone many improvements in design.

Today most implants are placed for either single or multiple tooth loss. The implants first used in the pioneering “Branemark” system were basically a one size fits all design. The original implants were all the same width, circumference, with only the length being variable. The original surfaces of the implants were machined smooth and polished. It was well known that integration is best in the densest bone, generally in the front part of the lower jaw.

INNOVATIONS FROM CLINICAL PRACTICE

Clinical use and research have led to modifications of implant design and improvements such as the following:

- **Improved surface characteristics** – from the initial smooth and polished surfaces to the current, acid etched sandblasted, nanotech surfaces. This technical advance significantly increases the microscopic surface area of implants and thereby markedly improves the degree of attachment to bone. This also increases the success rates of osseointegration, even where bone quality is less dense.
- **Improved shapes and sizes for different tooth size replacements** – Implants are made in different widths which together with improved surface characteristics provide for maximum bone to implant contact. They can therefore more easily carry the same forces as are applied to natural teeth. For example, back molar teeth have one or more roots to withstand higher biting forces necessary for chewing. Implants have likewise been developed to mirror these functions. Teeth in different areas of the mouth are designed differently to accommodate different functions.
- **Improvements in design for aesthetics** – connections from implants to crowns have improved to make the teeth look perfectly natural as they emerge from the gum tissues to mimic natural teeth exactly. Materials used are essentially the same as for regular crowns to imitate natural aesthetics, function and durability. Crowns are either directly connected to the implants themselves by tiny invisible screws in the back non-visible parts of the teeth, or are cemented over little tooth like receptors just like regular crowns.

Implant placement requires planning and will involve collaborative efforts between the implant surgeon, dentist and laboratory technician.

IMPLANT TREATMENT - A COLLABORATIVE APPROACH TO TREATMENT

Normally implants are placed by periodontists and oral surgeons, dental specialists who have undertaken training in implantology and surgery as part of their training. Implant placement requires planning and will involve collaborative efforts between the implant surgeon, dentist and laboratory technician who are responsible for building a crown on a successfully integrated implant.

DIAGNOSTIC STEPS

Your dentist and/or surgeon will follow routine procedures to assess your medical status and general health; carefully examine your mouth and the site where the potential implant or implants are to be placed; make study models of your mouth to assess your bite; take photographs if there is an aesthetic concern; take special radiographs (x-rays) of the site to assess bone quantity and quality; make surgical guides or templates to ensure accurate surgical implant placement. A discussion of all the risks, benefits and alternatives of placing implants in your particular case should take place with you and your dental “team”.

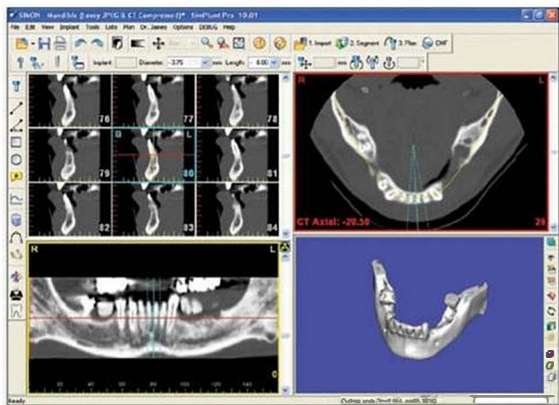


Figure 1: Cat scan technology provides dentistry with images that allow for proper implant placement and safety. (Photo courtesy of Materialise Dental Inc.)

IMPLANT POSITIONING

Sometimes described as “top down treatment planning”, providing that your bite is pretty functional and other teeth are aligned correctly, the teeth to be replaced are recreated in a wax model form. The idea is then to establish the position of the underlying bone and to make sure implant(s) can be positioned directly under the wax tooth form (top) to the implant, (down) beneath. The implant positions can then be predetermined using a combination of specialized radiographs (x-rays) and imaging technology [Fig. 1] to assure success and in the process avoid major structures like nerves and air sinuses. From this information surgical guides are fabricated to assist the surgeon in precise

implant placement which in turn assures the restorative dentist that a crown will fit in the right position. If the bite will not accommodate implant placement orthodontic (braces) treatment may be necessary to reposition teeth, or bone may need to be regenerated surgically.

SURGICAL PLACEMENT

Dental implant surgery is a relatively comfortable procedure usually carried out under local anesthesia (numbing the area where the implant is to be placed), sometimes with the assistance of oral medication or intravenous conscious sedation for anxious patients. Some minor vibration is generally experienced during the implant (bone) site preparation, but it is quite tolerable. Since there are no open wounds following the surgery and it is minimally invasive, there is little post-operative discomfort, perhaps a day or two. The implant(s) need to be left for a period of 2-6 months to fuse or integrate with the bone in most circumstances. The healing time depends upon the bone density of the site, the more dense the bone, the quicker the integration. When the implant has integrated with the bone a crown can be made and the implant “loaded” that is, subjected to biting forces. Following successful integration your dentist will make a crown which fits on the implant and will be exactly like a normal tooth both in form and function.

ONE AND TWO STAGE SYSTEMS

In some implant systems the implants are placed, covered with the gum tissue and left to integrate or fuse to the bone. In these two stage systems, the implant is uncovered (stage two) and a small connector, called a “healing abutment” is attached to the implant which connects it to the mouth above the gum. The gum tissue heals around it. After a 4-6 week period crowns can be fabricated for tooth replacement. In the one stage system the implant is left exposed at surgery, slightly protruding through the gum tissue. The two stage systems are initially more protective, however each system has its place, merits and indications.

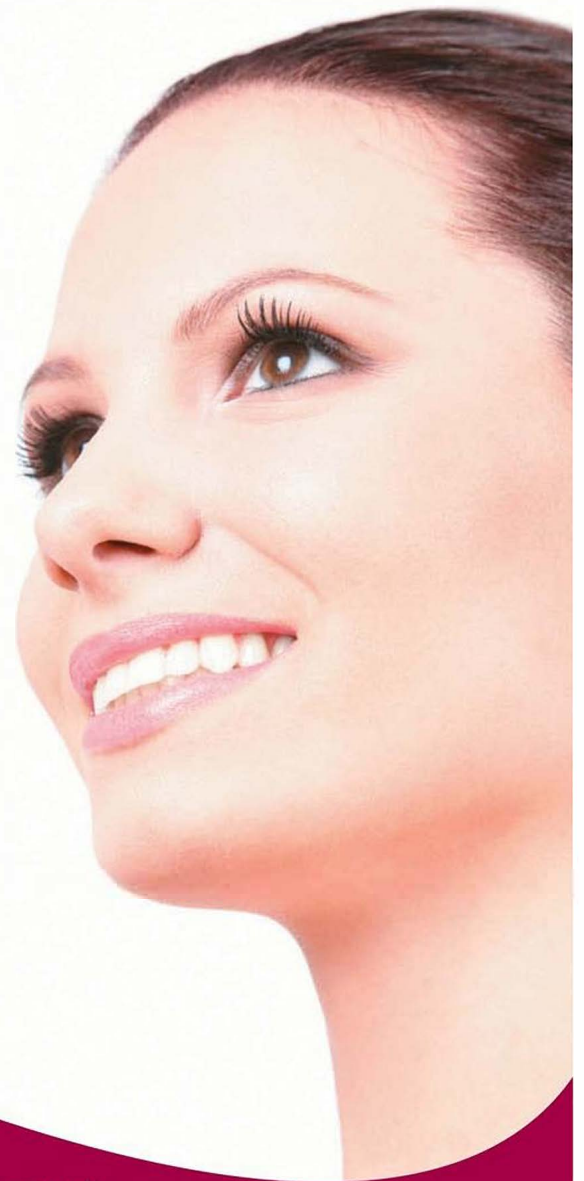
Make A Lifestyle Improvement.

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.



BIOMET 3i™

TYPES OF IMPLANTS AND RESTORATIONS

There are now more than 40 different types of what can now be termed traditional or standard implants available today. There are also two others, mini and micro-mini implants. Mini implants are like traditional implants but usually smaller in diameter whereas micro-mini implants are a variation of the now more traditional implant design, but smaller, narrower and more screw like in appearance, they are more temporary in nature and designed to be easily removed.

Types of Implant Restorations:

- **Single tooth replacements:** use one implant and as the name suggests support a single crown [Fig. 2].
- **Multiple tooth replacements:** multiple missing teeth can be replaced with multiple implants supporting fixed bridgework as small as a 3-unit bridge supported by two implants, or with multiple implants supporting a greater number of teeth. Usually a minimum number of 4-8 implants are needed to replace a full arch (jaw) of teeth, 10 or more crowns by fixed bridgework [Fig. 3].
- **Combinations of fixed and removable bridgework:** generally where implants are used to support a section of fixed bridgework, to which is attached a removable section [Fig. 4].

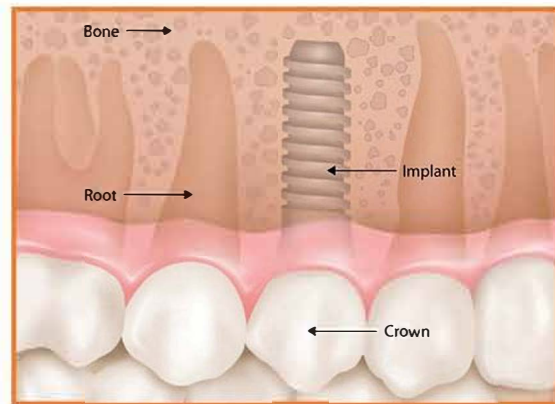


Figure 2: Illustration showing an example of a full crown restoration placed on an individual implant

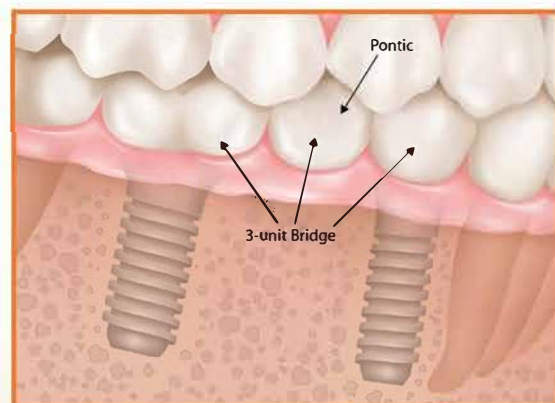


Figure 3: Illustration showing an example of a 3-unit bridge with a pontic (replacement tooth) placed between two implant crowns

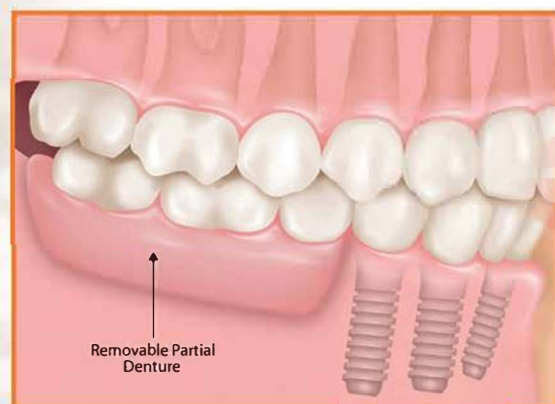


Figure 4: Illustration showing an example of a permanent bridge supported by multiple implants which has attachments for a removable partial denture

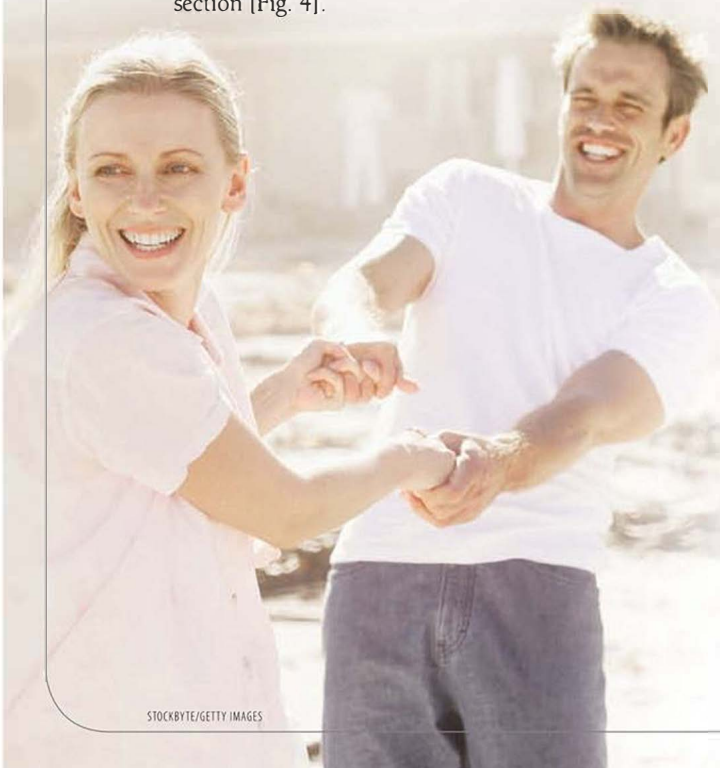




Figure 5: Illustration showing an example of two implants for attachment and stabilization of the mandibular denture protecting the underlying bone

