OF THE CALIFORNIA DENTAL ASSOCIATION

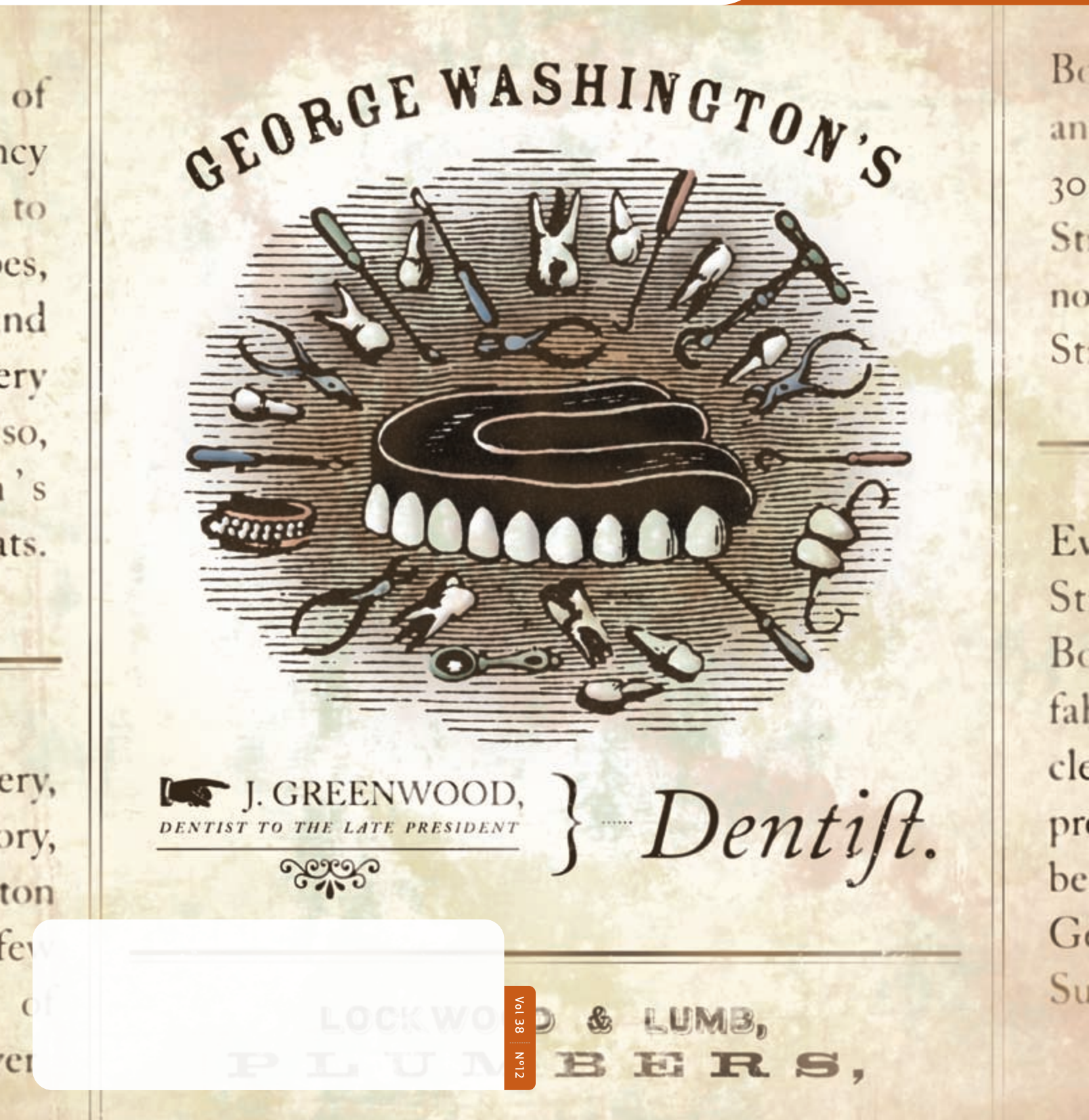
Journal

DECEMBER 2010

Tetraclean Study

Measuring Pediatric Pain

Dr. Bob on Teeth Whitening



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839

FEATURES

846 JOHN GREENWOOD, DENTIST TO PRESIDENT WASHINGTON

In the practice of dentistry in colonial times, no name shines more brightly than that of John Greenwood, the favorite dentist of President George Washington. A newly discovered advertisement, discussed in this paper, adds to our knowledge of this remarkable practitioner.

Malvin E. Ring, DDS, MLS, FACD

853 EFFECT OF DENTIN TREATMENT TIME WITH TETRACLEAN ON ITS RESIDUAL ANTIBACTERIAL ACTIVITY

The goal of this study was to evaluate the effect of dentin treatment duration with Tetraclean on its residual antibacterial activity in bovine root dentin. Results showed that the number of colony-forming units in all three experimental groups was zero at the first culture.

Zahed Mohammadi, DMD, MSD; Luciano Giardino, MD, DDS; and Shahriar Shahriari, DMD, MSD

857 GOOD, CLINICAL PAIN PRACTICE FOR PEDIATRIC PROCEDURE PAIN: METRIC CONSIDERATIONS

This paper is a brief primer in pediatric pain measurement. Two measurement instruments — the Faces, Legs, Activity, Cry and Consolability Scale and the Faces of Pain Scale-Revised — are presented along with their limitations.

Dennis Paul Nutter, DDS

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CDA JOURNAL, VOL 38, Nº12

Duties With Dividends

KERRY K. CARNEY, DDS

Every year in December, the CDA Executive Committee team meets to "renew our vows," so to speak. We review how we can maximize our effectiveness. We learn how we can work best to complement and reinforce our strengths. It is a good time to review the happenings of the last year and look forward and plan how best to actualize CDA's strategic plan and work as a team.

We usually have more than one informal activity that gives us the opportunity to integrate the new member(s) effectively. The group dynamics change from year to year based on the progression through the chairs and the personality and skills of the new member(s). It is a time to renew our commitment to aid in any way we can and strive to make the next year the best possible year for our members through CDA.

A review of the upcoming calendar and component visit assignments is part of this annual meeting. For several years, it has been a goal to increase personal communication with every CDA component society. To do this, each member of the Executive Committee participates in a rotating calendar of component visits.

These visits have paid great dividends of understanding for me. Each component visit is both different and the same. Each agenda is usually packed with information and action items. The makeup of the board varies from component to component when it comes to ethnic diversity, gender, and age. Having the privilege of witnessing the groups' work is what is so personally rewarding.

A recent study examined variables associated with group intelligence.[1] The investigation posits that a group has a "collective intelligence" that can be used to predict the performance of that group on a range of collaborative tasks. This group intelligence is not to be confused with a majority vote on what the members of the group believe is the "correct" answer to a question.

Component visits have paid great dividends of understanding for me.

This experiment looked at whether a group's performance on one task could be used to predict how that group would fare at other tasks. The test groups worked on a range of tasks, both abstract and real world in nature. The researchers found that "a group's performance on any one task did, in fact, predict its performance on the other tasks. That suggests that groups have a consistent collective intelligence … Neither the average intelligence of the group members nor the intelligence of its smartest member" had more than a weak correlation with the group's performance.[2]

The results suggested that successful teams were more likely to have a higher "social sensitivity." The best predictor of a group's performance was the degree to which its members were attuned to social cues and their willingness to take turns speaking. One of the measures of the social acuity was the degree to which the individuals were able to infer what was on another person's mind. (For example, the group members were asked individually to decide if a person was "annoyed" or " worried" by looking at just a cropped photo of a stranger's eyes.)

These elements of social acuity are abilities that can be improved through training and practice. Therefore, the "collective intelligence of groups may be more amenable to improvement than general intelligence in individuals, which most research suggests is difficult to change."[2]

The component meetings are an exercise in group intelligence. It is a pleasure witnessing their respectful collegiality, their contagious enthusiasm, and their fine analytical consideration of a wide range of topics. Their collective intelligence and social acuity are high.

It is easy to be proud of CDA with its tremendous national and state presence. But these component visits reinforce my pride in our profession and in the members who take time out of their personal lives to help their colleagues and promote oral health and the profession of dentistry. ■■■■

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1. Woolley AW, Chabris CF, et al, Evidence for a collective intelligence factor in the performance of human groups. *Science*, Oct. 1, 2010.
2. Science Xpress, vol. 330, page 22, October 2010. sciencemag.org/sciencexpress/recent.dtl. Accessed Oct. 22, 2010.

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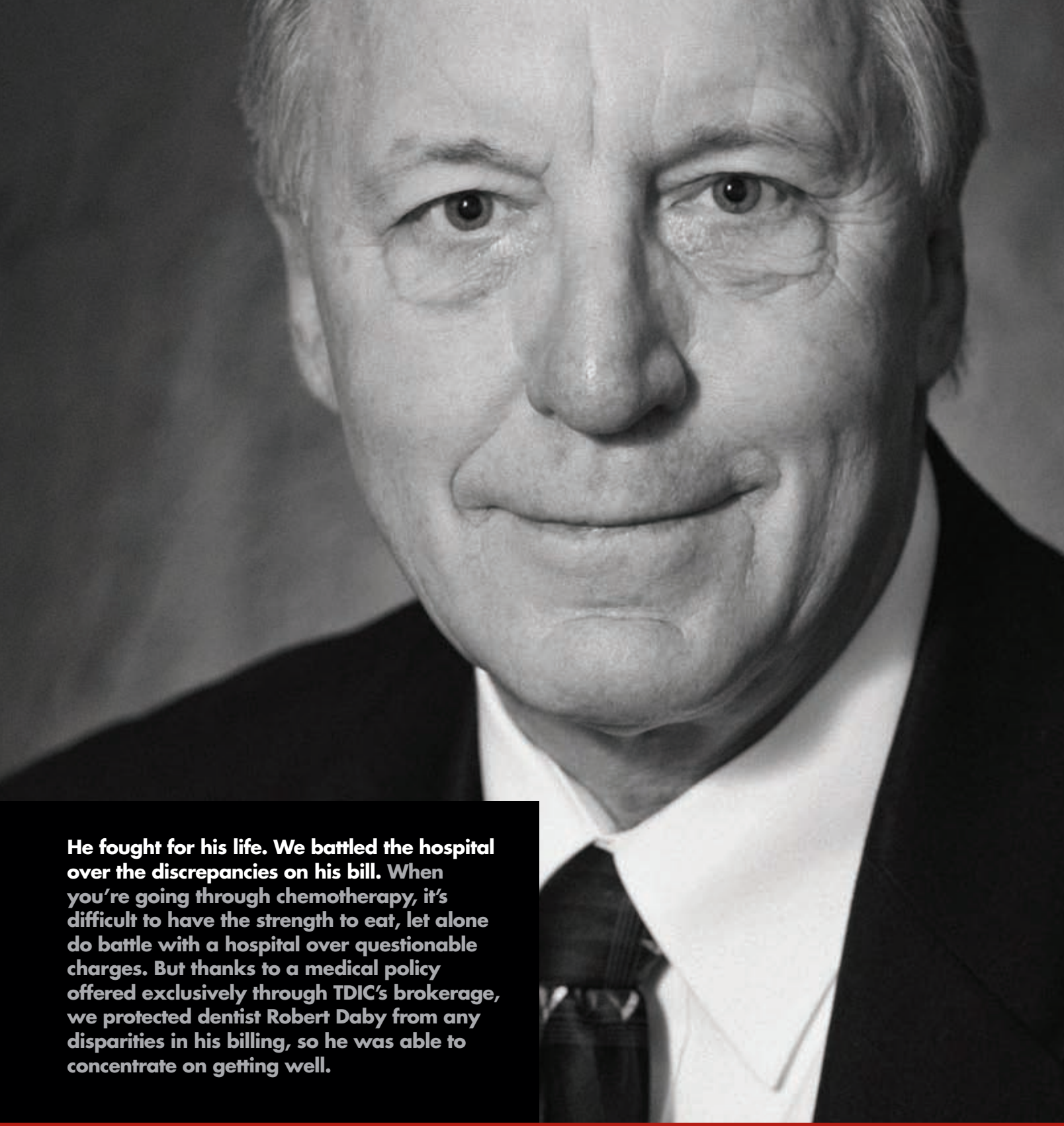

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CDA JOURNAL, VOL 38, Nº12

Deborah Zemke

Ethics and Charity

BY DAVID W. CHAMBERS, PHD

Americans are among the world's most generous people — professionals especially so. The ADA estimates that donated dentistry amounts to about 5 percent of the total oral health care. Dentists care and they give. But does that make them ethical? Perhaps we are mixing up ethics with charity.

Most dentists are aware of the distinction between what is legal and what is ethical. A few dentists might go to jail for systematically overbilling insurance companies, but who is incarcerated for overtreating patients? Professionalism is an agreement on behalf of patients but not an agreement with them.

But certainly, doing good for others is, per definition, ethical, right? Well, hiring your wife as a paid political consultant might not be (if it is nepotism). Giving a blood transfusion to a Christian

CONTINUES ON 841

Ask Patients About Herbal Medicine Use or Alternative Therapies

Alternative therapies that include unconventional practices and products were used by an estimated 90 million Americans in 2007, something dental professionals should consider since these treatments and medicines may be contraindicated.

In a recent issue of the *Journal of the Massachusetts Dental Society*, authors H. Barry Waldman, DDS, MPH, PhD; Dolores Cannella, PhD; and Steven Perlman, DDS, MSCD, said biofeedback, acupuncture, herbal medication, massage, bioelectromagnetic therapy, meditation, and music therapy are examples of CAM therapy. Complementary medicines include herbal remedies, homeopathic medicines, and essential oils. The authors also said that much of the public believe that herbal medicines are safe because they are made from natural sources but don't understand that these can have adverse effects, including toxicity and drug interactions.

Good medical history forms used in dental and medical offices generally include some variation of the questions, "Do you take herbal supplements, vitamins, or natural products?" But many patients may not consider alternative medical systems or therapies relevant to dental care and so may not report them.

The authors suggested that some of the consumers may even be reluctant to admit their actions for fear of being ridiculed. The bottom line is, dentists need to be sure to know what herbal and over-the-counter alternative products his or her patients are using.

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Advancements Made in Treating Mouth Cancer

A genetically engineered herpes virus has been shown to help individuals suffering from mouth, neck, and head cancer.

Seventeen patients were administered an injection of the virus in addition to radiotherapy and chemotherapy treatments. Onco VEX, the cold sore virus, was adapted to grow inside the cancer cells but not in the cells that were healthy. Inside the cancer cells, the modified virus burst and killed tumor cells, and released a human protein helping to stimulate the patients' immune systems, according to a news release about the trial conducted by the Institute of Cancer Research (ICR) and The Royal Marsden NHS Foundation Trust. The virus also was injected into cancer-affected lymph nodes, up to four doses.

In tumor scans for 14 patients, shrinkage was observed and more than three-quarters of the participants showed no trace of residual cancer in their lymph nodes during subsequent surgery to remove them. More than two years later, more than three-quarters of the patients involved in the study had not died from cancer.

"Around 35 to 55 percent of patients given the standard chemotherapy and radiotherapy treatment typically relapse within two years, so these results compare very favorably, said Dr. Kevin Harrington, principle investigator for the ICR and The Royal Marsden, adding, "This was a small study so the results should be interpreted with caution; however the very high rates of tumor response have led to the decision to take this drug into a large-scale phase 3 trial."

Side effects from the trial ranged from mild to moderate and were thought to be caused by the chemotherapy and radiotherapy.

"This study is very positive news. Mouth cancer is a devastating disease," said Nigel Carter, DDS, chief executive of the British Dental Health Foundation.

Help the Department of Justice

The National Missing and Unidentified Persons System (NamUs), a program of the Department of Justice, is looking for board-certified odontologists to volunteer their services in assisting law enforcement agencies in their forensic duties.

NamUs, www.namus.gov, is a clearinghouse for missing persons and unidentified decedent records. It is a free online system that can be searched by medical examiners, coroners, law enforcement officials, and the general public.

According to the NamUs website, the Unidentified Persons Database contains information provided by coroners and medical examiners. Unidentified persons are those individuals who have died and the bodies have not yet been identified. The public can search this database using characteristics such as race, gender, specific body features, and even dental information.

The Missing Persons Database has data on missing persons that can be entered by anyone. Prior to appearing as a case on NamUs, the information is verified.

When a new unidentified decedent or missing persons case is entered into NamUs, the system is capable of performing crossmatching comparisons between the databases, searching for matches or similarities between cases. NamUs also provides free DNA testing and other forensic services, such as anthropology and odontology assistance.

Interested odontologists can volunteer by contacting NamUs at NamUs.02@findthemissing.org.

Evidence Backs Link Between Brain Diseases and Gum Inflammation

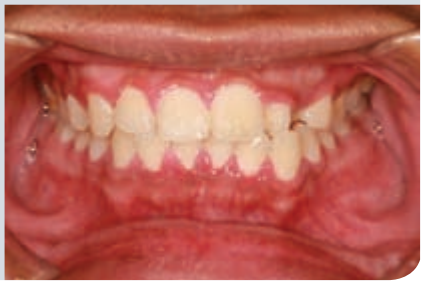
Dental researchers at New York University have new evidence that gum inflammation could possibly contribute to brain inflammation, neurodegeneration, and Alzheimer's disease.

"The research suggests that cognitively normal subjects with periodontal inflammation are at an increased risk of lower cognitive function compared to cognitively normal subjects with little or no periodontal inflammation," said Angela Kamer, DMD, MS, PhD, assistant professor of periodontology and implant dentistry, who led the team.

The team examined 20 years of data that support the hypothesis of a possible causal link between periodontal disease and Alzheimer's disease, according to a news release. Her study, conducted in collaboration with Douglas E. Morse, DDS, PhD, associate professor of Epidemiology and Health Promotion at NYU College of Dentistry, and another team of researchers in Denmark, builds upon Kamer's 2008 study, which found that subjects with Alzheimer's disease had a significantly higher level of antibodies and inflammatory molecules associated with periodontal disease in their plasma compared to healthy people.

Kamer's latest findings are based on an analysis of data on periodontal inflammation and cognitive function in 152 subjects in the Glostrop Aging Study, which has been gathering medical, psychological, oral health, and social data on Danish men and women. Kamer presented her findings at the 2010 annual meeting of the International Association for Dental Research last July.

A follow-up study — using a larger, more ethnically diverse group of subjects — is planned to examine further the connection between periodontal disease and low cognition, Kamer said.



ETHICS AND CHARITY, CONTINUED FROM 839

Scientist is questionable. Withholding information about alternative treatments to steer patients toward optimal care is really questionable. Volunteering for a mission in Haiti is wonderful, but volunteering in the local nursing home might be more wonderful.

In the examples above, the person performing the good determines what the recipient should have, or even whether they should have anything at all. Both charity and paternalism add to the store of good in the world. But no one would be criticized for failing to provide them. It is a voluntary choice for the giver. But ethics is mandatory.

Imagine a dentist and a patient sitting across from each other engaged in a conversation about the optimal approach to treatment. There is a knowledge and skill dimension of this conversation and it is heavily weighted in favor of the professional. But simply knowing what can be done and how to do it does not make one ethical. There is almost always a situational advantage for the practitioner having to do with status, control of the environment, etc. But being in charge is hardly equivalent to being ethical. There are legal, professional, and other differences that favor the dentist, but none of these add up to ethics.

