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CDA JOURNAL, VOL 39, Nº12

A Little Touch of Heresy

KERRY K. CARNEY, DDS

Archibald Leman Cochrane promoted the scientific method in the study and practice of medicine. He pioneered the use of randomized, controlled trials to determine which common medical practices actually produced positive therapeutic results. Cochrane's incorporation of the principles of epidemiology into clinical practice inspired a following: the disciples of evidence-based medicine. The terms "knowledge-based" or "outcome-based" are used interchangeably with evidence-based by some. Eventually the terminology and practical application of sound experimental design and epidemiology migrated into the field of dentistry and became evidence-based dentistry or EBD.

Archie Cochrane was born in 1909 in Scotland. He went to medical school and served in an ambulance corps in the Spanish Civil war. During World War II he was captured by German troops and was the sole physician for thousands of fellow prisoners of war. It was during that time he came to see there was no real evidence to support his medical interventions. He was amazed that the mortality rate of his fellow prisoners was not higher. Cochrane attributed this surprising fact not to his own healing powers but to the resilient human body and its astounding healing ability.

He feared the common practices he had learned as a physician might offer no measurable improvement for his patients and, in fact, might even do them harm.

Throughout his career he urged the medical community to adopt the scientific method to test their therapeutic interventions. He pioneered randomized, controlled trials in medicine and his experimental evidence was the basis for important changes in pulmonary treatment and patient care.

During an interview with a patient, we try to get the facts. We ask about symptoms. We observe signs of inflammation, dysfunction, and pathology.

Here is where things get a little funny.

Cochrane struggled against the implementation and continuation of treatment based solely on tradition and authority. He fought for the science part of "the art and science of medicine." Yet, now, there is the slightest hint of a cult-like devotion to the idea of EBD.

Science is all about questioning and re-evaluating. I am not arguing that all things are equally unlikely. Claims require evidence and extraordinary claims require extraordinary evidence. But what happens when there is no good, sound evidence? Good randomized, controlled trials are difficult to design and execute, especially when those trials include human subjects. Even if the experimental design is acceptable, there is also sample size and bias to take into consideration.

During the 1980s, little was known about human immunodeficiency virus as it was taking a huge toll on human life. There was tremendous demand to get drugs out of experimental trials and into use as soon as possible. Some drug trials were based on only a few individuals. One trial was presented to a nationally known HIV researcher and described as having statistically significant results but there was only one problem. If only one patient moved from one experimental category to another, the results were no longer significant. The researcher had to explain to the person who was lobbying for release of the drug, that if the significance rested on the inclusion or exclusion of one individual, then the results were not significant regardless of any statistical contortion. All the good intentions in the world cannot make up for fatal flaws in experimental design.

So what do you do when you have no good evidence? Well, in evidence reviews, you usually get this kind of disclaimer: "There are no published randomized, controlled clinical trials relevant to this review question. There is, therefore, a need for methodologically sound, randomized, controlled clinical trials that are reported according to the Consolidated Standards of Reporting Trials (CONSORT) statement. Further research also needs to explore qualitatively …" and so on and so forth.[1]

I am not ungrateful for such a review. It is always good to know the quality or lack of existing research on a question. However, what do I do now? In order to answer whatever question was posed, I have to fall back on expert opinion and authority. That takes me back to what Cochrane struggled against originally: Which expert and what authority?

When an extensive review of research on a question finds failures in the experimental design of the majority of investigations, and the reviewer in his/her conclusion claims that the evidence in large part indicates anything relevant, what is one to think? Poor quality primary studies taken at face value can lead to false conclusions. Despite the careful critical review, the concluding opinion becomes the take-home message.

It makes one empathize with Sgt. Joe Friday. "All we want are the facts, ma'am." In the old classic crime drama, *Dragnet*, the laconic sergeant frequently used this interjection to keep witnesses on point during an interview. What Friday wanted were just the facts. Not the extraneous details or speculations that the witness felt compelled to dwell on, but, the facts, just the facts.

Daniel Patrick Moynihan, a U.S. senator from New York, is credited with having said, "Everyone is entitled to his own opinion, but not to his own facts." Implicit is the idea that facts are immutable though their implications, ramifications, or interconnections may be open to interpretation and opinion. Just the facts, ma'am.

During an interview with a patient, we try to get the facts. We ask about symptoms. We observe signs of inflammation, dysfunction, and pathology. We analyze the clinical evidence and prioritize differential diagnoses. But we also incorporate more than just the responses into the sum of the facts. We evaluate the communication skills of the patient and try to fill in the blanks in our understanding of the entire situation. A thorough examination is not just the tally of responses on a medical history questionnaire. If that were the case, a smart machine could evaluate the patient's responses.

Oh, wait, that is already happening.

On Sept. 12, 2011, Watson, the *Jeopardy*-winning computer landed a job with medical insurer, WellPoint. "WellPoint and IBM said they had reached an agreement to fill Watson's huge data-crunching memory with a vast amount of medical information and make him available to physicians to diagnose such intricate conditions as cancer, diabetes, and kidney disease. The health industry has used computers for decades for many important tasks, from analyzing clinical trials to measuring financial data. But this step could be one of the largest ever and lead the way for other insurers."[2]

This makes me uncomfortable. Watson's entrance into the diagnostic interaction, feels like another way for third-party payers to insinuate themselves between the patient and the doctor. Or as Watson might respond on *Jeopardy*, "What is a big vending machine dispensing diagnoses based on facts fed in like quarters?"

But that is a topic for another day. Today's homily is about the importance of skepticism in combating a natural tendency to elevate opinion to doctrine.

Though Cochrane preached the gospel of examining medical practice on a scientific basis, there is a little touch of heresy in his autobiography. He describes an experience he had while a POW. "Another event at Elsterhorst had a marked effect on me. The Germans dumped a young Soviet prisoner in my ward late one night. The ward was full, so I put him in my room as he was moribund and screaming, and I did not want to wake the ward. I examined him. He had obvious gross bilateral cavitation and a severe pleural rub. I thought the latter was the cause of the pain and the screaming. I had no morphia, just aspirin, which had no effect.

"I felt desperate. I knew very little Russian then and there was no one in the ward who did. I finally instinctively sat down on the bed and took him in my arms, and the screaming stopped almost at once. He died peacefully in my arms a few hours later. It was not the pleurisy that caused the screaming but loneliness. It was a wonderful education about the care of the dying. I was ashamed of my misdiagnosis and kept the story secret."[3]

So here is my little touch of heresy: Sometimes I cannot put my faith 100 percent behind the findings of an evidence-based review. I know when I admit my occasional lack of faith and conviction; I am inviting the EBD villagers with their

torches and pitchforks to storm my office. But here is my problem: When there is a lack of randomized, controlled trials, EBD falls back on the conjecture of experts.

Experts are fine, however, their opinions are just that: opinions. I consider them with an open mind and weigh their opinions according to their credentials, but to accept opinions without question is not the way scientific investigation progresses. Curiosity combined with a healthy skepticism drives science.

I want to have the most up-to-date, relevant information in order to give my patients the best care possible. But to quote a friend, "I treat individuals not statistical models," and that is why I am sometimes slow to embrace poorly tested statistical models and EBD conclusions based on expert opinion. ■■■■

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CDA JOURNAL, VOL 39, Nº12

A Giant of Dentistry Passes

Editor:

With the passing of Clifton Orrin Dummett Sr., DDS, on Sept. 7 at the age of 92, California and the nation lost a beacon who showed us the way for seven decades.

While it is often mentioned that Dr. Dummett was the youngest person appointed dean of a dental school, it's more telling that he was also the youngest dean to be fired.

This wasn't the first time and certainly wouldn't be the last time that he took a stand on principle. His patrician demeanor punctuated by his signature bowtie complemented a fiery temperament and steely resolve. He brooked no impudence and breached every wall and impediment. Oh, what a majestic, marvelous life he led. I will miss him so.

MICHAEL OKUJI, DDS, MPH, MBA
San Francisco

Editor's note: *Dr. Okuji previously wrote a profile of Dr. Dummett for the* Journal. *Okuji M, Clifton Orrin Dummett, Sr. — content of character.* J Cal Dent Assoc *31(4):295-7, 2003. For a video featuring an oral history interview of Dr. Dummett reflecting on the dental profession and dental education, visit youtube.com and search for "Clifton Dummett."*

Matt Mullin

Free Riders

BY DAVID W. CHAMBERS, PHD

Free riders are those who benefit from the common good but do not contribute their fair share to the common good. I keep thinking there must be a few of them in America each time April 15th rolls around or every time I contemplate malpractice insurance rates or an insurance carrier's profit margins, or politicians.

There is actually a fair bit known about the human nature of free riding and even some things that can be done to reduce it. The Swiss economists Ernst Fehr and Simon Gächter (Fairness and retaliation: The economics of reciprocity. *J Econ Perspect* 14(3):159-81, 2000).

Here is how the game works. Four players sit around the table, having 20 tokens per player. At each of four rounds, one can "invest" a token in the common pool. The number of tokens in the fund at each round

CONTINUES ON 869

An Office Manual Can Help You Avoid Employment Problems

Employment issues are some of the most difficult matters that dentists, as small business owners, confront. According to Keith Kerns, director of legal and legislative services for the Ohio Dental Association, keeping an office manual, with well-defined duties and expectations, is a good way for you to avoid confrontations or other common problems that can arise with employees.

In an issue of *ODA Today*, Kerns suggested that the dentist's office manual, while covering a number of topics, should primarily be devoted to outlining the expectations for employees and the benefits those employees are eligible to receive for complying with those expectations.

"Clearly addressing these issues in a manual help prevent future disagreements, misunderstandings, and challenges on a variety of issues," he said. "An artfully drafted manual can also serve as a basis to terminate the employment of a problem worker."

An office manual can include descriptions of benefits such as vacation leave, continuing education leave and reimbursement, life insurance, medical coverage, sick days, and medical and maternity leave. Job descriptions and work hours for each employee can also be outlined in an office manual. A good office manual will include the phrase, "and other duties as assigned by the owner dentist."

Dental Students Get Life-Like Experience With Virtual Drill

When is virtual reality better than real life? When a dental student is first learning the appropriate pressure when drilling a tooth.

"When the students first learn, they lean very heavily on the drill and go straight through the tooth to the gum, which would be disastrous in a real patient. They also take ages. This allows the student to learn both skill and speed," said Margaret Cox, OBE, BSc, PhD, Cphys, FinstP, a King's College professor and the project leader.

Students at King's College London, Europe's largest dental school, now are using 3-D virtual-reality jaws that allow them to gauge and adjust when learning how to properly drill. The project is collaboration between dentists from Guy's Hospital, technical developers from Reading University and Birmingham City University, and e-learning professionals from King's College London.

With the device, called HapTEL (haptics in technology-enhanced learning), the virtual-reality jaw opens wide for a student to develop his skills. The drill is based on haptics, a tactile feedback technology through which the user can sense touch and force in a virtual-reality environment. In a design inspired by the gaming industry, the hub at the center of the work station features a foot pedal — recycled from an old dental chair — that permits the student to operate the drill. This work station allows the student to sense the difference between drilling hard enamel and a softer, decayed tooth.

The student dons glasses that produce a 3-D jaw on the computer screen. A head-tracking camera and panels situated on the edge of the glasses allows the jaw image to move in relation to the student's head position, giving them the real-world experience of examining the teeth from different angles, according to a news release.

"When you first come into dentistry everything is very alien to you, the way you position your hand, the tiny movements that you need to perform procedures; it is difficult," said Sadhvik Vijay, a second-year student.

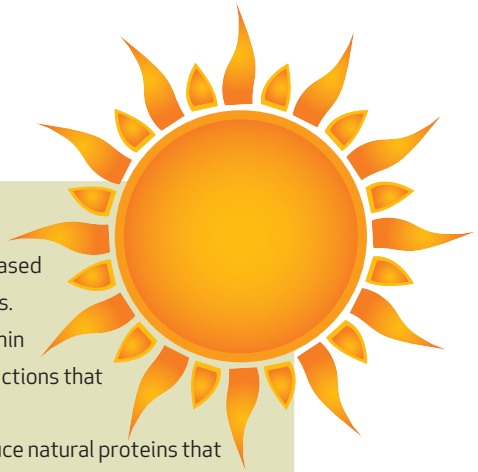
Study: Views of Cleft Lip, Palate Vary Based on Cultures

Geography and cultures seem to have an influence on how one views cleft lip and palate. In one society, the facial anomalies can be considered a prideful sign of survival while in other countries it is viewed as a mark of sins in a past life.

In a study published in a recent issue of *Cleft Palate — Craniofacial Journal,* authors examined the psychosocial impact of having a cleft palate, cleft lip, or both, on individuals in non-Anglo societies. Researchers presented a meta-analysis of studies conducted in China, Hong Kong, Taiwan, and Norway that included a total of 2,276 adolescents and adults with cleft lip and/or palate (CL/P), according to a news release.

In China and the Philippines, for example, any variance of "the norm" is viewed as a curse and those individuals with a CL/P may be ostracized. In India, Hindus see CL/P as a source of shame due to sins of a past life, studies have stated. For Indian girls, it can be considered an obstacle to finding a husband, and an unmarried woman can be a burden to her family.

However, in the Chamorro culture of the Mariana Islands, those with CL/P are considered "a gift from God who belongs to everyone," and therefore one to protect and shelter, according to the study. Similarly, the facial anomaly is a source of pride to some Amazon cultures. Additionally, in one Brazilian shantytown, those with CL/P are seen as survivors, having "avenged fate."



Vitamin D Enhances Immune Response, Report Says

Research has found that laboratory-grown gingival cells treated with vitamin D increased production of an endogenous antibiotic and destroyed more bacteria than untreated cells. In a paper published in an issue of *Infection and Immunity,* the study suggested that vitamin D, which most Americans have a deficiency, can help protect the gums from bacterial infections that lead to gingivitis and periodontitis.

An additional discovery was that vitamin D could stimulate white blood cells to produce natural proteins that have antibiotic activity, said Gill Diamond of the University of Medicine and Dentistry, New Jersey, who also learned that vitamin D could stimulate lung cells to produce LL-37, a natural antibiotic protein and kill more bacteria.

Diamond found that vitamin D also stimulates gingival cells to produce another protein, called TREM-1, which had not been well-studied, but which was thought to be made by white blood cells. He found that it boosts production of proinflammatory cytokines, according to a news release. The new research also showed that vitamin D coordinates expression of a number of genes not previously considered to be part of the vitamin D pathway. Those genes may be involved in additional infection-fighting pathways. A more comprehensive understanding of how vitamin D carries out this regulation at the molecular level, something Diamond hopes to investigate, will enable targeted therapies using vitamin D. Diamond also found that gum and lung cells appear to have the ability to activate inactive forms of vitamin D. "This means that we may even be able to use vitamin D therapy topically, if that proves true," he said.

Good Oral Health Can Reduce Incidence of Endocarditis

Fascinated that *Streptococcus mutans,* which typically is restricted to the mouth, can cause endocarditis, Jacqueline Abranches, PhD, of the University of Rochester Medical Center, set out to find out why.