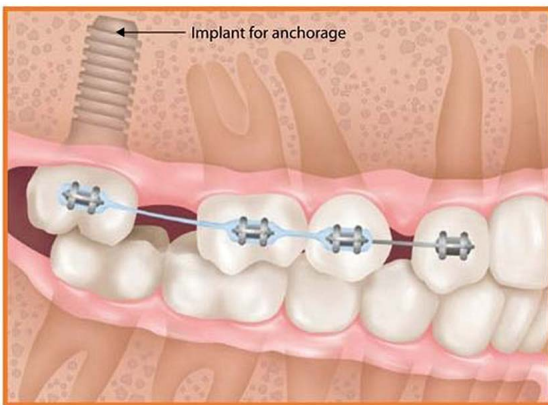


Figure 6: Illustration showing an example of how an implant can be used for anchorage during orthodontic therapy to straighten tipped teeth

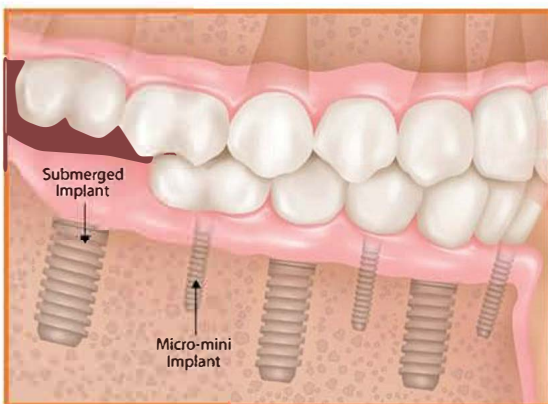


Figure 7: Illustration showing micro-mini "temporary" implants providing a non-removable temporary bridge while permanent implants attach to the underlying bone

- **Over-dentures:** where two or more implants, either standard or mini-implants, are placed to provide stabilization of the denture and preserve the underlying bone. Whereas most traditional full dentures press directly on the gum and bone causing bone loss by resorption, implant supported over-dentures protect the bone. Over-dentures are now considered the standard of care by the American Dental Association for the patients who have lost all of their teeth in one or both jaws [Fig. 5].

Over-dentures are now considered the standard of care by the American Dental Association for the patients who have lost all of their teeth in one or both jaws

- **Anchorage for tooth movement (orthodontics):** Implants, either standard, mini, or micro-mini implants, are now being used to provide very stable and non-movable anchor units to allow quicker and easier tooth movement [Fig. 6].
- **Temporary bridgework:** utilize micro-mini implants which are later removed when the permanent implants are healed and teeth permanently replaced. They ensure that at no time will a person be without teeth and can therefore be socially comfortable and functional [Fig. 7].

Your dentist will select the type of implant that has been evaluated for bio-compatibility, supporting research and to provide tooth replacement.

INNOVATIONS

Immediate implant placement: More recently and in the right circumstances it has become possible to remove teeth and immediately place dental implants into the sockets. The preconditions include that there is sufficient healthy bone left into which to place an implant following tooth removal, and that the socket can accommodate an implant of approximately the same size as the tooth root removed.

Immediate implant loading: Immediate “loading” refers to the ability to not only place an implant into a socket but also to place a crown on the implant simultaneously. This procedure engenders more risk and skill and can only be carried out if the situation is appropriate. One of the keys to success of this technique is to make sure that the crown of the tooth is completely free of movement. If it is not the implant will not integrate or fuse successfully to the bone. This is more difficult to achieve for single tooth replacement than it is for multiple teeth; they can be splinted or joined together, much like pickets in a fence, thereby guaranteeing rigidity.

TECHNICAL CHALLENGES

Implants are more challenging for dental clinicians to achieve acceptable aesthetic results 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 such cases the whole tooth/gum tissue complex must be recreated including the “papillae” (the pink gum tissues that fill the triangular spaces between the teeth in health). It is here that knowledge and experience really come to the forefront with correct prior assessment and diagnosis of the situation being paramount together with knowl-

edge of what can be achieved. Other challenges include creating or generating bone and/or gum tissues where insufficiency exists. Both of these can be accomplished in today's world quite predictably with a variety of grafting, regenerative and plastic surgical techniques.

IMPLANT SUCCESS - WHEN AND WHEN NOT TO USE IMPLANTS

A collaborative team approach is necessary to correctly assess your situation and plan the right personalized treatment options for you. While implants are highly successful in the right place, they may not be for everyone or every situation. In the right situation implant success rates in the high nineties have been consistently shown by vigorous research. Even in areas of poor bone quality and amount, success albeit slightly more limited, is quite common.

There are many other types of highly successful dental tooth replacement systems, like fixed or removable bridgework. Sometimes implants can be used in combination with, or to support fixed or removable bridgework.

Implant success is critically dependant upon:

- Careful assessment, diagnosis, and understanding of the site where implant replacement is sought and how the site relates to the function of the rest of the teeth
- The judgment, clinical experience and collaborative efforts of the implant team – dentist, surgeon and technician

Once integrated and functional, implant supported crowns – complete tooth replacements can last a lifetime.

ABOUT THE AUTHOR



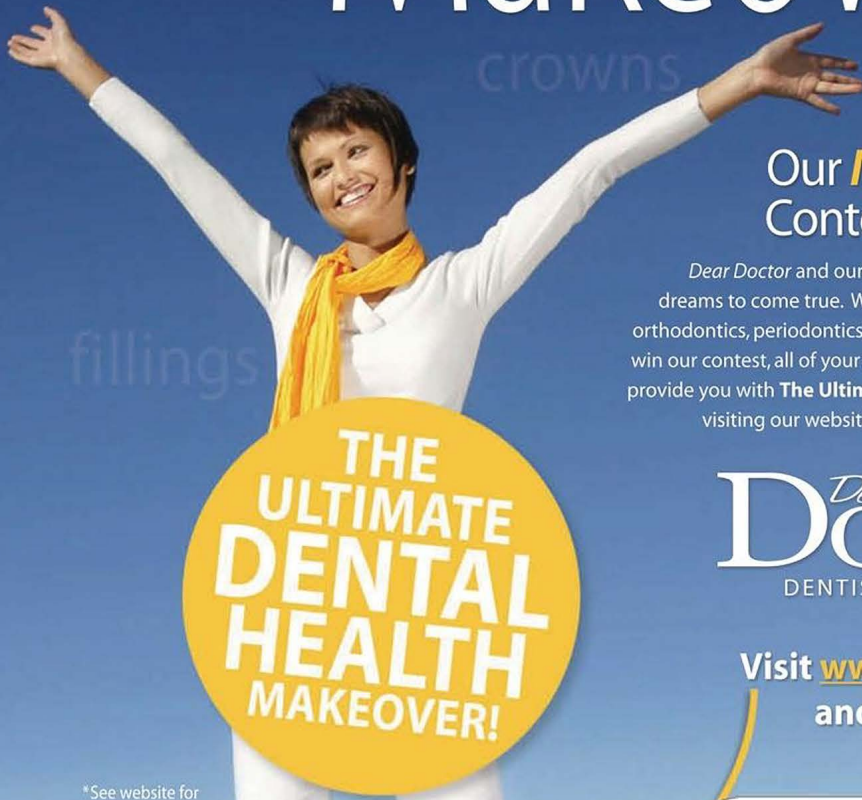
Edwin S. Rosenberg, B.D.S., H. DIP. DENT., D.M.D., F.I.C.D., F.A.C.D., F.C.P.

Professor Edwin S. Rosenberg received his BDS, University of Witwatersrand, S.Africa and H.DIP. DENT in Periodontics. In the USA, he earned his DMD, certificates in Periodontics and Periodontal Prosthesis, University of Pennsylvania. He is currently Clinical Professor of: Implant Dentistry & Periodontics; Clinical Professor Surgical Sciences New York University; Medical College of Pennsylvania, Allegheny University & University of Southern California; Chairman and Director of The American Board of Periodontology. He is in private practice limited to periodontics, implant dentistry and prosthodontics. He is one of the world's great clinicians, clinical researchers, lecturers and teachers in clinical research in Microbiology, Implant Therapy, and Clinical Periodontics. He is an internationally recognized researcher, author, lecturer and clinician.

The editorial content in this magazine is a forum for you and your families 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.

Enter to win at www.DearDoctor.com

Enter to Win a Makeover!



Our **New** Makeover Contest Has Begun!

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

Dear
DOCTOR
DENTISTRY & ORAL HEALTH

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

*See website for terms & conditions



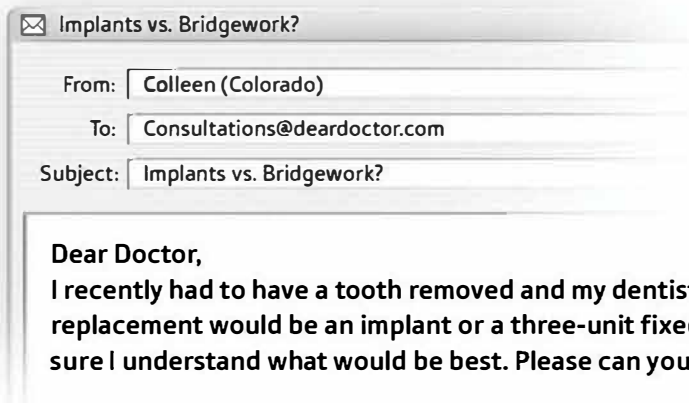
Thank you to our contest sponsors:



Implants vs. Bridgework

Considerations to help you decide what is right for you

A Consultation with Drs. Wendy & Michael Spektor



Dear Colleen,

For purposes of this discussion, teeth basically have two main parts; the crown is the part you see in the mouth, and the root is the part that is encased in bone and keeps the tooth in place. A dental implant is actually a root replacement, and unlike the root of a tooth, it is actually fused to the bone of the jaw. A crown is attached to the implant and in effect it becomes a stand-alone tooth, functioning and appearing just like the natural tooth you have lost. The basic prerequisites for a successful implant include: 1) a sufficient quantity and quality of bone to anchor or support the implant, 2) the adjacent teeth and gums are healthy and 3) the quality of the adjacent teeth will allow for a natural-looking cosmetic result.

By contrast, a fixed bridge is a restoration or prosthesis (replacement part), that is fixed in place by attaching to the natural adjacent teeth. The tooth to be replaced is called a “pontic” after the French “pont” for bridge. The adjacent teeth, called abutments, just like a bridge spanning a river or canyon, provide support on either side. The way that the bridge attaches is that the abutment teeth are “prepared” by removing the enamel layer and are replaced by crowns (caps) to which the false tooth (pontic) is attached. Thus a three-unit bridge is three

crowns joined together with the middle crown being a false tooth, with the side crowns cemented or bonded to the adjacent natural teeth.

The following illustrations show the general advantages and disadvantages of a three-unit fixed bridge versus an implant restoration. Please note these are general guidelines only. A discussion with your dentist is necessary to discuss your specific situation. Please see your dentist to review all the risks, benefits and alternatives to determine which option is best for you.

Sincerely,

Drs. Wendy and Michael Spektor

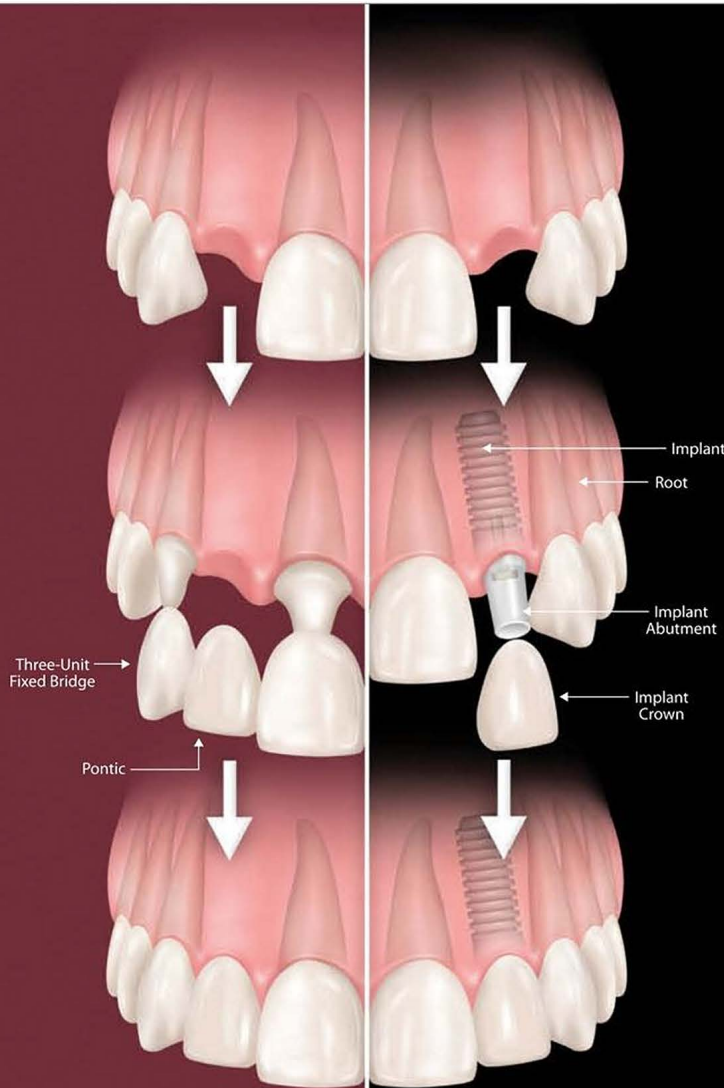
ABOUT THE AUTHOR

Drs. Wendy and Michael Spektor

Dr. Wendy Shultz Spektor is a general dentist who graduated with honors from the University of Texas in Austin. She later received her Doctorate in Dentistry from the University of Washington Dental School. She lectures nationally on business and marketing.