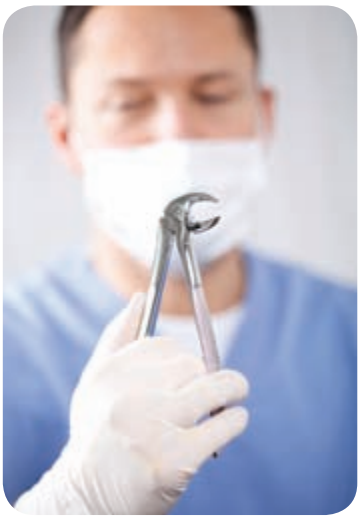
By process of subtraction, imagine that all of the circumstantial asymmetries between the dentist and the patient can be set aside. All that remains is a realization that the two people facing each other are fundamentally the same. They care about their futures; they want to know if there is a way of collaborating; they recognize that the person they are talking with is basically like them.

That is the basis of ethics. At that level, whatever you agree to will be ethical because it treats both parties the same, provided, of course, you are not colluding to bilk society.

The nub:

1. Informed consent ensures that patients are given sufficient information to relate as ethical equals with oral healthcare providers.
2. Most of our dissatisfaction with technicians, officials, and insurance representatives stems from having to relate on their terms.
3. Professionals find it easy to substitute charity for ethics: that allows them to retain their power over the situation.

David W. Chambers, PhD, is professor of dental education, Arthur A. Dugoni School of Dentistry, San Francisco, and editor of the Journal of the American College of Dentists.



Follow 'Eight Cs' to Prevent Wrong Site Tooth Extractions

Wrong site tooth extractions are occurring with high frequency, said Renee Pfefferle, director of dental operations at Medical Mutual, in the spring issue of the *North Carolina Dental Gazette*.

And because nearly all of them are preventable, Pfefferle offered a helpful protocol for avoiding wrong site extractions. Based on recommendations of the Joint Commission, the "eight Cs" can help dentists and auxiliaries avoid what is the No. 1 cause of malpractice claims against dentistry. The "eight Cs" are:

- **CONSENT.** Make sure the patient and any referring dentist have provided the necessary information needed, including medical history. Verify the referring request.
- **CURRENT RADIOGRAPH.** This is an obvious one and includes panoramic and periapical radiographs, especially of transitional dentition.
- **COUNT.** Literally and clinically count teeth before any irreversible extraction.
- **COLOR.** Mark the tooth indelibly.
- **COMPARE.** Make sure the tooth marked agrees with the tooth marked on the radiograph.
- **CONFIRM.** Talk to the patient or the patient's guardian.
- **COMPLETE.**
- **COUNSEL.** This includes postoperative instructions.

"In summary, prevention and education are key factors to any risk management program," Pfefferle said.

Heraeus Venus Bulk Fill

Venus Bulk Fill is a new posterior composite that enables bulk filling of 4 mm. This product provides an efficient and easy solution for esthetic posterior restorations.

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UPCOMING MEETINGS

2011

April 6–10	California Society of Pediatric Dentistry 36th annual Session/Western Society of Pediatric Dentistry ninth annual session, San Francisco, 831-625-2773, drrstewart@aol.com.
April 10–16	United States Dental Tennis Association, Tampa, Fla., dentaltennis.org.
May 12–14	*CDA Presents* the Art and Science of Dentistry, Anaheim, 800-CDA-SMILE (232-7645), cdapresents.com.
June 16–18	ADA New Dentist Conference, Chicago, (800) 621-8099, ext. 2779, ada.org/goto/newdent.
Sept. 22–24	*CDA Presents* the Art and Science of Dentistry, San Francisco, 800-CDA-SMILE (232-7645), cdapresents.com.
Sept. 22–24	United States Dental Tennis Association, Palm Desert, Calif., dentaltennis.org.
Nov. 6–12	United States Dental Tennis Association, Palm Desert, Calif., dentaltennis.org.

To have an event included on this list of nonprofit association continuing education meetings, please send the information to Upcoming Meetings, CDA Journal, 1201 K St., 16th Floor, Sacramento, CA 95814 or fax the information to 916-554-5962.

Periscope offers synopses of current findings in dental research, technology, and related fields.

ENDODONTICS

W. CRAIG NOBLETT, DDS, MS, FACD

Placement of post following endodontic treatment should not be automatic.

Bitter K, Noetzel J, et al, Randomized clinical trial comparing the effects of post placement on failure rate of postendodontic restorations: preliminary results of a mean period of 32 months. *J Endod* 35(11):1477-82, 2009.

AIM: The purpose of this study was to examine the influence of remaining coronal tooth structure as well as placement of a post on the failure rate of postendodontic restorations.

METHODS: Material for this prospective study included 120 teeth treated in 90 patients. Three groups were identified based on the amount of remaining tooth structure: 1) two walls remaining exceeding 2 mm above gingival level; 2) one wall remaining exceeding 2 mm above the gingival level; and 3) no walls exceeding 2 mm above the gingival level remained. Within each group, the teeth were randomly assigned to be restored with or without a post (DT light post). Recall intervals were at six, 12, 24, 36, and 56 months. Statistical measure employed was the log rank test.

RESULTS: In group 1 (two walls remaining), no restoration failures occurred within the timeframe of the study. In group 2 (one wall remaining), the placement of a post had no significant effect on the failure rate of the restoration. In group 3 (no walls remaining), placement of a post did have a significant difference in failure rate compared to those teeth restored without a post (7 percent vs. 31 percent).

CONCLUSIONS: Fiber post placement was efficacious in reducing restoration failure only in teeth that exhibited no coronal walls above 2 mm relative to the gingival level. Post placement in teeth showing a minor structure loss should be critically considered to avoid overuse.

CLINICAL RELEVANCE: The placement of a post after endodontic treatment is not without risk. Some studies have reported a significant perforation rate with post placement as well as increased predisposition for vertical root fracture. Placement of a post following endodontic treatment should not be automatic, but should be based on the amount of remaining tooth structure and the retentive potential of that structure.

PEDIATRICS

THOMAS S. TANBONLIONG JR., DDS

Elimination of behavior technique not perceived as affecting access to care by pediatric dentists.

Oueis HS, Ralstrom E, et al, Alternatives for hand over mouth exercise after its elimination from the clinical guidelines of the American Academy of Pediatric Dentistry. *Pediatr Dent* 32(3):223-8, May-June 2010.

PURPOSE: This study's purpose was to survey pediatric dentists about alternative behavior management techniques that might be utilized in place of hand over mouth exercise (HOME). In addition, this study looked at the concerns pediatric dentists had regarding HOME before its elimination and any effect it had on access to care of children.

MATERIALS AND METHODS: Twenty-six hundred electronic surveys were sent to pediatric dentists listed as active members of AAPD's 2007 membership directory.

RESULTS: Thirty percent (2,360) of the surveys were completed and returned; 70 percent of respondents believed that parental misconception of HOME was a major concern. Voice control was the first alternative technique followed by minimum/moderate sedation was the second most common. Fifty percent of respondents believe that HOME is an acceptable behavior management technique, and 41 percent believed that the AAPD should continue to recognize it. Only 7 percent believed that the elimination of HOME affected access to care.

REVIEWER'S COMMENTS: Upon elimination of HOME, more pediatric dentists are using immobilization, voice control, oral conscious sedation, and general anesthesia as alternatives. Very few respondents feel that access to care is affected by elimination of HOME.

CDA JOURNAL, VOL 38, Nº12

PUBLIC HEALTH

IRENE V. HILTON, DDS, MPH

Dental care coordinator intervention significantly increased dental utilization.

Binkley CJ, Garrett B, Johnson KW, Increasing dental care utilization by Medicaid-eligible children: a dental care coordinator intervention. *J Public Health Dent* 70(1):76-84, winter 2010.

AIM: To assess the effect of a dental care coordinator team member on increasing dental utilization by Medicaid-eligible children by reducing the caregiver's personal and structural barriers, compared with a control group.

METHODS: One hundred and thirty-six children, enrolled in Medicaid aged 4 to 15 years at baseline in 2004 who had not had Medicaid dental claims for two years, were randomly assigned to intervention or control groups for 12 months. Children and caregivers in the intervention group received oral health education, assistance in finding a dentist if the child did not have one, and assistance and support in scheduling and keeping dental appointments from the dental care coordinator. Assistance was provided in person during home visits and/or over the telephone. All children in the study continued to receive routine member services from the dental plan administrator, including newsletters and benefit updates during the study. In the area this study was conducted, the Medicaid dental plan was administered by a single managed care program.

RESULTS: Dental utilization during the study period was significantly higher in the intervention group (43 percent) than in the control group (26 percent). The dental care coordinator had an average of 10 contacts per family during the 12-month study period. The intervention was effective regardless of whether the coordinator was able to provide services in person or via telephone and mail.

CONCLUSIONS: The dental care coordinator intervention significantly increased dental utilization compared with similar children who received routine Medicaid member services by reducing personal and structural barriers to care. Individual case management. such as provided by a dental care coordinator in this study, should be considered along with other initiatives to increase access to care for disadvantaged children.

CLINICAL RELEVANCE: The dental care coordinator utilized in this study is similar the community dental health coordinator (CDHC) being piloted by the American Dental Association. The randomized design of this study supports that the coordinator's efforts were responsible for the increased access to dental care and suggests that some resources must be expended on similar activities to assure access for children from disadvantaged families.

IMPLANTS

RICHARD T. KAO, DDS, PHD, AND DAVID W. RICHARD, DDS, PHD

Outcome of implants placed immediately following extraction as predictable as implants placed into healed sites.

Chen ST, Darby IB, et al, Immediate implant placement postextraction without flap elevation. *J Periodontol* 80(1):163-72, 2009.

PURPOSE: The aim of this retrospective study was to assess soft tissue and esthetic outcomes at single-tooth immediate implants placed without flap elevation in maxillary central and lateral incisor sites.

METHOD: Photographic records of 85 consecutive patients with implants were selected. The change in mucosal level was expressed as a percentage of the length of the reference central incisor; the subjective esthetic score (SES) and the pink esthetic score (PES).

RESULTS: Significant recession of the mesial papilla (-6.2 percent – 6.8 percent), distal papilla (-7.4 percent – 7.5 percent), and facial mucosa (-4.6 percent – 6.6 percent) between surgical placement and one year was observed ($P < 0.001$). Recession was greater for implants placed facially within the extraction socket compared to those placed lingually ($P=0.009$). Sites with gingival margins initially coronal achieved mucosal levels close to the line of symmetry with the contralateral tooth. Sites initially level or apical failed to reach the line of symmetry and remained receded. For sites with initially level gingival margins, recession >10 percent occurred at six of 25 thin biotype sites compared to two of 19 thick biotype sites. Acceptable outcomes were achieved in the majority of sites; between 10 percent and 20 percent of sites had suboptimal esthetic results.

CONCLUSION: Immediate implant placement without elevation of surgical flaps is associated with the recession of the marginal mucosa that may fall within the threshold of visually detectable change. The orofacial position of the implant shoulder and the tissue biotype are important contributory factors.

CLINICAL RELEVANCE: The outcome of placing implants into tooth sockets immediately following extraction has been reported to be as predictable as placing implants into healed sites. Other studies suggest that recession of the marginal peri-implant mucosa may occur and have an adverse effect on the final esthetic outcome. The outcome of this study would suggest that the latter condition does occur with this technique. Although the methods allow for uncontrolled variation (allowing some implants to be placed when marginal defects exist and using connective tissue grafts for some of the implants), this is a large group of implants well-documented, which provides cautionary information on this technique.

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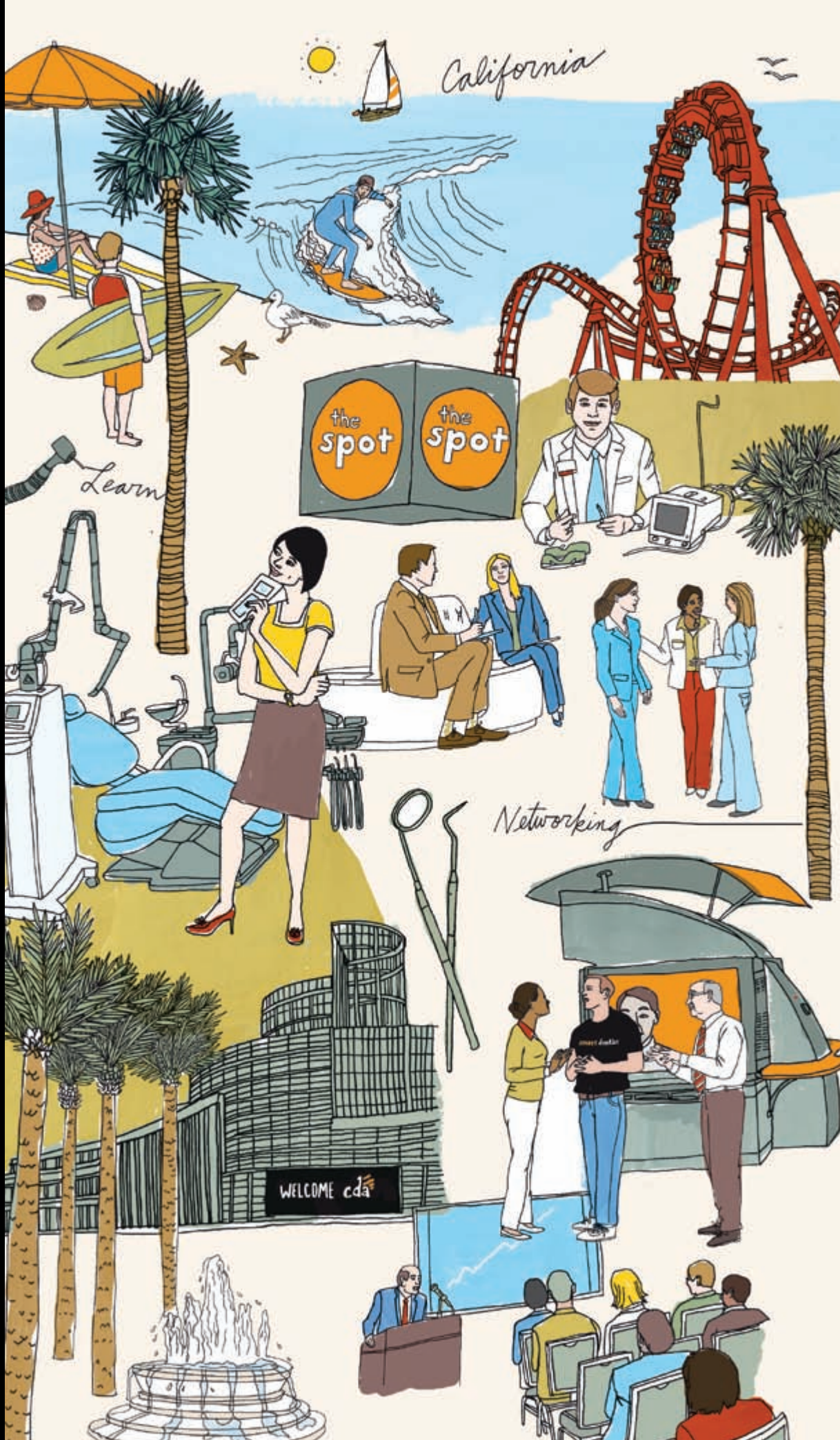


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John Greenwood, Dentist to President Washington

MALVIN E. RING, DDS, MLS, FACD

ABSTRACT In the practice of dentistry in colonial times, no name shines more brightly than that of John Greenwood, the favorite dentist of President George Washington. But it is more than this alone that brings luster to his name and renown. A study of the advertisements he placed in newspapers in Massachusetts and New York gives us an insight into his treatments and his mode of practice. A newly discovered advertisement adds to our knowledge of this remarkable practitioner.

EDITOR'S NOTE

Dr. Malvin Ring, a frequent contributor to the *Journal of the California Dental Association*, passed away in April. This was his last submission to the Journal.

AUTHOR

Malvin E. Ring, DDS, MLS, FACD, authored *Dentistry: An Illustrated History.* He practiced dentistry for more than 30 years in Batavia, N.Y.

John Greenwood practiced dentistry in New York City from 1785 until several years before his death in 1819 at the age of 60. Horace Hayden, co-founder of the first dental school in the world, the Baltimore College of Dental Surgery, lauded Greenwood extensively in the book, "Wealth and Pedigree of the Citizens of New York."

Greenwood enjoyed almost the exclusive patronage and confidence, not only of the inhabitants of that city, but of the father of his country, George Washington, himself. Greenwood performed an operation and executed an entire dental apparatus, which, for ingenuity and mechanical skill, would have done credit to the most experienced of the profession in any country. Additionally, there is evidence to believe it was the first attempt of the kind that had ever been made in the United States. Moreover, Greenwood had never seen an example of the kind, drawing or otherwise, to serve him as a model or guide.[1]

Hayden was not the only member of the profession who thought so highly of John Greenwood. Bernhard W. Weinberger, DDS, recognized by all as the greatest dental historian this country produced, called Greenwood "America's first scientific dentist."

Greenwood's Early Years

The son of Isaac Greenwood, John was born in Boston on May 17, 1760. He was educated at the North Writing School and sent to live with his uncle in Falmouth, Mass. He stayed there for two years when word came of the Boston Massacre.

John Greenwood was a child when the Massacre occurred. (**FIGURE 1**). Not only was it that the soldiers shot down unarmed civilians, but that one of those killed was a dear friend, Samuel Maverick.[2] This young man, described by the *Boston Gazette* as "a promising youth of 17 years of age," was an apprentice to John's father, Isaac.

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FIGURE 1. Engraving of the Boston Massacre of 1770 by Paul Revere.

FIGURE 2. Miniature portrait of Greenwood, painted in 1785, when he was 25 years old and newly in practice.

In his memoirs, John Greenwood summed up his feelings thus, "I remember what is called the Boston Massacre, when the British troops fired upon the inhabitants and killed seven of them, one of whom was my father's apprentice, a lad named Samuel Maverick. I was his bedfellow, and after his death I used to go to bed in the dark on purpose to see his spirit, for I was so fond of him and he of me that I was sure it would not hurt me."

All that people spoke of at the time was the imminent war with Great Britain. Determined to see his family, he ran away from his uncle's home and began walking the 60 miles to Boston. But since Boston was occupied by the British and all entry forbidden, he made it no further than Charlestown. There he met some patriots who urged him to enlist in the Continental Army. Thus, at the age of 15, he began his army service as a fifer, with an enlistment for eight months, which turned into 20 months.[3] He returned to his home in Boston in December 1776. Mindful of the needs of his country he re-enlisted in February 1778 as a fifer and was discharged in May 1779. He recounted he "had then been in the Army 20 months and had received during that time only six months' pay for all my services. I have never asked nor applied to Congress for the residue since, and I never shall."[4]

After the war, he left home and ultimately made his way to New York City, securing lodging and employment with Mr. Quincy, an instrument maker. He helped repair old quadrants and compasses, and on his own time made some hickory walking sticks, similar to what his father did.

His Entry Into Dentistry

His father, besides being an ivory turner, billiard ball maker, and maker of walking sticks, also gained prominence as one of colonial America's leading dentists. It was he who first offered preventive dentistry care for an annual fee and repeatedly cautioned that children's teeth needed constant attention and care. However, in contrast to what is generally thought, his son, John, did not learn dentistry from him. In John Greenwood's memoirs, published in 1809, he emphasized the fact that although he admired his father's finished work, such as a denture, he never actually saw the steps his father took to create it.

In later years, his grandson, Isaac J. Greenwood, wrote of John Greenwood's mechanical ingenuity and stated that his grandfather had constructed in Boston the first electrical machine made for Benjamin Franklin's experimentation. So, in spite of the fact that the younger Greenwood didn't learn dentistry from his father, he did, nevertheless, inherit his father's adroitness and mechanical ability.