The research by university microbiologists that identified the protein that lets *S. mutans* establish itself in heart tissue recently was published in an issue of *Infection and Immunity.*

"When I first learned that *S. mutans* sometimes can live in the heart, I asked myself, 'Why in the world are these bacteria, which normally live in the mouth, in the heart?' I was intrigued. And I began investigating how they get there and survive there," said Abranches, a microbiologist and the corresponding author of the study.

Residing in dental plaque, *S. mutans* is best known for causing cavities and churning out acid that erodes teeth. But sometimes *S. mutans* can enter the bloodstream via vigorous flossing or following a dental procedure and travel elsewhere in the body. If it reaches the heart, the bacteria can quickly colonize in the tissue, particularly heart valves, thus causing potentially deadly endocarditis.

Abranches and her team at the university's Center for Oral Biology discovered that a collagen-binding protein known as CNM gives *S. mutans* its ability to invade heart tissue. In laboratory experiments, scientists found that strains with CNM are able to invade heart cells, and strains without CNM are not, according to a news release. When the team knocked out the gene for CNM in strains where normally present, the bacteria were unable to invade heart tissue. Without CNM, the bacteria simply couldn't gain a foothold; their ability to adhere was about one-tenth of what it was with CNM.

"It may be that CNM can serve as a biomarker of the most virulent strains of *S. mutans,*" said Abranches, a research assistant professor in the Department of Microbiology and Immunology. "When patients with cardiac problems go to the dentist, perhaps those patients will be screened to see if they carry the protein. If they do, the dentist might treat them more aggressively with preventive antibiotics, for example."

"When patients with cardiac problems go to the dentist, perhaps those patients will be screened to see if they carry the protein."

JACQUELINE ABRANCHES, PHD

Jon Draper

Yup, There's an App for That!

iPads with special apps are the latest tools in use by students at the Arthur A. Dugoni School of Dentistry's main clinic. The apps allow the students to discuss dental procedures and oral health topics with patients.

"This project has enhanced the student's ability to impart prevention and treatment plan options, and has fostered better patient communication," said Chris Miller, director of community programs, co-director of the Pacific Center for Special Care, and one of the pilot project's faculty leaders. "Already, students using the iPads have been witness to the impact a strong visual aid can have on their patients."

Since the spring quarter this year, the class of 2013 has been utilizing various forms of digital technology to practice patient communication skills. In a preclinical setting last spring, students conducted practice interactions with patients while being filmed with Flip video cameras, and faculty provided feedback and communication coaching, according to a news release. Now that this class has transitioned into clinic, students are utilizing the communication skills they previously learned to conduct more effective and positive interactions with patients — with the help of an iPad. Using the DDS General Practitioner application, students can readily see photos, diagrams and animated images of common oral conditions and dental procedures. It also allows students to present clinical findings, prevention recommendations, and hypothetical treatment plan options.

This pilot project was headed by Miller along with Maria Murtagh, director of the Student Store; and Raybel Ramos, director of the Information Technology Department. A generous donation funded the purchase of the iPads. Pending a successful pilot year, the program will be looking for other sources of funding to continue and expand the use of iPads in the clinic.

"One of the Dugoni School of Dentistry's goals is to harness technology to maximize learning," said Miller. "Bringing iPads into our clinic is doing just that."

FDA Seeks to Improve Food Ingredient Tracking

One in six Americans develop illnesses from tainted food, causing an estimated 128,000 hospitalizations and 3,000 deaths a year, according to the Centers for Disease Control and Prevention.

In light of this, the U.S. Food and Drug Administration would like to see a law requiring food manufacturers to maintain records of ingredients allowing investigators to trace them to their sources. In a recent issue of *Bloomberg Businessweek*, the Bioterrorism Act of 2002 requires companies to keep records of "one up/one back," which means, retain data on from whom they bought and to whom they sold.

The article went on to say that this limited requirement makes it difficult for the FDA to trace the source of contamination, as during the salmonella scare that started in Minnesota in the summer of 2008.

Congress has asked FDA to provide it with a plan detailing how a more effective "traceback" requirement would work, which it will present within a year. While public health advocates want to improve the government's ability to track ingredients, the food industry is fighting the effort, citing its prohibitive expense.

"The idea of tracing food from farm to table is a great concept, and certainly popular right now. The reality on the ground is extremely complicated," said Erik Olson, director of food programs at the Pew Health Group.

FREE RIDERS, CONTINUED FROM 865

is multiplied by 1.6 and the pool is evenly divided among all players. If there is only one token in the pot, each player receives a return of 0.4 (1 * 1.6/4). That means the three free riders increase their holdings from 20 to 20.4 and the chump drops to 19.6 (the common payout minus their personal contribution. If every player contributes one token, each will move up to 20.4 (20-19 investment + 4 * 0.4/4 return). A player who sits on his or her endowment starts and ends with 20 tokens. A misguided idealist winds up with 16. A free rider playing with three idealists would expect 21.2. But if everyone, trusting his or her neighbor invested evening in the common good, the payoff is 21.6.

What do we find? About a quarter of the players in this game refuse to contribute to the common good and are willing to take what they can get as free riders. About 10 percent are naïve idealists who keep feeding the pot in hopes that others will "see the light." Most of us are "contingent contributors." We pitch in if we believe others will do so as well.

Two conditions keep down free riding. First, when the game is played in the open, so that each player can see who the free riders are, the abuse is dampened. Those who find transparency an inconvenience probably think there is something for them to gain by gaming the system. The second strategy is ironic in the extreme. When players in Fehr and Gächter's game are given the option of paying a fee to punish free riders, most take it. Punishment takes the form of paying one of your own tokens to the bank to force a free rider to pay two to the bank. This is the way the American civil justice system works.

The nub:

1. We all free ride and we all think the other guy does more of it than we do.
2. Oral health is a public good.
3. The public's good should be handled in public: every other option is worse.

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.

Ultradent VALO Cordless

→

Ultradent introduces its new VALO Cordless, a powerful, durable, and versatile LED curing light. VALO Cordless maintains the efficient broadband technology of VALO while adding a battery-operated, cordless wand for mobility. The new handpiece features custom, multiwavelength Light Emitting Diodes (LEDs) that produce high-intensity light capable of penetrating porcelain and curing underlying resin cements similar to a quality halogen light.

Its durable, aerospace aluminum body and Teflon coating provides a sleek, ergonomic design intended to rest in a standard dental unit bracket, or the VALO Cordless can be custom-mounted using the bracket included in the kit. For more information, go to www.valo-led.com.

Saliva Tests Now Can Accurately Predict Age

Regardless of how much one sips from the fountain of youth, saliva will tell the truth as a newly developed test using spit now can accurately predict one's age.

"Our approach supplies one answer to the enduring quest for reliable markers of aging," said principal investigator Eric Vilain, MD, PhD, a professor of human genetics, pediatrics, and urology at the David Geffen School of Medicine at the University of California, Los Angeles. "With just a saliva sample, we can accurately predict a person's age without knowing anything else about them."

The study, published in an online edition of *Public Library of Science (PLoS) ONE*, also offered a myriad of potential applications. For example, using the technology could offer crime-scene investigators a new forensic tool for pinpointing a suspect's age.

Vilain and colleagues examined the process of methylation — a chemical modification of one of the four building blocks that constitute an individual's DNA. "While genes partly shape how our body ages, environmental influences also can change our DNA as we age," Vilain explained. "Methylation patterns shift as we grow older and contribute to aging-related disease."

Using spit samples from 34 pairs of identical male twins between the ages of 21 and 55, researchers scrutinized the genomes and identified 88 sites on the DNA that strongly correlated methylation to age. They then replicated their findings in a general population of 31 men and 29 women whose age ranged from 18 to 70. The scientists then built a predictive model using two of the three genes with the strongest age-related linkage to methylation. When inputting the data from the twins' and the other group's saliva samples, scientists were able to correctly predict a person's age within five years -- an unprecedented level of accuracy.

"Methylation's relationship with age is so strong that we can identify how old someone is by examining just two of the three billion building blocks that make up our genome," said Sven Bocklandt, the study's first author and a former UCLA geneticist now at Bioline.

Vilain and his team foresee the test becoming a forensic tool in crime-scene investigations. For example, using saliva found in a tooth bite or on a drinking glass could help lab experts determine the age of a suspect to a five-year range. In hospital settings, physicians could evaluate the risk of age-related diseases in routine medical screenings and tailor interventions based on the patient's bio-age rather than their chronological age, according to a news release.

The team currently is looking into whether those with lower bio-age live longer and suffer less disease. They also are examining if the reverse is true: whether higher bio-age is linked to a greater rate of disease and early death.

UPCOMING MEETINGS

2011	
Dec. 16–17	First Dental Conference, Scientific Dental Committee at the Palestinian Dental Association in Lebanon, Beirut, Lebanon, 916-780-1955
2012	
March 29–April 1	CSPD/WSPD Annual Meeting, Portland, Ore., drrstewart@aol.com
April 22–28	United States Dental Tennis Association's 45th Annual Spring Meeting, Kiawah Island, S.C., www.dentaltennis.org or 800-445-2524
April 26–28	World Federation for Laser Dentistry, 13th Annual World Congress, Barcelona, Spain, wfldbcn2012.com
May 3–5	*CDA Presents the Art and Science of Dentistry,* Anaheim, 800-CDA-SMILE (232-7645), cdapresents.com
Oct. 18–23	ADA 153rd Annual Session, San Francisco, ada.org

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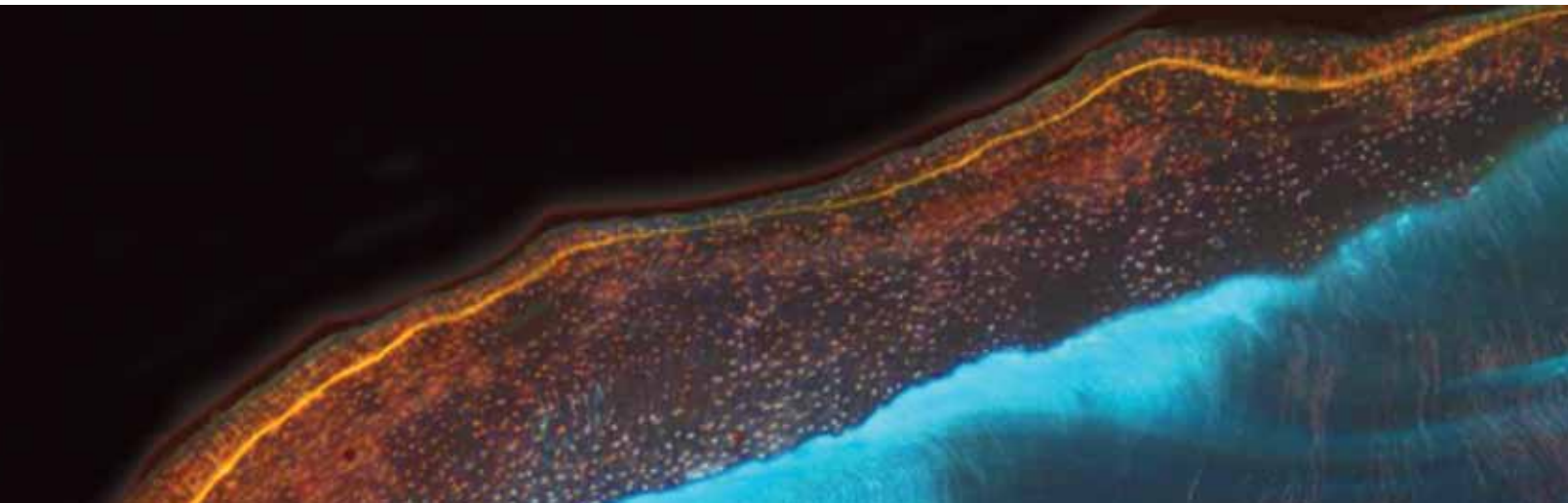

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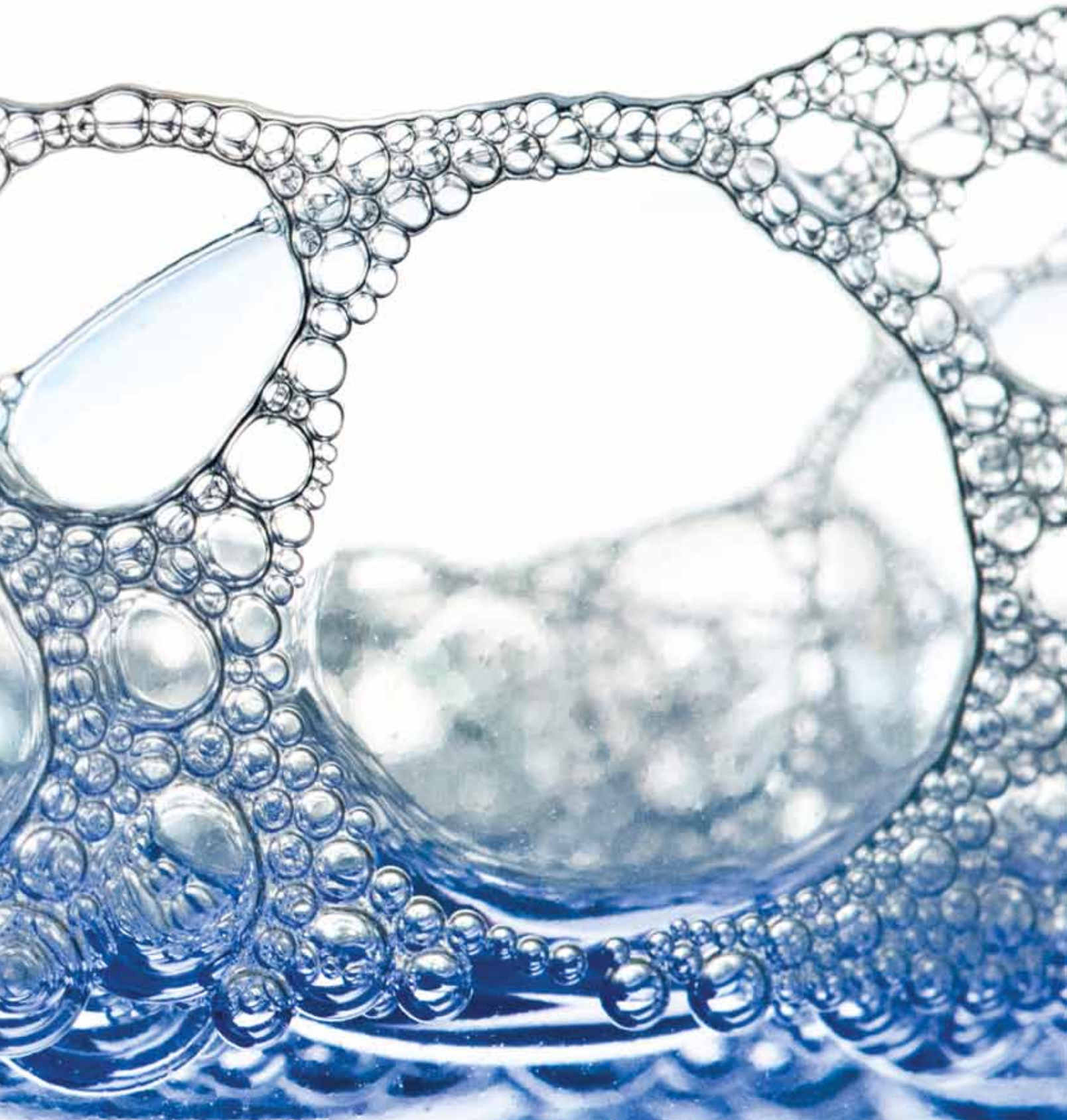

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Lipid Characterization of Human Saliva

MARIA DANIELA DEFAGÓ, PHD; MIRTA ANA VALENTICH, PHD; AND ADRIANA BEATRIZ ACTIS, PHD

ABSTRACT Salivary lipids have been scarcely studied, and the reported results present disparities. This literature review is presented based on the importance of saliva as a diagnostic and/or prognostic medium for various diseases, its lipid content, and on its potential use for the analysis of nutritional markers that contribute to the study of diseases related to lipid consumption and metabolism.