Dr. Michael Spektor is a periodontist having received his Doctorate in Dentistry from the University of Illinois School of Dentistry. He later received his degree in Periodontology from the University of Washington. Dr. Spektor taught periodontics for 22 years at the University of Washington Dental School.

Wendy and Michael are a husband and wife team in practice together.



THREE-UNIT FIXED BRIDGE

ADVANTAGES

- Esthetic, functional, predictable, reliable
- Less costly
- Requires less time for final result

DISADVANTAGES

- Requires enamel removal of adjacent teeth
- If adjacent teeth have crowns, they must be redone
- Tooth decay is potential problem
- Root canal treatment may be required if nerves are affected
- Greater tendency for gum disease
- Less longevity than implants

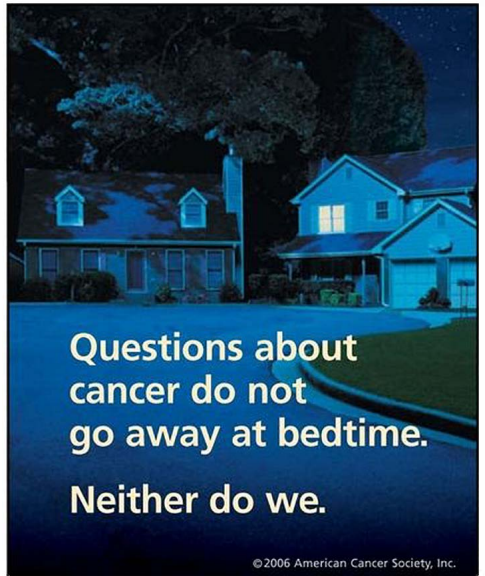
IMPLANT RESTORATION

ADVANTAGES

- Esthetic, functional, predictable, reliable
- Does not affect adjacent teeth
- Does not decay
- Less likely to develop gum disease

DISADVANTAGES

- More expensive
- More planning time
- Requires minor surgery
- Requires healing time before permanent tooth replacement



Questions about
cancer do not
go away at bedtime.
Neither do we.

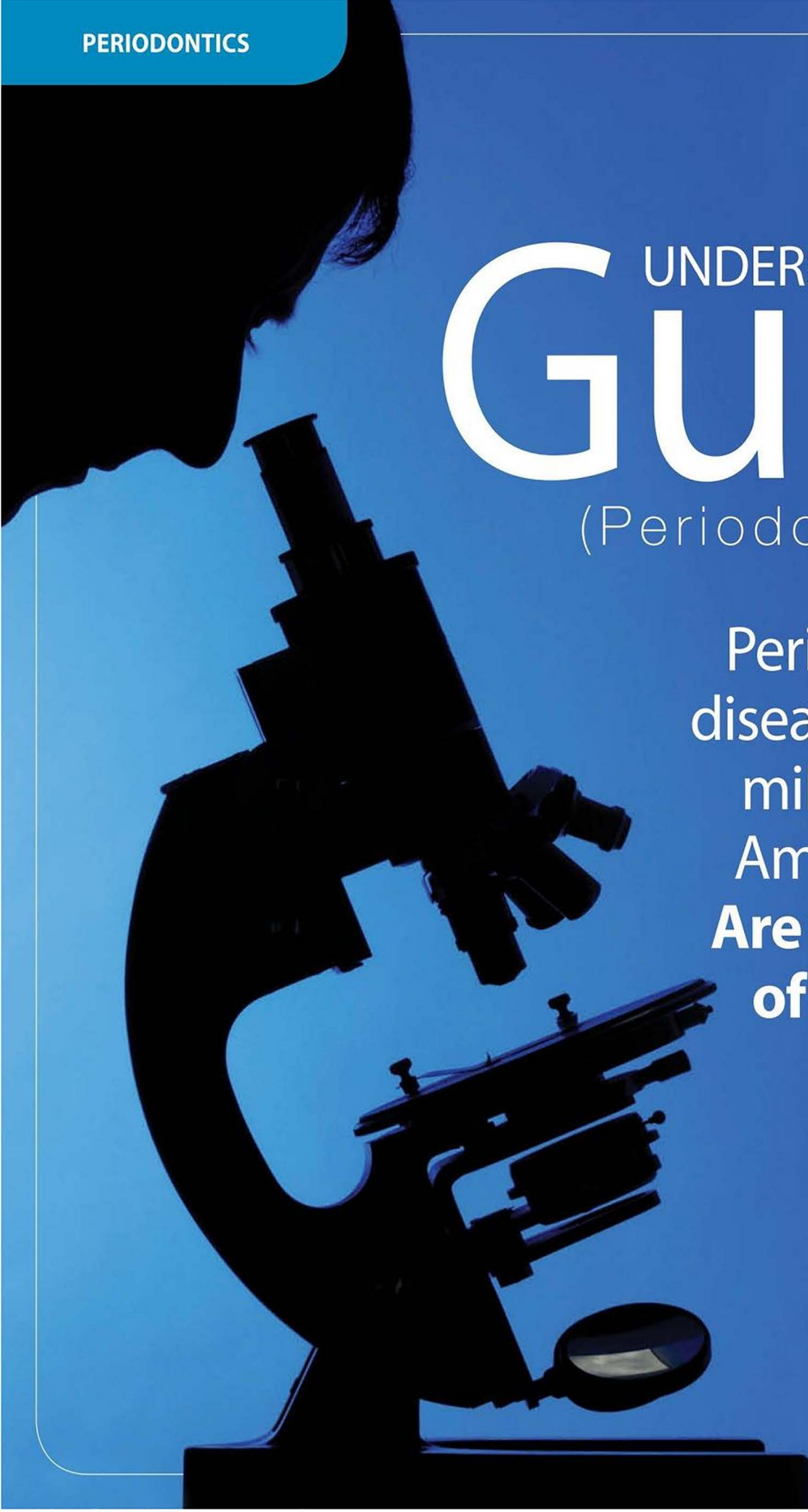
©2006 American Cancer Society, Inc.

*For answers,
information and
support,
call us anytime,
day or night.*



Hope.Progress.Answers.

800.ACS.2345
www.cancer.org



UNDERSTANDING Gum

(Periodontal)

Periodontal
disease affects
millions of
Americans.
**Are you one
of them?**

Disease

by Max A. Listgarten, DDS

The mouth is a remarkable eco-system, studied closely by researchers for hundreds of years: your own oral tissues live alongside millions of bacterial organisms, most of the time in benign cooperation. Sometimes, however, that symbiosis erupts into an all-out war known as periodontal disease.

Periodontal disease refers to any disease (actually several) that affect the areas around the teeth (from the Latin “peri” – around and Greek “odont” – tooth). Periodontology is the corresponding specialty that studies these supporting structures of the teeth – including the gingival (gum) tissues, the periodontal ligament which suspends the tooth in its socket and the underlying bone to which it is attached. Periodontics is the dental specialty dedicated to the treatment and prevention of periodontal disease.

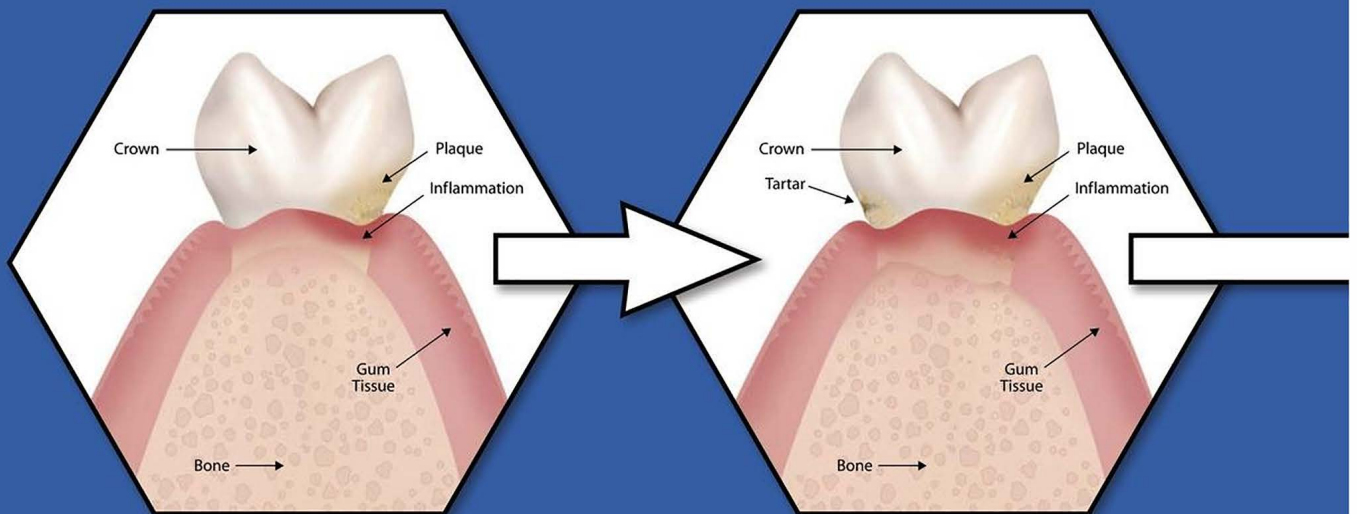
The periodontal tissues are arguably among the most highly researched tissues in the body. Contributions by researchers from many fields have greatly added to our knowledge of oral as well as general health and bodily functions. While periodontal diseases may be confined to the mouth, their effect may not be: research is beginning to uncover a relationship between periodontal health and general health. Known risk factors for periodontal disease include smoking and diabetes. Evidence is also suggesting a relationship between severe periodontal disease, cardiovascular disease (heart and stroke conditions) and mothers of preterm low birth weight babies.

Periodontists have developed several effective treatments to halt or eradicate many forms of periodontal disease. The most effective treatment, though, is preventive, performed by the patient. Good personal daily oral hygiene, which disrupts the growth of plaque, is the best defense against most forms of periodontal disease.

DENTAL PLAQUE: THE MAIN CULPRIT IN PERIODONTAL DISEASE

Van Leeuwenhoek, a Dutch scientist of the 17th century and inventor of the first microscopes, was the first to observe living bacteria, which he called “animalcules.” He observed dental plaque to be bacterial in origin and made the connection between it, oral hygiene and gum disease.

Over the next four centuries, knowledge about the relationship between the bacteria-rich plaque and periodontal disease advanced steadily. Studies carried out in the 1950s and 1960s, contributed enormously to this understanding: by looking at large populations of different age groups over time, researchers found a clear but indirect association between mouth cleanliness, dental (bacterial) plaque deposits on teeth and the time that it was present. Most of the variation in disease levels could be accounted for by bacterial plaque alone, the rest attributed to other factors like diet, nutrition, bite factors and other variables. The association between smoking and periodontal disease also became apparent with smokers showing worse and more rapid bone loss than non-smokers.



Stage 1: Gingivitis - inflammation of the gingiva (gums) without bone loss.

Stage 2: Early Periodontitis - inflammation of the gingiva (gums) and the surrounding tissues that results in early bone loss.

One of the most famous clinical studies was carried out in 1965 by Professor Harold Løe in Denmark. Dental students with healthy periodontal tissues were instructed to stop all oral hygiene and were regularly observed for a three-week period. Over time all the students developed gingivitis, or inflammation of the gums. At the same time the bacterial makeup of dental plaque changed and became more complex. The bacterial population and the students' periodontal health returned to normal soon after oral hygiene was re-instituted.

This landmark experiment clearly showed what has become an axiom in modern periodontics, that there is a direct relationship between oral (mouth) bacteria concentrated in dental plaque and periodontal disease.

The biofilm we currently refer to as dental plaque is similar to other types of biofilms: colonies of living organisms that are generally specific to a particular eco-system (the interaction of organisms within a specific environment).

Your mouth is one of these eco-systems with conditions conducive to growing bacteria that promote both health and disease under the right circumstances.