When young John had determined upon dentistry as a career is unknown, but in his memoirs he mentioned he was certain that advertising as a dentist would bring him patients (**FIGURE 2**). According to Bernhard Weinberger, who studied the life and work of John Greenwood more thoroughly than any other historian, the first advertisement appeared in the

FIGURE 3. The lower portion of the next-to-the last set of dentures made by Greenwood for Washington in 1789. It is carved from hippopotamus ivory, with natural human teeth held in place with gold screws. Washington still had a lower second bicuspid, and Greenwood made a convenient hole for the denture to slip over the tooth to add stability. On the side is the groove for the spring that attached to the upper denture. Washington ultimately lost his last tooth and he graciously gave the denture to Greenwood as a memento. On it the dentist inscribed "This was the great Washington's teeth." (New York Academy of Medicine.)

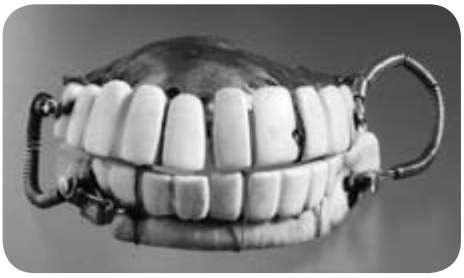


FIGURE 4. The last set of dentures made by Greenwood for George Washington, and with which he was buried. The upper gold palate was swaged between dies, and the teeth, individually carved from ivory, had gold pins that were each soldered to the palate. This method of construction was invented by Greenwood. The lower base is one piece of ivory to which ivory teeth were attached with screws.

Daily Advertiser of New York City on Feb. 28, 1786. However, prior to this, he had spent two years in Pennsylvania, where it is believed he was in the practice of dentistry before moving to New York.[5]

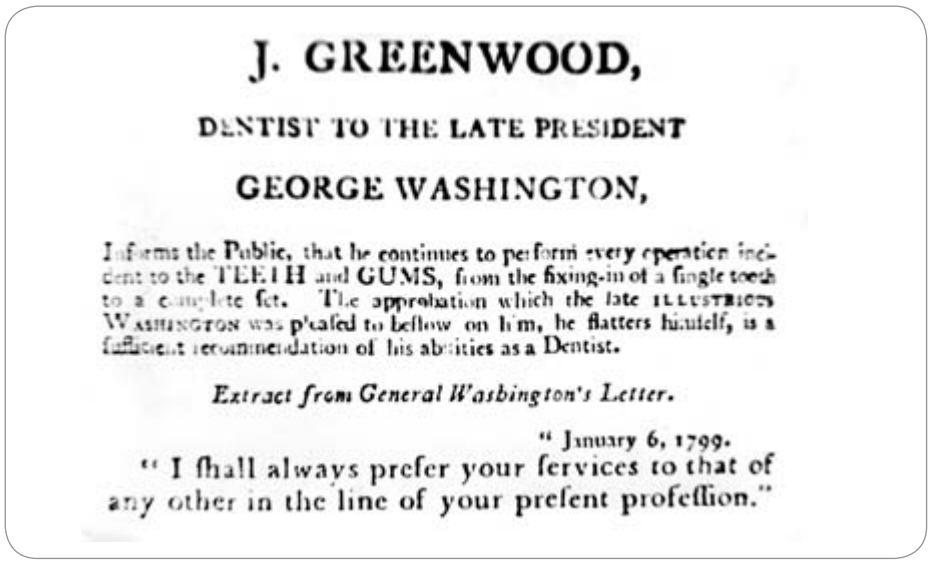
Greenwood's Innovations in Practice

Greenwood owned a copy of *The Natural History of the Human Teeth* written by the great British surgeon John Hunter. Greenwood had made copious notations all through his copy and he strongly disagreed with much of what Hunter wrote, noting that Hunter was a surgeon, not a dentist, and had never practiced dentistry. When Hunter advised extracting an aching tooth Greenwood wrote in the book's margin "... never extract a tooth that you think there is a possibility of saving it, although it gives pain for the present, as it is not every tooth that gives pain must be extracted, no more than every limb that gives pain should be cut off." This was a revolutionary way of thinking, uncommon among dental practitioners of his day. When Greenwood made the next-to-the-last set of dentures for him, Washington still had a serviceable lower second bicuspid, so Greenwood made a hole in the lower denture so it could slip over that tooth, giving the denture a bit more stability. (**FIGURE 3**)

John Greenwood's son, John, reported that one of his father's patients presented with a suppurating disease of the antrum and his father treated it by extracting a molar tooth and flushing the antrum with a solution of Castile soap suds, repeating the flushing daily until a cure was effected.[6]

Most significant was the introduction of techniques associated with full dentures. He had apparently devised a method of taking an impression of an edentulous upper jaw with beeswax and from it made a die upon which he swaged a sheet of gold. This created a very serviceable palatal portion of an upper denture, and it was with this novel technique that he made George Washington's last full set of dentures. These were the dentures with which Washington was buried (**FIGURE 4**). As far as we know, Greenwood was the first to use the swaging technique in denture construction. Previously, he took pieces of sheet gold and riveted them together. In addition, he was apparently the first to use spiral springs, made from gold wire, to hold the upper and lower together and to maintain them in the mouth.

Greenwood made much of the fact that Washington was pleased with his work and spoke so highly of him (**FIGURE 5**). At one time, the president wrote to Greenwood suggesting that some modification be made in one of his dentures and asked the doctor to



J. GREENWOOD,

DENTIST TO THE LATE PRESIDENT

GEORGE WASHINGTON,

Informs the Public, that he continues to perform every operation incident to the TEETH and GUMS, from the fixing-in of a single tooth to a complete set. The approbation which the late ILLUSTRIOUS WASHINGTON was pleased to bestow on him, he flatters himself, is a sufficient recommendation of his abilities as a Dentist.

Extract from General Washington's Letter.

"January 6, 1799.

"I shall always prefer your services to that of any other in the line of your present profession."

FIGURE 5. Portion of Greenwood's advertisement in the New York City Directory of 1800 emphasizing he was Washington's favorite dentist.

FIGURE 6. Gilbert Stuart's 1796 portrait of Washington. It is obvious the artist had stuffed absorbent cotton under Washington's lips and cheeks to fill out his face because of the foreshortened dentures.

advise him what the fee would be so that he could remit it. Greenwood, in his letter of reply, said that he would never accept any money from the president.

Unfortunately, Washington had lost so many teeth over a long time, that his alveolar ridges were greatly resorbed, making it difficult to achieve optimum esthetics. Thus, when Gilbert Stuart painted the president in 1796, Washington was wearing the next-to-the-last set of dentures Greenwood had made for him and they appeared foreshortened. The artist stuffed absorbent cotton beneath Washington's lips and cheeks to fill out his face (**FIGURE 6**).

It is not surprising that Washington was so pleased with Greenwood's treatment, he had earlier sought the services of eight other practitioners who had all made dentures for him.[7] Exactly how Washington came to seek the services of Greenwood is unknown. However, Washington came to New York City on April 23, 1789, to be inaugurated as president. At that time, John Greenwood was the most prominent dentist in the city and his name obviously came to the attention of the president.

The Newly Found Advertisement

Weinberger had scoured the country, searching libraries and archives for material on Greenwood. In his exceptional work, he mentioned and reproduced every advertisement of Greenwood's, wherever published. And where he didn't reproduce an ad, he wrote of the various ads and their dates. He listed an advertisement in the *New York Gazette* of March 23, 1811, as the last one published, although handwritten copies, apparently intended for the printer, were found among

WASHINGTON HAD lost so many teeth over a long time, that his alveolar ridges were greatly resorbed, making it difficult to achieve optimum esthetics.

Greenwood's effects and these were dated as late as 1816. Unfortunately, he was in poor health and it is most likely that he did not actively practice from 1812 until his death in 1819.

What is interesting about Greenwood's advertisements is that although they covered a period of 25, they generally did not repeat themselves. While, in general, he mentioned his services and the fact that his fees were reasonable, he almost always reworded the advertisements. After the death of President Washington, Greenwood cited the fact that he had been Washington's favorite dentist. Another interesting fact is that Greenwood used different titles for himself at different times, ranging from "surgeon dentist" and "approved surgeon dentist" to "Dr. Greenwood, approved dentist" and "Dr. Greenwood-Dentist."

The advertisement, the topic of this paper, was found by the author in an issue of an early New York City newspaper, the *Weekly Museum* (11(23), Feb. 9, 1799) (**FIGURE 7**). It is reproduced here using the exact writing and orthography:

J. Greenwood, surgeon dentist

• Continues to make and fix artificial teeth, in many different ways, and at moderate prices. He has a particular way of cleaning and whitening the teeth that does not give the least pain, and at the same time he gives the teeth a beautiful polish, with directions, if followed, which will keep them white, sound, and free from pain during life.

• N.B. The very low charges from what is commonly demanded for operations on the teeth, must be satisfactory to every person who pleases to employ him.

• Mr. Greenwood advises parents who wish that their children should have a good set of teeth, to call on him or any other person skilled in the practice on the teeth, as he presumes they will give their advice gratis, which is his custom, and, if followed, will be the means of preserving them from destruction.

• Powders proper for the teeth and gums may be had at the stores of Stilwell and DeForest, No. 169 Pearl St., Cook and Co., No. 133 William St., and at the house of the operator, No. 3 Church St., behind St. Paul's church.

This advertisement offers a picture of Greenwood's attitudes regarding both practice and preventive dentistry. Every dentist of the day touted his own dentifrice as well as his low fees. In this ad Greenwood devotes half of the text to the preservation of children's teeth, emphasizing that because it is of such importance he will not charge a fee for

WEEKLY MUSEUM.

"WITH SWEETEST FLOWERS ENRICH'D, FROM VARIOUS GARDENS CULL'D WITH CARE."

NEW-YORK, SATURDAY, FEBRUARY 9. 1799.

RORS OF OAKENDALE ABBEY.

A ROMANCE.

gloomy month of November, when the ...ists in Cumberland were almost con... the heavy black clouds which hung be... tops, and a thick drippling rain scarce... few scattered cottages of Oakendale ...ble, the peasants were all retired to their ...s; and through this thick atmosphere ...y ruins of the antient Abbey appeared ...ack mass of immense length, and could ...distinguished as a building, by the glim... winking of the small panes of glass from ...the many windows which were dispersed, ...uniformity, in this gloomy brotherhood. ...hurch clock had struck ten, when a boy ...g at the cottage of Aaron Giles (who was ... with the keys of the Abby) roused him ...mber to which the labours of the day... Matrons of the evening, had composed ...d caused a strange alarm to the rest of his ...consisting of a notable Dame, now seated ...spinning-wheel, a beautiful girl about ...years of age, and two stout boys, who ...astily eating a piece of brown bread.— ...cried the wife and daughter, both in the ...nth. "what can that be?—Don't open ...r, father," said the girl, "for fear it ...e one of the spirits from the Abbey." ...repeated knocking sufficiently awakened ...terrified the rest of the family, and a voice ...ed without admittance. ...h, half bold, and half afraid regardless ...rmonies of their about him, ventured to ...the bolt, and ask "Who was there?" ...a mail open the door," replied a quick ...and deliver to me the keys of the Abbey." ...who had by this time opened the door ...ly to oblige the servant well mounted ...every great coat on, entirely foil all fear ...ied, "The keys of the Abbey! why, so... ...ould venture there at this time of night ...s they be wanted for?" ...a lady," replied the servant. "who will ...within two hours, and you must go with ...your wife must come also, to make a fire, ...things in a little order and comfort for ...y." ...ort and comfort for my Lady!" said Aaron, ...g the door fall in his hand) "I am sure ...no order or comfort to be had there." ...m," said his wife, advancing fearfully; ...don't like to go there in the day-time, ...afe when it is dark; and mother must not ...the keys to any but my Lord himself, or ...r Acre, the steward." ...there, give me the keys," said the servant, ...eep me here no longer; for I have orders, ...om my Lord and Mr. Acre, to receive ...do not trifle, for no time is to be lost." ...scratching his head, knew not what to ...told the man "he had better come in a ...for going to the Abbey, it was sooner ...n done.—Why," said he, "you do not ...what you ask; we might be carried away, ...ver heard on any more. I never ventures ...without two or three as stout as myself with me, and then we be just frightened out of our lives."

"Never fear," replied the footman, who had by this time dismounted, and was advancing into the house; at the same time taking a pistol from his pocket, which he held in a menacing manner, saying, "What the devil are you afraid of? Why, I will engage to blow up all the ghosts in the country, if you will give me a draught of something to drink, for I am devilish dry"

The good woman, tremblingly replied, "She would give him some cyder, provided he would put up the pistol, and not be blasphemous; and the poor little girl, who with her brother had fled to the further corner of the room, on seeing the pistol which he still held in his hand, advanced, fell upon her knees, and begged him not to kill them, for none of them had done any harm.

The beauty and innocence of this girl, softened the valiant soulings of the footman; and he instantly returned the pistol to his pocket, saying, "No, my pretty dear, I have no intention to hurt you."

During this time, Aaron was reading a letter the servant had given him, which contained an order from Lord Oakendale, for his instantly preparing the Abbey for the reception of a Lady, who would be there on that very evening. Aaron, terrified at the idea of the undertaking, and yet seeing the necessity of his obedience, instantly summoned two of his neighbours, who, together with the footman and himself, prepared with lanterns to venture into that Abbey, which, even in the day-time, none of the inhabitants dared to enter, and which had been the terror of many generations. Some of the rooms were habitable, and is occupied in length many hundred feet of ground. A great part of it consisted of low crumbling walls, long passages, or cloisters, and it had a communication with the village church. It was likewise supposed that there were vaults and subterraneous passages under the whole building. The thickness of its walls bespoke the antiquity of its date, and the strength of the workmanship defied the ravages of time; indeed no person in these parts pretended to trace its origin. For the last hundred years it had descended with the Earldom of Oakendale; but was never remembered to have been inhabited for more than a few days.

The tradition of the country recorded a dreadful murder that had been perpetrated in one of the rooms, which was evidently stained with blood; and various tales were handed down to posterity, with additional wonders according to the prolific fancy of the relater.

One circumstance had lately impressed the minds of the villagers with an affluence of its being under the dominion of supernatural powers, which was, that of a young man (about three months before the present period) having arrived at the village, demanded the keys, and determined to explore the Abbey alone, and no trace or vestige having ever since been discovered concerning him. The keys were found in the doors; nor was the horse he came upon ever enquired after! To this place then, and at this season, filled forth the above mentioned four men, followed by Dame Giles, with bed-clothes and other necessaries, in order to prepare for the expected Lady. The children followed with trembling steps, equally afraid to be left at home as to proceed with their mother.

Upon entering the great door, which was placed in a porch like that of a church, its ponderous weight creeked upon its rusty hinges, the echoes of which sounded with a tremendous noise. A small narrow passage led to a large hall, with high grated windows; at the four corners of which were narrow passages leading to different apartments. In the centre of the hall were two folding doors, which opened into a spacious room, the top of which terminated into a dome of great height; a staircase on the right led to various rooms, long galleries, narrow passages and cloisters; long ranges of building extended on each side of the part they had entered, which appeared to be the only habitable place in this immense pile of building; and in these the walls were so damp, and even of those that were covered the hangings were so ragged, and the whole so destitute of furniture, that not the most distant idea of comfort could be imagined for the poor Lady, who was the expected inhabitant of this gloomy mansion.

After having swept away the cobweb, and cleared some of the dust, the good woman began to consider where the poor Lady was to sleep, for as yet they had not ventured up stairs, nor did they know if there was [illegible] lodging to the Abbey. Not one of them would dare to go without the rest attended; even the valiant footman would not proceed alone, altho he pretended to bluster and throw open the doors one after another, swearing at, and defying all the ghosts in Christendom; whilst the more timid inhabitants of the village stood with fear and astonishment at his temerity.

Beds there were, but scarcely in a condition to accommodate any one; and, when Dame Giles surveyed the tattered velvet of the curtains, and beheld the tudding better of immense height, she derived a secret comfort from the comparison between this, and much in favor of her own humble chamber at the cottage.

Having arranged every thing in as much order as the time and place would admit, and having met with nothing to alarm or terrify them, they sat down in expectation of the arrival of the Lady. They had not waited long before a chaise and four horses (with some difficulty, on account of the weeds and briars which impeded their way to the porch) drew up. When the chaise door was opened by the footman a very beautiful young Lady appeared, eager to jump out. She was followed by another, who seemed older, and, as an attendant, every way inferior to the Lady herself; the attractions of whose person at once inspired the hearts of the beholders with equal wonder, pity and admiration, that so charming a young creature should be configned to so dreary and wretched a [illegible]

If they were lost in wonder and surprise at her beauty, how [illegible] was their admiration excited when, in the most melodious accents and

FIGURE 7. The *Weekly Museum* newspaper of Feb. 9, 1799, in which the heretofore unknown advertisement by John Greenwood was carried.

such a consultation. He also doesn't arrogate unto himself the role of protector of young dentitions but makes it clear there are other dentists who can do the same and should not charge a fee either.

Dropping all the titles previously used, in 1794 Greenwood adopted the term Dr. Greenwood. But in the advertisement under discussion he reverted to calling himself J. Greenwood, surgeon dentist. This advertisement was printed 10 months before the president died, and it is surprising that Greenwood did not refer to himself as "Washington's favorite dentist" as he did in so many previous ads.

Another interesting fact is that in addition to the three stores mentioned that carried his dentifrice, Greenwood in previous years had used numerous other stores as his purveyors, effectively blanketing the city with his tooth powders.