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Human saliva has been the subject of numerous studies in recent decades. The identification of its components and properties has constituted a breakthrough in its use as a noninvasive method for the diagnosis and prognosis of various diseases.[1-3]

Whole saliva is a complex mixture secreted into the oral cavity by multiple salivary glands including parotid, submandibular, sublingual, and other minor glands laying beneath the oral mucosa, which under normal conditions has a volume of 500 to 1,500 ml daily. Saliva contains organic and inorganic components. The organic substances contain a lipid fraction, mainly neutral lipids, and a protein fraction represented mainly by glycoproteins that contribute viscosity to the secretion, protect the oral epithelium, and facilitate the chewing of food. It also contains albumin of plasma origin, enzymes — amylase, lipase, lysozyme and antiprotease – and immunoglobulins, mainly IgA and IgG.[4] Measuring the latter is a common practice in the laboratory for diagnosis of autoimmune and infectious diseases.[1] Saliva also contains a wide variety of hormones that reflect their concentration in blood and have been applied widely to assess endocrine function. Nonsteroid hormones — catecholamines, somatostatin, prolactin, thyroxine and gonadotrophins, among others — can be detected, as well as steroid hormones such as aldosterone and sex hormones.[5]

The inorganic components are dissolved in water, which is the most important element. The electrolytes Na^+, K^+, Cl^- and HCO^{3-} are found in concentrations close to those of plasma and they give saliva a neutral pH of 6.8-7.2.[6] Within this complex secretion are other constituents

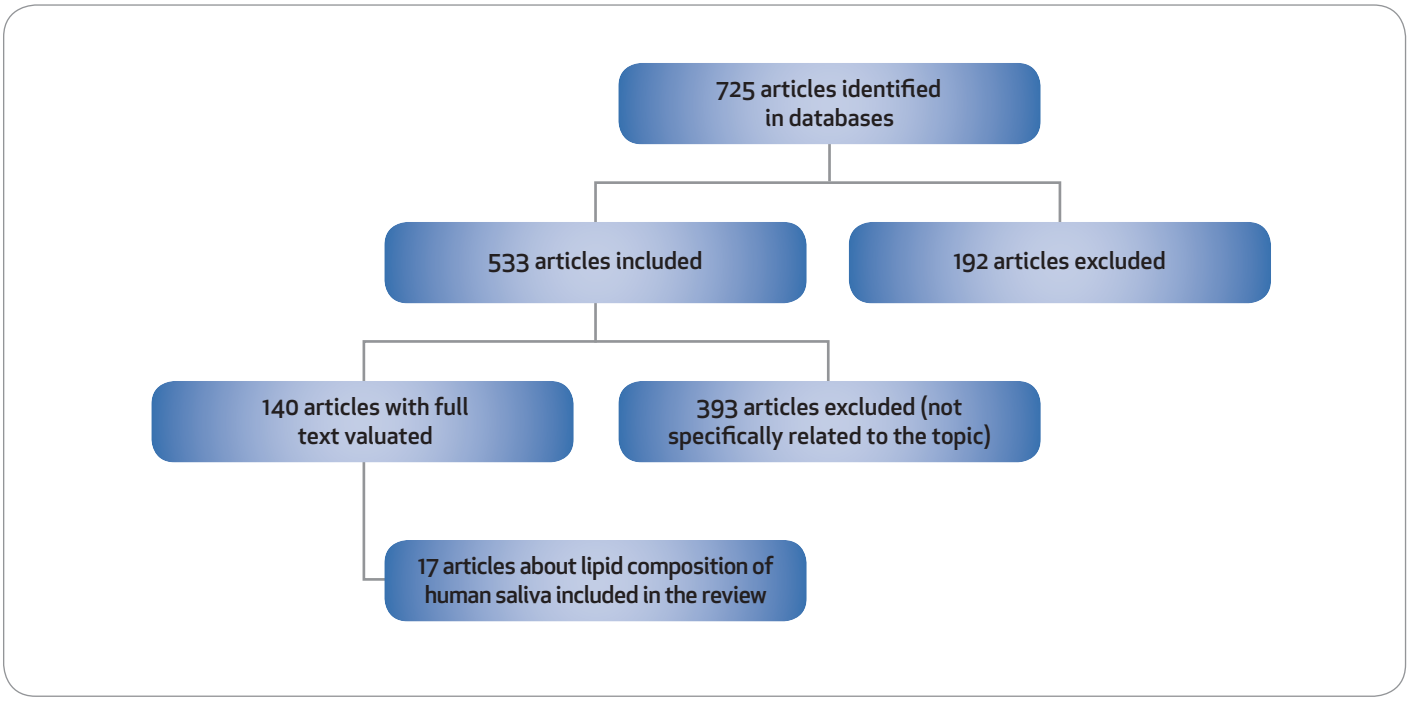

FIGURE 1. Article selection process.

such as scaly epithelial cells, bacteria and their metabolites, and nasal secretions.[4]

While the endogenous profile of human saliva has been studied, data for its lipid characterization are scarce and controversial.

The first reports on the presence of lipids in saliva were made by Doubleday in the early 20th century.[7,8] However, its low salivary concentration and the different methodologies of analysis and of obtaining samples may explain the disparate results.[9-11] There is also little information relating salivary lipids with those in serum or plasma. In his work on salivary lipid composition, Dirksen mentioned the similarity in chromatographic runs of some fatty acids in saliva and blood.[12] Other authors have observed a correlation between dietary, salivary, and blood fatty acid values in monkeys and humans, which may imply interdependence between these two fluids and diet.[13,14] Likewise, Lac suggested that lipid values quantified in human saliva represent only 1/500 of the serum values.[4]

This literature review is presented on the basis of the human salivary lipid profile in different biological situations, the disparities in information relating to its lipid content, and its potential use for the analysis of nutritional markers.

Database Search Strategy

The search strategy was based on PubMed, Google Scholar, Cochrane, and EMBASE databases. Databases were searched to include only papers and abstracts in the English language. Related articles, including those from 1909 to 2009, were searched by hand.

The search terms included: human saliva, salivary gland, lipids, fatty acids, triglycerides, phospholipids, cholesterol, derived lipids, complex lipids, in different combinations.

Eligibility of the selected studies was determined by reading the abstract of the articles identified by each electronic database. Full texts were obtained of all articles identified and judged as being potentially relevant. A consensus was reached through discussion regarding which articles fulfilled the inclusion criteria, and these were finally included in the systematic review. The quality criteria considered for the study eligibility were: bias in selection and implementation and assessment of the analysis employed. **FIGURE 1** shows the article selection process.

Advantages From the Use of Saliva

Saliva is an attractive medium for disease diagnosis and for monitoring the biological state of the individual because saliva testing has several key advantages including:

- The method is noninvasive, more comfortable and preferable for children, the elderly, and people with special needs.[15]
- Its collection and preservation does not require sophisticated equipment.[16]
- It implies a decreased risk of infection to laboratory staff compared to the handling of blood samples[16] and;
- Routine tests are technically simple, as in the case of determining steroid hormones and monitoring drugs.[17]

Saliva Sample Collection

The studies that detail the lipid composition in saliva use different methods to obtain the samples. Mixed or whole saliva (representing all of the secretions of the oral cavity) is obtained by expelling the fluid directly into a collector tube, based on international standards.[18] To obtain partial saliva samples (from one gland in particular), cotton swabs, absorption with small strips of filter paper or aspiration through cannulas located in the excretory duct are required.[19,20]

Likewise, some authors use stimulated or nonstimulated saliva. Usually, saliva flow can be induced by citric acid on the tongue, or chewing gum on request, or paraffin.[21,22] The stimulation cause changes in the sample volume and in the electrolytes amount altering the pH, although they do not significantly alter the other endogenous components such as lipids and proteins.[23]

Lipids in Human Saliva

Lipids are a group of organic compounds that are varied in nature, composed of fatty acids. Their common characteristic is that of being insoluble in water and soluble in organic solvents. According to the complexity of their molecules, they are classified into three categories.

About the origin of lipids in saliva, three sources are considered: serum element transudation, exfoliative cells, and the glandular secretion. It is known total lipid fraction in saliva consists of neutral lipids and polar lipids. It has been observed that under normal conditions, their values in saliva and blood may reflect the dietary pattern, as they are affected by the quality and quantity of fats consumed in the diet.[12,20]

Total lipids: Tests performed in whole saliva recorded a total lipid concentration of 1.3 mg/100 ml, with a high predominance of neutral lipids (more than 95 percent) compared to the other constituents.[9] However, the values in parotid saliva are controversial, since they vary from 0.2 mg/100 ml to 9.24 mg/100 ml, without significant differences given the stimulation of salivary flow. This fluid contains approximately 99 percent of neutral lipids.[9] In submandibular saliva, concentrations have been observed from 0.9 to 9.52 mg/100 ml, also with a high proportion of neutral lipids.[8-10]

Papers dealing with the lipid characterization of the secretion of the minor salivary glands are rare. Labial gland saliva showed a total lipid concentration of 423.8 µg/ml, with a number of glycolipids (44.6 percent) higher than that of neutral lipids (32.4 percent) and phospholipids (23 percent).[24]

ROUTINE TESTS are technically simple, as in the case of determining steroid hormones and monitoring drugs.

It has been suggested that salivary lipids are associated with proteins forming complexes, but their separation has not been possible by the traditional ultracentrifugation method.[9] Recently, the presence of lipid carriers in human saliva was analyzed in samples of apparently healthy subjects, showing the presence of apolipoprotein B (women, 11.25 mg/dL; men, 17 mg/dL).[25]

Neutral lipids: The presence of cholesterol (COL), triglycerides (TG) and free fatty acids (FFA) have been reported in human saliva.

Total cholesterol: It is known that cholesterol is necessary for the formation of cell membranes as well as of basic biological substances such as adrenocortical, sex hormones, and bile acids. Also, its evaluation provides a measure of nutritional and lipid condition in humans.[26]

In whole saliva, a concentration of 0.13 mg/100 ml of COL has been reported, while in the parotid secretion there are differences between different authors, with values ranging between 0.09 and 0.75 mg/100 ml of saliva.[9,27] No significant variations were observed between the cases of stimulated or nonstimulated saliva. Analyses performed in submandibular secretion showed values of 0.17 to 0.58 mg/100 ml.[9,10] However, the concentration of COL detected in saliva from labial glands was 15.2 µg/ml.[24]

Triglycerides: The TGs are made up of fatty acids from the diet or from endogenous synthesis and are the main reserve of energy.

In whole saliva, the TG concentration averages 0.29 mg/100 ml.[9] Parotid saliva contains a higher amount of TG, with a maximum of 1.37 mg/100 ml and shows no significant differences when secretion is stimulated. In submandibular secretion, TG values have been reported ranging between 0.19 and 1.75 mg/100 ml, while in labial salivary glands it was 20.3 µg/ml.[9,10,24]

Free fatty acids: In whole saliva, a concentration of 0.10 mg/100 ml was found, while in the parotid the values range between 0.02 and 3.49 mg/100 ml and in the submandibular, between 0.07 and 3.12 mg/100 ml.[9,27] In labial gland saliva, FFA represented 57.1 µg/ml of which means 13.5 percent of the lipid fraction.[24]

Polar lipids as phospholipids (PLs): These complex lipids are widely distributed in the human body and, being the main components of cell membranes, are vitally important.[2]

In whole saliva, the PLs are 3.6 percent of total lipids, 0.8 percent in the parotid and in the submandibular 2.0 percent, while in the labial gland secretion they

TABLE 1

Main Contributions of the Literature on Lipids in Human Saliva

Author/s and year	Objective of the study	Results
Dirksen TR, 1969	To determine the lipid constituents of whole and parotid saliva by paper chromatography	It was possible to identify that whole and parotid saliva contained diglycerides, cholesterol, free fatty acids, triglycerides and cholesterol esters.
Mandel ID & Einstein A, 1969	To determine lipids in human salivary secretions and salivary calculus	A relatively high proportion of total lipids in calculus matrix was detected. The major fatty acid was 20:5 n-3 (40%) and small amounts of 16- and 18-carbon fatty acids were detected.
Rabinowitz JL & Shannon IL, 1975	To analyze the lipid changes in stimulated human saliva of men	Stimulation affected the flow of parotid saliva, but it did not significantly change the percentage of lipid content.
Slomiany BL et al, 1980[47] Slomiany A et al, 1981[48]	To analyze the lipid composition of human parotid and submandibular gland secretions from light and heavy dental calculus formers	The heavy calculus formers exhibited an elevated level of fatty acids, cholesterol esters and glyceroglucolipids. Triglycerides and cholesterol were considerably higher in light than in heavy calculus formers.
Slomiany BL et al, 1982	To investigate the lipid composition of human parotid and submandibular saliva from caries-resistant and caries-susceptible adults	The saliva of caries-resistant subjects contained less free fatty acids, triglycerides, phospholipids and cholesterol esters than that of caries-susceptible subjects.
Slomiany BL et al, 1983	To investigate the content and lipid composition of labial salivary gland secretions	The labial saliva contained 4-5 times more lipids/ml than parotid and submandibular saliva and exhibited a higher percentage of phospholipids and glycolipids.
Slomiany BL et al, 1986	To analyze the lipid composition and viscosity of parotid saliva in Sjögren syndrome	The saliva had more glycolipids and phospholipids and lower proportions of cholesterol and ester cholesterol than normal subjects.
Larsson B et al, 1996	To determine the quality and quantity of lipids in human saliva	Cholesterol esters, cholesterol, triglycerides, diglycerides, monoglycerides and free fatty acids accounted for 96-99% of total salivary lipids.
Karjalainen S et al, 1997	To analyze the salivary cholesterol of healthy adults in relation to serum cholesterol concentration	The salivary cholesterol reflected the serum cholesterol in hypercholesterolemic subjects.
Actis AB et al, 2005	To determine the relationship between the salivary fatty acid profile and alimentary habits	The salivary arachidonic and alpha-linolenic acids were influenced by dietary fat.
Tomita Y et al, 2008	To examine the lipids in saliva from individuals differing in caries experience	Total lipids, free fatty acids and triglycerides were higher in the samples of the caries-susceptible than in the caries-resistant group.
Defagó MD et al, 2008	To analyze the presence of lipid carriers in human saliva	The presence of apolipoprotein B was detected in saliva samples of women and men.

constitute 22 percent percent of total lipids with an average of 92.1 µg/ml.[9,19,24]

TABLE 1 summarizes the main findings in the review of lipids in human saliva.