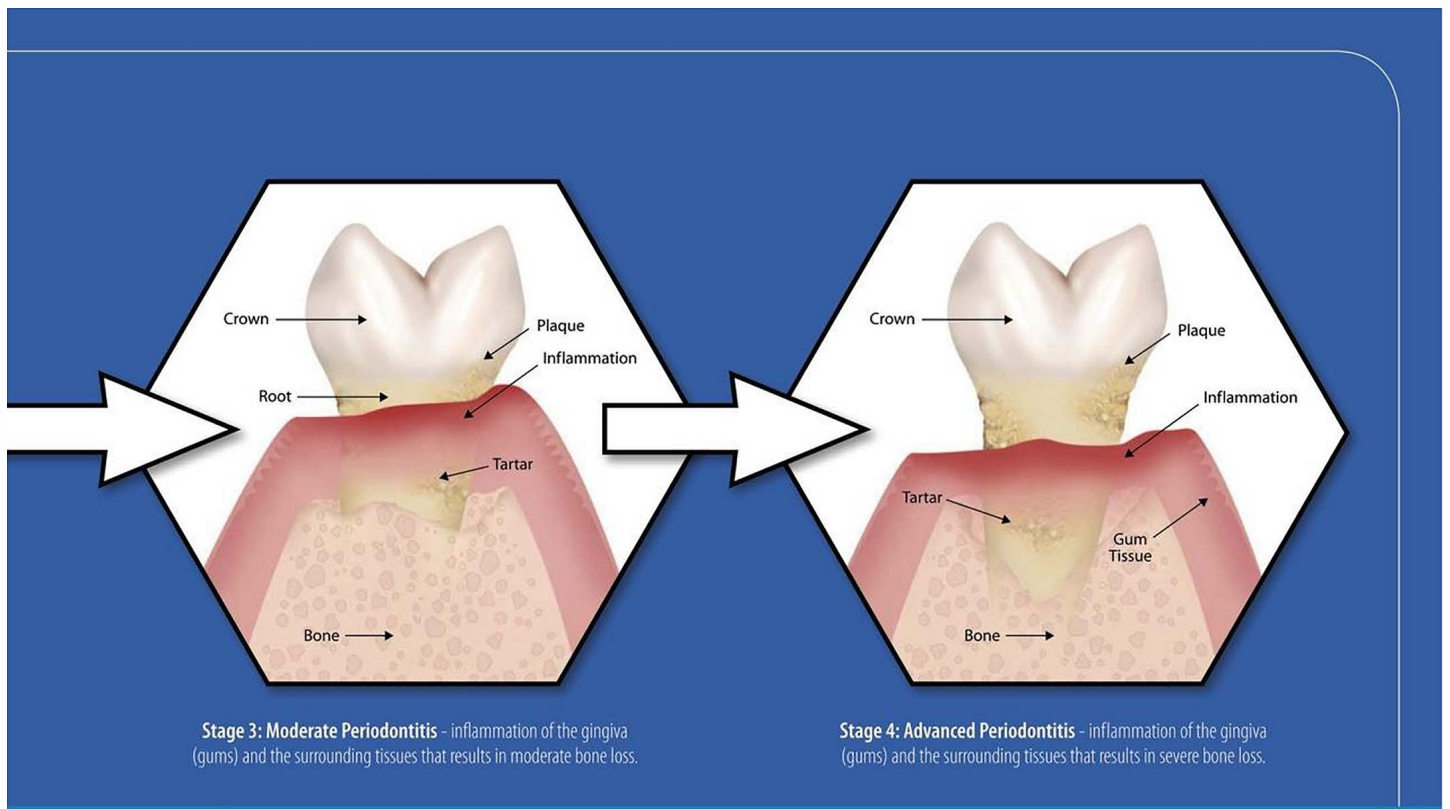
Disease-causing bacteria tend to appear in oral biofilms not disturbed on a regular basis by oral hygiene procedures like brushing and flossing. As gum disease sets in, the disease-causing bacteria move into defects known as periodontal pockets around the teeth from which they

are increasingly difficult to remove. There are currently over six hundred species of bacteria known to exist in the mouth alone, with only about four hundred currently identified. Disease-causing bacteria may only account for a small

proportion of the total bacterial population in the mouth, but their effects if uncontrolled can be devastating.

If that growth remains unresponsive to conventional cleaning techniques, it may be necessary in some cases to identify them so that they can be treated with specific antibiotics.

There are currently over six hundred species of bacteria known to exist in the mouth alone, with only about four hundred currently identified.



UNDERSTANDING PERIODONTAL DISEASE

Periodontal disease, or gum disease as it is commonly called, is really a group of diseases with the same end results; inflammation of the gums ([gingivitis](#)), destruction of the periodontal ligament, loss of supporting bone and ultimately tooth loss. Nearly all people will develop gingivitis in the absence of good oral hygiene; however, only about 10-15% of people go on to develop more advanced periodontal disease with the loss of supporting bone and eventual tooth loss.

Of the people who go on to develop advanced forms of periodontal disease, 70% develop a chronic form of the disease that becomes worse as the patient ages. It has a pattern of attachment ([bone](#)) loss that is the same on both sides of the mouth and is predictably treatable.

The other 30% of periodontal disease patients develop different forms and patterns of disease. Some are more and some less rapidly progressive, affecting younger age groups and are associated with different combinations of disease-causing bacteria and/or deficiencies in their immune system. If left untreated, attachment ([bone](#)) loss tends to progress in spurts of activity rather than in a

steady progression. It is more cyclical than linear, short periods of rapid disease progression are followed by longer periods of attempted recovery by the body and then once again by further breakdown.

THE IMMUNE SYSTEM: BALANCE IS KEY

The immune system is the body's way of protecting itself against disease. It is made up of a complex recognition and response system to bacteria or other pathogenic ([disease-causing](#)) organisms. Specific antibodies to these organisms enhance the effectiveness of the body's defenses against these bacteria.

One of the major defensive responses mediated by the immune system is inflammation of the gums, usually the first tell tale sign of periodontal disease to be observed. This inflammation is actually the immune system at work, trying to isolate the disease-causing bacteria and prevent spread to other parts of the body. Defense cells get rid of the offending bacteria and promote the repair of damaged tissues.

Unfortunately, the body's immune system can be influenced by a number of factors, heredity being one of the

most critical. Certain groups of people carry genes that may predispose them to periodontal and other inflammatory diseases. Family history of periodontal disease may be an important clue, since we inherit our genes from previous generations. Genetic testing has recently been developed that helps identify such people.

Certain groups of people carry genes that may predispose them to periodontal and other inflammatory disease

Another impediment to the immune system is stress, brought on by physical illness or severe emotional distress. Stress can affect the immune system by lowering resistance, which impedes the ability of the immune system to fight periodontal disease.

SIGNS AND SYMPTOMS OF PERIODONTAL DISEASE

As mentioned before, the first signs of periodontal disease usually begin with gingivitis; the gums appear reddened at the margins, slightly swollen and bleed when gently provoked by tooth brushing or flossing. It is often thought that brushing too hard causes bleeding gums – however, bleeding from the gum tissues is not normal and should be taken as a warning sign.

Bad breath and taste are also commonly associated with periodontal disease. As the disease progresses the gum tissues begin to recede, exposing root surfaces which may cause tooth sensitivity to temperature and pressure change. Gum tissues may start to lose their normally tight attachment to the tooth causing pocket formation, detectable by a dentist during periodontal probing. As pocket formation progresses, supporting bone loss may be noted around the teeth.

Abscess formation, the collection of pus pockets denoted by pain, swelling and discharge from the gum tissues is a later sign of disease. Ultimately looseness and drifting of teeth occur as bone is lost in more advanced degrees of disease and may also be apparent as eating becomes more difficult or uncomfortable.

DIAGNOSIS

Early periodontal disease can be detected by your general dentist during routine and regular dental checkups. He or she can physically and visually evaluate the gingival tissues, probe to determine whether the attachment levels to the teeth are normal or abnormal, and evaluate bone health through dental radiographs (x-rays).

Depending on the findings, your dentist may also refer you to a periodontist, a dentist specializing in the diagnosis and treatment of periodontal diseases. A periodontist will interact with a general dentist and other dental specialists in planning and treating periodontal and bite problems to achieve optimum periodontal health and a functional and esthetic result.

TREATING PERIODONTAL DISEASE – WHAT TO EXPECT

Should you encounter periodontal disease, here are some of the aspects of treatment you should expect:

Behavior Change: One of the first things your dentist will recommend as a part of treatment for periodontal disease is a behavior change on your part. Since dental plaque is the main cause of periodontal disease, its removal on a daily basis is essential. For many patients this involves forming new oral hygiene habits, along with cessation of smoking and other lifestyle changes. Consistent behavior change is the most important element in maintaining long term periodontal health, since daily plaque removal in large part will set the stage for sustained, successful treatment.

Afraid to smile because of receding gums or periodontal disease?

Ask your doctor about the new *GEM* in dentistry!

Advances in genetic engineering are revolutionizing dental care. Introducing *GEM 21S*® Growth-factor Enhanced Matrix, the first genetically engineered treatment designed to safely and effectively promote faster healing of bone and gum tissue around teeth. This exciting new product is available now. Ask your dentist or dental surgeon how you can be part of the *GEM* revolution.

GEM 21S®
GROWTH-FACTOR ENHANCED MATRIX



Osteohealth®
REVOLUTIONIZING REGENERATION™

For more information, visit www.osteohhealth.com

IMPORTANT INFORMATION

GEM 21S® Growth-factor Enhanced Matrix is intended for use by clinicians familiar with periodontal surgical grafting techniques. It should not be used in the presence of untreated acute infections or malignant neoplasm(s) at the surgical site or, in patients with a known hypersensitivity to one of its components. It must not be injected systemically.

The safety and effectiveness of *GEM 21S*® has not been established in other non-periodontal bony locations, in patients less than 18 years old, in pregnant or nursing women, in patients with frequent/excessive tobacco use (e.g. smoking more than one pack per day) and in patients with more severe defects. In a 180 patient clinical trial, there were no serious adverse events related to *GEM 21S*®; adverse events that occurred are those associated with periodontal surgical grafting procedures in general, including swelling, pain, bleeding, dizziness, fainting, headaches, infection, loss of feeling.

Afraid to smile because of receding gums
or periodontal disease?

Ask your doctor about the new *GEM* in dentistry!

GEM 21S[®] is available now. Ask your dentist
or dental surgeon how you can be part of
the *GEM* revolution.

GEM 21S[®]

GROWTH-FACTOR ENHANCED MATRIX



Osteohealth[®]
REVOLUTIONIZING REGENERATION™

For more information, visit www.ostehealth.com

GEM 21S[®] Growth-factor Enhanced Matrix

Caution: Federal Law restricts this device to sale by or on the order of a dentist or physician.

GEM 21S[®] is composed of two sterile components:

- synthetic beta-tricalcium phosphate (β -TCP) [$\text{Ca}_3(\text{PO}_4)_2$] is a highly porous, resorbable osteoconductive scaffold or matrix that provides a framework for bone ingrowth, aids in preventing the collapse of the soft tissues and promotes stabilization of the blood clot. Pore diameters of the scaffold are specifically designed for bone ingrowth and range from 1 to 500 μm . The particle size ranges from 0.25 to 10 mm and
- highly purified, recombinant human platelet-derived growth factor-BB (rhPDGF-BB). PDGF is a native protein constituent of blood platelets. It is a tissue growth factor that is released at sites of injury during blood clotting. Extensive *in vitro* and animal studies have demonstrated its potent mitogenic (proliferative) and chemotactic (directed cell migration) effects on bone and periodontal ligament derived cells. Animal studies have shown PDGF to promote the regeneration of periodontal tissues including bone, cementum, and periodontal ligament (PDL).

The contents of the cup of β -TCP are supplied sterile by gamma irradiation. Sterile rhPDGF-BB is aseptically processed and filled into the syringe in which it is supplied. All of these components are for single use only.

INDICATIONS:

GEM 21S[®] is indicated to treat the following periodontally related defects:

- Intra-bony periodontal defects;
- Furcation periodontal defects; and
- Gingival recession associated with periodontal defects.

CONTRAINDICATIONS:

As with any periodontal procedure where bone grafting material is used, *GEM 21S*[®] is

CONTRAINDICATED in the presence of one or more of the following clinical situations:

- Untreated acute infections at the surgical site;
- Untreated malignant neoplasm(s) at the surgical site;
- Patients with a known hypersensitivity to any product component (β -TCP or rhPDGF-BB);
- Intraoperative soft tissue coverage is required for a given surgical procedure but such coverage is not possible; or
- Conditions in which general bone grafting is not advisable.

WARNINGS:

The exterior of the cup and syringe are NOT sterile. See directions for use. It is not known if *GEM 21S*[®] interacts with other medications. The use of *GEM 21S*[®] with other drugs has not been studied. Carcinogenesis and reproductive toxicity studies have not been conducted.

The safety and effectiveness of *GEM 21S*[®] has not been established:

- In other non-periodontal bony locations, including other tissues of the oral and craniofacial region such as bone graft sites, tooth extraction sites, bone cavities after cystectomy, and bone defects resulting from traumatic or pathological origin. *GEM 21S*[®] has also not been studied in situations where it would be augmenting autogenous bone and other bone grafting materials.
- In pregnant and nursing women. It is not known whether rhPDGF-BB is excreted in the milk of nursing women.
- In pediatric patients below the age of 18 years.
- In patients with teeth exhibiting mobility of greater than Grade II or a Class III furcation.
- In patients with frequent or excessive use of tobacco products.