Two of America's most respected dental historians, Dr. Gerald Shklar and Dr. David Chernin beautifully summed up the period in which Greenwood shone so brightly, "The skill and knowledge of the dentists of Revolutionary America gradually transformed the profession and brought it to its pre-eminence. Today, American dentistry stands second to none, but many of its fundamental techniques and much of its basic operative equipment were developed in the late 1800s century by the (era's) dentists.[9] ■■■■

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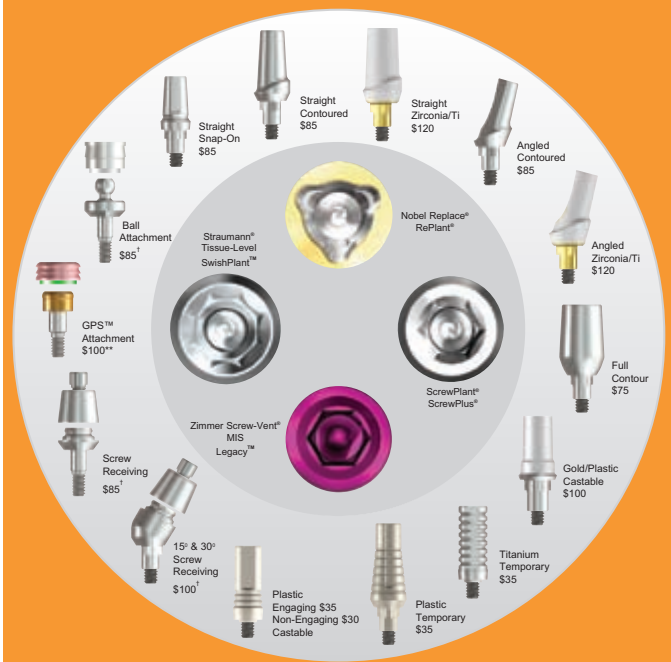

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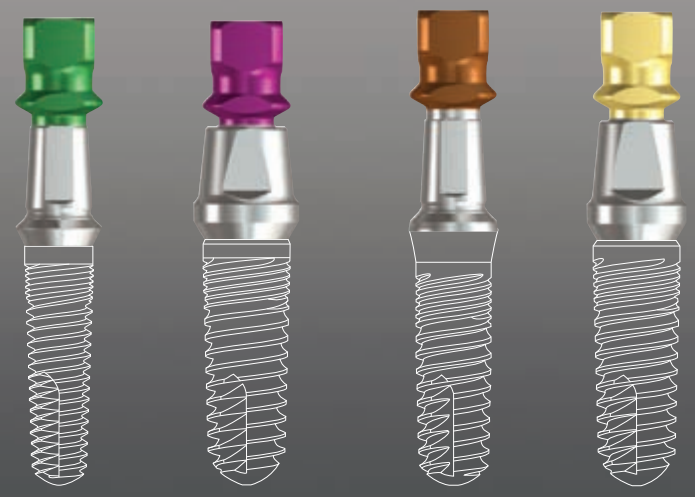

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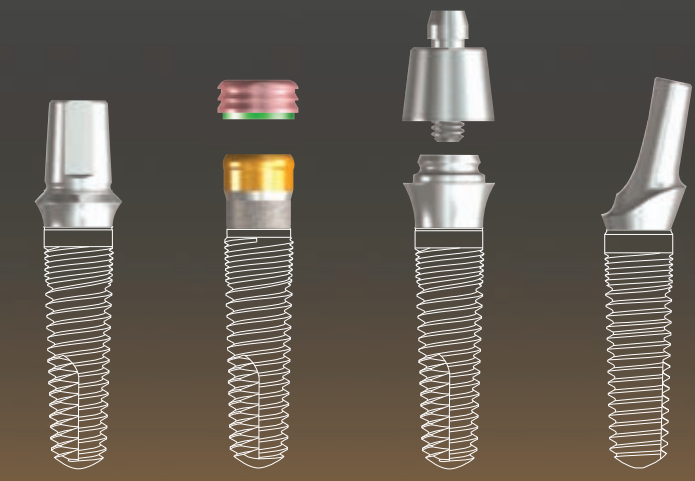

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Effect of Dentin Treatment Time With Tetraclean on its Residual Antibacterial Activity

ZAHED MOHAMMADI, DMD, MSD; LUCIANO GIARDINO, MD, DDS; AND SHAHRIAR SHAHRIARI, DMD, MSD

ABSTRACT The goal of this study was to evaluate the effect of dentin treatment duration (10 minutes, 24 hours, and seven days) with Tetraclean on its residual antibacterial activity in bovine root dentin. Results showed that the number of colony-forming units in all three experimental groups was zero at the first culture. Furthermore, the 10-minute group and seven-day group demonstrated the highest and the lowest number of colony-forming units, respectively.

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The importance of microorganisms in the initiation and perpetuation of pulpal and periapical diseases has been well addressed.[1-4] It has been demonstrated that even with contemporary instrumentation techniques, significant portions of the root canal walls are left untouched by the instruments and complete elimination of bacteria by mechanical instrumentation alone is unlikely to occur.[5-6] Therefore, some form of irrigation and disinfection is necessary to remove residual tissue and to kill microorganisms. In cases with necrotic pulps, as well as in retreatment cases, treatment should be performed in two visits, which is more time-consuming than one-visit treatment.[7] Furthermore, calcium hydroxide is ineffective against *E. faecalis*.[8] To overcome the aforementioned problems, an alternative protocol is to use antimicrobial agents that exhibit substantivity. Substantivity is the prolonged association between a material and a substrate, an association that can be greater or more prolonged than would be expected from a simple deposition mechanism.[9]

Chlorhexidine (CHX), as well as tetracyclines, exhibits considerable residual antibacterial activity (RAA). Tetraclean, (Ogna Laboratori Farmaceutici, Muggiò, Italy), is a doxycycline-based root canal irrigant composed of an antibiotic (doxycycline), an acid (citric acid), and a detergent (polypropylene glycol).[9,10] However, the concentration of the antibiotic, doxycycline (50 mg mL-1) and the type of detergent (polypropylene glycol) differ from those of MTAD.[11] Recently, Mohammadi et al. demonstrated that substantivity of Tetraclean was significantly higher than

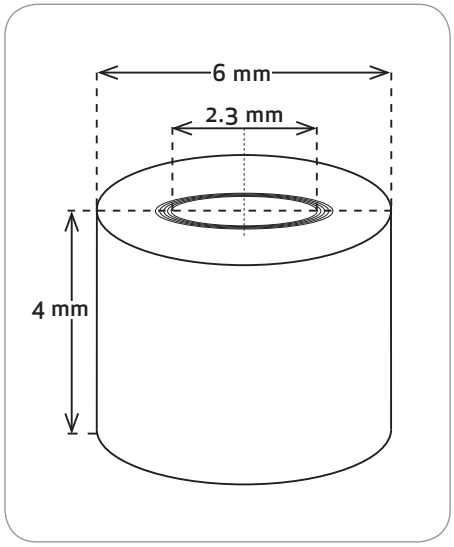

FIGURE 1. Schematic view of used dentin tubes (adopted from Mohammadi and Shahriari [11]).

MTAD.[12] There is a considerable debate in the literature regarding the treatment time of dentin to induce substantivity. Some projects have demonstrated that only five to 10 minute treatment with CHX induces substantivity.[13-18] On the other hand, some studies have shown that dentin should be treated for one week to induce substantivity.[19,20] Therefore, the aim of this study was to study the effect of the treatment time of dentin with Tetraclean on its residual antibacterial activity in vitro against *E. faecalis*.

Materials and Methods

Intact bovine central incisor teeth were used for this study. The teeth were kept in 0.5 percent NaOCl solution for up to seven days. The clinical crown and apical third were removed from each tooth with a rotary diamond saw at 1,000 rpm (Isomet Plus precision saw, Buehler, Ill.) under water cooling. Cementum was removed by using polish paper (Ecomet 3, variable-speed grinder-polisher, Buehler, Ill.), which resulted in a center-holed piece of root dentin with a 6 mm outer diameter (**FIGURE 1**). The remaining piece of each tooth was then cut into 4 mm thick slices with a diamond saw as above. The canals of the 4 mm blocks were enlarged (standardized) with an ISO 023 slow-speed round bur. In order to prevent dehydration, all teeth and dentin slices were preserved in vials containing tap water during the procedures. Each dentin block was individually treated with 5.25 percent NaOCl and 17 percent EDTA (with pH 7.2) to remove the smear layer. The specimens were then placed in BHI broth (Oxoid, Basingstoke, United Kingdom) and autoclaved. To monitor the efficacy of the sterilization, they were then kept in an incubator at 37 degrees Celsius for 24 hours. Under aseptic conditions, the root canal of each specimen was filled with one of the following solutions: group 1 (20 specimens): Tetraclean for 10 minutes; group 2 (20 specimens): Tetraclean for 24 hours; group 3 (20 specimens): Tetraclean for seven days; group 4 (10 specimens): positive control (infected dentin tubes); and group 5 (10 specimens): negative control (sterile dentin tubes). In order to prevent contact of the medicament with the external surface, the outer surface of the specimens was covered with two layers of nail varnish. Thereafter, using decontaminated sticky wax, specimens were fixed at the bottom of wells of 24-well cell culture plates that also obliterated the apical surface of the root canal. The solutions were introduced with a sterile syringe and a 25-gauge needle was placed in the center of the root canal. Excess solution was removed from the top surface with sterile paper points. The specimens of the seven days group were kept in an incubator at 37 degrees Celsius and the solution was replenished daily.

THERE IS A considerable debate in the literature regarding the treatment time of dentin to induce substantivity.

At the end of the treatment period of the specimens, the test solution was removed with sterile paper points. Thereafter, the root canal of each specimen was filled entirely with an overnight suspension of *E. faecalis* (ATCC 29212) in BHI broth for two days. The dentin tubes were incubated at 37 degrees Celsius. Samples of the broth were taken from the canals of the specimens to confirm the viability and purity of the inoculum.

Afterward, the specimens were removed from the Petri dishes, thoroughly rinsed with sterile water, and blotted dry with sterile paper. At experimental times of seven, 14, 21, 28, and 35 days, dentin chips were removed from the canals with sequential sterile low-speed round burs with increasing diameters of ISO sizes: 025, 027, 029, 031, and 033, respectively. Each bur removed approximately 0.1 mm of dentin around the canal. The powder dentin samples obtained with each bur were immediately collected in separate test tubes containing 3 ml of freshly prepared BHI. Thereafter, 100 µL from each test tube was cultured on blood agar. Growing colonies were counted and recorded as CFU.

Analysis of variance and covariance with repeated measures was used (ANOVA) to indicate differences between the experimental groups and the positive control. In addition, One-way ANOVA (Tukey's method) was used to indicate differences within each layer.

TABLE 1

Mean of the CFU and the Standard Deviations of *E. Faecalis* in the Experimental Groups

	Day 7	Day 14	Day 21	Day 28	Day 35
10 minutes	0.00± 0.00	0.37±0.65	6.68±2.59	15.35±3.21	31.64± 5.49
24 hours	0.00± 0.00	0.00± 0.00	3.20±3.41	8.75±2.68	14.24±3.43
7 days	0.00± 0.00	0.00± 0.00	0.74± 0.92	2.32±1.64	5.46±3.21

Results

The positive control group showed viable bacteria at all experimental times, confirming the efficiency of the method. In contrast, the negative control group showed no viable bacteria at all experimental times. The number of CFU in all three experimental groups was zero at the first culture (after seven days). The cultures of the 24-hour and seven days groups were also negative the second periods (after 14 days). At the other experimental periods (21-day, 28-day, and 35-day), the seven days group showed the most effective antibacterial action ($P<0.05$). Overall, the 10-minute group demonstrated the weakest antibacterial activity. Results were presented in **TABLE 1**.

Discussion

Considering the fact that current techniques of root canal instrumentation leave many areas of the root canal completely untouched by the instruments, an irrigation solution is required to aid in the debridement of the canals.[21] For improvement of their efficacy, root canal irrigants must be in contact with the dentin walls and debris.[22] The intimacy of this contact depends on the wettability of the irrigant on solid dentin, and this property of the liquid is strictly correlated to its surface tension.[22] The surface tension is defined as "the force between molecules that produces a tendency for the surface area of a liquid to decrease."[23] This force tends to limit the ability of the liquid to penetrate a capillary tube. Endodontic irrigants should have very low surface tension. The wettability of the solution governs the capability of its penetration both into the main and lateral canals, and into the dentinal tubules.[24] By improving the wettability, an irrigant antimicrobial solution could increase its protein solvent capability and enable better activity in uninstrumented areas of RCS.[24]

Substantivity is the ability of drugs to adsorb onto and bind to soft and hard tissues and to be released when the concentrations in the environment is low. In case of an application of an antimicrobial agent, prolonged antimicrobial effect due to adsorption to the tissues is referred to as substantive antimicrobial activity (RAA).[25]

In the present study, the effect of treatment time of dentin with Tetraclean on its RAA was investigated for 35 days. Findings showed that there was a direct relationship between dentin treatment time and its RAA. In other words, although all treatment times induced RAA, longer treatment times induced stronger antibacterial activity. The effect of dentin treatment duration on the induction of substantivity is still controversial. Some studies have demonstrated that only five- to 10-minute treatment with CHX induces substantivity.[13-18] On the other hand, other studies have shown that dentin should be treated for one week to induce substantivity.[19,20] Rosenthal et al. found that after immersion of dentin specimens in 2 percent CHX solution for only 10 minutes, the extracts of chlorhexidine-treated dentin contained CHX at levels as low as 0.001 percent and demonstrated SAA even after 12 weeks.[13] In addition, Mohammadi and Shahriari found that 10-minute treatment of human root dentin with MTAD and CHX induced RAA for up to four weeks.[16]

In another study, Mohammadi et al. found that a 10-minute treatment of bovine root dentin with Tetraclean induced RAA for up to four weeks.[12] In contrast, Komorowski et al. reported that for induction of substantivity, dentin should be treated with CHX for seven days and a five-minute treatment with CHX did not induce substantivity, which is in contrast to the authors' findings.[19] Furthermore, Lin et al. attributed the limited antibacterial effect of CHX irrigation to absorb the medication to dentin during the first hour and stated that only after the saturation point after the first hour could the antibacterial capability of CHX increase with time.[20] It can be stated that results of all of the above studies are in according to the findings of the present research.

In conclusion, under the limitations of the present study, there was a direct relationship between the dentin treatment time with Tetraclean and its RAA. ■■■■

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Good, Clinical Pain Practice for Pediatric Procedure Pain: Metric Considerations

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ABSTRACT This paper is a brief primer in pediatric pain measurement. Two measurement instruments — the Faces, Legs, Activity, Cry and Consolability Scale and the Faces of Pain Scale-Revised — are presented along with their limitations.

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Why measure pain? Pain is subjective.[1,2] There is no uniform pain response for a given level of tissue damage.[3,4] As children grow older, they tend to conform to cultural prohibitions on pain expression.[5] On the other hand, younger children who have not yet developed their full complement of pain inhibitory controls will perceive pain more efficiently and express their pain more exuberantly than older children.[3,6,7] As a result, clinicians will not be able to gauge the intensity of procedure pain simply by observing the pain behavior of older children because the pain expression of older children (and adults) will generally be lower than their actual pain experience.[8] Therefore, the only way for a clinician to reliably know the qualitative success or failure of a given pain intervention is to measure the intensity of a patient's pain experience with that intervention. Measuring pain, both chronic (e.g., temporomandibular joint disorder) and acute (e.g., procedural tissue trauma), is necessary to refine one's pain interventions.

Another reason to measure pain is that it compels clinicians to target pain and abandon dentistry's long tradition of targeting pediatric "behavior." The etiological ambiguity of "behavior" as an assessment target has rendered the pain assessment-intervention dynamic especially vulnerable to evaluator bias.[9] Most dental clinician's disbelieve or doubt the pain reports of children.[10] They tend to underestimate pediatric pain, possibly, because they are psychologically predisposed to rationalize away procedure pain that they cannot alleviate.[9,11-13] The form of this rationalization may take shape as a choice to interpret "behavior" as "misbehavior" and thereby derive intervention strategies that are effective in controlling behavior (e.g., restraints) but not pain.[11,14,15] This confounding influence can only be remedied by abandoning "behavior" as an assessment target. To facilitate this change, clinician's should routinely measure pain when it is a possibility. This is an essential principle of

pediatric procedure pain management.

Measuring pain is also critical to the decision tree of pain justification. Pain justification is a complex mental process requiring continuous intuitive estimation of the child's pain sensitivity, the potential pain stemming from the planned procedure, and the probability of risks and complications associated with intervening in that pain as compared with alternative interventions.[9,16] Every clinician must mentally negotiate this calculation each time they consider invasive treatment in order to derive their pain intervention strategy. Asking a patient to raise their hand if something hurts during the performance of a procedure is a helpful means to assess the physiological presence of pain. It is not entirely helpful in determining if that pain may be justified. Pain justification requires knowledge of the intensity of our patients' pain experience. Gaining that knowledge is the purpose of pain measurement.

Finally, whether or not the patient is undergoing an invasive procedure, their pain status has become recognized as a critical indicator of their overall health. The Joint Commission on the Accreditation of Health Care Organizations has promulgated policies on pain control that promote the routine measurement of pain as a "fifth vital sign."[17]

Measurement Fundamentals

Pain measurement is the numeric quantification of pain as opposed to the general process of evaluating the circumstances for its manifestation. Pain measurement should be reliable (dentists and others should be able to consistently reproduce the metric) and valid, meaning it should correspond to the actual pain experience of the child and not some other construct, such as distress at being removed from a waiting room while playing a video game.[18] However, "construct validity is the most complex and difficult validity to establish."[18] Therefore, a valid procedure pain measurement must admit to an inextricable mix of diverse psychological and sensory factors including the possibility that the emotional, affective distress from not being allowed to play a video game is marginally polluting the construct validity of an individual measurement.

Besides measuring pain intensity, it is important to measure its frequency and duration. Unlike the chronic pain of a stomachache or the neuropathic pain of trigeminal neuralgia, procedure pain is characteristically brief, acute, and coincident with clinically induced tissue trauma. This renders procedure pain's duration and frequency more readily identifiable and quantifiable to clinicians than determining its intensity. For procedure pain, the problematic metric is that of intensity.

ASKING A PATIENT to raise their hand if something hurts during the performance of a procedure is a helpful means to assess the physiological presence of pain.

The subjective nature of pain has defied all attempts to develop a reliable, objective measure. Physiologic measurements of pain, such as galvanic skin response and heart rate, are not as reliable as the patient's own self-report.[19] Of all the physiologic measurements of procedure pain, the heart rate correlates best with the patient's self-report. This is the best instrument to inform the clinician of pain that has reached supraspinal central processing where self-report is not possible, (e.g., under general anesthesia).[19] Because of our inability to reliably and objectively measure pain, and because analgesic failures are commonly encountered in clinical practice, when a patient exhibits or self-reports "pain behavior" that occurs simultaneous with tissue trauma, those reports should be treated as credible, despite any inclination on the part of the clinician to disbelieve their authenticity and revise those reports downward.[20,9] To downwardly revise a child's pain report that occurs coincident with surgical tissue trauma risks a sensitization injury that can disable the child's ability to cooperate for future necessary medical treatments.[9,21-23] How much pain a clinician chooses to justify is contingent on whether it is the clinician or the child who is deciding what constitutes pain. Because pain is subjective and unrelated to the amount of tissue trauma a person is experiencing, and because clinicians tend to underestimate pain and cannot know the adequacy of their pain interventions, under invasive conditions, dentists must allow the child to decide what pain is when invasive conditions prevail.

The urgent demands of clinical practice compel practitioners to favor methodologies that are efficient in their application and use. Toward that end, the following two instruments of pain measurement are presented.

The FLACC Observational Pain Scale: Ages 1-6

Preschool children are typically measured by observation of behavior, while school-age children are usually measured by a method of self-report. Both categories of measurement have limitations. Self-report measures for preschool children are problematic because

TABLE 1

FLACC Behavioral Pain Scale

	Score	Description*
Face	0	No particular expression or smile
	1	Occasional grimace/frown, withdrawn, or disinterested
	2	Frequent/constant quivering chin, clenched jaw
Legs	0	Normal position or relaxed
	1	Uneasy, restless, tense
	2	Kicking or legs drawn up
Activity	0	Lying quietly, normal position, moves easily
	1	Squirming, shifting back and forth, tense
	2	Arched, rigid, or jerking
Cry	0	No crying
	1	Moans or whimpers, occasional complaint
	2	Crying steadily, screams or sobs, frequent complaints
Consolability	0	Content and relaxed
	1	Reassured by occasional touching, hugging or being talked to, distractable
	2	Difficult to console or comfort

*Think of these descriptions as "guides."

of their tendency to pick endpoints on pain scales.[24-26] Conversely, the difficulties encountered with behavioral measures accrue from the greater training required to quickly and appropriately score the observed behavior, as well as its vulnerability to the subjective tendencies of the evaluator. Despite these difficulties, behavioral measures for preschool children are deemed appropriate because their pain apparatus has been primed for more robust perception and display. The relative lack of mature pain inhibitory controls in preschool children and the incipient nature of cultural inducements to constrain their pain expression renders their behavioral pain reports more credible.[3,5,6]

The Faces, Legs, Activity, Cry and Consolability (FLACC) observational pain scale is presented here because it is relatively simple to recall and implement in clinical practice. It requires only five mnemonically organized behaviors to score[27,28] (**TABLE 1**). These behaviors are reliable expressions of pediatric pain.[29] Additionally, this scale has the advantage of being appropriate for use in children with cognitive impairment.[30] Each of the five pain behaviors to be rated by the clinician are given a maximum of two points. The patient response is coded as either "none" (zero point), small (one point), or big (two points). Most dentists treating children would likely agree with the study of Goodenough et al. that found that the most consistent observable cue for procedure pain intensity, regardless of age, is facial expression.[8] Since there are five behaviors to rate, each having a maximum of two points, the maximum scale measurement conveniently adds up to the accepted ordinal convention of 10 points. Maintaining this ordinal convention is critical to avoid confusion between succeeding caregivers.