Conclusions and Perspectives

Though information is scarce, there is evidence about the presence of lipids in saliva and their involvement in different biological situations.

Research on saliva diagnostic applications mainly refers to systemic diseases, without relationship to lipid profile. A salivary assay is successfully applied to diagnose different diseases and seems to be an advantageous alternative to blood and urinary analysis.[28] Saliva can be used for:

- Systemic diseases such as cystic fibrosis, celiac disease, Sjögren's syndrome, oral squamous cell carcinoma, infection by Helicobacter pylori, shigella and Taenia solium[1,29,30];
- Viral diseases such as hepatitis, rubella, herpesviruses, and human immunodeficiency virus (HIV)[31-33];
- The monitoring of hormone levels of catecholamine, noradrenalin, prostaglandins, cortisol, aldosterone, and sexual steroids, for example[1,34]; and
- Drug monitoring for therapeutic or illicit drugs.[35,36]

In general, salivary lipids have been studied in relation to pathologies that affect the oral cavity, such as Sjögren's syndrome, dental caries and salivary gland tumors, and, recently, in relation to type 2 diabetes.[27,37-39] However, its use could be extended to study other chronic diseases, such as cardiovascular disease and other types of cancer.

The lipid fraction of human blood has been under study for some time, mainly with regard to the prevention, diagnosis, and treatment of cardiovascular diseases as well as the search for biomarkers of lipid origin associated with tumor processes.[40-43] It has been observed that high concentrations of cholesterol and of saturated (like 22:0 and 24:0) and trans fatty acids in human plasma or serum are associated with an increased risk of developing tumors, for example, in the breast and salivary glands.[44,45] A study by Karjalainen et al. showed that the salivary concentration of COL reflects the serum concentration in hypercholesterolemic individuals.[46]

Different standardized methods are being used to obtain saliva samples in human (as well as in experimental studies). Considering the advantage of being noninvasive methods, is absolutely necessary to consensus one unique methodology for saliva extraction to correlate the results obtained from different laboratories. Also, further studies are recommended in order to find blood-saliva lipid composition correlation.

In this sense, it is important to reinforce the interdisciplinary research in relation to human saliva and processes of health and disease, as well as the need for further characterization of the salivary lipids and their relation to epigenetic factors.

Finally, saliva could be used as a blood substitute in the analysis of nutritional biomarkers that contribute to diagnosis and prognosis of diseases related to lipid consumption and metabolism. ■■■■

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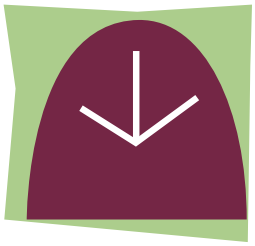

A Simple Technique for Increasing the Occlusal Vertical Dimension of Removable Denture Wearers

TONGUC SULUN, PHD, DDS, AND ONUR GECKILI, PHD, DDS

ABSTRACT This article describes a simple and efficient technique for increasing the occlusal vertical dimension of removable denture wearers. Functionally generated path technique is carried out by using gothic arch tracing, and the existing mandibular overdenture is modified for interim use.

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Removable denture-wearers experience continuous reduction of occlusal vertical dimension (OVD) over time.[1] The reason is mainly the excessive wear of the denture teeth.[2] Long-term usage of dentures with worn artificial teeth can cause the patient to function at a reduced OVD, possibly compromising the oral craniofacial system and facial esthetics.[1,2]

Temporomandibular disorders (TMDs) and age-related morphologic changes, such as decreased facial height and forward posturing of the mandible may be observed.[1,2] Even though occlusal reconstruction cannot be a definitive treatment for a particular TMD, some studies have shown that occlusal instability may be a potential factor contributing to the development of TMD among denture wearers.[3,4] With the excessive wear of the denture teeth, occlusal imbalances and some degree of condylar displacement may occur.[5] When premature contacts produce changes in the mandibular position, one of the condyles may be relocated backward and produce compression at the disk, which, may in turn, cause the anterior displacement of the disk.[5,6] Therefore, identifying an appropriate OVD prior to fabricating new dentures is necessary for these patients in order to allow them to adapt the newly formed OVD.[2]

Various techniques such as using an acrylic splint and modifying the old dentures have been proposed for increasing the OVD and allowing adaptation to the new OVD in edentulous or partially edentulous patients.[7,8]

This report describes a simple chairside technique to rehabilitate the OVD of a patient who presented with chief complaints of pain in the masticatory system. Clinical examination showed excessive tenderness to palpation of the masticatory muscles, especially in the left masseter

FIGURE 1. Initial appearance of the patient with a reduced occlusal vertical dimension.

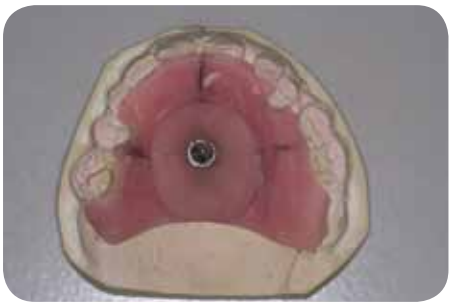

FIGURE 2A. Maxillary record base with the intraoral stylus.

FIGURE 2B. View of the attached tracing plate with the mandibular overdenture.

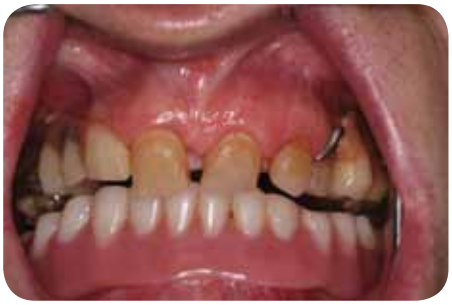

FIGURE 3. Determination of vertical dimension by adjusting the height of the stylus.

FIGURE 4. Movement of mandible in anterior side, left and right sides simultaneously when the acrylic resin was in a doughy stage.

FIGURE 5. Checking occlusal contacts with an articulating paper.

region. Oral examination and mounted diagnostic casts revealed a maxillary removable partial denture (RPD) opposing a two-implant retained mandibular overdenture with a reduced vertical dimension because of excessively worn artificial teeth (**FIGURE 1**). To relieve the patient immediately and allowing her to adapt to a new OVD, it was decided to increase the OVD by modifying the mandibular overdenture using a simple technique by using functionally generated path technique to achieve a bilaterally balanced occlusion.

Technique

A maxillary impression was made with an irreversible hydrocolloid (Jeltrate, Dentsply Intl., Milford, Del.) and the impression was poured with dental stone (Moldano, Heraus Kulzer, Hanau, Germany). A recording base was fabricated on the obtained cast using an autopolymerizing acrylic resin (Vertex; Vertex-Dental BV, Zeist, Netherlands) and to obtain the gothic arch tracing, the intraoral stylus was attached to the recording base using the same autopolymerizing acrylic resin (**FIGURE 2**).

The tracing plate was attached to the mandibular overdenture by using autopolymerizing acrylic resin (Temdent Classic; Schütz Dental Group, Rosbach, Germany) (**FIGURE 3**). The ideal OVD was determined using the closest speaking space method described previously by Silverman and the swallowing method described by Shannon.[9,10] The height of the stylus was adjusted until the maxillary and mandibular teeth did not touch each other during /s/ or other sibilant sound formation and during swallowing [9-11] (**FIGURE 4**).

An autopolymerizing tooth-colored acrylic resin (Temdent Classic; Schütz Dental Group) was prepared and applied on the occlusal surfaces of the mandibular overdenture in the doughy stage. While the acrylic resin was in the doughy stage, the patient was instructed to bite until the stylus touched the tracing plate and to move her mandible in anterior, left and right sides simultaneously afterward. The patient repeated these movements until the acrylic resin reached the initial set (**FIGURE 5**). The centric and eccentric occlusal contacts were checked with an articulating paper (**FIGURE 6**) (Swedent; Swedish Dental Supplies AB, Akarp, Sweden) and the high spots were trimmed away to prevent stress concentrations by using a tungsten carbide bur (No. 110. 190. 023; Acurata, Thurmansbang, Germany). (In this stage, if it was believed that the registration of the occlusal scheme was totally incorrect, the occlusal surface of the acrylic resin could be reduced 1 to 1.5 mm with a tungsten carbide bur and relined with a newly mixed autopolymerizing tooth-colored acrylic resin and the sixth stage could be repeated.)

After evaluation of occlusion in left and right lateral movements (**FIGURES 7 AND 8**), the excess bulk of the acrylic resin was trimmed, the mandibular overdenture was polished and delivered to the patient for interim use (**FIGURE 9**).

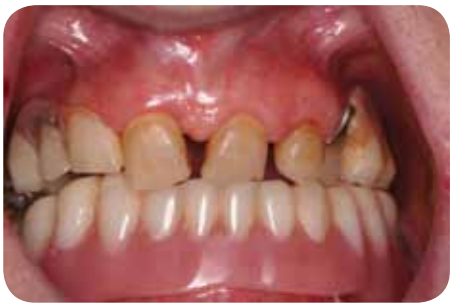

FIGURE 6A. Left movement of the mandible with the modified overdenture.

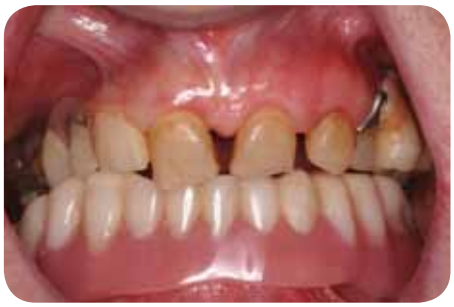

FIGURE 6B. Right movement of the mandible with the modified overdenture.

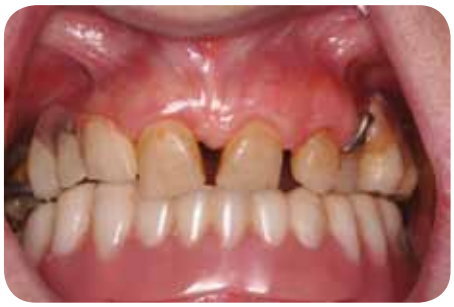

FIGURE 6C. Final appearance of the centric occlusion with the modified overdenture.

After the patient used the interim dentures for an adaptation period of three months, the OVD was transferred to the new dentures by measuring the vertical height between the tooth-colored acrylic resin and the tissue side of the mandibular overdenture with a gauge and the vertical height of the new dentures were adjusted to correspond to the measurements made on the patient's old denture.[12]

Discussion

TMD appears to be almost as frequent in complete denture wearers as in dentate individuals, varying from 15 percent to 25 percent.[13] Furthermore, the results of an epidemiological study showed that complete denture wearers have higher prevalence of TMD symptoms than the normal population with natural dentition.[14] Removable partial denture wearers also have similar frequency in TMD signs. The prevalence of TMD signs in partially edentulous patients have been found higher (36 percent) than complete denture wearers (17 percent) in a recent study.[15]

Even though the principle of treating the edentulous or partially edentulous TMD patient by altering the OVD is similar with the dentate patients, the major difference is that the principle of changing the occlusion by increasing the OVD is more tolerable because such change is reversible in these patients just like the presented patient. In the presented technique, the OVD was determined by speaking and swallowing methods.[9,10] The primary advantages of these assessments are that they are functional and made without great effort.[11] The patient was highly satisfied with the presented treatment during the three-month follow-up period and her complaints were recovered slowly as she used her interim denture. The re-establishment of OVD may have placed the condyle slightly forward and thus reduced the compression at the posterior edge of the disk.[5] Additionally, it is well-known that correct vertical dimension allows muscle relaxation. The provided treatment may have enabled neuromuscular reprogramming, which could contribute the pain recovery of the masticatory muscles.[16] Additionally, by using the technique proposed by Bissasu, the OVD was easily transferred to the patient's new dentures after the adaptation period.[12]

The presented technique may provide convenience to clinicians especially when immediate relief of a TMD patient is required. The patient may adapt to the determined OVD of following new dentures with the modification of the existing dentures. Also OVD can be increased gradually by using the proposed technique with the use of gothic arch since it is possible to observe the increase exactly, as well as it is achievable to perform the technique identically in the following appointments.

Summary

A simple technique for relieving the muscle pain of a partially edentulous patient by increasing the occlusal vertical dimension has been described in this report. This technique can be a more inexpensive and faster alternative to the previously described methods for increasing the OVD of TMD patients. ■■■■

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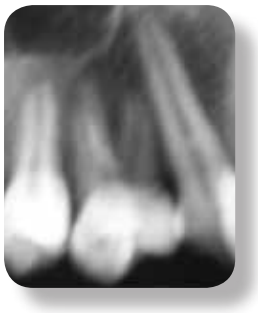

Clinical Management of a Unique Case of Fusion Between Supernumerary Canine and Maxillary First Premolar

MAULI SIMRATVIR, BDS, MDS, AND MANISHA PRABHAKAR, BDS, MDS

ABSTRACT Fusion is one of the few developmental disorders that may account for alteration in morphology and number of teeth in the dental arch. This case report presents a unique case of fusion between supernumerary canine and maxillary first premolar, the associated problems, and their comprehensive clinical management.

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Owing to local, environmental, or genetic disturbances during the development of teeth, deviations from normal morphology, size, and number are commonly encountered both in primary and permanent dentitions. Fusion and gemination enumerate two such events that may account for macrodont teeth with subsequent change in the dental formula. Macrodontia, in turn, may lead to ectopic eruption of affected and normal teeth owing to space discrepancy in the dental arch and poor occlusal interdigitation.

Knezevic et al. reported the prevalence of fusion and gemination to be less than 1 percent, out of which 57 percent of anomalies were fused and 43 percent were geminated.[1]

Gemination is defined as an abortive attempt by a single tooth bud to split into two. It occurs due to the invagination of the developing dental organ, resulting in a single tooth with a bifid crown and a single-root structure. The pulp chamber may be enlarged.

Fusion, on the other hand, is characterized by the union of two discrete dental organs. It may be complete or incomplete depending on the dental organ's stage of development at the time of union. A fused tooth is clinically broad and shows either a bifid crown with separate roots or a groove delineating both the crowns and continuing onto the root if they are also conjoined.