Careful consideration should be given to alternative therapies prior to performing bone grafting in patients:

- Who have severe endocrine-induced bone diseases (e.g. hyperparathyroidism);
- Who are receiving immunosuppressive therapy; or
- Who have known conditions that may lead to bleeding complications (e.g. hemophilia).

The *GEM 21S*[®] grafting material is intended to be placed into periodontally related defects. It must not be injected systemically.

The radiopacity of *GEM 21S*[®] is comparable to that of bone and diminishes as *GEM 21S*[®] is resorbed. The radiopacity of *GEM 21S*[®] must be considered when evaluating radiographs as it may mask underlying pathological conditions.

PRECAUTIONS:

GEM 21S[®] is intended for use by clinicians familiar with periodontal surgical grafting techniques. *GEM 21S*[®] is supplied in a single use kit. Any unopened unused material must be discarded and components of this system should not be used separately.

ADVERSE EVENTS:

Although no serious adverse reactions attributable to *GEM 21S*[®] were reported in a 180 patient clinical trial, patients being treated with *GEM 21S*[®] may experience any of the following adverse events that have been reported in the literature with regard to periodontal surgical grafting procedures: swelling; pain; bleeding; hematoma; dizziness; fainting; difficulty breathing, eating, or speaking; sinusitis; headaches; increased tooth mobility; superficial or deep wound infection; cellulitis; wound dehiscence; neuralgia and loss of sensation locally and peripherally; and, anaphylaxis.

Occurrence of one or more of these conditions may require an additional surgical procedure and may also require removal of the grafting material.

STORAGE CONDITIONS:

The *GEM 21S*[®] kit must be refrigerated at 2°-8°C (36°-46°F). Do not freeze. The individual rhPDGF-BB component must be refrigerated at 2°-8°C (36°-46°F). The β -TCP cup can be stored at room temperature, up to 30°C (86°F). The rhPDGF-BB component must be protected from light prior to use; do not remove from outer covering prior to use. Do not use after the expiration date.

Manufactured By:
BioMimetic Therapeutics, Inc.
389-A Nichol Mill Lane
Franklin, TN 37067

Distributed By:
Osteohealth Company
Division of Luitpold Pharmaceuticals, Inc.
One Luitpold Drive, P.O. Box 9001
Shirley, NY 11967
(800) 874-2334

This product is sold and distributed under US patents: 4,845,075; 5,045,633; 5,124,316
PATENTS PENDING

850005 Iss. 12/05

Calculus (Tartar) Removal: Cleaning however, isn't all on your shoulders – your dentist will also see that your teeth receive a thorough cleaning in his or her office to quickly remove the deposits of calcified plaque called calculus or tartar and other bacterial toxins which become ingrained into the root surfaces. This process of mechanical cleaning is generally known as scaling and root planing using ultrasonic and hand scaling instruments. It may be carried out by a hygienist, a dentist or a periodontist, and sometimes requires local anesthesia. Scaling usually results in little or no pain, although in rare instances a patient may need mild pain medication for a day or two.

Evaluation: After three or four weeks your dentist will evaluate the response of your gingival tissues to the initial therapy. In early or mild cases the healing response may be good enough to return an individual to periodontal health. Your dentist will probably recommend a regular schedule of office checkups and cleanings to maintain this healthy state.

Occlusal Bite Therapy: Generally, attention to the bite or bite disorders are treated during or after initial therapy once an inflammation free environment has been established. This phase of treatment addresses such issues as loose teeth, clenching or grinding habits, may include localized grinding of some tooth surfaces or even orthodontic (**tooth movement**) treatment.

Surgical Therapy: Surgical treatment may be needed in more severe cases of periodontal disease that do not respond adequately to non-surgical initial therapy.

Periodontal surgical treatment today encompasses a variety of sophisticated plastic surgical procedures. These include techniques to repair and regenerate soft (**gingival**) and hard (**bony**) tissues and replace missing teeth with dental implants. They are usually performed by a periodontal specialist trained in these techniques. Most procedures are performed with local anesthesia (**numbing of the gum/periodontal tissues**), and sometimes with the use of intravenous or conscious sedation. The objective of surgery is generally to eliminate pockets, regenerate attachment and return the patient to more normal function and esthetics, while generally providing an environment more conducive to oral hygiene and maintenance care.

VIGILANCE CAN MAKE THE DIFFERENCE

If you have periodontal disease all is not lost. Remember, your teeth were meant to last a life time. Early diagnosis and treatment of periodontal disease are also essential in keeping your teeth for life.

While periodontal disease is treatable, vigilance is necessary to prevent recurrence: institute daily plaque removal through brushing and flossing as a part of your oral hygiene; seek treatment to quit smoking; and establish a regular schedule of clinical cleanings and checkups.

In a nutshell, a familiar adage aptly describes your best defense against periodontal disease, “if you look after your teeth, they will look after you”.

For further reading, visit the American Academy of Periodontology (www.aap.org) or the American Dental Association (www.ada.org).

ABOUT THE AUTHOR



Max A. Listgarten, DDS

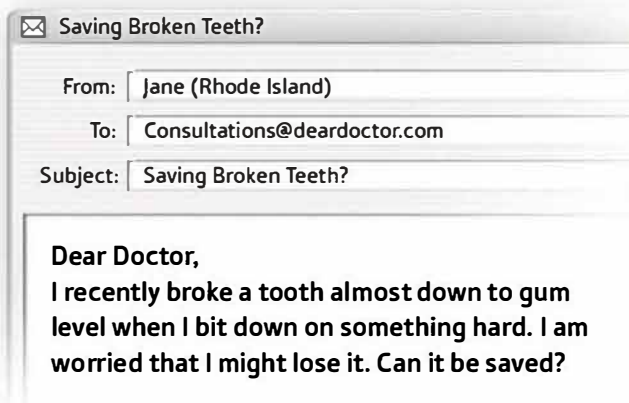
Professor Max A. Listgarten is a world renowned researcher and preceptor in the field of periodontal research. He is one of the most highly honored and acclaimed scientists in the field. His contribution to understanding the structural biology of periodontal tissues in health and disease; periodontal microbiology; periodontal diagnosis and implant dentistry has been invaluable to dentistry. He was the first to use electron microscopy to detail the structure of the periodontal tissues. He is the author of over 250 publications. He is an internationally renowned researcher, lecturer and teacher par excellence. During his illustrious career he has held major positions in, and been associated with the world's greatest dental institutions including the University of Pennsylvania, Harvard University, the University of Toronto and the American Academy of Periodontology.

The editorial content in this magazine is a forum for you and your families 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.

Saving Broken Teeth

Crown lengthening is a small surgery with big benefits

A Consultation with Dr. Jeanne Salcetti



Dear Jane,

Please go to your dentist as soon as possible. Crown lengthening is a common treatment procedure used to expose more tooth above the gum line (dentists call it sound or healthy tooth structure) where a tooth or teeth have broken or decayed at or close to gum level. In order for your dentist to fabricate a restoration, a filling or a crown, sufficient exposed tooth is required so that a restoration can be properly fitted. In other words, your dentist will need sufficient tooth exposed above the gum line to “grab on to” in order to accomplish the goal of tooth restoration or replacement.

Crown lengthening is a surgical procedure that can be carried out using local anesthesia. Numbing the tooth or teeth in question as well the gum and bone that support the teeth is the same as numbing a tooth for a filling. Tiny little incisions are made inside the gum-line, both cheek and tongue side and the gum is teased open like a little flap on an envelope. A minor amount of bone is then sculpted away from the tooth (teeth) in question to actually lengthen the tooth or crown, and this is where this treatment procedure gets its name. The gum is then replaced against the bone and tooth

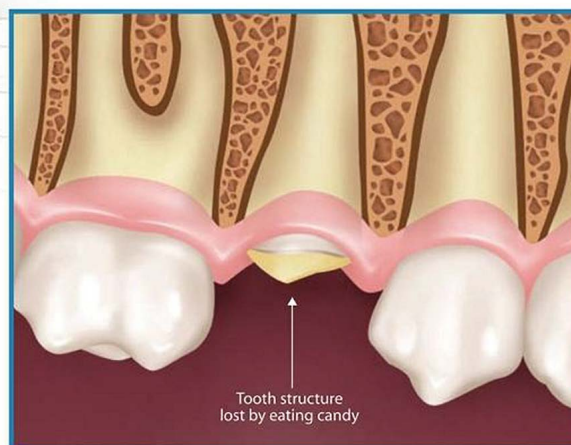


Illustration showing fractured tooth requiring a minor surgical procedure to allow the dentist to restore the tooth.

leaving no open wounds, therefore, healing is quick and uneventful. Self-dissolving sutures are often used and minor anti-inflammatory drugs are given after surgery. These drugs are used for comfort and reduce the chances of post-surgical swelling.

During this procedure there should be no discomfort. There is the same amount of pressure from instrumentation or vibration from drilling as that which occurs from a typical filling. The length of time the procedure will take depends on the number of teeth that need to be crown lengthened. A typical crown lengthening procedure may take anywhere from sixty to ninety minutes. Post-operative discomfort is minimal and patients can go about normal activities the following day, avoiding vigorous exercise that may cause bleeding. Healing is usually evaluated in about a week to ten days and the tissues look pretty much healed to the naked eye. A period of approximately six to eight weeks is required prior

Have a Question?

Send an email to consultations@deardocor.com and have your question answered in an upcoming issue!

to going ahead with final tooth restorations as it is important for the gum tissues to have fully matured.

There will be limitations as to the amount of crown lengthening that can be carried out in situations where teeth have more severe fractures. These limitations are often dependent on the prognosis or long term outlook of the tooth as well as the various other options that may be available to you.

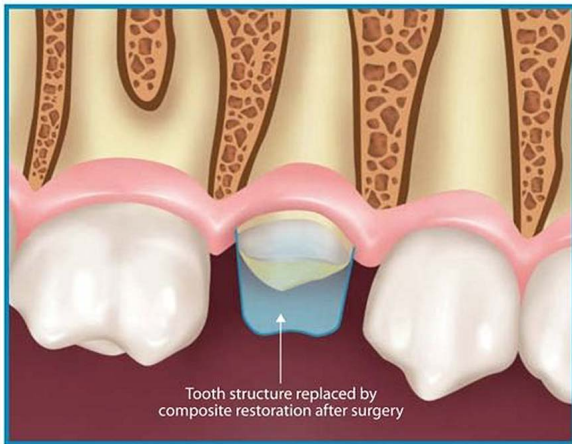


Illustration showing an increased amount of tooth structure exposed after surgery followed by a composite restoration to allow the dentist to restore the tooth.

Often other forms of treatment need to be considered in addition to crown lengthening. In order to avoid crown lengthening of adjacent healthy teeth, sometimes it may be necessary to first treat the broken tooth or teeth orthodontically, (with tooth movement by braces). If orthodontic treatment is required, it must be carried out prior to crown lengthening. Amazingly, this orthodontic movement pulls both the gum and bone tissues down with the tooth. The advantage of this is that only the affected tooth needs to be lengthened without involving the adjacent healthy teeth resulting in an even smile.

Crown lengthening can also be used for the correction of a 'gummy' smile, where real tooth length is obscured by gum tissue making the teeth look short. The procedure is used to create an appearance based on the natural tooth length, so that there is no effect on the health of the tooth. It can also be used where teeth have worn excessively. Where a broken or decayed tooth needs crown lengthening, the long

term outlook for the tooth is dependent on the condition of the tooth or teeth prior to the crown lengthening procedure which will need to be carefully assessed. Crown lengthening can be carried out in combination with braces and crowns or veneers in patients who have crooked and discolored or worn down teeth. During this six to eight week healing and maturation period temporary crowns can be placed for cosmetic reasons if necessary.

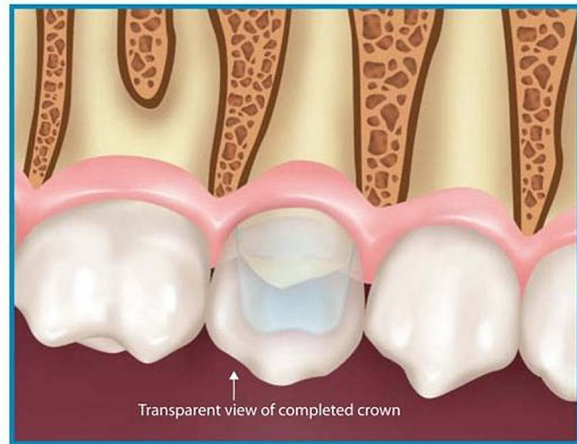


Illustration showing the full crown in place reestablishing the appearance and function of a tooth

The decision as to how much you would benefit from this procedure can be made by your regular dentist and/or in combination with a periodontist, a specialist in the diagnosis and surgical treatment of the supporting structures of the teeth.