FLACC: Limitations

As mentioned previously, use of the FLACC pain scale is best limited to those children under seven. These children generally exhibit behavioral pain reports that have been rendered more credible due to the immaturity of their pain inhibitory controls as well as their developmental remoteness to cultural pressures that solicit attenuation of pain expression.[5-8]

Unfortunately, all behavioral pain measurements that rely on the clinician to assign a metric to the severity of the child's behavioral pain report are vulnerable to the subjective tendencies of the evaluator. Dentists, physicians, and nurses all have demonstrated a tendency to underestimate pediatric pain.[11-13,31-37] This potentially contaminates clinician assessment of FLACC behavior intensity with a downwardly revising bias. Versloot, Verkamp, et. al designed a study that lends credence to the hypothesis that caregivers have a psychological need to rationalize away pain they cannot alleviate.[9,11] These researchers demonstrated that an independent observer who is not involved in causing the patient's pain is more accurate at assessing a behavioral pain report's intensity. Given this, it is prudent for clinicians to gain agreement on FLACC scores from observing staff uninvolved with causing the patient's pain. Assistants and nurses, trained in pain assessment, who are less involved in causing the patient's pain and whose scope of vision is less restricted by procedural necessity, may be more accurate at deriving FLACC scores and should be consulted.

A clinician's downwardly revising bias may also motivate them to find ways to exclude presumed, affective FLACC behavior when that score would exceed the score for FLACC behavior that is coincident with tissue trauma. This commonly occurs toward the end of a

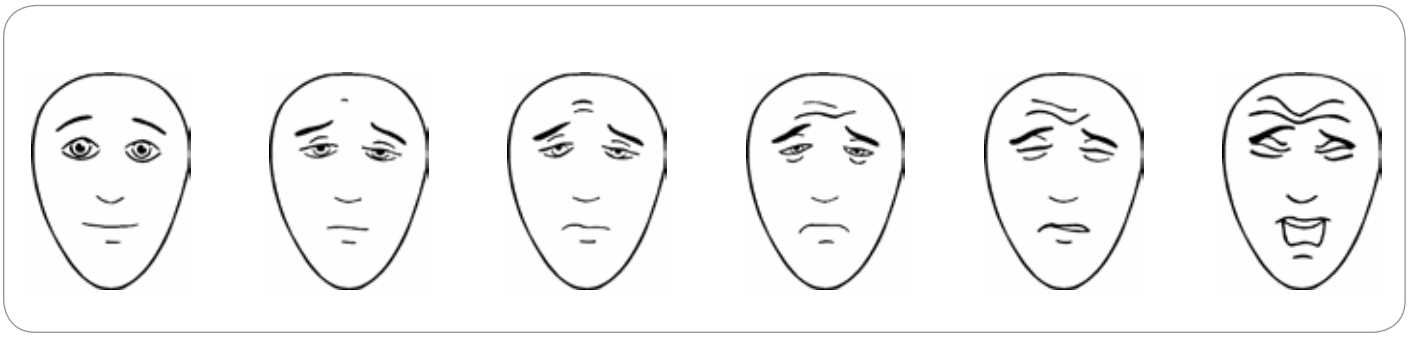

FIGURE 1. Faces Pain Scale-Revised, a full-size downloadable copy with script instructions for its use in your office, may be accessed free at http://painsourcebook.ca/pdfs/pps92.pdf. This figure has been reproduced with permission of the International Association for the Study of Pain (IASP). The figure may not be reproduced for ay other purpose without permission. Hicks CL, von Baeyer CL, et al, Faces Pain Scale-Revised: Toward a Common Metric in Pediatric Pain Measurement. *Pain* 93:173-83, 2001. With the instructions and translations as found on the website usaak.ca/childpain/fpsr.

FIGURE 2. The Faces Pain Scale-Revised pain measurement tool. "These faces show how much something can hurt. Point to the face that shows how much it hurt you for me to put your tooth to sleep." Older children who display no behavioral reports of pain during injection may self-report their pain higher than the score that would have been obtained by using a FLACC scale to rate it.

procedure, after the nociceptively invasive portion has been completed. There are a number of reasons that would persuade a clinician not to do this. First, it would deprive subsequent clinical teams of vital information on the patient's pain sensitivity. A patient's affective, emotional response to the "cognitive appraisal of a memory of prior pain" is strongly linked to increased pain perception.[38-40] Also, one cannot know that an anesthetic, having been metabolized early, is not losing its effect giving rise to postoperative pain. Furthermore, it is not possible to be certain that internal, musculoskeletal or salivary gland conditions (e.g., spasm of the TMJ or parotid) resulting from a protracted procedure is not causing some nociceptive sensory pain despite the absence of tissue trauma. Stomachaches are not associated with tissue trauma, yet no one disputes their pain is real.

Finally, a non-nociceptive yet aversively perceived sensory experience associated with the procedure (e.g., isolation techniques) can also be sensitizing. Motion sickness, for example, may not be initiated by nociception, yet no one with that condition wants to repeat the experience. The fact that motion sickness is modulated by antinocieptive (acupressure) techniques that are known to induce diffuse noxious inhibitory controls (DNIC) is evidence that some overtly non-nociceptive, noxiously perceived stimuli can evoke mechanisms characteristic of nociceptive experience.[41,42] It makes better sense to assign a second FLACC score for what is assumed to be affective FLACC behavior and narratively describe its context (e.g., isolation or "mouthprop").

To ethically revise downward a child's FLACC score requires that the clinician have knowledge that nociception has not occurred.[9] For the reasons cited above, once tissue trauma has been initiated, it is better to restrict this downward revision to circumstances where the child's response is immediately coincident with their exposure to a sham element of a procedure. Clinicians often test a patient's affective response to a specific sensory element of a procedure by performing a brief exposure trial to that element that is purposely innocuous. This is done to confirm the degree to which a child has been desensitized to a specific sensory element and to reinforce its desensitization in order to decrease the likelihood of complicating movement during the technique. Innocuously running a slow rotating round bur over intact enamel prior to commencing caries excavation is an example of the type of pain context in dentistry that offers the best conditions for exercising an ethical, intraoperative revision of pain report.[9]

FPS-R Self-Report Pain Scale: Ages 7 and Above

Observation of behavioral evidence for pain is not reliable for older children. As children grow, they learn to modify their pain expression through modeling and direct instruction.[43,44] Children increasingly conform their pain expression to comply with parental admonitions not to show pain or to be cooperative with authority figures. It is also true that the overall pain experience of older children will diminish owing to their development of greater inhibitory controls of pain perception.[6,7] However, with increasing age, a child's pain expression exhibited during injections will diminish at a greater rate than their self-report of pain experience diminishes.[8]

In an evidence-based review of pediatric pain measures, the well-established Faces Pain Scale-Revised, (FPS-R) for 4- to 16-year-olds was conspicuous for its reliability and concurrent validity with

FIGURE 3. Pain affect. This 5-year-old patient should be rated a 10 for affective pain response because his right hand is on the operator's hand and his left arm is being restrained by his father during this attempt at a desensitizing, innocuous exposure trial. A FLACC score here is inappropriate because nociception has not occurred and because such a scale would only net a 3 or 4 at the most. (Legs=1, Activity=2, Face=1 for a total of 4.) However, in the presence of even mild pain, all of his FLACC scores would likely produce a response that would sum up to 10.

other pain measures[45-48] (**FIGURES 1 AND 2**). It has the advantage of not having either a smiling face or a face depicting tears since children were found to be hesitant to pick these scales if they were not smiling or crying.[46] To obtain a self-report pain score with this instrument, the clinician need only hold up the image scale to the patient and read the instructions that are conveniently printed on the back of the scale. The patient then points "to the face that shows how much it hurt you for me to put your tooth to sleep" or "do your filling today." The first face is scored a zero and then each succeeding face is given a score of two, four, six, eight, or 10.

FPS-R: Limitations

While identifying the FPS-R as "among the most psychometrically sound self-report measures available for use with children," Stanford, Chambers and Craig reported reservations about its scope of utility in 5- and 6-year-olds (with this author in agreement).[49-51] Most 4-year-olds and many 5- and 6-year-olds will tend to pick endpoints when the self-report scale presented here is used for procedure pain. This author recommends that clinicians pragmatically choose the FLACC behavioral measure over the self-report for this age group.[49,50]

When using the FPS-R, one should be aware they are never really using a single metric to measure procedure pain. The clinician is always aware of the patient's behavioral reports of pain and in that way is utilizing a composite metric, a combination of both measurements. From a practical standpoint, since the behavioral measurement of pain is less reliable in older children, the composite measurement is only invoked when grossly unreasonable contradictions exist between the two measurements. When a 6-year-old exhibiting little or no behavioral pain reports, (a one or two on the FLACC scale), points to the pictorial face that exhibits the most pain, a 10 on the scale, then the composite metric lies somewhere between those two measurements. Usually, repeating the instructions and giving the child another opportunity to designate a face that corresponds to how much the procedure hurt him corrects a misunderstanding and results in a lower-scale point measurement.

IT HAS THE ADVANTAGE of not having either a smiling face or a face depicting tears since children were found to be hesitant to pick these scales if they were not smiling or crying.

Using the adult judgment of the mother (when present) by asking her to rate their child's presumptive pain on the FPS-R is a method of obtaining corroboration for the composite measurement.[11,49] From a practical standpoint, using a FLACC score and not the FPS-R with 5- and 6-year-olds will lessen the need to engage in a lengthy explanation to a parent who has observed a child's self-report grossly contradicting their behavior. Alternately, since the FPS-R functions well for many 5- and 6-year-olds, it is a handy resource when a child in this age group is suspected of hiding pain behavior that would skew a FLACC score.

Nociceptive Sensory Pain Score vs. Affective Pain Score

The predominately nociceptive sensory pain measurements obtained with the FLACC and FPS-R instruments will fail to adequately document a child's pain sensitivity in two clinical contexts. In the first instance, there is no tissue trauma to warrant a nociceptive pain score but the patient's age, prior pain history, or observed affective pain behavior indicates that the child will likely be extremely sensitive to pain. This may occur during an examination or during an innocuous trial exposure (**FIGURE 3**). In the second context, there is only mild nociceptive exposure because the clinician has skillfully modulated his multidimensional pain technique to accommodate the predicted idiosyncratic pain tolerance of the patient resulting in a low behavioral or self-report expression of pain.

In both of the above situations, the resulting low pain score will not adequately inform (or warn) succeeding staff of the patient's expected sensitivity to pain. Subsequent clinical teams need that information to help derive their pain intervention strategies. In the past, dentists have been well-served by a global and intuitive method of identifying those patients with anxiety levels that require increased pharmacologic intervention.[52] A method of assigning a metric to a child's affective dimension of pain so that the child's overall pain sensitivity may be calculated is a worthy subject of future investigation.

Summary

Two methods of measuring pain intensity for invasive procedures in pediatrics has been presented. Measuring pain in children over the age of 6 is recommended to be performed with a self-report instrument. A practical self-report instrument for pediatric pain is the FPS-R. Pain measurement for children ages 6 and younger is done by observation of behavioral report and here, the FLACC scale is recommended. Limitations associated with both pain scales are discussed. To assess pain input under general anesthesia that has reached supraspinal processing, it is recommended that heart rate be used. ■■■■

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TO REQUEST A PRINTED COPY OF THIS ARTICLE, PLEASE CONTACT
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CDA JOURNAL, VOL 38, Nº12

Continuing Education Courses

Listed are C.E. courses offered by California's dental schools, local dental societies, ethnic dental societies and specialty organizations, from January through June 2011. For more information, please contact the course provider.

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
ALPHA OMEGA DENTAL FRATERNITY — LOS ANGELES CHAPTER					**310-398-9626**
Botox Application for TMD	Feb. 23	David Dana, DDS	Los Angeles	$85	3
Access to Care	April 27	Alan Felsenfeld, DDS	Los Angeles	$85	3
ARTHUR A. DUGONI SCHOOL OF DENTISTRY					**415-929-6486**
The Essentials of Aesthetics	Jan. 29	Howard Chi, DMD, MA; Maritza Mende, DMD	Stockton	$395	7
Infection Control and the California Dental Practice Act	Feb. 25	Eve Cuny, BA, MS; Bruce Peltier, PhD, MBA	San Francisco	$125	4
Atraumatic Extraction, Ridge Preservation and Crown Lengthening Study Club	Feb. 25, 26; March 25, 26	Gretchen Bruce, DDS, MBA; William Lundergan, DDS, MA; Frank Martinez, DDS; Anders Nattestad, DDS, PhD	San Francisco	$2,195	28
CALIFORNIA ASSOCIATION OF ORAL AND MAXILLOFACIAL SURGEONS					**916-783-1332**
CALAOMS 2011 January Anesthesia Meeting	Jan. 15-16	O. Ross Beirne, DMD, PhD; Jacob Haiavy, DDS, MD, FACS	Monterey	TBD	9
CALAOMS 11th Annual Meeting	May 21-22	Jason B. Cope, DDS, PhD; Alan L. Felsenfeld, DDS	Rancho Palos Verdes	TBD	TBD
CALIFORNIA DENTAL HYGIENISTS' ASSOCIATION					**818-500-8217**
Systemic Perio and Osteoporosis/Osteopenia: Clinical Implications in Periodontal Therapy	May 13	Joan Otomo-Corgel, DDS	Anaheim	$130	5
CALIFORNIA DENTAL SOCIETY OF ANESTHESIOLOGY					**626-287-1185**
Peri-Anesthetic Complications in the Dental Office	March 30-31	Robert C. Bosack, DDS	Irvine	$350	8
CALIFORNIA SOCIETY OF PEDIATRIC DENTISTRY					**831-625-2773**
CE Online	Continuous	Various	cspd.org	Varies	Varies
CSPD/WSPD 36th Annual Meeting	April 7-10	Multiple	San Francisco	$500 Reg Fee	16

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
CONTRA COSTA DENTAL SOCIETY					**925-932-8662**
Pediatric Dentistry: Are We Having Fun Yet?	Feb. 11	Marvin Berman, DDS	Walnut Creek	$195	7
California Dental Practice Act and Infection Control	March 4	LaDonna Drury-Klein, RDA	Concord	$80	4
Virtues of Profitable Dentistry	April 8	Howard Farran, DDS	Walnut Creek	$195	7
FRESNO-MADERA DENTAL FOUNDATION					**559-224-8747**
Local Anesthesia Update	Jan. 7	Alan Budenz, MS, DDS, MBA	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
Update in Periodontics	Feb. 4	Gary Armitage, DDS	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
OSHA, Infection Control and Dental Law	March 11	William Carpenter, DDS; Bruce Peltier, PhD, MBA	Fresno	$190 Member/ $220 Non-Member/ $105 Auxiliary	7
Restorative Update 2011	April 15	Parag Kachalia, DDS	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
Glass Ionamers – Direct Restorative Science Behind the Product	May 6	Joe Oxman	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
Management of the Extraction Site	June 3	Bach Le, DDS, MD, FICD	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
FRESNO-MADERA DENTAL SOCIETY					**559-438-7284**
Dental Practice Act, Infection Control, OSHA and HIPAA Updates	Jan. 21	Stanley Surabian, DDS, JD; Leslie Canham, CDA, RDA	Fresno	$150 Member/ $100 Staff/$75 RDA and Hygiene Students	8
HERMAN OSTROW SCHOOL OF DENTISTRY OF USC **CONTINUES ON NEXT PAGE**					**213-821-2127**
Implant CPR! Successful Management of Prosthetic Implant Complications (Module I)	Jan. 21	Harel Simon, DMD	Los Angeles	$275 Dentist/ $175 Auxiliary	7
Implant CPR! Successful Management of Prosthetic Implant Complications (Modules I and II)	Jan. 21-22	Harel Simon, DMD; Faculty	Los Angeles	$1,570 Dentist/ $995 Auxiliary	14
Implant CPR! Successful Management of Prosthetic Implant Complications (Modules I and II)	Jan. 21-22	Harel Simon, DMD; Faculty	Los Angeles	$1,450 Dentist/ $955 Auxiliary	14
Implant CPR! Successful Management of Prosthetic Implant Complications (Module II)	Jan. 22	Harel Simon, DMD; Faculty	Los Angeles	$1,345 Dentist/ $895 Auxiliary	7
USC Periodontal and Implant Symposium: Hands-On Cadaver Workshop I – Maxillary Sinus Augmentation	Jan. 27	Homayoun Zadeh, DDS, PhD; Pascal Valentini, DDS	Los Angeles	$1,795	7

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
HERMAN OSTROW SCHOOL OF DENTISTRY OF USC CONTINUES ON NEXT PAGE					213-821-2127
The USC 36th Annual International Periodontal and Implant Symposium	Jan. 28-29	Homayoun Zadeh, DDS, PhD; International Speakers	Los Angeles	$495 Dentist/ $325 Auxiliary	14
The USC 36th Annual International Periodontal and Implant Symposium: Dental Hygiene Forum	Jan. 29	Homayoun Zadeh, DDS, PhD; International Speakers	Los Angeles	$155	7
USC Periodontal and Implant Symposium: Hands-On and Cadaver Workshop II — Alveolar Ridge Augmentation	Jan. 30	Homayoun Zadeh, DDS, PhD; Sascha Jovanovic, DDS, MS	Los Angeles	$1,795	7
Mastering Molar Endodontics	Feb. 4-5	Ilan Rotstein, DDS; Faculty	Los Angeles	$1,485	14
Oral Surgery for the General Practitioner	Feb. 5	Bach Le, DDS, MD, FICD; Faculty	Los Angeles	$285 Dentist/ $185 Auxiliary	7
Porcelain Veneers: Optimizing Results Using Supra-Gingival Principles and Understanding Adhesion and Occlusion	Feb. 11	Jose-Luis Ruiz, DDS, FAGD; Edward Lynch, PhD, Lond, MA, BDentSc, TCD	Los Angeles	$215 Dentist/ $145 Auxiliary	7
Complications Associated With Implant Treatment (Las Vegas)	Feb. 12	Bach Le, DDS, MD, FICD; Baldwin Marchack, DDS, MBA	Las Vegas, NV	$345 Dentist/ $225 Auxiliary	7
Emerging Diseases, Infection Control and California Dental Practice Act	Feb. 12	Joyce Galligan, RN, DDS; Gerald Vale, DDS, JD	Los Angeles	$190 Dentist/ $145 Auxiliary	6
Basic Protocols in Implant Surgery and Restoration	Feb. 24-27	Homayoun Zadeh, DDS, PhD; Faculty	Los Angeles	$2,695 Dentist/ $1,195 Auxiliary	22
Chronic Orofacial, Orodental and Headache Pains for the Dentist	Feb. 25-26	Glenn Clark, DDS, MS; Faculty	Los Angeles	$495 Dentist/ $315 Auxiliary	14
USC Ruth Ragland 25th Dental Hygiene Symposium	March 5	Diane Melrose, RDH, BS; National Speakers	Los Angeles	$185	7
Applied Hypnosis: Treat Pain, TMD and Other Dental Conditions	March 5-6	Peter Stone, DDS; Ronald Kaminishi, DDS	Los Angeles	$595	14
Implant Therapy in the Esthetic Zone	March 11-13	Homayoun Zadeh, DDS, PhD; Faculty	Los Angeles	$1,995 Dentist/ $995 Auxiliary	20
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module I)	March 18	Harel Simon, DMD	Los Angeles	$275 Dentist/ $175 Auxiliary	7
Interdisciplinary Dentistry to Promote Success in Clinical Practice	March 18	Ilan Rotstein, DDS; Faculty	Los Angeles	$75 Delta Dental Dentist/ $215 Non-Delta Dental Dentist	7
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module I, II, and III)	March 18-20	Harel Simon, DMD	Los Angeles	$1,945 Dentist/ $1,595 Auxiliary	21
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module II)	March 19	Harel Simon, DMD	Los Angeles	$275 Dentist/ $175 Auxiliary	7
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module III)	March 20	Harel Simon, DMD; Faculty	Los Angeles	$1,795	7