Fusion can occur between teeth of the same dentition or between normal and supernumerary teeth. Usually in case of fusion, the number of teeth in the dental arch is less as compared to gemination. However, in cases of

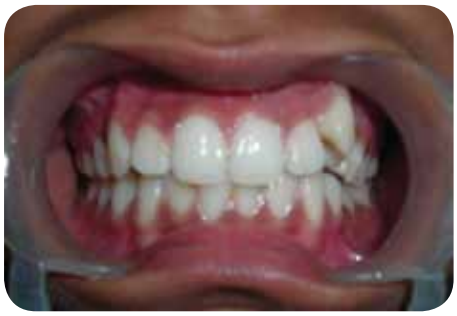

FIGURE 1. Preoperative view: bucally placed canine.

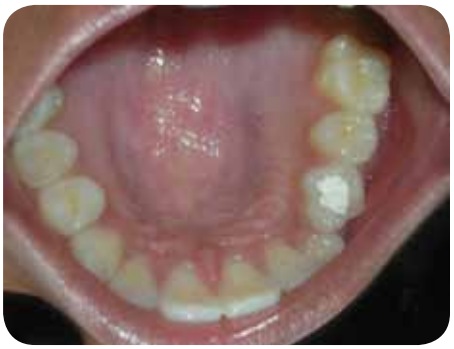

FIGURE 2. Three-cusped maxillary left first premolar (mirror image).

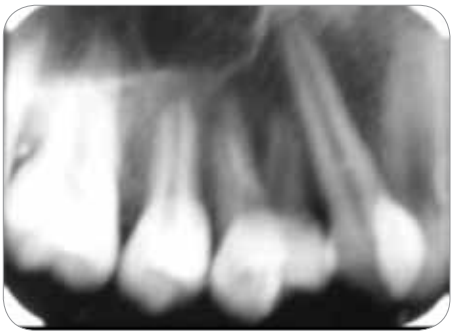

FIGURE 3. Intraoral periapical radiograph showing three-cusped three-rooted maxillary left first premolar.

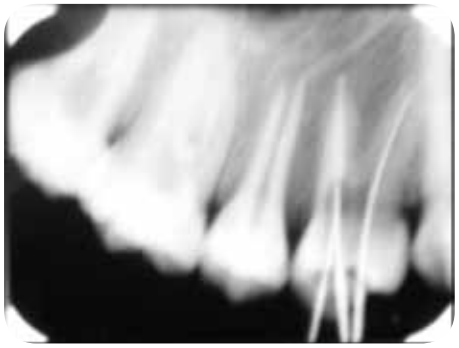

FIGURE 4. Intraoral periapical working-length radiograph.

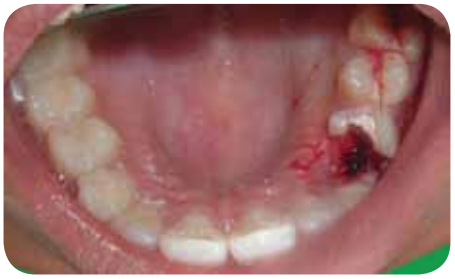

FIGURE 5. Odentectomy of maxillary first left premolar (mirror image).

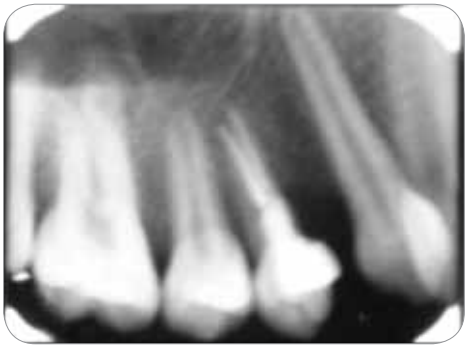

FIGURE 6. Intraoral periapical radiograph immediately after resection of the supplemental tooth.

union between normal and supernumerary elements, the number of teeth in the dental arch remains normal and differentiation from gemination is clinically difficult or impossible.

A diagnostic consideration, but not a set rule, is that supernumerary teeth are often slightly aberrant and present a cone-shaped clinical appearance. Thus, fusion between a supernumerary and a normal tooth will generally show differences in the two halves of the joined crown. However, in gemination, the two halves of the cojoined tooth are commonly mirror images of each other.

Although seen more frequently in anterior region, a few authors also have reported the cases of fusion and gemination in posterior teeth.

Nahmias and Rampado have reported a case of geminated maxillary premolar with three cusps.[2] Soares and Leonardo have described three-rooted maxillary first and second premolars as a morphological variation.[3] But there is no case in literature that reports the occurrence of three roots and three cusps in the maxillary first premolar.

This case report presents a case of suspected fusion of maxillary first premolar with supernumerary canine, associated problems, and their clinical management.

Case Report

A 13-year-old girl reported to the Department of Pedodontics with the chief complaint of a malaligned upper left canine (**FIGURE 1**). On intraoral examination, the molars were in Angle's class I relation on both sides. The permanent maxillary left canine was placed in buccoversion, slightly overlapping the crown of lateral incisor. The canine of opposite side was in normal alignment.

Further examination revealed a macrodont left maxillary first premolar with three well-developed cusps (**FIGURE 2**). A detailed examination confirmed a full complement of morphologically and anatomically normal teeth in both maxillary and mandibular arches except one. The premolar on the opposite side did not show any morphological variation. A periapical radiograph revealed that the tooth had a single crown with a single pulp chamber but three distinct roots (**FIGURE 3**). An oral examination of family members did not reveal any such dental anomaly, thus ruling out any hereditary links.

Diagnosis

On clinical and radiological examination, the buccal and lingual cusps revealed the anatomy of the premolar whereas the mesiolingual cusp and its root resembled the shape of a canine. The teeth were fused at their crowns but roots were separate. The morphology and anatomy were more consistent with fusion rather than gemination.

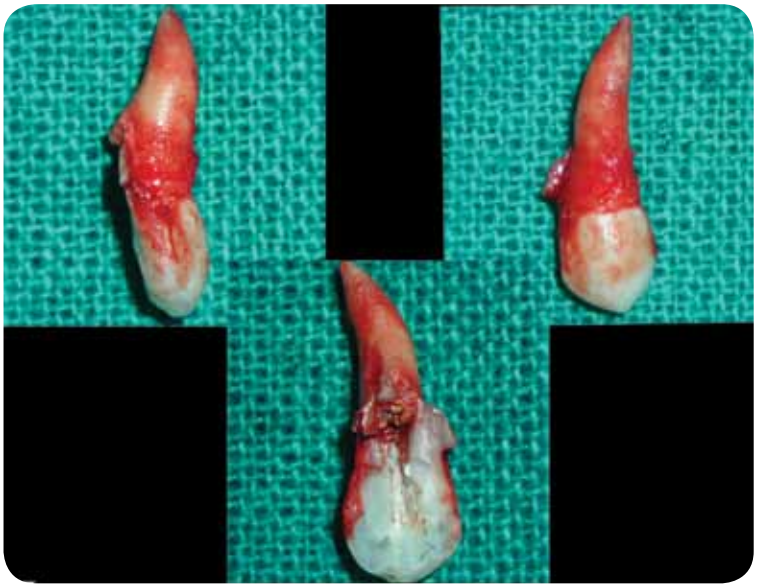

FIGURE 7. Resected supplemental tooth, closely resembling the morphology of a canine.

FIGURE 8. Alignment of canine using removable labial bow and canine retractor.

Thus, it was diagnosed as a case of fusion between supernumerary canine and maxillary first premolar leading to space deficiency in the maxillary arch that eventually resulted in an ectopically placed permanent canine.

Treatment Plan

Endodontic treatment, hemisection of the fused tooth, and extraction of the cojoined supernumerary tooth were planned to gain space in maxillary arch for esthetic alignment of the canine.

Endodontic Treatment

After access cavity preparation, three canals were located (**FIGURE 4**). Instrumentation was done using stainless-steel hand files in a step back fashion. Once the canals were enlarged to a size of a No. 30 file in the apical portion; consecutively larger root canal instruments were used for shaping the remaining canal walls. During the biomechanical preparation, the canals were copiously irrigated with sodium hypochlorite and normal saline. Obturation was done with zincoxide eugenol sealer and gutta-percha points using the lateral condensation technique. The access cavity was sealed with temporary filling material.

Hemisection of a Fused Tooth

The surgical procedure was carried out under local anesthesia. A mucoperiosteal flap was raised. A diamond bur and copious irrigation were used to cut the tooth along the grooves that delineated the normal tooth from the supernumerary element. After splitting, the mesial portion (supernumerary) was extracted. The mucoperiosteal flap was replaced and sutured (**FIGURE 5**).

Recontouring of the Premolar and Restoration

The premolar was shaped and final reconstruction was done with a composite (**FIGURE 6**).

Morphological Analysis of the Resected Segment

The crown of the resected segment morphologically resembled a canine. A very typical characteristic, i.e., notching on the distal slope of incisal edge was noticed. Similar notching was also observed on the distal slope of both the permanent maxillary canines (**FIGURE 7**). The resected segment could be more precisely referred to as a supplemental tooth rather than a supernumerary tooth since it closely resembled a permanent canine and was found at the end of series.[4]

Orthodontic Treatment

After allowing a healing period of about two weeks, the orthodontic treatment was initiated for the canine in labioversion. A removable buccal canine retractor along with labial bow was used for alignment (**FIGURE 8**). Following the orthodontic treatment, a fixed composite retainer was given.

Periodontal Considerations

A periapical radiograph after 10 months of surgery showed bone formation in the area of surgical defect. Clinically, the probing depth was 4 mm.

Prosthetic Rehabilitation

For the longevity of restoration, the premolar was prepared for with metal ceramic crown (**FIGURE 9**).

Discussion

Despite a considerable number of cases reported in the literature, the differential diagnosis between fusion and gemination is difficult. To differentiate the two, Levitis suggested counting the teeth present in the dental arch. He noticed that fusion reduces the number of teeth while gemination did not.[5] This method is not always reliable because of the possible existence of supernumerary teeth or congenitally missing teeth.

According to Schuurs et al. morphology and anatomy are more valuable diagnostic criteria for distinguishing fusion from gemination.[6] Since in this case the macrodont tooth clearly revealed three roots and well-demarcated

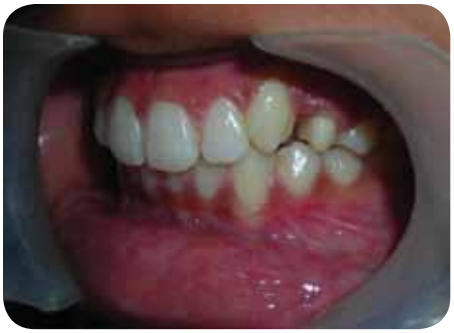

FIGURE 9. Tooth prepared for metal ceramic restoration.

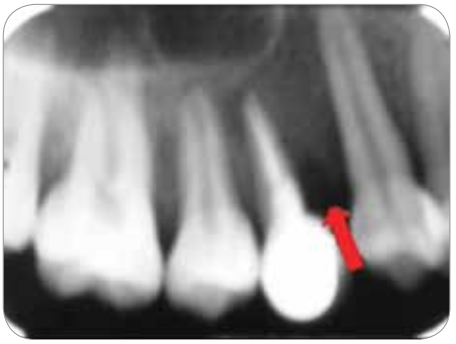

FIGURE 10. Intraoral periapical radiograph showing bone formation 10 months after surgery.

developmental grooves that separated the coronal structure of permanent tooth from the supplemental tooth, this was diagnosed as a case of fusion between permanent maxillary first premolar and supplemental canine.

The shape of a supplemental tooth closely resembles a permanent tooth but it differs in size. Duplication of these teeth occurs in the normal series and is found at the end of a tooth series. The most common supplemental tooth is the permanent maxillary lateral incisor but supplemental premolars and molars also occur.[7] These teeth develop as a consequence of proliferation of epithelial cells from the dental lamina.

Rarely supernumerary teeth may be joined to normal teeth in the arch, usually by medial or lateral fusion. The basic etiology of fusion is not known, but various reasons documented include hereditary tendency, ectodermal dysplasia, Down syndrome, local factors like physical pressure and genetic factors. Fusion may be partial (incomplete), involving only the tooth crowns or total (complete), involving tooth crowns and roots — depending on the stage of dental organ when union took place.

Difficulties associated with this type of fusion include poor esthetics, abnormal eruption, crowding, poor occlusal interdigitation, problems managing the tooth to which the supernumerary tooth is fused, and residual postsurgical periodontal defects.

Various treatment considerations, requiring multidisciplinary approach have been recommended in dental literature to obtain ideal esthetics, occlusion, and endodontic and periodontal health.

Although enameloplasty has been used as the simplest procedure, the presence of an extra root thwarts the orthodontic movement of a labially placed canine thus preventing alignment.

David et al. devised a new, simple surgical nonendodontic approach to maintain the vitality of the retained segment of dental crown.[8] A sharp osteotome aligned obliquely to the long axis of root was used to separate the fused and normal elements. The pulp retained its vitality even after 12-14 years with the formation of cementum and bone-like tissue over it.

In a few previous cases of hemisection and odentectomy, the vitality of the retained segment was maintained because there was no communication between the two coronal pulps.[9] In the present case, the fused teeth had independent radicular pulps but a single coronal pulp thus, necessitating endodontic treatment.

One of the main problems after surgical separation of supernumerary teeth is the residual postsurgical periodontal defect, including loss of attachment and deep periodontal pockets with persistent inflammation.

A few techniques devised to promote periodontal healing are a one-staged surgical technique involving separation of two teeth along the line of fusion; a two-stage surgical technique whereby the coronal portion is resected after six weeks of root resection; extraoral resection of the supernumerary portion with subsequent replantation of the structure to be retained; and guided-tissue regeneration.[10]

However, in this case, since the crowns were fused slightly below the level of junctional epithelium, guided-tissue regeneration was not required. Surgical resection of the fused tooth resulted in a three-walled periodontal defect which subsequently healed with a residual pocket depth of 4 mm.

Crowding of the dental arch and macrodont tooth on the contralateral site of cojoined tooth are a few other problems that may complicate esthetic treatment. However, in the present case there was no net dental width arch length discrepancy and the premolar of the contralateral site was normal morphologically and anatomically. Thus, the esthetic arch form was obtained by alignment of canine with a simple removable canine retractor over a period of 10 months; although full orthodontic treatment, rather than minor tooth movement, may have produced better results.

During the follow-up period of 18 months the endodontically treated premolar remained asymptomatic and the peridontium adjacent to surgical site did not show any signs of inflammation and breakdown (**FIGURE 10**).

The long-term prognosis of the present case will depend upon the success of root filling and periodontal management of the residual mesial defect. Indeed, continued periodontal treatment comprising of instructions in oral hygiene and regular periodontal supportive care, as well as acceptable patient plaque control, will be required to maintain healthy periodontal conditions. ■■■■

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Timothy G. Giroux
DDS/Broker

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Question:

Here's some advice for you Doctors selling your practice currently or contemplating selling in the upcoming year.