Sincerely,
Jeanne M. Salcetti, DDS, MS

ABOUT THE AUTHOR

Jeanne M. Salcetti, DDS, MS

Dr. Salcetti earned a B.S. in Dental Hygiene from the University of Maryland in 1980 and a D.D.S. from the Baltimore College of Dental Surgery Dental School, University of Maryland in 1991. She attended the University of North Carolina at Chapel Hill for her 3 year periodontics residency where she received her certificate in periodontics and an M.S. degree. She is a Diplomate of The American Board of Periodontology and is the 1st Female President of the Colorado Dental Association. Her private practice is limited to Dental Implants & Periodontics.

The editorial content in this magazine is a forum for you and your families 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.



Each year, Americans are estimated to spend their money to the tune of nearly \$3 billion a year on fresh breath remedies, including gum, mints and mouth rinses.

Bad BREATH

MORE THAN JUST EMBARRASSING

by Dr. Ernest Newbrun, B.D.S., M.S., D.M.D., Ph.D.

Halitosis, a.k.a. oral malodor, fetor oris, foul breath, or just plain old bad breath are terms used to describe noticeably unpleasant odors exhaled in breathing. From the Latin halitus (exhalation) and the Greek osis (a condition or disease-causing process), the term denotes unpleasant smelling breath that arises from both physiological (normal body), and pathological (disease-causing) states that may be either from the mouth, the body or both. Bad breath has a significant impact both personally and socially on those who suffer from it, as well as those on the receiving end. There's even a term for people who believe or fear they have bad breath "halitophobia".

Many studies place bad breath as the third most frequent reason for seeking dental treatment following tooth decay and gum disease. Each year, Americans are estimated to spend their money to the tune of nearly \$3 billion a year on fresh breath remedies, including gum, mints and mouth rinses. These purchases are due in part to aggressive advertising by mouthwash and toothpaste manufacturers for their products that promise to make your breath sweet and attractive, especially to the opposite sex. Time magazine even referred to Listerine's PocketPaks®, the first breath strips that dissolved on the tongue, as one of their "Products of the Year" when they debuted in 2001, underscoring the impact and importance of halitosis, bad breath, to the public.

PREVALENCE

For over 2,000 years, at least since Hippocrates suggested the use of a rinse made from herbs and wine for sweetening bad breath, halitosis has long been recognized as a common unpleasant part of the human condition. Researchers estimate the prevalence of unacceptable bad breath in about 50% of middle-aged and older adults – not to mention smokers' breath in the 20-25% of the U.S. population who smoke. Furthermore, a U.S. phone survey recently found 60% of women and 50% of men say they use cosmetic breath freshening products like candies, chewing gum and sprays. Bad breath is clearly a major concern of adults.

In 85-90% of all cases, bad breath originates in the mouth itself. Because the mouth is dry and inactive during the night, the odor is usually worse upon awakening. This normal halitosis – “morning breath” – is universal in adults. The intensity of bad breath differs during the day as a function of oral dryness due to stress, fasting or eating certain foods (garlic, onions, meat, fish and cheese, the most likely culprits), along with smoking and alcohol consumption. Bad breath may be transient, often disappearing after eating, brushing one's teeth, flossing, or rinsing with mouthwash.

Bad breath may also be persistent or chronic, which is a more serious condition, affecting some 25% of the population to varying degrees. It can negatively impact the individual's personal, social and business relationships, leading to poor self-esteem and increased stress. This condition is usually caused by the activity of certain types of oral bacteria.

ORAL CAUSES OF BAD BREATH

Halitosis, oral malodor, bad breath, a rose by any other name – most common remedies are cover ups and often mask but do not get to the root of the problem. Though the causes of breath odor are not entirely understood, most unpleasant odors are known to arise from proteins trapped in the mouth that are processed by oral bacteria. There are over 600 types of bacteria found in the average mouth – several dozen of these can produce high levels of foul odors when incubated in the laboratory.

The most common location for mouth-related bad breath is the tongue. Large quantities of naturally-occurring bacteria are often found on the back of the tongue, where they are relatively undisturbed by normal activity. This part of the tongue is relatively dry and poorly cleansed, and bacterial

Researchers estimate the prevalence of unacceptable bad breath in about 50% of middle-aged and older adults

Because the mouth is dry and inactive during the night, the odor is usually worse upon awakening. This normal halitosis – “morning breath” – is universal in adults.

STOCKBYTE/GETTY IMAGES

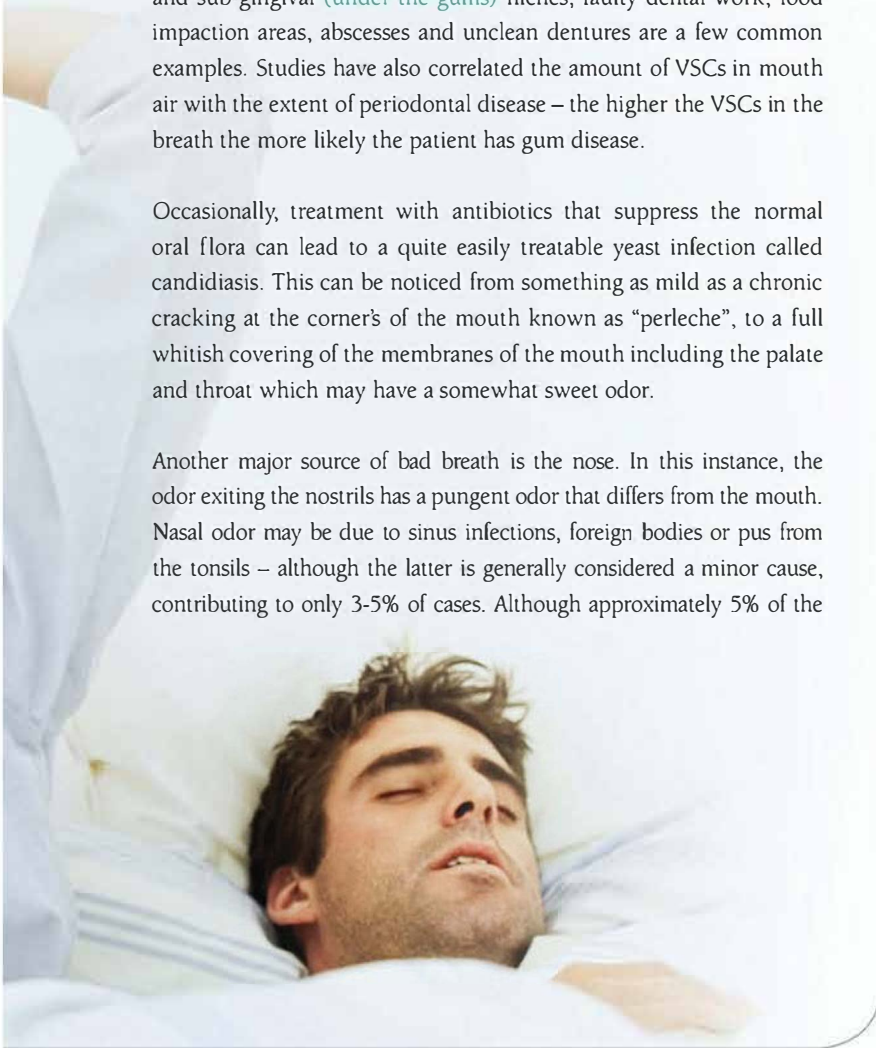
populations can thrive on remnants of food deposits, dead skin cells and post-nasal drip. The convoluted microscopic structure of the tongue provides an ideal habitat for them, where they flourish under the continually-forming tongue coating.

When left on the tongue, these bacteria can yield the decaying smells of dead or dying animal or vegetable matter. Typically these odors are characterized by the “rotten egg” smell of volatile sulfur compounds (VSCs). VSCs have been shown to be statistically associated with oral malodor levels, and usually decrease following successful treatment.

There are other oral causes for halitosis, for instance the condition known as dry mouth (*xerostomia*) which is caused by mouth-breathing may contribute to bad breath, as can a variety of medications. Other parts of the mouth may contribute to the overall odor but are not as common as the back of the tongue. Inter-dental (*between teeth*) and sub-gingival (*under the gums*) niches, faulty dental work, food impaction areas, abscesses and unclean dentures are a few common examples. Studies have also correlated the amount of VSCs in mouth air with the extent of periodontal disease – the higher the VSCs in the breath the more likely the patient has gum disease.

Occasionally, treatment with antibiotics that suppress the normal oral flora can lead to a quite easily treatable yeast infection called candidiasis. This can be noticed from something as mild as a chronic cracking at the corner's of the mouth known as “perleche”, to a full whitish covering of the membranes of the mouth including the palate and throat which may have a somewhat sweet odor.

Another major source of bad breath is the nose. In this instance, the odor exiting the nostrils has a pungent odor that differs from the mouth. Nasal odor may be due to sinus infections, foreign bodies or pus from the tonsils – although the latter is generally considered a minor cause, contributing to only 3-5% of cases. Although approximately 5% of the



would you know if you had
BAD BREATH?

Did you know
that the tongue is the
largest bacteria-harboring
site in the mouth?

Ask Yourself These Questions:

**Does a toothbrush
really clean your tongue?**

**Did you know there is
an intimate link
between oral bacteria
and diseases?**

**Why wouldn't you bring
major health benefits
to your entire family,
including yourself?**

Oolitt Advantage
offers tongue cleaners
for **all** age groups

*Oolitt is clinically
proven & highest rated
for comfort, ease
and effectiveness*

OOLITT[®]
Advantage

(813) 909-0058
www.oolitt.com

**HEALTHY MOUTH,
HEALTHY BODY**

population suffers from small bits of calcified matter in the tonsils (*tonsilloliths*) that smell extremely foul when released, these do not necessarily cause bad breath.

There are anecdotal claims that aging is associated with halitosis, but in the absence of disease, studies have found no increase. In hunger, especially starvation, as persons begin metabolizing or using their fats, the distinct acetone smell of ketones may appear on the breath. In addition, if no food is ingested, the tongue coating increases – which explains why more VSCs are detectable, the longer the interval between meals.

MEDICAL CAUSES

There are a few systemic (*general body*) medical conditions that may cause halitosis, but these are extremely infrequent in the general population. Some of these conditions that can contribute to bad breath include:

- Liver disease – causing “liver breath”, a rare type of bad breath caused by chronic liver failure
- Lung infections - such as lower respiratory tract or bronchial infections
- Diabetes – a disease caused by the lack of insulin, a hormone regulating sugar use
- Kidney infections or failure
- Cancer and other metabolic dysfunctions
- Other diseases or abnormalities of normal function

However, people suffering from halitosis should not immediately conclude they suffer from these and other conditions just from the breath odor alone. These conditions are rare and may not display bad breath at all – in fact, patients will most likely show additional disease signs and symptoms more definitive or telling than breath odor.

Most researchers consider the stomach a very uncommon source for bad breath, except in belching. The esophagus (*or gullet*) is a closed and collapsed tube; as opposed to a simple burp, the continuous flow

of gas or putrid substance from the stomach indicates a health problem like reflux, which will demonstrate more serious manifestations than just foul odor.

HALITOSIS - FIGURING OUT THE CAUSE OF BAD BREATH

It must be emphasized that halitosis per se is not a diagnosis – it is a sign to the dentist or in some cases a symptom described by the patient. It is the responsibility of the dentist to diagnose the underlying cause of halitosis. Oral malodor is a condition affecting millions of Americans: while it is always easy to recognize halitosis, identifying the exact cause is more complex. Your health professional, dentist or physician will use a more systematic approach to determine the cause.

The doctor's first step is to obtain a thorough history:

- **The chief complaint:** Is the bad breath objective, noticeable by the dentist, family member or significant other, or the subjective complaint only of the individual?
- **Medical history:** Are there any ear, nose, throat or lung problems? Are there any gastrointestinal problems? What medications is the patient using? Does the patient have any allergies? Are the kidneys and liver functioning normally (the main clearing houses of the body)?
- **Diet history:** Are garlic, onions or other pungent foods part of the customary diet?
- **Psychosocial assessment:** Does the patient suffer from depression, anxiety or lifestyle issues, such as sleep or work problems?

- **Personal habits:** Does the patient smoke and what form – cigarettes, pipe or cigar? Does the person habitually consume alcohol-containing beverages?

Next, the dentist will perform an oral examination and look for decayed or abscessed teeth, diseased gums, coated tongue or infected tonsils.



Introducing Dentiva – When You Can't Brush or Floss!



Kills Bacteria – Freshens Breath

Dentiva™ is a new concept in oral hygiene – a long-lasting soft lozenge that kills bacteria and freshens your breath. Use it when you can't brush or floss. The key to Dentiva's long-lasting properties is Nuvora's patented Sustained Release Technology – SuRe™.



A unique polymer combined with essential oils and Xylitol creates an extended contact time in the mouth to fight bacteria and keep your breath fresh all day long. Simply place Dentiva 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.



with Xylitol!

Long-lasting soft lozenge

- Impedes biofilm to help keep teeth clean
- Kills bacteria that cause bad breath
- Maintains normal pH
- Sugar and alcohol free

So when you can't brush or floss use Dentiva!