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
HERMAN OSTROW SCHOOL OF DENTISTRY OF USC CONTINUED					213-821-2127
Mastering Bone Grafting for Esthetic Implant Site Development — Lecture and Hands-On Workshop (Module I)	March 25	Bach Le, DDS, MD, FICD; Faculty	Los Angeles	$1,195 Dentist/ $595 Auxiliary	7
Mastering Bone Grafting for Esthetic Implant Site Development — Cadaver Workshop (Module II)	March 26	Bach Le, DDS, MD, FICD; Faculty	Los Angeles	$1,765 Dentist/ $995 Auxiliary	7
Obstructive Sleep Apnea, Snoring and Dental Advancement	April 1-2	Glenn Clark, DDS, MS; Faculty	Los Angeles	$495 Dentist/ $315 Auxiliary	14
Advanced Implant Restoration	April 1-3	Homayoun Zadeh, DDS, PhD; Faculty	Los Angeles	$1,995 Dentist/ $995 Auxiliary	20
Esthetic Periodontal Surgery for the General Practitioner (Module I)	April 8	Ziv Simon, DMD, MSc	Los Angeles	$295 Dentist/ $175 Auxiliary	7
Esthetic Periodontal Surgery for the General Practitioner: A Hands-On Course (Module I and II)	April 8-10	Ziv Simon, DMD, MSc	Los Angeles	$1,795	21
New Approaches for Antimicrobial Treatment of Periodontal Disease (Las Vegas)	April 9	Jorgen Slots, DDS, DMD, PhD, MS, MBA	Las Vegas, NV	$345 Dentist/ $225 Auxiliary	7
Digital Clinical Photography: All You Need to Know! (Part I and Lecture)	April 15	Abdi Sameni, DDS; Gary Harmatz, DDS	Los Angeles	$245	7
Fundamentals of Restorative Implant Dentistry for the General Dentist (Part I)	April 15	Baldwin Marchack, DDS, MBA	Los Angeles	$245	7
Fundamentals of Restorative Implant Dentistry for the General Dentist (Part I and II)	April 15-16	Baldwin Marchack, DDS, MBA	Los Angeles	$995	14
Digital Clinical Photography: All You Need To Know! (Part II and Hands-On)	April 16	Abdi Sameni, DDS; Gary Harmatz, DDS	Los Angeles	$895	7
Common Oral Lesions: Soft and Hard Tissue Disease	May 6	Parish Sedghizadeh, DDS, MS; Faculty	Los Angeles	$225 Dentist/ $145 Auxiliary	7
Physical Evaluation	May 16	Stanley Malamed, DDS; Ken Reed, DMD	Los Angeles	$275 Dentist/ $175 Auxiliary	7
Emergency Medicine	May 17	Stanley Malamed, DDS; Ken Reed, DMD	Los Angeles	$275 Dentist/ $175 Auxiliary	7
Monitoring and Clinical Emergency Medicine	May 18	Stanley Malamed, DDS; Ken Reed, DMD	Los Angeles	$375 Dentist/ $215 Auxiliary	7
Atraumatic Extraction and Minimally Invasive Implant Site Development (Module IA)	May 21	Bach Le, DDS, MD, FICD; Faculty	Los Angeles	$295 Dentist/ $185 Auxiliary	5
Atraumatic Extraction and Minimally Invasive Implant Site Development (Modules IA and IB)	May 21	Bach Le, DDS, MD, FICD; Faculty	Los Angeles	$995 Dentist/ $695 Auxiliary	8
Endodontics From A to Z: Hands-On Workshop for the General Practitioner	June 3-5, 17-19	Ilan Rotstein, DDS; Faculty	Los Angeles	$2,945	42
Implant Therapy in the Compromised Sites — Cadaver Workshop	June 10-12	Homayoun Zadeh, DDS, PhD; Faculty	Los Angeles	$2,995 Dentist/ $1,595 Auxiliary	26
Temporomandibular Disorders, Arthrocentesis and Botox/Trigger Point Injections	June 24-25	Glenn Clark, DDS, MS; Faculty	Los Angeles	$495 Dentist/ $315 Auxiliary	25

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
HUMBOLDT-DEL NORTE DENTAL SOCIETY					**707-443-7476**
Implant Options for Edentulous Patients	Jan. 28	Eugene LaBarre, DMD, MS	Arcata	$135 Member/ $100 Auxiliary	6
Treatment Planning and Behavior Modification for the Pediatric Patient	March 25	Ignatius Nate Gerodias, DDS	Arcata	$135 Member	6
Risk Management 101: The Fundamental Concepts	March 31	Carla Christensen	TBD	TBD	2
KERN COUNTY DENTAL SOCIETY					**661-327-2666**
Infection Control, Dental Practice Act, OSHA Compliance	Jan. 21	Marcella Oster, RDA	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
Occlusion for Dummies	Feb. 25	Donald Reid, DDS	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
Cone Beam CT in Your Practice	March 25	Gurminder Sidhu, BDS, DDS, MS	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
Antimicrobial Treatment of Periodontal Disease	April 29	Jorgen Slots, DDS, DMD, PhD, MS, MBA	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY **CONTINUES ON NEXT PAGE**					**909-558-4685**
An Interdisciplinary Approach to the Cleft Repair and Care	Jan. 30	Alan Herford, DDS, MD; Anna Chen, DDS, MS, PhD; Bonnie Nelson, DDS	Loma Linda	$195 Dentist/ $135 Auxiliary	8
Ponic Design for Ridge Development	Feb. 10	Dennis Smith, DDS, MS	Loma Linda	$20	1
Track 1 Implant: Techniques for Sinus Augmentation	Feb. 10	Aladdin Al-Ardah, DDS	Loma Linda	$20	1
Track 1 Implant: 3D Model and Computer Guided Dental Implant Surgery	Feb. 10	Yshuji Yoshino, DDS	Loma Linda	$20	1
Track 1 Implant: Is the Platform Switch a More Predictable Abutment Connection?	Feb. 10	Yun-Chi Wang, DDS	Loma Linda	$20	1
Track 1 Implant: Management of Complications in Implant Dentistry	Feb. 10	John Won, DDS	Loma Linda	$20	1
Track 1 Implant: Comprehensive Implant Treatment Planning and Sequencing Workshop	Feb. 10	Montry Suprono, DDS	Loma Linda	$20	1
Track 1 Implant: The Role of Connective Tissue Grafts in Immediate Implant Placement in the Esthetic Zone	Feb. 10	Juan Mesquida, DDS	Loma Linda	$20	1
Track 1 Implant: Vertical Ridge Augmentation Prior to Implant Placement	Feb. 10	Jaime L. Lozada, DMD	Loma Linda	$20	1
Track 2 Periodontics: Implant Treatment Planning; Principles and Guidelines	Feb. 10	Wesam Salha, DDS	Loma Linda	$20	1
Track 2 Periodontics: Diabetes and Periodontal Disease	Feb. 10	Elham Javadi, DDS	Loma Linda	$20	1

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUES ON NEXT PAGE					909-558-4685
Track 2 Periodontics: Interrelationship Between Periodontics and Restorative Dentistry: The Basics	Feb. 10	Adrian Mobilia, DDS	Loma Linda	$20	1
Track 2 Periodontics: Socket Preservation, What You Need to Know	Feb. 10	Mohammad Hassan, DDS, MS	Loma Linda	$20	1
Track 2 Periodontics: The Perio-Systemic Connection	Feb. 10	Craig Ririe, DDS, MS	Loma Linda	$20	1
Track 2 Periodontics: Implant Complications: Prevention and Management	Feb. 10	Chun-Xiao Sun, DDS, MS	Loma Linda	$20	1
Track 3 Operative/Restorative: Ceramic Bonding Issues	Feb. 10	Michael Meharry, DDS, MS	Loma Linda	$20	1
Track 3 Operative/Restorative: Overview of Ceramic Restorative Materials	Feb. 10	Ronald Forde, DDS, MS	Loma Linda	$20	1
Track 3 Operative/Restorative: Who Caries?	Feb. 10	Brian Novy, DDS	Loma Linda	$20	1
Track 3 Operative/Restorative: RPD Alternatives	Feb. 10	Mark Estey, DDS	Loma Linda	$20	1
Track 3 Operative/Restorative: Post and Core Materials and Procedures	Feb. 10	Nadim Baba, DDS	Loma Linda	$20	1
Track 3 Operative/Restorative: Treatment Plan Considerations for Worn Dentition	Feb. 10	Robert Walter, DDS	Loma Linda	$20	1
Track 4 Dental Hygiene: Win the Battle Against Biofilm: Leverage the Power of Ultrasonics	Feb. 10	Karen Hays, RDH, BS	Loma Linda	$80	4
Track 5 Miscellaneous: Denture Treatment Issues	Feb. 10	Madelyn Fletcher, DDS	Loma Linda	$20	1
Track 5 Miscellaneous: Preparing to Sell: Maximize the Value of Your Practice	Feb. 10	Bette Robin, DDS, JD	Loma Linda	Free	0
Track 5 Miscellaneous: Minor Equipment Repair	Feb. 10	Stan Lillard	Loma Linda	Free	0
Track 5 Miscellaneous: Tooth Whitening Overview: Clinical and Research Perspectives	Feb. 10	Sean S. Lee, DDS	Loma Linda	$40	2
Track 5 Miscellaneous: Extrusion Cases	Feb. 10	Frederick Berry, DDS	Loma Linda	$40	2
Track 6 ODRP: Applying the Pareto Principle to TMD Care – An 80% Solution	Feb. 10	Harold Avila, DDS, MS	Loma Linda	$40	2
Track 6 ODRP: Panographic Radiology in a Cone Beam World	Feb. 10	Dwight Rice, DDS	Loma Linda	$40	2
Track 6 ODRP: What in the World is That? — A Review of Common Mucosal and Radiographic Lesions	Feb. 10	Lane Thomsen, DDS, MS	Loma Linda	$40	2
Track 10 Endodontics: Creative Off Label Methods for Handling Common Endodontic Complexities	Feb. 10	C. John Munce, DDS, MS	Loma Linda	$20	1

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUES ON NEXT PAGE					909-558-4685
Track 7 Prosthodontics: All-On-4? An Overview	Feb. 11	Amir Khatami, DDS	Loma Linda	$20	1
Track 7 Prosthodontics: Endodontic Treatment or Implant, Where Do You Draw the Line?	Feb. 11	Mehdad Fay, DDS	Loma Linda	$20	1
Track 7 Prosthodontics: Occlusal Analysis: Look Before You Leap!	Feb. 11	Myron Winer, DDS	Loma Linda	$20	1
Track 7 Prosthodontics: Mandibular Implant Overdenture – Standard of Care?	Feb. 11	Fernando Munguia, DDS	Loma Linda	$20	1
Track 8 Operative/Restorative: Esthetic Communication Issues and Procedures	Feb. 11	Richard Young, DDS	Loma Linda	$40	2
Track 8 Operative/Restorative: Esthetics in Operative Dentistry Methods and Materials	Feb. 11	Carlos Chavez, DDS	Loma Linda	$30	1.5
Track 9 Oral and Maxillofacial Surgery: Surgically Assisted Rapid Palatal Expansion (SARPE)	Feb. 11	Carlos M. Moretta, DDS	Loma Linda	$20	1
Track 9 Oral and Maxillofacial Surgery: Odontogenic Infections and Management	Feb. 11	Chan M. Park, DDS, MD	Loma Linda	$20	1
Track 9 Oral and Maxillofacial Surgery: Bone Grafting Options for Implant Placement	Feb. 11	Young Jun, DDS, MD	Loma Linda	$20	1
Track 9 Oral and Maxillofacial Surgery: Soft Tissue Manipulation Around Implants in the Aesthetic Zone	Feb. 11	Jeffrey A. Elo, DDS, MS	Loma Linda	$20	1
Track 10 Endodontics: Local Anesthesia for Non-Surgical Endodontic Therapy	Feb. 11	Kurt Marcks, DDS	Loma Linda	$20	1
Track 10 Endodontics: Root Canal Therapy: Keys to Long Term Success	Feb. 11	John Pratte, DDS	Loma Linda	$20	1
Track 11 Pediatrics: Ectodermal Dysplasia	Feb. 11	Meghanne Kruizenga, DDS	Loma Linda	$10	0.5
Track 11 Pediatrics: Case Presentation 1	Feb. 11	Monserrat Jorden, DDS	Loma Linda	$10	0.5
Track 11 Pediatrics: Case Presentation 2	Feb. 11	Laura McCormack, DDS	Loma Linda	$10	0.5
Track 11 Pediatrics: Case Presentation 3	Feb. 11	Noha Abdel-Salam, DDS	Loma Linda	$10	0.5
Track 11 Pediatrics: Cancer and Prosthesis	Feb. 11	Samah Omar, DDS	Loma Linda	$20	1
Track 11 Pediatrics: Child Abuse	Feb. 11	Wesley Okumura, DDS	Loma Linda	$20	1
Track 11 Pediatrics: Review of Behavior Management Techniques	Feb. 11	Bonnie Nelson, DDS, MS	Loma Linda	$20	1
Track 12 Miscellaneous: Overdentures and Overpartials; Over Teeth and Over Implants	Feb. 11	Judy Strutz, DDS	Loma Linda	$40	2
Track 12 Miscellaneous: How Many Root Canals Are Too Much? Differential Diagnosis for Odontogenic vs. Non-Odontogenic	Feb. 11	Susan Roche, DDS, MS, MA; Robert Handysides, DDS	Loma Linda	$40	2
Interdisciplinary Orthodontic Treatment	Feb. 11	Vincent O. Kokich Jr., DDS, MSD	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Medically Compromised	Feb. 11	Heidi Christensen, DDS; Karen Well, MD	Loma Linda	$150 Dentist/ $95 Auxiliary	6

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUED					909-558-4685
31st Anesthesia Symposium	Feb. 13	Larry Trapp, DDS, MS; Barry Krall, DDS	Loma Linda	$195 Dentist/ $135 Auxiliary	8
My Patient Wants to Quit Smoking — What Do I Need to Know?	Feb. 13	Lindsay Ferry, MD, MPH; Lane Thomsen, DDS; Hyma Gogenini, PharmD; et al.	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Oral Surgery Symposium	March 6	Alan Herford, DDS, MD	Loma Linda	$195 Dentist/ $135 Auxiliary	7
The Annual Implant Dentistry Study Club LLUSD and AAID MaxiCourse	March 10–Dec. 16	Jaime L. Lozada, DMD; Mathew Kattadiyil, DDS, MDS, MS	Loma Linda	$13,500	300
Infection Control and California Dental Practice Act	March 13	W. Eugene Rathbun, DDS; Bette Robin, DDS, JD; Nancy Andrews, BS, RDH	Loma Linda	$160 Dentist/ $110 Auxiliary	7
4th Annual Periodontic Symposium	April 3	Craig Ririe, DDS; Dennis Smith, DDS	Loma Linda	$195 Dentist/ $110 Auxiliary	8
Esthetic Symposium	April 10	James Dunn, DDS; Michael DiTolla, DDS; et al	Loma Linda	$195 Dentist/ $110 Auxiliary	8
Medical Emergencies	April 17	Steven Filler, DDS	Loma Linda	$160 Dentist/ $110 Auxiliary	7

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
MARIN COUNTY DENTAL SOCIETY					**415-472-7974**
BLS/CPR Recertification Class	Jan. 27	TBD	San Rafael	$60 Member/ $120 Non-Member	3.5
General Membership Meeting	Feb. 15	Charles McNeill, DDS	Mill Valley	$45 Member/ $90 Non-Member	2
BLS/CPR Recertification	Feb. 24; March 31; April 28; May 26	TBD	Mill Valley	$60 Member/ $120 Non-Member	3.5
General Membership Meeting	March 15	David C. Hatcher, DDS, MSc	Mill Valley	$45 Member/ $90 Non-Member	2
General Membership Meeting	May 17	Steve Tiret, CPA	Mill Valley	$45 Member/ $90 Non-Member	2
MID-PENINSULA DENTAL SOCIETY					**650-328-2242**
Infection Control/Dental Practice Act	Jan. 21	Carolyn Mortenson; Staci Pruitt	Palo Alto	$100	6
Sleep Symposium	April 29	World Renowned Speakers/ Dental Health Foundation Fundraiser	Palo Alto	$250	7
Emergency Medicine and Sedation	May 20	Stanley Malamed, DDS	Palo Alto	$250	7
MONTEREY BAY DENTAL SOCIETY					**831-658-0168**
Diagnosis and Treatment Planning for TMD	April 1	Terry Tanaka, DDS	Monterey	$280 Member/ $130 Auxiliary	7
California Dental Practice Act and Infection Control	April 15	Art Curley, JD; Eve Cuny, RDA, MS	Monterey	$140 Member/ $60 Auxiliary	4
Clinical Tips and Material Recommendations Based on the Most Recent Clinical Research	May 20	Rella Christensen, PhD	Monterey	$280 Member/ $130 Auxiliary	6
Recipes for Predictable Anterior Esthetics	June 17	Gerard Chiche, DDS	Monterey	$280 Member/ $130 Auxiliary	7
NORTHERN CALIFORNIA DENTAL SOCIETY					**530-527-6764**
Nutrition for the Dental Patient and "Mental Health, What Dental Professionals Should Know"	Jan. 14	Tieraona Low Dog, MD	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6
Presenting Dental Findings and Treatment Option	Feb. 3; March 3	John Van der Werff, DDS	Chico; Redding	$45 Member/ $90 Non-Member/ $30 Auxiliary	2
Six Steps to a Paperless Practice	Feb. 18	Lorne Lavine, DMD	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	7
CDPA, OSHA Refresher and Infection Control	March 18	LaDonna Drury-Klein RDA, CDA, BS	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6
Clinical Jewels You Can Count On	April 15	Patrick Roetzer, DDS, FICD	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6
Effective Communication and Enrollment Skills "Think Outside the Mouth" Treatment Planning	May 20	Karen Davis, RDH, BSDH, RDHMP	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
ORANGE COUNTY DENTAL SOCIETY					**714-634-8944**
Infection Control/CDPA	Jan. 11	Leslie Canham, RDA, CDA	Irvine	$69	4
BLS	Jan. 19	Helen McCracken, RDH, MS	Orange	$69	3
You've Got It – Now Flaunt It: Marketing Your Brand	Feb. 8	Stewart Gandolph, MBA	Irvine	$69	2.5
A Bridge to Paperless: Using Technology to Improve Efficiency	March 8	Baldwin W. Marshack, DDS	Irvine	$69	2.5
Stuck On You: Profitable Adhesive Dentistry	April 12	Brian LeSage, DDS	Irvine	$69	2.5
PACIFIC COAST SOCIETY FOR PROSTHODONTICS					**360-459-4400**
Annual Meeting and Scientific Session	June 22-25	Multiple Speakers	Pasadena	$695	16
PUNJABI DENTAL SOCIETY					**866-422-5573**
Infection Control, Risk Management and California Dental Practice Act	Jan. 23	Luis R. Dominicis, DDS; Nancy Andrews, RDA; Gail Harris, RN, MS	Montebello	$79	7
California Dental Practice Act, Infection Control and Risk Management	Feb. 13	Luis R. Dominicis, DDS; Gail Harris, RN, MS; Rodney Stine, BA, MA	San Jose	$99	7
Advancing Your Vision In Restorative Dentistry	March 27	Lou Graham, DDS	Montebello	$79	7
Hands-On Contemporary Esthetics and Restorative Dentistry	April 24	Paresh Shah, MS, DMD	Diamond Bar	$149	7
The Art of Aesthetics and Occlusion	May 22	Todd C. Snyder, DDS	San Jose	$99	7
Oral Surgery Made Easy for General Dentists	June 26	Anil P. Punjabi, DDS	Montebello	$79	7
SACRAMENTO DISTRICT DENTAL SOCIETY **CONTINUES ON NEXT PAGE**					**916-446-1227**
CPR Basic Life Support (BLS) Renewal Course	Jan. 8, April 2	SDDS Instructors	Sacramento	$55 Member	4
Shift Happens: Incorporating New Protocols Into Practice	Jan. 11	Kristy Menage Bernie, RDH, BS, RYT	Sacramento	$57 Member	2
2011 Labor Law Update - HR Audio Conference	Jan. 13	California Employers Association	Sacramento	$35 Member	1
SDDS 31st Annual Mid-Winter Convention	Feb. 3-4	Visit sdds.org for speakers	Sacramento	Visit sdds.org for pricing	Various
Removable Partial Dentures: Clinical Considerations	March 4	Alan Carr, DMD, MS	Sacramento	$187 Member	5
Skin Cancer — Diagnosis and Treatment	March 8	Barbara Burrall, MD	Sacramento	$57 Member	2
Build Your Own Employee Handbook Workshop	March 18	Mari Bradford; California Employers Association	Sacramento	$69 Member	4
The Numbers of Your Practice: The Good, The Bad, Avoiding the Ugly	March 24	John Urrutia, CPA	Sacramento	$69	0
Crown Lengthening for the General Practitioner — Hands-On Course	April 8	Timothy Hempton, DDS	Sacramento	Call SDDS for cost	5