Many doctors take some time off during the holidays which results in the office being closed at year-end, possibly leaving some undeposited collections for several weeks until the new year. Other doctors prepay bills and may hold back several weeks' worth of revenue at their accountant's suggestion to facilitate in their yearly tax planning. If you are trying to sell your practice currently or are thinking of selling in the next year, I strongly suggest that you finish off the year strong and make **ALL of your deposits** so that they are posted by your bank in *this* calendar year.

The sales price of any practice is essentially determined from the previous year's tax return or Profit & Loss Statement. In the past, averages of a year or two may have been used to determine value, but in this declining economy, it's all about "what have you done for me lately"!!! Banks and buyers are only interested in what is happening *right now*. Even if you missed work due to illness, surgery or an accident, this economy has banks and buyers very wary (leary??) of any practice with *declining revenues*, no matter what the reason.

"It's the economy" is the last excuse the bank wants to hear as the reason to why your practice revenues are declining. Not only will the bank decrease the amount of funds they are willing to loan, they will either require a *seller carry-back* or may not even agree to loan money unless the revenues have stabilized or start to increase again. Essentially, if the average practice multiple in your region is selling at 68% of gross receipts, (the national average at this time), your practice will still sell at 68% of your current revenues. If your practice shows a decline of more than 15-20 % of the usual revenues, the bank may have problems with normal financing.

Do not confuse this information and assume it is a bad time to sell your practice.

The good news is: if you make your deposits this year and your practice has not declined more than 15-20 %, it is actually a "seller's" market currently and 100% financing is the norm. The loan rates are at historic lows in the 5 - 6 % range. If you have finally decided it is time to sell and transition into the next exciting phase of your life, finish strong and make the gross receipts on your last tax return look their best!!!

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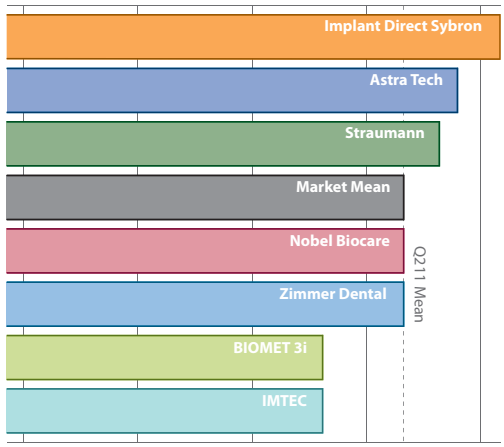

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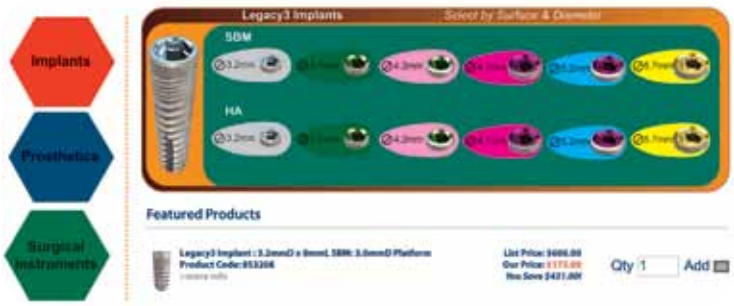

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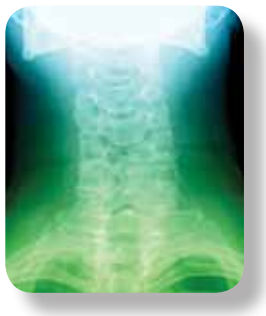

Correlation Between Cervical Vertebral and Dental Maturity in Iranian Subjects

FARZIN HERAVI, DDS, DMD; MAHROKH IMANIMOGHADDAM, DDS, DMD; AND HODA RAHIMI, DDS

ABSTRACT Determination of the skeletal maturation is extremely important in clinical orthodontics. Cervical vertebral maturation is an effective diagnostic tool for determining the adolescent growth spurt. The aim of this study was to investigate the correlation between the stages of calcification of teeth and the cervical vertebral maturity stages.

AUTHORS

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Age estimation plays an important role in forensic medicine and in clinical dentistry, which helps us to know the variations in degree of maturation. It is important to determine the stage of skeletal maturity and evaluation of the growth potential of a patient in clinical orthodontics. The pubertal growth spurt period is considered to be the optimal time for certain types of orthodontic treatments, including growth modification treatments to correct skeletal deviations.[1,2]

Considerable individual variations in the timing of the pubertal growth spurt among children of the same chronological age show that the chronological age is not a reliable indicator of skeletal maturity.[3] Therefore, other indicators such as growth velocity, secondary sexual changes, skeletal ossification degree, and dental maturity have been proposed to determine the skeletal maturation stage.[4] Although the peak of the growth velocity in the standing height is the most valid way to estimate the rate of overall skeletal growth, it has a limited value to predict the percentage of total residual growth.[5] Secondary sex changes such as menarche, voice and breast changes are also found to be impractical for estimating the pubertal growth spurt time.[6] Skeletal ossification stages of the hand and wrist bones have been used for skeletal maturity assessment for years, but recently it has been shown that the cervical vertebral morphology, as seen in the routine lateral cephalograms, can also be an effective diagnostic tool for determining the stage of skeletal maturity, to avoid taking the additional radiograph of hand and wrist.[7-10]

In 1972, Lamparski stated that the cervical vertebral morphology can be as

CDA JOURNAL, VOL 39, Nº12

reliable as the hand and wrist bones in determination of the skeletal age and he also established a series of standards to assess skeletal age in males and females, highlighting the six stages of maturation.[7]

Dental maturity, often expressed as dental age, can be determined by the stages of tooth eruption or the stages of tooth mineralization, but the tooth mineralization stages are proposed to be a more reliable indicator of the dental maturational stage since they are not influenced by local factors.[11-15]

If a strong correlation is found between the skeletal maturation stage and the dental age estimated by the dental calcification stages, the dental age can be used as the first-level diagnostic tool to assess the timing of pubertal growth spurt. Ease of recognition for dental calcification stages, along with the availability of panoramic radiograph, are the main reasons for attempting to assess the skeletal maturity stage using dental age.[16] It should be noted that there are ethnic and racial variations in dental and skeletal maturation and their interrelationships; unfortunately, little is known of this relationship in Iranian subjects.[12,17]

The objective of this study was to evaluate the correlation between the dental age and skeletal age determined by cervical vertebral analysis in Iranian subjects.

TABLE 1

Six Stages in Evolution of Cervical Vertebrae Maturation According to the Method of Lamparski[7]

MALE STANDARD
STAGE 1 (10 YEARS): All inferior borders are flat. Superior vertebral borders are tapered from posterior to anterior (wedge-shaped).
STAGE 2 (11 YEARS): A concavity has developed in lower borders of C-2.
STAGE 3 (12 YEARS): The concavity in C2 has deepened, the anterior vertical height have increased.
STAGE 4 (13 YEARS): A concavity has developed in the inferior border of the third vertebrae.
STAGE 5 (14 YEARS): The concavity of the third vertebrae has increased, All bodies are now rectangular in shape.
STAGE 6 (15 YEARS): The spaces between the bodies are smaller, the concavity of the C4 has deepened and the concavities are developing in C5 and C6, all bodies are square in shape.
FEMALE STANDARD
STAGE 1 (10 YEARS): All inferior borders are flat. Superior vertebral borders are tapered from posterior to anterior (wedge-shaped).
STAGE 2 (11 YEARS): A concavity has developed in lower borders of C-2, the anterior height of the bodies have increased.
STAGE 3 (12 YEARS): A concavity has developed in the inferior border of the third vertebrae; the remaining borders are still flat.
STAGE 4 (13 YEARS): The concavity of the third vertebrae has increased and a definite concavity has formed in C4, concavities in C5 and C6 has just beginning to form, all bodies are now rectangular in shape.
STAGE 5 (14 YEARS): The spaces between the bodies are smaller, the concavities are all well-defined in all six bodies, all bodies are now square in shape.
STAGE 6 (15 YEARS): All bodies are increased in vertical height and are higher than their wide, all concavities have deepened.

Materials and Methods

This study was designed as a retrospective cross-sectional research. The data were derived from dental panoramics and lateral cephalograms of 120 subjects (60 males and 60 females) registered as patients of a private orthodontic clinic in Mashhad, Iran. All the radiographs were performed with a Planmeca 2002 CC (Helsinki, Finland) panoramic machine and unclear radiographs were excluded. The range of chronological age of the present samples was between 10 to 15 years.

The selection criteria of the subjects were:

1. Not having systemic diseases that could affect the general development or tooth mineralization;
2. Normal dental condition, no missing teeth or impaction;
3. No extraction of any permanent teeth; and
4. Clear inferior border of C2 to C6 in lateral cephalograms.

Assessment of the Dental Age

Dental ages of the subjects were calculated according to the method described by Demirjian et al. in which each of the eight stages of calcification, A to H, was assigned to mandibular teeth (with the exception of third molar) on the left side.[18,19]

Assessment of Cervical Vertebral Maturation Stage (Skeletal Age)

The skeletal age was evaluated by the Lamparski method. This method depends on the morphology of the six cervical vertebrae (C2 to C6), which were analyzed visually concerning six stages [7] (**TABLE 1; FIGURES 1 AND 2**).

In order to test the reproducibility of the dental and skeletal age assessments, the same investigator re-evaluated the panoramics and lateral cephalograms of 40 randomly selected patients, four weeks later, and the intraobserver variability was calculated.

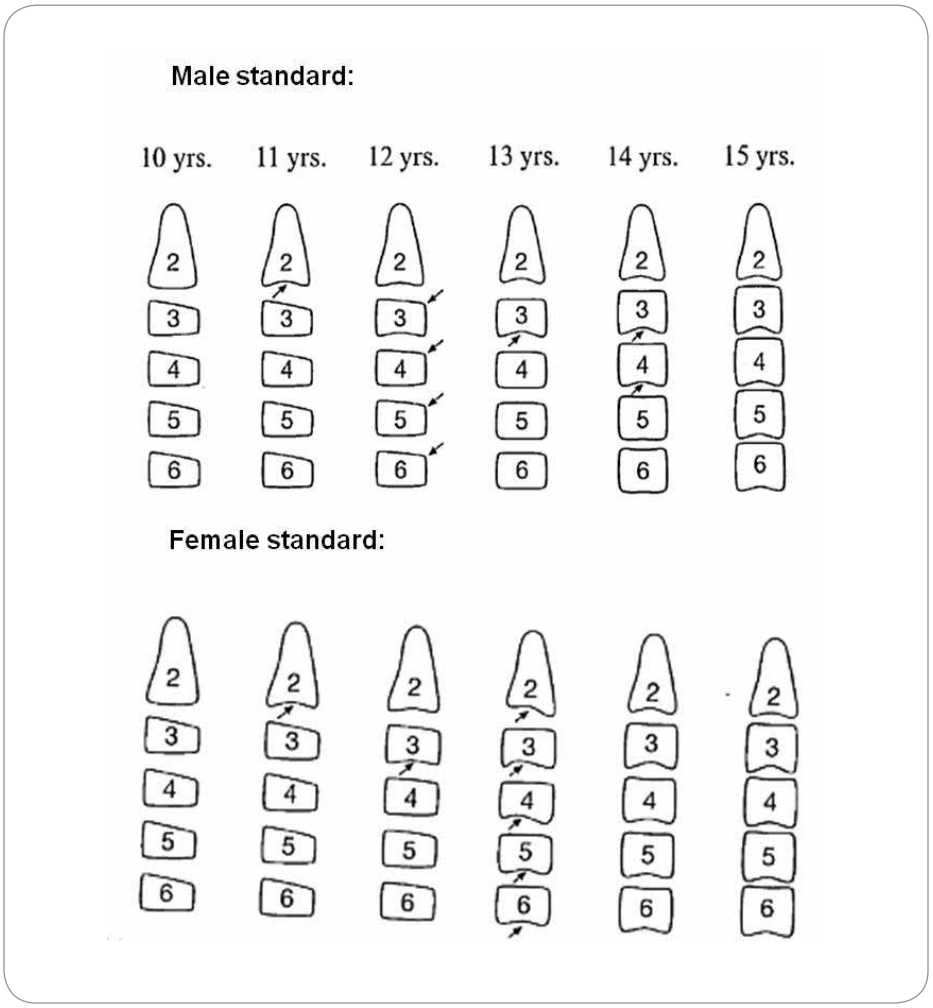

FIGURE 1. Six stages in evolution of cervical vertebrae maturation according to method of Lamparski DG.[7] (Used with permission from DG Lamparski, DMD, MDS.)

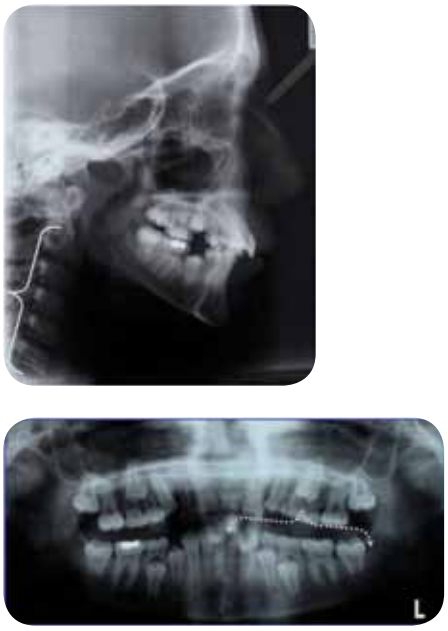

FIGURE 2. (A) Lateral cephalogram of a male subject with the skeletal age of 11 years, evaluated by Lamparski method. **(B)** Panoramic radiograph of the same subject with the dental age of 10.8 years, estimated by Demirjian method.

Statistical Analysis

The SPSS 11.5 for windows (SPSS Inc., Chicago, Ill.) was used in all calculations of the statistics. Descriptive statistics were obtained by calculating the means and standard deviations of the chronological ages in the six stages of skeletal maturity. The Spearman rank order correlation coefficients were applied to measure the relationship between the cervical vertebral maturational stages and the calcification stages of the subject's teeth, and also between the subject's skeletal age and dental age. To study the relationship between the skeletal and dental ages, the percentage distribution of the teeth calcification stages was calculated. The results were considered statistically significant in level of $p<0.05$.

Results

TABLE 2 shows the distribution of means and standard deviations of the chronological ages of subjects according to the cervical vertebral maturational stages as skeletal age. As there is just one subject in the first stage of the skeletal age, it is not shown in **TABLE 2**.

The mean chronological age of the female subjects in three skeletal maturity stages of 11, 12, and 13 years was less than males but, in the last two stages, the males were younger.

The Spearman rank order correlation coefficients between the cervical vertebral stages of maturational and the developmental stages of the teeth are shown in **TABLE 3**. These correlation coefficients are ranged between 0.07 to 0.72 for both genders. They are between 0.12 and 0.72 in female subjects and between 0.07 and 0.59 in male subjects. The level of significance for all coefficients is the same ($P<0.05$). Canine showed the highest correlation in both genders ($r=0.72$ in females and $r=0.59$ in males).