Call today to order. Or visit our website.

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



To order call
1.877.530.9811
or visit

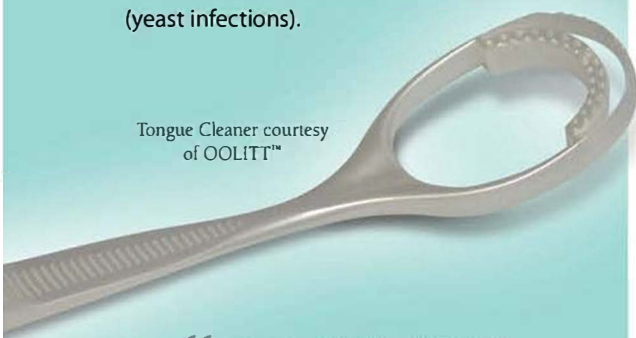
store.nuvorainc.com

The Dentists' Arsenal against Oral Bad Breath

There are several forms of treatment your dentist can undertake if the bad breath originates in the mouth:

- Oral hygiene instruction – includes careful plaque control by the patient using toothbrush, interproximal brush and/or dental floss;
- Patient instruction on tongue cleaning if coated – instruction of careful and gentle use of a tongue scraper or brush is recommended;
- Denture hygiene instruction;
- Periodontal therapy – scaling, root planing (deep cleaning) and possible antibiotic therapy;
- Removal of gross tooth-decay – where large and open cavities are present;
- Repair of defective or broken fillings;
- Extraction of third molars with debris-trapping opercula (gum flaps);
- Treatment of candidiasis (yeast infections).

Tongue Cleaner courtesy of OOLIT™



Following an oral examination, the next step may be breath tests to determine if the odor emanates from the mouth and throat (oral origin) or lungs (bodily origin):

- The person blows forcibly through the nostrils while the mouth is closed. If offensive odor is detectable, it has a systemic (general or bodily) cause.
- The person closes the nostrils by pinching with their fingers and ceases breathing momentarily, with lips tightly closed. While the nose is still closed the person opens their lips and exhales gently. If malodor is noticeable, it is of local, oral origin.

In some cases both local and systemic bodily causes may contribute to offensive breath.

If bad breath is persistent, and all other medical and dental factors have been ruled out, specialized testing and treatment are required. Hundreds of dental offices and commercial breath clinics now claim to diagnose and treat bad breath. They often use one of several laboratory methods for measurement of VSCs to diagnose bad breath. The most practical measurement of bad breath, “the gold standard,” is simply the actual sniffing and scoring of the level and type of odor carried out by trained experts.

TREATING BAD BREATH

Treatment will depend very much on the diagnosis of the cause of halitosis. Treatment may be as simple as oral hygiene instruction, or more involved techniques such as scaling, root planing (deep cleaning), the use of antibiotics to treat offending bacteria – all followed by regular maintenance visits. These treatments or therapies might be performed by the general dentist or when necessary by a periodontist, a specialist in gum diseases. The aim of treatment is to create a healthier oral ecology by promoting more protective bacteria.

If the halitosis originates from the mouth, then the local treatment of the offending tooth or teeth, decay, periodontal disease, dry socket from an extraction or operculum (loose gum flap covering) over a wisdom tooth, is mandatory. Studies

have shown that periodontal therapy reduces volatile sulphur compounds, VSCs, by 40-60%. Removing the bacterial coating on the back of the tongue with tongue scrapers or brushes reduces the amount of VSCs in the mouth air. However, if only the tongue is cleaned and no periodontal treatment is instituted, VSC levels rise again. Mouth rinses only help temporarily unless the underlying disease is also treated.

If halitosis is of systemic origin appropriate medical and/or surgical intervention may be needed.

CONCLUSION

When it comes to bad breath, time spent in careful diagnosis is time well spent. The results of a dentist's examination will determine which treatment is best, and how extensive that treatment should be.

More importantly, getting to the root cause of bad breath may reveal a more serious condition, and the need for referral to an appropriate specialist. In those cases, treating a case of bad breath may just be a lifesaver.

ABOUT THE AUTHOR

Ernest Newbrun, BDS, MS, DMD, PHD

Dr. Ernest Newbrun, Professor Emeritus at University of California San Francisco (UCSF), gained a D.M.D. University of Alabama 1959, and a Ph.D. in biochemistry at UCSF 1965. Dr. Newbrun is an internationally recognized expert on fluorides, an expert consultant to the FDA, the National Institute of Dental and Craniofacial Research and the American Dental Association (ADA). He has served on the editorial boards of numerous scientific and professional journals; he is the recipient of numerous distinguished awards and honors including; the Eastman Dental Center Alumni Award for Special Distinction in Dental Education; Presidential Citation from the ADA for contributions to public oral health and the dental profession and the Dental Caries Research Award from the International Association for Dental Research.



The editorial content in this magazine is a forum for you and your families 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.

Healthy Smiles Begin

with **NIMBUS**[®]
The **ORIGINAL MICROFINE**[®] toothbrush

NEW!
Online
Ordering!
NimbusDental.com

Soft, Gentle & Effective!

Here's something revolutionary that actually makes sense. Designed by a dentist, the original NIMBUS[®] MICROFINE[®] toothbrush uses a unique tapered bristle technology mounted on a comfort-engineered handle. The extra-fine tapered bristles fit easily between the gums and teeth to clean those very difficult to reach places where bacterial plaque collects.



nimbus[®]

Soft
MICROFINE
Bristles

Control
Support
Bristles

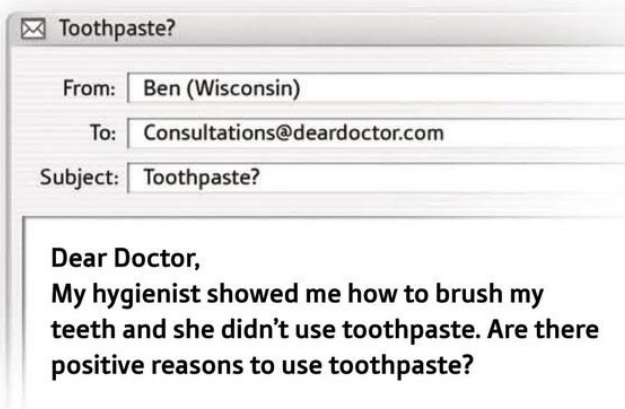


Order online at NimbusDental.com
or call **866.646.2871**

Toothpaste

Are there positive reasons to use toothpaste?

A Consultation with Dr. Thomas Schiff



Dear Ben,

It is true that plaque can be removed without the use of toothpaste, and especially when having a demonstration of oral hygiene techniques. It's a lot easier to see what's going on when your mouth is not foaming!

However there are many good reasons for using toothpaste which don't only depend on bacterial plaque removal, but also for a variety of others as well. For example, there are anti-cavity toothpastes, extra-whitening toothpastes, toothpastes with mouth-wash, and toothpastes for sensitive teeth, toothpastes with stripes, clear toothpaste, and even liver flavored toothpaste for dogs.

Fluoride was first added to toothpastes in 1914; in fact fluoride toothpastes developed in the 1950s very early on received the American Dental Association's (ADA) approval.

Have a Question?
Send an email to consultations@deardoctor.com and have your question answered in an upcoming issue!

All toothpastes contain the following ingredients: binders, abrasives, sudsers, humectants (a substance that retains moisture), flavoring, sweeteners, fluorides, tooth whiteners, preservatives, and water. Toothpaste comes in a variety of flavors, most often being some variation of mint spearmint, peppermint, regular mint and many others.

Probably the most researched of any toothpaste components is fluoride, which has scientifically proven anti-caries properties; it increases the resistance of teeth to demineralization - acid dissolution, and better yet also remineralizes teeth replacing calcium and reversing very early decay. Fluoride was first added to toothpastes in 1914; in fact fluoride toothpastes developed in the 1950s very early on received the American Dental Association's (ADA) approval.

One toothpaste brand has recently added triclosan, a widely used antibacterial, in hopes of helping to reduce plaque. Other items added to toothpaste are to whiten, remove stain, polish, desensitize, bubble and the list goes on.

Important Features and Ingredients of Toothpastes

- **Fluoride:** You should only buy toothpastes that contain fluoride. On the label, this may be called stannous fluoride, sodium fluoride or mono-fluoride phosphate (MFP). This is the most widely researched and agreed upon basis for using commercial toothpastes. As long as the product has fluoride, it will help maintain dental health, reduce decay and help with sensitivity.
- **Desensitizing Toothpastes:** These work for mild cases of tooth hypersensitivity, but may take weeks to be effective. The ADA recognizes two effective ingredients in treating sensitive teeth and gums: strontium chloride and potassium nitrate, although studies are more equivocal. These “block the tube-like channels of the dentine, thereby reducing the ability of the nerves to transmit pain. They are meant for sensitivity caused by receding gums, not other causes like decay.
- **Tartar Control:** The active tartar-control ingredient, tetrasodium pyrophosphate, has been shown to prevent tartar, but it can't remove tartar already on the teeth, which requires professional removal by a hygienist or dentist. Some people have reported mouth irritation, and do not do enough extra to warrant this risk.
- **Baking Soda:** There is actually no proof that this has any effect at all. Baking soda may be too abrasive for continual use, and may actually lead to gum problems and irritation in the mouth. Some people, however, like the taste and feel of baking soda in the mouth.
- **Peroxide:** While the ADA believes current levels of peroxide in toothpastes are safe, some studies report that peroxide in high concentrations can irritate and damage gum tissue. The bubbling may make you feel like you're getting a better cleaning, but there is no scientific proof of this.

Any toothpaste with the ADA seal has been proven safe and effective.

- **Abrasives:** These are essentially for helping to remove plaque, and are usually in the form of silica. All ADA-approved toothpastes contain mild abrasives.
- **Whitening Ability:** As mentioned above, no toothpaste has been proven effective in actually changing the color of teeth. The whitening toothpastes merely clean surface stains, but cannot change the underlying tooth color.
- **American Dental Association (ADA) Seal of Acceptance:** The ADA awards its seal only after reviewing the “appropriate clinical and/or laboratory studies and scientific data.” Any toothpaste with the ADA seal has been proven safe and effective.

So you see there are lots of good reasons to use toothpaste and many choices to allow you to find one that is right for you.

Sincerely,
Thomas Schiff, DMD

ABOUT THE AUTHOR

Thomas Schiff, DMD

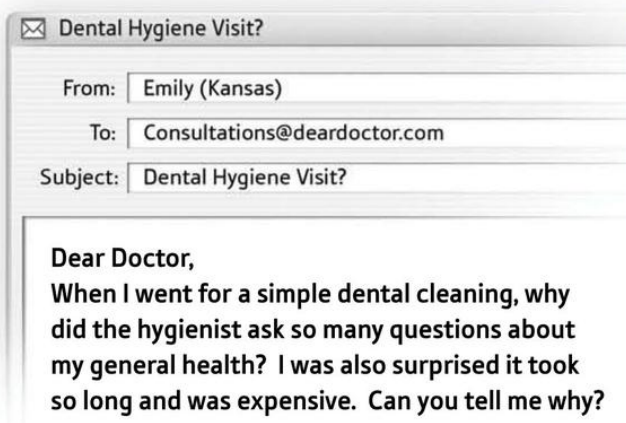
Dr. Thomas Schiff earned his doctorate of dental medicine degree at the University of Alabama in 1961 and his certificate in maxillofacial radiology from the University of Texas Health Science Center in 1984. Dr. Schiff came to the University of Pacific, School of Dentistry as Professor of Diagnostic Sciences in 1993 and was later named Chair of the Department of Radiology and Director of Clinical Research in 1998. Dr. Schiff has over thirty years clinical research experience in the area of toothpaste and has collaborated on research for most major toothpaste companies.

The editorial content in this magazine is a forum for you and your families 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.

Dental Hygiene Visit

A true value in dental healthcare

A Consultation with Margaret Walsh, RDH, MS, EdD



Dear Emily,

Actually, having your “teeth cleaned” is a highly individualized process. Dental hygienists are educated and trained health care professionals who operate under strict state licensing for your general health as well as your oral health. All these professional skills are put to use during a “not so simple cleaning”, with your safety and well being in mind.

Each visit begins by reviewing your health history to identify issues that may necessitate special precautions during dental hygiene care to ensure your safety and to prevent medical emergencies. For example, blood pressure monitoring may identify a risk for general health; patients with a history of heart disease may be at particular risk for dental cleaning; diet history for both your general and oral health may be discussed to name but a few issues. These assessments are important since dental hygiene care may impact upon existing health conditions, and vice versa.

Dental hygienists collaborate with dentists to provide optimum personalized oral health care to prevent oral disease and to promote your health.

Next, the hygienist carefully assesses the skin in and around your mouth looking for lumps, bumps, sores, tenderness or swellings and refers all areas of concern to the dentist for further evaluation. This is, among other things, a cancer screening. The hygienist is one of the few people who get to closely assess your whole mouth, so they are trained to spot this deadly disease and others.