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
SACRAMENTO DISTRICT DENTAL SOCIETY CONTINUED					916-446-1227
Turn It On and Off: What's New In Local Anesthesia	April 12	Alan Budenz, MS, DDS, MBA	Sacramento	$57 Member	2
Top 10 SDDS Hotline Questions—HR Audio Conference	April 19	California Employers Association	Sacramento	$35 Member	1
Practice Management: Straight Talk About Balancing It All (People, Systems, Results)	April 21	Gayle Suarez, Dental Management Solutions	Sacramento	$69 Member	2
Infant and Early Childhood Oral Care	May 10	Jeffrey Wood, DDS	Sacramento	$57 Member	2
2nd Annual Right In Your Own Backyard	May 14	SDDS Members	Sacramento	$119 Member	4
California Dental Practice Act and Infection Control — Licensure Renewal Course	May 20	LaDonna Drury-Klein, RDA, CDA, BS	Sacramento	$125 Member	4
CPR — Basic Life Support (BLS) Full Course	June 25	SDDS Instructors	Sacramento	$70 Member	5
SAN FERNANDO VALLEY DENTAL SOCIETY					818-884-7395
Hot Topics in Esthetics, Dental Ceramics and Restorative Dentistry	Jan. 12	Ed McClaren, DDS	Van Nuys	$175 Member/ $300 Non-Member/ $90 Auxiliary/$75 Retired	7
How to Diagnose and Manage Common Oral Pathologies	Feb. 9	Diana Messadi, DDS	Van Nuys	$175 Member/ $300 Non-Member	7
CA Dental Practice Act and Infection Control	March 9	Nancy Andrews, RDH	Van Nuys	$175 Member/ $300 Non-Member/ $90 Auxiliary/$75 Retired	7
The Wonderful World of Prosthodontics	May 11	Mark Exler, DDS, FACP	Van Nuys	$175 Member/ $300 Non-Member	7
Pharmacologic Management of the Surgical Patient	June 22	John Yagiela, DDS	Van Nuys	$175 Member/ $300 Non-Member/ $90 Auxiliary/$75 Retired	7
SAN FRANCISCO DENTAL SOCIETY					415-928-7337
CPR for Healthcare Providers and Renewal Only	Jan. 26, Feb. 23, March 30, April 27, June 29	Adrian Curry, EMT	San Francisco	$67	4
The Role of Gingival Biotypes in Restorative and Implant Dentistry	Jan. 27	Richard T. Kao, DDS, PhD	San Francisco	$69	2
California Dental Practice Act (CDPA)	Feb. 25; May 20	Marcella Oster, RDA	San Francisco	$60 Member/ $90 Non-Member	2
OSHA Bloodborne Pathogen/Infection Control and Hazardous Communication Refresher	Feb. 25; May 20	Marcella Oster, RDA	San Francisco	$97 Member/ $145 Non-Member	4
Predicting Employee Success	April 2	Sally McKenzie, CMC	San Francisco	$95	3
Caries Management by Risk Assessment — The Caries Balance	May 5	John D. B. Featherstone, MSc, PhD	San Francisco	$69	2
CPR BLS Certification for Healthcare Providers and Basic Course	May 21	Adrian Curry, EMT	San Francisco	$97 Member/ $140 Non-Member	4
Restoring the Edentulous Mandible	June 9	Gaurav Setia, DDS	San Francisco	$69	2

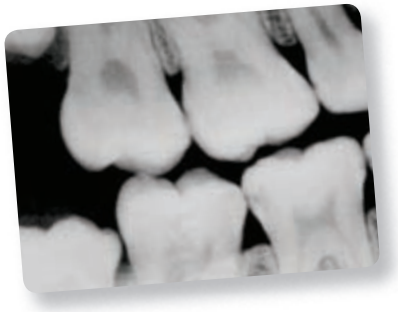
TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
SAN GABRIEL VALLEY DENTAL SOCIETY					**626-285-1174**
CA Law and Infection Control	Jan. 18	Leslie Canham, CDA, RDA	Alhambra	$65 Member/ $100 Non-Member	4
Comprehensive Esthetic Dentistry Update	Feb. 15	Avishai Sadan, DMD	Alhambra	$65 Member/ $100 Non-Member	3
Mental Health and Well-Being for the Dental Professional	March 15	Jessica S. Mosich, PhD	Alhambra	$65 Member/ $100 Non-Member	3
Treatment of Endodontically Restored Teeth	April 19	Nadim Baba, DDS, MSD, FACP	Alhambra	$65 Member/ $100 Non-Member	3
SAN JOAQUIN DENTAL SOCIETY					**209-951-1311**
Implant Complications and Management	Feb. 24	Michael Jacobs, DDS	Stockton	TBD	3
The Virtues of Profitable Dentistry	March 24	Howard Farran, DDS	Lodi	TBD	7
California Dental Practice Act and Infection Control	April 21	Ladonna Drury-Klein, CDA, RDA, BS	Stockton	TBD	4
The Virtues of Profitable Dentistry	April 24	Howard Farran, DDS	Lodi	TBD	7
Evidence Based Dentistry and Practice Based Research Networks	May 19	Paul Benjamin, DMD, MAGD, FACD	Murphys	TBD	3
SAN MATEO COUNTY DENTAL SOCIETY					**650-637-1121**
New Professionals Forum	Jan. 6, March 3, April 7, May 12	TBD	Redwood City	$10 Member/ $25 Non-Member	0
AHA CPR – BLS Renewal Course	Jan. 18, March 15, April 19, May 17, Sept. 27, Nov. 15	Stephen R. John, DDS	Redwood City	$45 Member/ $60 Non-Member	4
7 Things Every Dentist Must Know About Data Security and HITECH ACT	Jan. 27	Lorne Lavine, DMD	Foster City	$45 Member/ $55 Non-Member	3
AHA CPR - BLS Renewal Course	Feb. 21, April 11, May 9, June 13	Richard A. Fagin, DDS	Redwood City	$45 Member/ $60 Non-Member	4
Dental Caries: Advances in Detection and Disease Management	Feb. 24	Karen Hays, RDH, BS	Foster City	$45 Member/ $55 Non-Member	3
Occlusion/Supra-gingival Dentistry	March 24	Jose-Luiz Ruiz, DDS, FAGD	Foster City	$45 Member/ $55 Non-Member	3
Introduction to Sleep Apnea Treatment for the General Dentist	April 21	Steve Keller, DMD	Foster City	$45 Member/ $55 Non-Member	3
Dental Office Regulatory Compliance Training	April 29, June 24	Julian Goduci, CHMM	Redwood City	$120 Member/ $150 Non-Member	8
Practice Management	May 26	Debbie Castagna; Virginia Moore	Foster City	$45 Member/ $55 Non-Member	3

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
SANTA BARBARA-VENTURA COUNTY DENTAL SOCIETY					**805-656-3166**
A Systematic Approach to Bonded Porcelain and Dental Implants	Feb. 11	Mohamadali Reshad, DDS, MSc	Oxnard	$185	7
Practice Management 101: Creating An Unforgettable Practice	March 25	William Van Dyke, DDS	Goleta	$185	6
Infection Control and Dental Practice Act	April 22	Noel Kelsch, RDH; Jason Wood	Oxnard	$150	4
Evolution and Management of Oralfacial Pain	June 10	Steven Graff-Radford, DDS	Thousand Oaks	$185	7
SANTA CLARA COUNTY DENTAL SOCIETY					**408-289-1480**
Management of Pediatric Trauma	Feb. 10	Ann Greenwell, DMD	Campbell	$35 Non-Member	2
Cone Beam CT Scans	March 10	Sotirios Tetradis, DDS, PhD	Campbell	$35 Non-Member	2
CAD/CAM Dentistry	April 14	Dino Javaheri, DDS	Campbell	$35 Non-Member	2
TBA	May 12	Terry Donovan, DDS	Campbell	$35 Non-Member	2
SOUTHERN CALIFORNIA OROFACIAL ACADEMY					**626-287-1185**
Implant Placement, Grafting, Membranes, Sinus Lift Techniques, Use of Osteotomes	March 11-13	Frank L. Pavel, DMD; Graham L. Simpson, DDS	San Diego	$500	10
TRI-COUNTY DENTAL SOCIETY					**909-370-2112**
Reconstructive Dentistry	Feb. 24	Tony Daher, DDS	Colton	$40	2
Soft Tissue Grafting and Socket and Bone Grafting	April 7	Armen Mardirossian, DDS; Gregg Filippelli, DDS	Colton	$40	2
TULARE-KINGS DENTAL SOCIETY					**559-625-9333**
Got OSHA? 6 Steps to Office Safety	March 10	Leslie Canham, RDA, CDA Speaker's Bureau	Visalia	TBD	2
Course on Full Mouth Reconstruction Using Dental Implants	April 8	Robert Bell, DDS	Visalia	TBD	3
Practicing Periodontics: From the Center to the Edge	April 8	John Kwan, DDS	Visalia	TBD	4
UNIVERSITY OF CALIFORNIA LOS ANGELES SCHOOL OF DENTISTRY **CONTINUES ON NEXT PAGE**					**310-206-8388**
RDAEF Expanded Duties Module III	Starts Jan. 15-16	Richard G. Stevenson, DDS; Joseph Cooney, BDS, MS	Los Angeles	$5,995 RDA/ $3,495 RDAEF	104
Sleep Medicine Mini-Residency	Starts Feb. 11-12	Dennis R. Bailey, DDS; Robert L. Merrill, DDS, MS	Los Angeles	$5,995	40
California Dental Practice Act and Infection Control	Feb. 26	Andy Wong, DDS	Los Angeles	$135 Dentist/ $95 Auxiliary	4
Advanced Anterior Esthetics	March 4-6, April 15-17	Jeff Morley, DDS	Los Angeles	$5,995	46
Pediatric Dentistry for the G.P. – An Update	March 5	Kumar Shah, BDS	Los Angeles	$198	7

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
UNIVERSITY OF CALIFORNIA LOS ANGELES SCHOOL OF DENTISTRY CONTINUED					310-206-8388
Hypnosis and Its Application to Dentistry	March 5-6	Don M. Goodman, PhD, CCHt; Ken Dubner, CHHt	Los Angeles	$495	14
Evidence-Based Dentistry for the Clinician	March 12	Francesco Chiappelli, PhD; Janet Bauer, DDS, MS	Los Angeles	$198	7
RDA Required Course – Infection Control	March 12	Cara Batson, RDA; Charlene Flowers-Taylor, RDA	Los Angeles	$250	8
Removable Partial Denture Course	March 12	Ting-Ling Chang, BDS	Los Angeles	$198	7
Dental Ethics for a Changing Profession	March 19	Gary Herman, DDS	Los Angeles	$198	7
Re-Certification in Pediatric Oral Sedation	March 19	John A. Yagiela, DDS, PhD; Cristine Quinn, DDS, MS	Los Angeles	$295	8
RDA Required Course – Pit and Fissure Sealants	March 26-27	Cara Batson, RDA; Charlene Flowers-Taylor, RDA	Los Angeles	$575	16
Find Your First Job	April 2	Michael Okuji, DDS	Los Angeles	$150 Dentist	7
UCLA Endodontic Continuum	April 7-10, April 28-May 1	Bernice Ko, DDS	Los Angeles	$3,995	58
RDA Required Course — Coronal Polishing	April 9	Cara Batson, RDA; Charlene Flowers-Taylor, RDA	Los Angeles	$325	8
Advanced Implant Therapy	April 25-29	Sascha A. Jovanovic, DDS, MS; Henry H. Takei, DDS, MS	Los Angeles	$3,995	40
Moderate Sedation with Multiple Oral and Parenteral Agents	April 14-17, May 19-22	John A. Yagiela, DDS, PhD; Roger J. Wendel, DMD	Vancouver, WA	$11,500	80
UCLA Implants A to Z 2011	Starts April 16	George Perri, DDS; Sascha A. Jovanovic, DDS, MS	Los Angeles	$3,995	56
Preventing and/or Resolving Patient Dissatisfaction	April 30	Jeffrey Goldstein, MBA, PhD; Ronald Mito, DDS, FDS	Los Angeles	$198	7
RDAEF Expanded Duties Module I	April 30-May 1	Richard G. Stevenson, DDS; Joseph Cooney, BDS, MS	Los Angeles	$3,995	104
The Integration of Technology — Building a Better Practice	May 7	Todd R. Schoenbaum, DDS	Los Angeles	$145	4
Dental Photography Workshop and Digital Presentations for Esthetic Treatment Planning	June 11	Brian P. LeSage, DDS	Los Angeles	$395	7
California Dental Practice Act and Infection Control	June 25	Andy Wong, DDS	Los Angeles	$135 Dentist; $95 Auxiliary	4

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
UNIVERSITY OF CALIFORNIA SAN FRANCISCO SCHOOL OF DENTISTRY					**415-476-1101**
115th Scientific Session	Jan. 14-15	Various	San Francisco	$300	15
Implementing Occlusion Into Everyday Dentistry	Jan. 28	Jose-Luis Ruiz, DDS	San Francisco	$225	7
Clinicopathological Correlations	Feb. 5	M. Anthony Pogrel, DDS, MD; Richard Jordan, DDS, MSc, PhD	Hawaii	$225	4
18th International Symposium in OMFS	Feb. 7-11	Various	Hawaii	$995	20
17th Annual Island Dental Colloquium	Feb. 21-25	Christine Peters, DMD; Ove Peters, DMD, MS, PhD; Peter Loomer, BSc, DDS, PhD, MRCD	Maui, Hawaii	$695	20
17th Annual UCSF/UOP Island Dental Colloquium	Feb. 21-25	Various	Maui, Hawaii	$695	20
Pediatric Restorative Dentistry	March 4	David Rothman, DDS	San Francisco	$225	7
Veneers Made Easy— Workshop	March 5	Daniel Mendoza, DDS	San Francisco	TBD	7
Oral Surgery for the General Practitioner Part I	March 11	M. Anthony Pogrel, DDS, MD; Mehran Hossaini, DMD	San Francisco	$225	7
Medical Emergencies	March 12	Richard Smith, DDS	San Francisco	$225	7
UCSF Endodontic Research Day	March 18	Various	San Francisco	$250	7
Advanced Periodontal Instrumentation	April 1-2	Ana Pattison, RDH, MS	San Francisco	TBD	14
Oral Surgery for the General Practitioner Part II	April 8	M. Anthony Pogrel, DDS, MD; Mehran Hossaini, DMD	San Francisco	$225	7
Digital Photography - Workshop	April 9	Mark Dellinges, DDS	San Francisco	TBD	7
Fixed Prosthodontics	April 15	Terry Donovan, DDS	San Francisco	$225	7
WESTERN LOS ANGELES DENTAL SOCIETY					**310-349-2199**
Periodontics	Feb. 8	Ziv Simon, DMD, MSc	Culver City	$75 ADA Dentist/$120 Non-ADA Dentist/$60 Non-Dentist	3
Prosthodontics	March 8	Mamaly Reshad, DDS	Culver City	$75 ADA Dentist/$120 Non-ADA Dentist/$60 Non-Dentist	3
Dental Management for the Cancer Patient	April 12	Eric Sung, DDS	Culver City	$75 ADA Dentist/$120 Non-ADA Dentist/$60 Non-Dentist	3

Spotting caries is a piece of cake,



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D-877 LOS ALTOS -Pristine Professional plaza. Office is ~ 2,400sf - 6 ops **2009 Collections - $819k!! Asking only $425K**

D-9091 ATHERTON -Turnkey operation – no construction hassles, equipment purchase. Would cost nearly twice our asking price to duplicate. 969 sf & 3 ops ***Call for Details!***

D-925 SANTA CLARA - Family-oriented office. It just can't get any better than this! 35+ new patients/month by internal marketing: word-of-mouth referrals of quality care and relationships. Retail Shopping Center in the heart of the Silicon Valley. 1,500 sf & 3 ops **$499k**

NORTHERN CALIFORNIA

E-729 AUBURN - Busy retail shp ctr w/excellent signage & good traffic flow. 1750sf, 4ops. Plumbed for 2 add'l ops **REDUCED! NOW ONLY $250k**

E-7121 SACRAMENTO AREA – Largely FFS. 1800sf, 4ops (+2 add'l plumbed). . **$695k**

E-818 SACRAMENTO-Increase the part-time, relaxed workweek & watch the practice grow! Collections $350k+ in '07. 1,200sf & 4 ops. **$315k**

E-881 SACRAMENTO-State-of-the-art Practice with growing patient base. 2,400 sf & 3 ops. Plumbed for 3 add'l. Seller flexible w/ transition plans**$250k**

E-888 AUBURN - Highly esteemed FFS practice. Well respected. Doesn't get any better than this! Very desirable free standing building. Practice offers unparalleled dental care! 1,480sf w/3 ops. **This IS your dream practice! Call for Details!**

E-915 ELK GROVE—Doctor averages 8 patients w/ approx 5-6 new patients monthly. Located in an attractive professional building. 1,200sf / 4 ops. **$650k**

G-751 RED BLUFF/CHICO- Complete remodel ~5 yrs ago. FFS GP. 2350sf /4 ops. Plumbed for 2 add'l. **Practice Offered at $175k / Real Estate $250k**

G-875 YUBA CITY–Estab. 30 + years, GP, FFS, 3575sf /9 ops, great location. **$1.5m**

G-882 YUBA CITY - 3 ops, ~ 850 sf. Thriving Practice! Call for Details! **$190k**