TABLE 4 shows the percentage of distribution for the stage of canine calcification coincided with growth spurt period, according to gender. The G stage of the canine calcification, showed the highest correlation with the skeletal maturity and the highest percent of distribution (70.5 percent) among all stages.

TABLE 5 shows the percentage of distribution for the stages of calcification of teeth in both genders.

TABLE 2

Mean Values of Cervical Vertebral Stages in All Groups

Cervical vertebral developmental stages	Gender	n	Mean±SD
Years 11	Female	9	10.88 ± 0.60
	Male	24	11.66 ± 1.30
Years 12	Female	12	11.58 ± 0.90
	Male	19	12.00 ±0.57
Years 13	Female	13	12.38 ± 0.65
	Male	5	12.60 ± 1.14
Years 14	Female	16	14.00 ± 0.89
	Male	9	13.44 ± 1.2
Years 15	Female	10	14.60 ± 0.69
	Male	2	13.50 ± 0.7

TABLE 3

Correlation Coefficient Between Developmental Stage of Teeth and Skeletal Age

	Correlation coefficients	
	Male	Female
Tooth	*r significance*	*r significance*
Central	0.13	0.19
Lateral	0.13	0.19
Canine	0.59**	0.72**
First premolar	0.56**	0.70**
Second premolar	0.53**	0.58**
First molar	0.07	0.12
Second molar	0.47	0.62**

TABLE 4

Canines Developmental Stage in Males and Females

Canine developmental stage	*Female*		*Male*	
	n	%	*n*	%
F	1	8.3	1	20
G	9	75	3	60
H	2	16.7	1	20
Total	12	100	5	100

The 10-years stage has only one boy as the subject. In the 11-years stage, the closing of the apex in the central, lateral, and first molar teeth were seen in girls but the closing of the apex in boys was only seen in their fixed molar teeth. The highest percentage of distribution in boys were in the central and lateral teeth, and, in girls, they were in the second premolar and second molar teeth.

In the 12-years stage, no dental E stage was seen. Closing of the apex was seen in the central and lateral seen in boys. In the stage of 13 years, the highest percentage of distribution was seen in the first premolar and second molar teeth in both girls (76.9 percent) and boys (80 percent).

The Spearman rank order correlation coefficient between the dental age estimated by Demirjian method and skeletal age was calculated. These correlation coefficients (0.88 in females, 0.67 in males and 0.78 in all of the subjects) were statistically significant ($p<0.05$). According to an ANOVA test, there was a linear relationship between the dental age and skeletal age in these subjects (**FIGURE 3**), and the predictive model for estimating the skeletal age based on the dental age was skeletal age=0.77×(dental age)+2.67.

Discussion

Nowadays, trends are changing toward growth modification during preadolescent ages. The key element for these treatments is case selection and case selection is mainly based on the prediction of the amount of remained growth.

To predict the timing of growth spurt and pubertal time, different methods are suggested. The most accurate way to determine the remaining growth is to use hand-wrist images and assessment of skeletal age.[1,5] Recently, much research has shown that using cervical vertebrae for this purpose is highly reliable.[2-4,7-10]

TABLE 5

Number of Teeth in Different Developmental Stages

	CENTRAL INCISOR				LATERAL INCISOR				CANINE			
	Female		Male		Female		Male		Female		Male	
Stage	n	%		%	n	%	n	%	n	%	n	%
C	–	–	–	–	–	–	–	–	–	–	–	–
D	–	–	–	–	–	–	–	–	–	–	–	–
E	–	–	–	–	–	–	–	–	–	–	–	–
F	–	–	–	–	–	–	–	–	30	50.0	2	3.3
G	1	1.7	–	–	1	1.7	–	–	21	35.0	25	41.7
H	59	39.8	60	100	59	98.3	60	100	9	15.0	33	55.0
Total	60	100	60	100	60	100	60	100	60	100	60	100

	FIRST PREMOLAR				SECOND PREMOLAR				FIRST MOLAR			
	Female		Male		Female		Male		Female		Male	
Stage	n	%		%	n	%	n	%	n	%	n	%
C	–	–	–	–	–	–	–	–	–	–	–	–
D	–	–	–	–	–	–	–	–	–	–	–	–
E	–	–	–	–	2	3.3	1	1.7	–	–	–	–
F	6	10	4	6.7	28	46.7	18	30	–	–	–	–
G	20	33.3	18	30	20	33.3	20	33.3	–	–	1	1.7
H	34	56.7	38	63.3	10	16.7	21	0.35	60	100	59	98.3
Total	60	100	60	100	60	100	60	100	60	100	60	100

	SECOND MOLAR			
	Female		Male	
Stage	n	%	n	%
C	–	–	–	–
D	–	–	–	–
E	5	8.3	–	–
F	26	34.3	17	28.3
G	26	34.3	30	50
H	3	5	13	12.7
Total	60	100	60	100

In 120 subjects participating in this research, the authors were to find out if dental age (Demirjian method) is valid enough to be used instead of cervical vertebral evaluation. The Demirjian method can be a strong predictor for dental age in recent studies.[19] As it is illustrated in the "Results" section, the authors found a strong correlation between dental age determined by the Demirjian method and skeletal age assessed by cervical vertebrae, as was concluded by a few other researchers.[17]

In the authors' study, the developmental stage of mandibular canines in both genders had the highest correlation (r=0.72 in females and n=0.59 in males). This finding was similar to those of the Coutinho et al., Chertkow et al., and Lü Y studies.[13,16,20] Therefore, it seems that for the initial assessment of patients, considering the developmental stage of lower canines can be helpful, further evaluation of cervical vertebrae or hand-wrist images remain necessary in some critical cases.

In this study, Stage G, among the stages of canine calcification, had the highest correlation with the skeletal maturity of cervical vertebrae. Also, this finding was similar to those of the Coutinho et al. and Chertkow et al. studies.[13,16] Therefore, this stage can be assumed as the index of final opportunities for growth modifica-

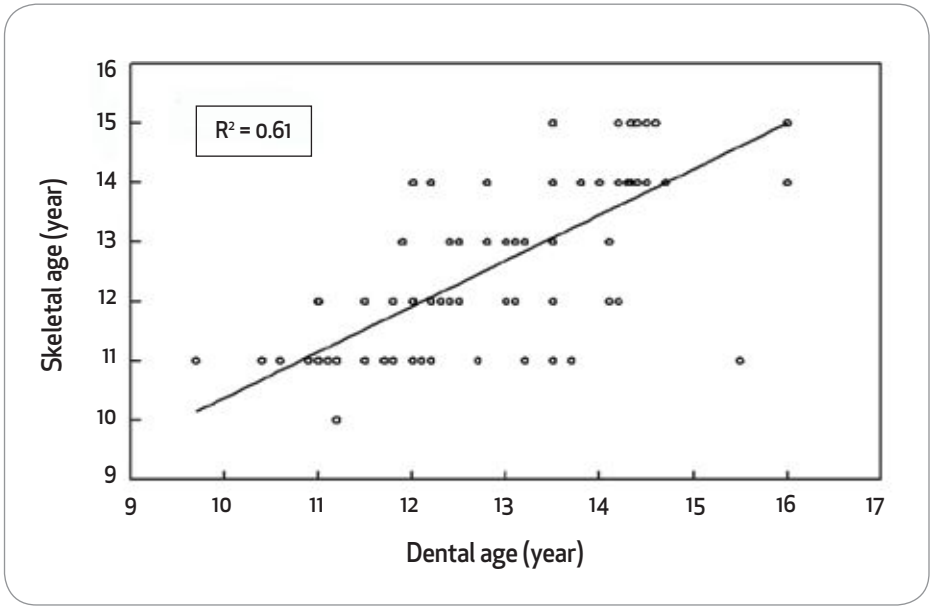

FIGURE 3. Scatterplot of correlation between skeletal and dental age.

tion, which can be confirmed by further images like cervical vertebrae on lateral cephalograms or hand-wrist radiographs.

Based on the authors' findings, it can be calculated that in cases in which there are only panoramic radiographs, skeletal age can be estimated using dental age and with the above-mentioned formula. However, cervical vertebral maturation is a more reliable tool for this purpose.

Conclusions

The authors' study on correlation between dental age derived from panoramic radiographs and skeletal age from cervical vertebral images on lateral cephalograms resulted in the following points:

- There was a good correlation coefficient between dental age and skeletal age in some aspects.
- The highest correlation coefficient belonged to canine calcification stages and skeletal maturation. Therefore, canine calcification stages in panoramic radiographs can be used clinically to estimate the skeletal maturity.
- Stage G in canine calcification was coincided with pubertal growth spurt. ■■■■

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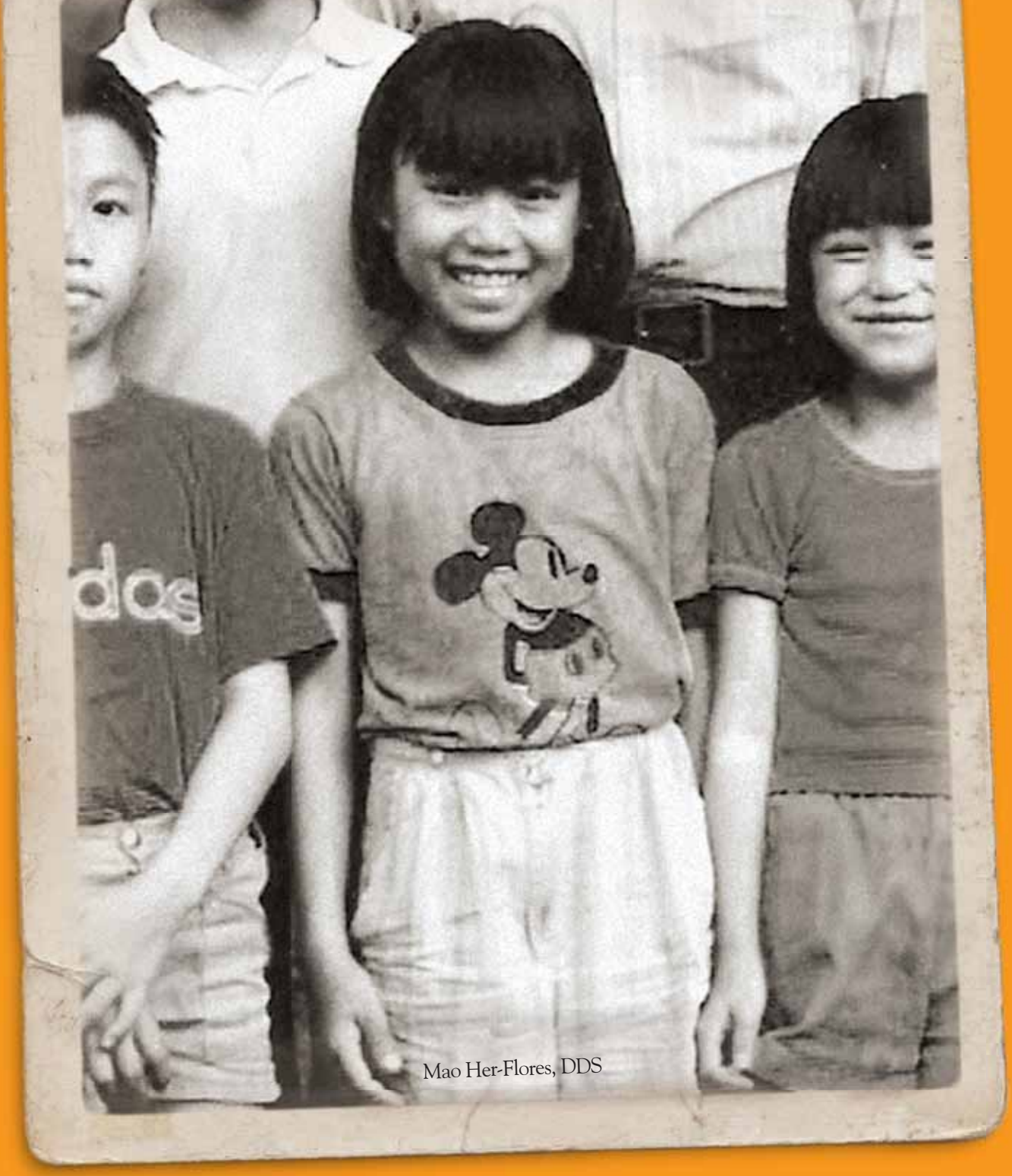
Jon Pascarella, DDS

Who knew braces could help you stand taller, too? Jon Pascarella was the kid who never wanted to smile. He was insecure about his crooked teeth. What's more, in a single-parent household, money for braces wasn't easy to come by. One day, his mom suggested a payment plan to their orthodontist and thankfully he agreed. Braces didn't just straighten Jon's teeth; they transformed his being. The shy boy radiated confidence, smiled wide and knew, without a doubt, that one day he wanted to become a dentist.



Mao Her-Flores, DDS

Often, where you come from defines where you're going. A fifth-grade field trip to a dental office was the spark that led Mao Her-Flores to dentistry, but her experiences as a young girl working in the fields with her parents are what shaped her choice of where to practice. You see, as a young dentist, she ran a community clinic where she cared for migrant workers and their families. And in the faces of her littlest patients, she saw herself.

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Decisions for Extensively Damaged Dentition	Jan. 13	Winston Chee, DDS, FACP	Fresno	$140 Member/ $170 Non-Member/ $90 Auxiliary	7
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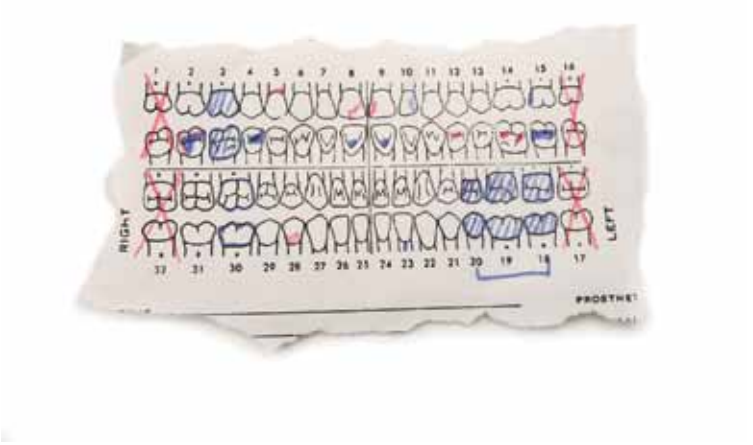
USC Periodontal and Implant Symposium: Hands-On Cadaver Workshop I: Soft Tissue Grafting Around Teeth and Implants	Jan. 25	Homayoun Zadeh, DDS, PhD	Los Angeles	$1,795	8

Sure, you could do dental charting blindfolded.