Your periodontal health will also be evaluated during a routine cleaning. “Peri” means “around” and “dont” means “tooth”, so you can expect that the areas around your teeth including gum tissues will be checked for signs of inflammation and bleeding (gingivitis). In addition, the hygienist will gently measure the space between the teeth and the gums with a tiny probe; Detachment or “pocketing” may indicate periodontal disease; severe periodontal disease is associated with bone loss around the teeth. In health, the space between the teeth and gums measures 3 mm or less. “Pockets” that bleed during probing

and/or that measure 4-5 mm deep, indicate gum infection and usually can be reversed with daily oral self-care at home and thorough cleaning. Pockets that measure 6 mm or greater, however, indicate a more severe gum problem that includes bone loss and may require more advanced or specialized treatment by your dentist or a periodontist, who specializes in gum care.

All of the dental hygiene care you receive is tailored specifically to your individual needs and safety

The hygienist will also monitor teeth for signs of decay and associated risk factors, as well as the amount and location of deposits and stains on your teeth. The amount of stain and hard deposits on your teeth (“tartar” or also called “calculus”), and the degree of gum disease, all impact upon the level and cost of the treatment, and determine how soon you should return. For example, if you have little or no hard deposit on your teeth, your oral self-care is good, and your gum tissues are healthy with no past history of periodontal (gum) disease, your “recall” visit for continued care may be as long as six months.

The part of the visit you expected – scaling to remove deposits, and polishing to remove stains – will leave your mouth and teeth with that special sparkling clean feeling that keeps you coming back.

The education and demonstration portions of the visit are also individualized. Risk factors for tooth decay and gum disease may be discussed. Feedback on the effectiveness of your oral hygiene will allow for suggestions and demonstration of oral hygiene aids tailored to your individual needs; and for the provision of topical treatments such as fluoride to reduce sensitivity and promote strengthening of teeth against decay.

Most hygiene appointments vary from 45 to 60 minutes depending upon the hygienist’s other duties in your particular office, for example taking dental radiographs (x-rays).

Dental hygiene is not a “one size fits all” cleaning. All of the dental hygiene care you receive is tailored specifically to your

individual needs and safety, and is provided within the context of the Occupational Safety and Health Administration (OSHA) guidelines to eliminate the potential for disease transmission. Dental hygienists collaborate with dentists to provide optimum personalized oral health care to prevent oral disease and to promote your health. As you can see, much more is going on at a “simple dental cleaning” than an attractive polishing. Oral health is a gateway to general health, and your hygienist is the guardian.

Sincerely,
Margaret Walsh, RDH, MS, EdD

ABOUT THE AUTHOR

Margaret Walsh, RDH, MS, EdD

Margaret Walsh, RDH, MS, EdD graduated with a Bachelor of Science in Dental Hygiene from the University of California School of Dentistry in San Francisco (UCSF), a Master of Science in Dental Hygiene from Columbia University School of Dental Medicine, and a Doctorate of Education from the University of San Francisco. Currently, she is Professor in the Department of Preventive and Restorative Dental Sciences at UCSF School of Dentistry.

Dear Doctor is proud to recognize the invaluable contribution of dental hygienists to the profession and practice of dentistry.

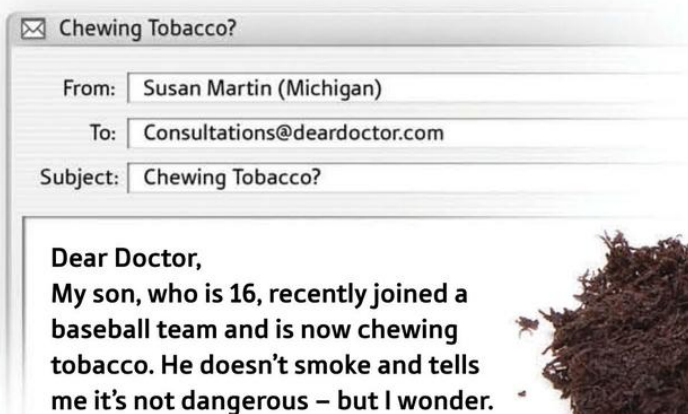
We are pleased to recognize this contribution in our “Dental Hygiene” department. We welcome articles and consultations in this area from dental hygienists to further our mission – educating our patients. Patients who have questions about dental hygiene and oral health are invited to submit questions to *Dear Doctor*. Please email us at questions@deardoctor.com or submit your questions via our website at deardoctor.com.

The editorial content in this magazine is a forum for you and your families 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.

Chewing Tobacco

You can only lose with chewing tobacco

A Consultation with Dr. John Greene



Dear Mrs. Martin,

You are right to wonder about your son's use of chewing tobacco. Many young boys are using it because they want to be one of "the guys" and they think it is "cool." It is not "cool" but rather disgusting. If I could speak directly to your son I would say: chewing tobacco makes you spit all of the time, it makes your breath smell, it causes gum disease, tooth decay, increases your risk for getting oral cancer and developing cardiovascular problems. The tobacco company that produces "dip" or "snuff," (the most popular type of chewing tobacco today) has given it the name smokeless tobacco to make you think it is harmless when in fact it is dangerous. Some people have developed oral cancer from using this stuff on a regular basis and as a result have lost half of their tongue, their lower jaw, or half of their face. Some have even lost their life from it. Only about fifty percent survive more than 5 years after being diagnosed with oral cancer.

The tobacco company has given it the name "smokeless tobacco" to make you think it is harmless but it is not – it is dangerous.

Unfortunately, many young guys, especially athletes who play baseball and want to be like their heroes in the major leagues, start "dipping" in their early teens. They start using mild starter brands, become addicted and graduate to the stronger ones. Chewing tobacco, now known as "spit tobacco", contains nicotine which causes addiction and craving for more and more. Before they know it, they are hooked and have a terrible time giving it up. They get as much nicotine circulating in their blood stream as from smoking. The nicotine is not only addicting, it also causes constriction of arteries, increases heart rate and blood pressure and may affect the stamina you need for sports. While responding to the craving for more nicotine to satisfy their addiction, the user is taking in an ever-increasing amount of cancer-causing chemicals into their mouths and their circulating blood. Spit tobacco contains more than 30 chemicals known to cause cancer.

Young men start what seems like a very harmless habit and before they realize it they are hooked, addicted. Few know of the risks they are taking or that the risks increase as they continue to dip or chew. Some young men have paid the ultimate penalty – death. Sean Marsee, was a star athlete, who started using at age 12. He was diagnosed with oral cancer at age 18 and he died at age 19. Bob Leslie, another baseball player and high school coach, started chewing in his early teens. He was diagnosed with cancer in his early twenties and died in his early thirties. Then there is Gruen von Behren who started using spit tobacco at age 13 just to “fit in” with the guys. He was diagnosed with oral cancer at age 17 and has had more than 30 operations that have left him so disfigured he can’t “fit in” anymore. He is now devoting his life to getting the word out to young people that tobacco is not something to play around with and should be avoided like the plague.

Spit tobacco contains more than 30 chemicals known to cause cancer.

So, Mrs. Martin, I appreciate your concern but the good news for you is that now you can advise your son of the dangers of using tobacco in any form and hopefully get him to quit while he can. You both need to realize that the longer he “uses” the more difficult it will be to quit, and the longer he “uses” the greater the risk of developing serious consequences. So the best time to quit is NOW. If he has trouble quitting he should ask his dentist for help or contact a free tobacco quit line for assistance.

Please remember that smokeless does not mean harmless, and that it is not a safe alternative to smoking.

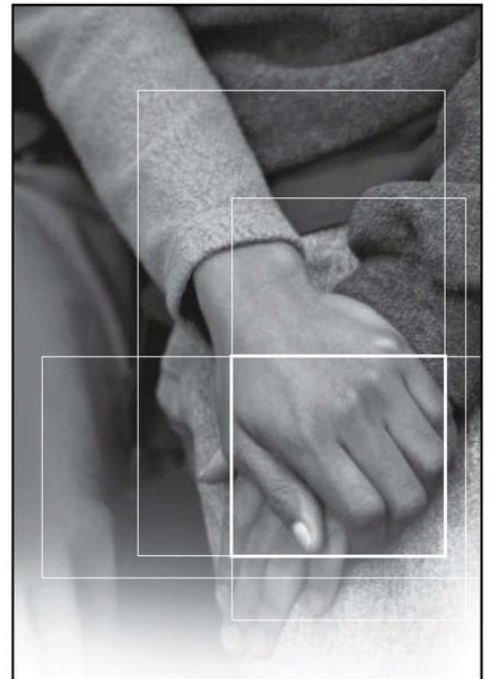
Sincerely,
John C. Greene, DMD, MPH

ABOUT THE AUTHOR

John C. Greene, DMD, MPH

Among his many appointments Professor Greene has held two of the highest positions in the field of dentistry. He is Dean Emeritus of the University of California San Francisco, School of Dentistry and served as Deputy Surgeon General of the U.S. Public Health Service. He is a world renowned researcher, lecturer and author and has been studying the health effects of using spit tobacco among professional baseball players since 1988.

The editorial content in this magazine is a forum for you and your families 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.



You are not alone

A cancer diagnosis

can be overwhelming and
isolating, but you don't
have to face it alone.

**The American
Cancer Society**

is here for you through
diagnosis, treatment,
and beyond.



Call us for your free personalized
cancer information care package today
1.800.ACS.2345 | www.cancer.org

Enter to Win a Makeover!

Our **New** Makeover Contest Has Begun!

Dear Doctor – Dentistry & Oral Health magazine and our advertising sponsors are pleased to present you with an opportunity to win The Ultimate Dental Health Makeover. Whether you need crowns, implants, veneers, orthodontics, periodontics... whatever you need, we will provide it. If you win our contest, your dental treatment will be paid for. Good Luck!

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

THE
ULTIMATE
DENTAL
HEALTH
MAKEOVER!

*See website for terms & conditions

Thank you to our contest sponsors:

BIOMET 3i™

invisalign®

Osteohealth®
REVOLUTIONIZING REGENERATION™

NIMBUS®

OralCDx®

dental ceramics inc

Serenity Smiles
A Cosmetic Dental Lab

PHOTO CREDITS

Cover: ©iStockphoto.com/sjharmon Page 9: (Top Left) ©iStockphoto.com/arekmalang, (Top Right) ©iStockphoto.com/jane Page 12: (Top) ©iStockphoto.com/dcrosswhite, (Bottom Left) ©iStockphoto.com/PixelchickDK, (Bottom Right) ©iStockphoto.com/Grafissimo Page 15: (Top) ©iStockphoto.com/chantelle516, (Bottom) ©iStockphoto.com/creacart Page 23: ©iStockphoto.com/abu Page 26: ©iStockphoto.com/arekmalang Page 28: ©iStockphoto.com/Kuzma Page 32: (Bottom) ©iStockphoto.com/dennysb (Right) ©iStockphoto.com/sjharmon Page 34: ©iStockphoto.com/Undy Page 36: ©iStockphoto.com/jane Page 37: ©iStockphoto.com/PIKSEL Page 47: ©iStockphoto.com/abu Page 50: ©iStockphoto.com/Zengineer Page 55,56: ©iStockphoto.com/Gizmo Page 64: ©iStockphoto.com/inkit Page 65: (Bottom) ©iStockphoto.com/dennysb (Right) ©iStockphoto.com/sjharmon Page 66: ©iStockphoto.com/zimmytw5 Page 68: ©iStockphoto.com/DNY59 Page 70: ©iStockphoto.com/Yuri_Arcurs Page 74: (Top) ©iStockphoto.com/Yuri_Arcurs (Bottom) ©iStockphoto.com/dennysb

Subscribe Today!

Get 4 issues
for only
\$14.95

8 issues for \$24.95

Subscribe at deardocor.com

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.



Bio-Oss®
natural bone grafting material

Osteohealth®
REVOLUTIONIZING REGENERATION™

Bio-Gide®
resorbable bilayer membrane

For more information, visit www.ostehealth.com
Bio-Oss® and **Bio-Gide®** are derived from natural animal sources.

Bio-Oss® and Bio-Gide® are manufactured by, and registered trademarks of, Geistlich Pharma AG and licensed to the Osteohealth Company.



Make A Lifestyle Improvement.

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

Dental implants may offer you important advantages compared to other treatment options:
improved dental 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.



BIOMET 3i™



- ISO: 8, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 110, 120, 130, 140
- Non-Standardized (Accessory sizes): XF, FF, MF, F, FM, M, ML, L, XL
- Special Taper Points: 04, 06

گوتا فقط متا

✓ انعطاف پذیری بسیار بالا در حین کار

✓ پرفروش ترین در جهان

✓ رادیو اپستی عالی

✓ بی رقیب در قیمت و کیفیت

✓ مناسب جهت پر کردن کانال به روش تراکم جانبی و عمودی

✓ با بهترین بسته بندی ضد ریزش برای کاربری آسان



کن کاغذی

موجود در انواع سایزها با قدرت جذب بالا، استریل و فاقد لنت
در بسته بندی ۲۰۰ عددی کشویی ضد ریزش