G-883 CHICO VICINITY – Quality FFS GP. Attractive Professional plaza. 1,990 sf w/ 5 ops **$535k**

H-668 NORTHEASTERN CA–4 ops 1600sf office. 2007 gr rcpts exceed $650k! **$395k**

H-856 SOUTH LAKE TAHOE Over 50 new patients/mo Respected & Growing! 1568 sf & 4 ops **$425k**

CENTRAL VALLEY

I-685 TURLOCK - 1700sf, 7 ops. Rrecently remodeled. Free standing bldg. Mostly Adec Eqpmt. **REDUCED! NOW ONLY $305k**

I-772 *Facility* STOCKTON-Desirable, affluent health care area. 2,140sf/4 ops **REDUCED! $150k**

I-889 MERCED- Heart of town, bustling with activity & foot traffic. 3 ops **$265k**

CENTRAL VALLEY CONTINUED

I-923 MODESTO—1495sf/ 4op+1, Newer, All digital. **$295K**

I-9171 STOCKTON-Long Established, Family Practice near major freeway. 2 story medical prof bldg. 750sf w/2 ops & plumbed for 1 add'l. **$135k. Real Estate also available for $135k**

J-928 GREATER MERCED - Well-established & respected for gentle treatment. Prof Bldg in desirable area. 1,313 sf w/3 spacious ops **$230k**

SOUTHERN CALIFORNIA

K-887 ESCONDIDO-Beautifully landscaped dental prof bldg 1,705 sf w/5 ops **REDUCED! Now $175k**

K-900 LA HABRA– 1700sf w/4 ops. Plumbed for 2 add'l. Newer EQ and Improvements **$250k**

K-916 SANTA MARIA—Location and reputation are only two of the winning attributes of this stunning practice! 1,545 sf, w/ 4 fully equipped ops, **$300k Real Estate also available!**

SPECIALTY PRACTICES

I-7861 CTRL VLY ORTHO- 2,000sf, open bay w/8 chairs. Garden View. Antique Exam Room. 45 years Goodwill. FFS. 60-70 patients/day. Prof Plaza. **$370k**

E-811 SIERRA FOOTHILLS ORTHO-Fast growing area. Patient Oriented, Well respected Ortho practice. Avg 30 pats/day. 1200 sf & 3 chairs in open bay. **PRICE REDUCED! $125k**

D-892 MORGAN HILL ORTHO- Remarkable Oppty! Floor to Ceiling windows—wooded courtyard. 1900sf & 6 chairs in open bay. **$275k**

H-913 Orthodontics SIERRA FOOTHILLS – Strong, loyal base referral base. Practice averages 30 – 60+ pats/day. Pristine, remodeled building w/ ample parking. 2,600 sf w/ 5 chairs/bays **$500k**

K-929 SANTA MARIA – PROSTHODONTICS - Where "the patient comes first". Professional building w/large floor-to-ceiling, picturesque windows. 2,800+ sf & 3 ops **$450k**

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- **APTOS:** *For Sale* - General Dentistry Practice. Highly desirable location. 2008 Gross Receipts over $1Mil. w/adjusted overhead at 51%. 3-operatories in 1,000 sq. ft. Pano & Modi computerized software. 9-hygiene days per week. Practice operated for past 33 years in same location. Open 5 days a week. Owner willing to work back for new owner 2 days/wk. #14305
- **ATWATER:** *For Sale* - General Dentistry Practice. Gross receipts $177K with adjusted net income of $71,495. Practice has been in its present location for the past 30 years. 1,080 sq. ft. 2-equipped operatories. Owner to retire. #14307
- **CENTURY CITY:** *For Sale*-Office Space, equipment and leaseholds only. Opportunity for low cost startup practice and or satellite. Asking $100K.
- **CENTURY CITY/BEVERLY HILLS AREA:** *For Sale*-Office space, equipment and leaseholds only. 1,100 sq ft 3 operatories, digital x-ray system. Remodeled 4 years ago. Shows well. Located in a professional building. Owner has relocated.
- **EL DORADO HILLS:** *For Sale*-General Dentistry Practice. 2009 GR $790,758 adjusted net income of $312K. Intra-Oral camera, Pano, Softdent software, 4-equipped ops. 6-hygiene days. Practice has been in its present location for past 18 years. Owner retiring. #14324
- **FOLSOM:** *For Sale* - General Dentistry Practice. Gross Receipts in excess of 1.5M the past three years. 2009 Adjusted Net of $550K. 2,700 sq. ft. office with 7 ops, Digital, Dentrix, Intra-Oral camera, Laser, 5+year old equipment, 8 days hygiene. Beautiful office, great location. Owner retiring. #14336
- **FOLSOM:** *For Sale* - General Dentistry Practice 2009 Collections $513K. Adjusted net income $184K. 4 ops (plumbed for 5), Intra-Oral camera, fiber optics all ops. Patient base software. Owner retiring. #14329
- **GRASS VALLEY:** *For Sale*-General Dentistry Practice. 2009 GR of $307,590 (3 days/wk) with adjusted net income of $105K. 3 Ops. refers out most/all Ortho. Perio, Endo, Surgery. Laser, Intra-oral camera, Diagnodent, EZ Dental Software. Good Location. Owner retiring. #14337
- **GRASS VALLEY:** *For Sale*-This Periodontal Practice is located in a very desirable growing community. Practice has been in its present location for the past 28 years. Office consists of 1,500 sq. ft. 3 ops, Intral-oral camera. Practice has 5 days of hygiene. #14272
- **GREATER SACRAMENTO AREA:** *For Sale*-Gross Receipts in excess of $1.1 Million dollars for the past three years. Adjusted net $450K. 2,400 sq ft office-5 ops. Hygiene days-6, Owner works 32 hours per week. Eagle Soft, Laser, Pan, Intral Oral camera, fiber optics. Owner retiring.
- **LAKEPORT:** *For Sale*-General Dentistry Practice. Gross Receipts 904K with adjusted net $302K. Practice has been in same location for past 23 yrs, and 25 yrs in previous location. 2,600 sq ft with 8 equipped treatment rooms. Intral-Oral camera, Pano, Sedation, and Data Con software. Owner to retire.
- **LIVERMORE:** *For Sale* - General Dentistry Practice. 2009 Collections were $688K with an adjusted net income of $287K. There are 4 ops in this nicely remodeled 1,082 sq. ft. office space. Dentrix software, 6-days/wk hygiene. Owner has been in same location for 36 years with long-term employees. Owner is retiring. #14326
- **LOS ANGELES:** *For Sale* - General Dentistry Practice: This practice 80% Dentical and has approximately 2000 active patients. Owner has operated in same location for 31 years. 2009 receipts were $[illegible]. 6 equipped tx rms, laser, Intra-Oral camera Pano and Ceph. Call for details. #14319
- **MODESTO:** *For Sale* - General Dentistry Practice. 5 operatories, 32-years in practice. Gross Receipts $884K w/adjusted net income of 50%. Dentrix, Cerec, and Intra-Oral camera. Owner to retire. #14308
- **NORTHERN CALIFORNIA:** For Sale - Pediatric practice. Owner has operated in same location for 32 years. Approx. 1,760 active patients, 1,160 sq. ft., Panoramic X-ray, Dexis Digital and Dentrix software in this 5-chair office. 2009 Gross Receipts $713K with 48% overhead. Owner retiring. Call for details.
- **OROVILLE:** *For Sale* - General Dentistry Practice. Owner dentist recently deceased. 2009 collections $770K. Very nice stand alone dental building with basement. 7 ops. digital x-ray 5 days of hygiene. Bldg 3,000 sq. ft. basement 540 sq. ft. Temporary Dentist in place. #14310
- **PALM SPRINGS:** *For Sale* - General Dentistry Practice. Fee for Service. 2009 Gross Receipts $282K with adjusted net income of $157K. 1,280 sq. ft., 3 equipped operatories. Intra-Oral camera, Pano, Practice-NEB software. Doctor willing to transition by working 1-2 days a week. #14332
- **PLUMAS COUNTY:** *For Sale*-3 equipped ops. Space available for 4th op. 1,245 sf office in good location. 2009 gross receipts $475K. Practice in present location over 50 years. Owner is retiring. #14318
- **REDDING:** *For Sale*-Owner looking for Assoc. trans. into Partnership w/Buy-Out. GR $1 Million dollars income $436K. 5.5 days hygiene, 2,200 sq. ft. #14293
- **RENO:** *For Sale* - General Dentistry Practice and Dental Building: 2009 Gross Receipts $517K with adjusted net income of $165K. 4 ½ hygiene days/wk. 1, 800 sq. ft. with 6 equipped ops. (7 Avail). Dentrix software, Pano. Practice has been in its present location for 40 years. Owner retiring.
- **ROSEVILLE:** *For Sale* - General Dentistry Practice. Great Location. 2009 GR $900K with adjusted net income of $300K. 1,975 sq. ft. with 4 ops, 8 days hygiene/wk. Digital, Intraoral camera, Dentrix, Trojan, fiber optics, P & C chairs - all less than 5 years old. Owner is retiring. #14327
- **SACRAMENTO/ROSEVILLE:** *For Sale* - One of many partners is retiring in this highly successful General Dentistry Group Practice. Intra-Oral camera, Digital Pano-Dexis, electronic charts, owner Financing. Call for further information. #14334
- **SAN FRANCISCO:** *For Sale-Patient Base for Sale*-Owner passed away last June and the practice has continued on 4 days a week with an associate. Lease can't be renewed. There are approx. 1,000 acive patients in the practice. The patient base can be purchased at no risk to buyer since the purchase price is paid according to the receipts collected on the patients that transfer. #14312
- **SAN DIEGO:** *For Sale*-General Dentistry Practice. This office is plumbed for 4 ops. 3 ops. are equipped with Promo Equipment. Lease is $2,200 per month. 2009 receipts were $185,645. PPO and Fee for service practice. #14315
- **SAN DIEGO:** *For Sale*-General Dentistry Practice. 6 ops, Intra-Oral camera, Eagle Soft Software. Office square feet 2,300 with 3 years remaining on lease. 2009 Gross Receipts $1,448,520, with an adjusted net income of $545K. Doctor would like to phase out then retire. #14331
- **SAN DIEGO/CITY HEIGHTS:** For Sale-General Dentistry practice. Owner has operated in same location for 12 years. Approx. 1,000 active patients, Panoramic X-ray, Intra-Oral camera, in this 3-chair office. #14321
- **SAN JOSE:** *For Sale* - 3 op office space & equipment only in south valley area of San Jose. Fully equipped including hand instruments. If you are going to start up a practice or add a satellite practice you can save hundreds of thousands of dollars. New lease available from landlord with the option to purchase suite. #14330
- **SANTA BARBARA:** *For Sale* - General Dentistry Practice. This excellent practice's 2009 gross Receipts $801K with steady increase every year. Practice has 6 days of hygiene. 1,690 sq. ft., 5 ops, Laser, Intra-Oral camera, Schick Digital X-Ray, Datacon software. Doctor has been practice in same location for the past eleven years of his 31 years in Santa Barbara. Doctor is retiring.
- **SOUTH LAKE TAHOE:** *For Sale*-General Dentistry Practice. Office is 647 sq. ft. w/3 ops. Practice has been in its present location for the past 26 years. Owner to retire. #14277
- **TORRANCE:** For Sale- General Dentistry Practice: Owner has operated in same location for 20 years. Approx. 1,000 active patients, 1,080 sq. ft., Brican System, and Camsight software in this 2 equipped, 3 available-chair office. 2009 Gross receipts $434K with 38% overhead. Owner relocating. #14320
- **TRACY:** For Sale- Equipment, furnishings, and leaseholds only. In the Central Valley. Fully equipped including 4 Belmont Accutrac chairs, 2 Midmark chairs, 6 DCI rear delivery units, 3 Gendex X-ray units, 1 Soridex digital x-ray processor, 1 Statim 5000, 1 Harvey autoclave. 2,800 sq. ft., 6 Ops. New lease available from landlord.

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3041 SOUTH BAY GP

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PENDING

3028 NAPA-SOLANO COUNTY GP

Owner retiring from well-est. practice in 1,400 sq. ft. facility with 5 ops. All fee-for-service pts. with great word-of-mouth reputation. 2009 GR $731K+, June 2010 FY on schedule for $771K + with just 4/doctor-days. Asking $518K.

3035 CONTRA COSTA COUNTY GP

General & Cosmetic high-end private practice in one of the most beautiful shopping malls in northern California. Architecturally stunning 1,070 sq. ft office with four fully equipped Adec operatories and networked Centrix computers. Ideal for young dentist willing to accept some PPOs to add income to the practice. Owner willing to help in transition. Currently a 2-3 day/week semi-retirement practice, which can be expanded by adding specialties not performed by seller. Asking $296K.

PENDING

3036 SF SOLO-GROUP

High quality small GP in San Francisco with dedicated and professional patent base. Established since 1985, located in Pacific Heights neighborhood. Asking $100K.

SOLD

3037 PLACER COUNTY GP

Well est. Placer County General & Cosmetic Practice. 6 fully-equipped state-of-the-art ops., in single story 2,700 sq. ft. stand alone professional building. Avg. GR for past 4 years $1.4M+ with 61% overhead and just 4 doctor-days/week. Approx. 1,954 active patients, all fee-for-service. Seller is relocating out-of-area but will help for smooth transition. Seller owns the building and will provide buyer with a fair market lease or sell the building to buyer. Asking $1,134,000.

PENDING

3039 SOUTH BAY ENDO

Charming, well established Endodontic Specialty practice conveniently located at the corner of a popular, well traveled intersection, in a commercial & residential neighborhood. 3 ops. 2 fully equipped & 1 plumbed, in a single story professional building with ample parking. 800 sq. ft. Office. 2009 GR $377K+ with 45% net. on a 4 day work week. 2010 GR on track for $374K+ as of June 30, 2010. Asking price $201K.

3030 NORTH BAY AREA PERIO

Owner retiring from well established periodontal practice with excellent referral sources in a 2,411 square foot state-of-the-art office facility with 4 fully equipped operatories and a dedicated staff. Looking for buyer with high ethical standards and great clinical skills. Great location and owner willing to help for a smooth transition. Asking $600K.

PENDING

3006 MONTEREY COUNTY ORTHO

Est. Ortho practice in 2,668 sq. ft. office with 5 open bay chairs in a professional dental complex. Panorex and Cephlometric X-ray machines. Stable and loyal referral base. Annualized GR as of Oct 2009 are $335K+. Owner retiring and willing to help for a smooth transition. Asking 227K.

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CLASSIFIEDS, CONTINUED FROM 892

PRACTICE FOR SALE IN SAN JOSE — Fee-for-service, collections $636K. 61% overhead, digital X-rays, 1,200 active patients, 5 operatories, great location. Fax inquiries to 408-267-3619 or call 877-778-2020.

SOUTHERN OREGON COAST PRACTICE FOR SALE — Great established G/P practice for sale. Fabulous location with great visibility and signage. Completely remodeled building two years ago. Three operatories and plumbed for one more. Practice collecting over $850,000 annually. Tenured staff will stay with practice. Call 503-680-4366 or email buckinvest@comcast.net.

STOCKTON PRACTICE FOR SALE — Visible and easily accessible 1,100 sq. ft. practice. Ideal opportunity for a dentist looking to start a practice or for someone looking to expand. Great location, next to shopping. Equipment/charts included. Buyer would take over building lease. Selling dentist is retiring. Contact 209-957-0765 or 209-598-1640.

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DR. BOB, CONTINUED FROM 898

The plot twists of the *Bourne Identity* couldn't hold a candle to the labyrinthine steps leading to the revelation of the tooth-whitening secret I needed to learn. The computer offered me a page from *Consumer Tips Weekly*, a site "not affiliated with any newspaper publication." An unnamed interviewer described his/her interview with a young woman identified informally, like Rihanna or Madonna, with just her first name as an "ordinary mom." So far, the secret is intact. It seems mom "recently discovered a clever trick to obtain a full-strength teeth whitening without breaking the bank or visiting a cosmetic dentist. Thanks to the trick she discovered, many other consumers have been able to whiten their teeth from home for less than $6."

Oh boy! But wait. Mom morphs into entrepreneurial mode and the secret is going to be revealed by sending for two trial products of something that must be used in sequence to get the results mom got by her serendipitous discovery. Shipping and handling only $2.49 for one product and 99-cents for the other. Not free exactly, but cheap enough. Another unnamed entity then warns, "Don't forget the promo codes when ordering and accepting the terms and conditions." There are three pages of these terms with one product and two with the other. The thirst I had for learning the secret was being effectively slaked by all this equivocation.

Once I have paid my shipping and handling charges, it seems, I will not only receive a free trial kit, but I will also receive a "complete program full tooth whitening kit." And, best of all, I will conveniently have my credit card billed for only $78.41 for the 30-day supply.

The secret is as opaque as ever but appears to not produce instant or lasting results if I'm going to need a 30-day supply. That's just for the one material; the terms and conditions for the other must-have product are more intriguing. By accepting them, I will have instantly joined a membership program in which I will be sent some more secret stuff providing I haven't sent the "free" trial stuff back within the 14-day trial period. Oh.

The next one-month supply of the two-part program will also be conveniently charged to my credit card at the rate of $89. There's more! Every 30 days thereafter I will receive another one-month supply for $89 plus $4.95 s&h until I die, or cancel the autoship orders prior to the next shipment. Furthermore, "Return to Sender" will not be processed nor will opened packages. Mom has some pretty tough friends and the secret of tooth whitening I'm accused of withholding from my patients doesn't come cheap.

Gee, all I wanted was to get the free trial samples and the whole thing has escalated into the equivalent of the Health Reform Bill with the Speaker-of-the-House taking the part of mom and promising that if I just authorized the credit card use, the secrets would all be explained to me in due time. It was like a small-scale version of getting a stimulus package and the trillion-dollar bill at the same time.

Patient: You gonna tell me the secret tooth whitening thing?

Me: No.■■■■

CDA JOURNAL, VOL 38, Nº12

Teeth Whitening Secrets Uncovered!!! Well, Not So Much

The plot twists of the *Bourne Identity* couldn't hold a candle to the labyrinthine steps leading to the revelation of the tooth-whitening secret I needed to learn.

Robert E. Horseman, DDS

ILLUSTRATION BY DAN HUBIG

I have reached that certain age where I am no longer running with the bulls at Pamplona, challenging Kenya's best in the Boston Marathon or testing my virility on Oahu's North Shore. I miss the rush, of course, but find that surfing the Web offers attractions comparable to the Banzai Pipeline with the added advantage that medical intervention is not an inevitable result.

One of the daily attractions comes in the form of a riveting announcement attached to *The Washington Post's* website stating, "DON'T PAY FOR WHITE TEETH — Dentists don't want you to know THIS teeth whitening secret. Read More."

Certainly there are secrets I don't want my patients to know. My stash of Pepperidge Farm Milano cookies in the bottom of my desk drawer with 26 grams of sugar in each morsel, for example, or that the toothpaste we really, really like is whatever the company rep leaves us as samples.

But I wasn't aware of a tooth whitening secret that I didn't want my patients to know and I absolutely didn't want my patients to know that I didn't even know what it was that I didn't want them to know. No surer way to bring down your street cred. Over the years, we had come to realize that some people already knew about the "Don't Pay" admonition, so I clicked on the link, News28Online.com, to discover what my secret was in case it had nothing to do with being ratted out by Pepperidge Farms. I would prefer to avoid an exchange like this with an already apprehensive patient:

Patient: C'mon, what's this tooth whitening secret you don't want me to know?

Me: I can't tell you.

Patient: Why not?

Me: I don't know!

Patient: You lie! And you're not even a member of Congress!

CONTINUES ON 897

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