CDA JOURNAL, VOL 39, Nº12

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
HERMAN OSTROW SCHOOL OF DENTISTRY OF USC CONTINUES ON NEXT PAGE					uscdentalce.org
USC Periodontal and Implant Symposium: Hands-On Cadaver Workshop II: Innovative Technique for Ridge Augmentation Using Sonicweld Rx Rigid Resorbable B	Jan. 26	Gerhard Iglhaut, DDS	Los Angeles	$1,795	8
The 37th Annual USC International Periodontal and Implant Symposium	Jan. 27–28	Homayoun Zadeh, DDS, PhD, and International Speakers	Los Angeles	$495	14
The 37th Annual USC International Periodontal and Implant Symposium: Dental Hygiene Forum	Jan. 28	Sherry Burns, RDH; Anna Pattison, RDH, MS; Parish Sedghizadeh, DDS	Los Angeles	$155	7
USC Periodontal and Implant Symposium: Hands-On Workshop IV — All Zirconia Full-Arch Prosthesis	Jan. 29	Fernando Rojas-Vizcaya, DDS	Los Angeles	$45	8
USC Periodontal and Implant Symposium: Hands-On Workshop III: Piezoelectric Bone Surgery	Jan. 29	Tomaso Vercellotti, DDS, MD	Los Angeles	$1,795	8
Mastering Molar Endodontics	Feb. 3–4	Ilan Rotstein, DDS; Thomas Levy, DDS; Yaara Berdan, DDS; Daniel Schechter, DDS; Louis Schwarzbach, DMD; Tota Shimizu, DDS; Anthony Tran, DDS	Los Angeles	$1,495	14
Oral Surgery for the General Practitioner	Feb. 4	Bach Le, DDS; James McAndrews, DDS; Dennis-Duke Yamashita, DDS	Los Angeles	$295	7
Implant CPR! Successful Management of Prosthetic Implant Complications (Module I)	Feb. 10	Harel Simon, DMD	Los Angeles	$295	7
Implant CPR! Successful Management of Prosthetic Implant Complications (Modules I and II)	Feb. 10–11	Harel Simon, DMD; Joseph Field, DDS; Sheryl Regalado, DMD; Take Katayama, CDT; Gordon Russell, RDT	Los Angeles	$1,595	14
Emerging Diseases, Infection Control and California Dental Practice Act	Feb. 11	Joyce Galligan, RN, DDS; Patricia Galligan, JD	Los Angeles	$195	7
Implant CPR! Successful Management of Prosthetic Implant Complications (Module II)	Feb. 11	Harel Simon, DMD	Los Angeles	$1,465 Dentist	7
Basic Protocols In Implant Surgery and Restoration	Feb. 23–26	Homayoun Zadeh, DDS, PhD; Ira Sy, DDS, MS; Clark Stanford, DDS, PhD	Los Angeles	$2,695	30
Chronic Orofacial, Orodental and Headache Pains for the Dentist	Feb. 24–25	Glenn Clark, DDS, MS; Jack Broussard, DDS; Satish Kumar, DDS; Saravanan Ram, DDS; Rick Borquez, DDS	Los Angeles	$495	14

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HERMAN OSTROW SCHOOL OF DENTISTRY OF USC CONTINUES ON NEXT PAGE					uscdentalce.org
Porcelain Veneers: Optimizing Results Using Supra-Gingival Principles, and Understanding Adhesion and Occlusion	March 9	Jose-Luis Ruiz, DDS; Edward Lynch, MA, BDS, FDS, PhD	Los Angeles	$245	7
Implant Therapy in the Esthetic Zone (Course C)	March 9–11	Homayoun Zadeh, DDS, PhD; Lyndon Cooper, DDS, PhD; Ramin Mahallati, DDS	Los Angeles	$1,995	20
USC Ruth Ragland 26th Dental Hygiene Symposium	March 10	Diane Melrose, RDH, BS	Los Angeles	$195	7
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module I)	March 16	Harel Simon, DMD	Los Angeles	$295	7
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module I, II, and III)	March 16–18	Harel Simon, DMD	Los Angeles	$1,995	21
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module II)	March 17	Harel Simon, DMD	Los Angeles	$295	7
Esthetic Full-Mouth Implant Reconstruction: From Treatment Planning to Fixed Restoration (Module III)	March 18	Harel Simon, DMD	Los Angeles	$1,875	7
Mastering Bone Grafting for Esthetic Implant Site Development — Lecture and Hands-On Workshop (Module I)	March 24	Bach Le, DDS, MD; David Hochwald, DDS; Dennis-Duke Yamashita, DDS	Los Angeles	$1,245	8
Mastering Bone Grafting for Esthetic Implant Site Development — Cadaver Workshop (Module II)	March 25	Bach Le, DDS, MD; David Hochwald, DDS; Dennis-Duke Yamashita, DDS	Los Angeles	$1,765	7
Fundamentals of Restorative Implant Dentistry for the General Dentist (Part I)	March 30	Baldwin Marchack, DDS	Los Angeles	$285	7
Fundamentals of Restorative Implant Dentistry for the General Dentist (Part I and II)	March 30–31	Baldwin Marchack, DDS	Los Angeles	$995	14
Obstructive Sleep Apnea, Snoring and Dental Advancement	March 30–31	Glenn Clark, DDS; Jack Broussard, DDS; Michael Simmons, DMD	Los Angeles	$495	14
Advanced Implant Protocols (Course D)	April 13–15	Homayoun Zadeh, DDS, PhD; Domenico Cascione, CDT; Fernando Rojas-Vizcaya, DDS	Los Angeles	$1,995	20
Esthetic Periodontal Surgery for the General Practitioner (Module I)	April 27	Ziv Simon, DMD	Los Angeles	$295	7
Esthetic Periodontal Surgery for the General Practitioner: A Hands-On Course (Module I and II)	April 27–29	Ziv Simon, DMD	Los Angeles	$1,845	14
Common Oral Lesions: Soft and Hard Tissue Diseases	May 4	Parish Sedghizadeh, DDS; Satish Kumar, DDS; Saravanan Ram, DDS	Los Angeles	$245	7

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HERMAN OSTROW SCHOOL OF DENTISTRY OF USC CONTINUED					uscdentalce.org
Physical Evaluation	May 14	Stanley F. Malamed, DDS; Ken Reed, DDS	Los Angeles	$295	7
Emergency Medicine	May 15	Stanley F. Malamed, DDS; Ken Reed, DDS	Los Angeles	$295	7
Pharmacology	May 16	Stanley F. Malamed, DDS; Ken Reed, DDS	Los Angeles	$445	7
Monitoring and Sim-Man	May 17	Stanley F. Malamed, DDS; Ken Reed, DDS	Los Angeles	$445	7
Atraumatic Extraction and Minimally Invasive Implant Site Development (Module IA and IB — Lecture and Hands-On Course)	May 19	Bach Le, DDS, MD	Los Angeles	$995	8
Atraumatic Extraction and Minimally Invasive Implant Site Development (Module IA — Lecture)	May 19	Bach Le, DDS, MD	Los Angeles	$325	5
Prepless Porcelain Veneers	May 19–20	Domenico Cascione, CDT; Mamaly Reshad, DDS, MSc	Los Angeles	$1,195	14
Endodontics From A to Z: Hands–On Workshop for the General Practitioner (Part I and II)	June 1–3, 15–17	Ilan Rotstein, DDS	Los Angeles	$2,995	42
Temporomandibular Disorders, Arthrocentesis and Botox/Trigger Point Injections	June 22–23	Glenn Clark, DDS, MS; Jack Broussard, DDS; Satish Kumar, DDS; Saravanan Ram, DDS; Rick Borquez, DDS	Los Angeles	$495	14
Implant Therapy In Compromised Sites — Cadaver Workshop (Course E)	June 22–24	Homayoun Zadeh, DDS, PhD; Pascal Valentini, DDS; Steve Wallace, DDS	Los Angeles	$2,995	20
HUMBOLDT DEL NORTE DENTAL SOCIETY					hdnds.org
CE Express	Jan. 20	Marcealla Oster, RDA	Arcata	$135	6
Overview of Forensic Dentistry	March 23	James Wood, DDS	Arcata	$135	7
KERN COUNTY DENTAL SOCIETY					kerncountyds.org
Infection Control, Dental Practice Act, OSHA Compliance	Jan. 20	Leslie Canham, CDA, RDA	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
Meth Mouth: the Wrong Road	Feb. 24	Mitch Goodis, DDS	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
Triple Whammy: Change, Communications, Conflict	March 23	Steve Swafford	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6
What If Toothpaste Didn't Work	April 20	Brian Novy, DDS	Bakersfield	$200 Member/ $300 Non-Member/ $75 Auxiliary	6

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUES ON NEXT PAGE				ncdsonline.org dentistry.llu.edu	
Endodontic Instrumentation and Obturation Symposium	Jan. 15	Robert Handysides, DDS	Loma Linda	$195 Dentist/ $145 Auxiliary	8
Endodontic Instrumentation and Obturation Symposium and Workshop	Jan. 15–16	Robert Handysides, DDS	Loma Linda	$385	15
Clinical Complications with Conventional and Implant Prostheses	Jan. 22	Charles J. Goodacre, DDS, MSD	Loma Linda	$160 Dentist/ $110 Auxiliary	7
An Update on the Impact of Diabetes on Oral Health	Feb. 9	Lincoln Edwards, DDS, PhD	Loma Linda	$20	1
Case Study Using CAD/CAM Technology in an Edentulous Patient	Feb. 9	Madelyn Fletcher-Stark, DDS	Loma Linda	$20	1
Causes of Bad Breath and New Developments on Breath Research	Feb. 9	Sean S. Lee, DDS	Loma Linda	$20	1
Deception in the Dentofacial Analysis: Are You Collecting False Data at the Comprehensive Exam?	Feb. 9	Brian Novy, DDS	Loma Linda	$20	1
End Up With More: Making Tax-wise and Other Wise Financial Decisions	Feb. 9	Bruce Durkee, JD, CPA	Loma Linda	Free	0
How Orthodontics Can Improve Periodontal Health	Feb. 9	Beatrice Criveanu, DDS	Loma Linda	$20	1
Management of Complications in Implant Dentistry	Feb. 9	John Won, DDS	Loma Linda	$20	1
Maximizing Esthetic Success with Tooth Whitening	Feb. 9	So Ran Kwon, DDS, MS, PhD, MS	Loma Linda	$20	1
New Palm Desert Campus Location: "Dental Hygiene — Hands on"	Feb. 9	Marilyn Heyde, MPH, RDH; Michelle Hurlbutt, RDH, MSDH	Palm Desert	$150	6
Periodontal Plastic Surgery: A Clinical Overview of the Indications and Benefits of Gingival Modification and Augmentation	Feb. 9	Erik Sahl, DDS	Loma Linda	$20	1
Periodontal Therapy and Antibiotics. the Controversy Continues!	Feb. 9	Graig Erickson, DDS	Loma Linda	$20	1
Periodontal Treatment of Medically Compromised Patients	Feb. 9	Nikola Angelov, DDS, MS, PhD	Loma Linda	$20	1
Predictable Implant-Supported Prosthodontics Using CAD/CAM Technology	Feb. 9	Wendy Gregorius, DDS	Loma Linda	$20	1
Predicting Gingival Margin Stability Around Natural Teeth to be Restored	Feb. 9	Adrian Mobilia, DDS	Loma Linda	$20	1
Rapid Extrusion for Restoration of Compromised Teeth	Feb. 9	Fred Berry, DDS	Loma Linda	$40	2
Recent Advances in Basic and Applied Research on Bone Healing	Feb. 9	Mei Lu, DDS, MS, PhD	Loma Linda	$20	1

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LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUES ON NEXT PAGE				ncdsonline.org dentistry.llu.edu	
Recent Developments and Discoveries in Endodontic Research	Feb. 9	David Jaramillo, DDS	Loma Linda	$20	1
Research Prospective at LLUSD	Feb. 9	Yiming Li, DDS, MSD, PhD	Loma Linda	$20	1
Risk Management in Implant Dentistry	Feb. 9	Martyn Green, DDS	Loma Linda	$20	1
So You Want to Participate in Service Learning…	Feb. 9	Fred Kasischke, D. Min.	Loma Linda	Free	0
The Dental Admissions Process: Investing and Building the Future of Our Profession	Feb. 9	Fred Kasischke, D. Min.	Loma Linda	Free	0
The Relationship Between the Pulp and the Periodontium: How to Diagnose and Treat Combined Lesions	Feb. 9	Jennifer Clark, DDS	Loma Linda	$20	1
TMD Symposium: Is My Headache Due to My Husband or TMD?	Feb. 9	Joseph Caruso, DDS, MS; Charles McNeill, DDS	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Understanding the Mechanism of Tooth Whitening: Clinical Relevance and Considerations	Feb. 9	So Ran Kwon, DDS, MS, PhD	Loma Linda	$20	1
Xerostomia: Diagnosis and Treatment	Feb. 9	Doyle Nick, DDS	Loma Linda	$20	1
All-ceramic Restorations: Success by Design	Feb. 10	Nadim Baba, DDS	Loma Linda	$30	1.5
An Update and Review of Obturation Techniques and Materials	Feb. 10	Jay Jacobson, DDS	Loma Linda	$20	1
Composite Resins at a Turning Point	Feb. 10	Carlos Chavez, DDS	Loma Linda	$40	2
Dental Imaging Symposium; It's a Digital World	Feb. 10	Dwight Rice, DDS; Heidi Christensen, DDS, MS	Loma Linda	$80	4
Dentistry Outside the Box	Feb. 10	Parnell Taylor, DDS	Loma Linda	$20	1
Endodontics and the Medically Compromised Patient	Feb. 10	Bonnie Retamozo, DDS, MSD	Loma Linda	$20	1
Issues with Tissues: A Review of Oral Pathology	Feb. 10	Lane Thomsen, DDS, MS; Susan Richards, DDS	Loma Linda	$150 Dentist/ $95 Auxiliary	6
Management of Complications in Implant Dentistry	Feb. 10	Mehdad Fay, DDS	Loma Linda	$20	1
Occlusal Analysis: Look Before You Leap!	Feb. 10	Myron Winer, DDS	Loma Linda	$30	1.5
Oral and Maxillofacial Surgery: Resident Research Symposium	Feb. 10	OMFS Residents	Loma Linda	$80	4
Porcelain Substitutes	Feb. 10	Ron Forde, DDS	Loma Linda	$20	1

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LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY CONTINUED				ncdsonline.org dentistry.llu.edu	
Provisional Restoration for the Single Implant in the Esthetic Zone	Feb. 10	Catherine Kwon, DDS	Loma Linda	$20	1
Updates on Endodontic Infections	Feb. 10	David Jaramillo, DDS	Loma Linda	$20	1
32nd Annual Anesthesia Symposium	Feb. 12	Barry Krall, DDS; Daniel Haas, DDS, PhD	Loma Linda	$195 Dentist/ $135 Auxiliary	8
Essence of Anterior Esthetics: From Veneers to Implants	Feb. 12	Joseph Y. Kan, DDS, MS; Pascal Magne, DMD, PhD, et al	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Infection Control and California Dental Practice Act	March 4	Bette Robin, DDS, JD; Nancy Andrews, RDH, BS	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Offensive Dentistry: Seek and Destroy Strep Mutants	March 11	Heidi Christensen, DDS, MS; Brian Novy, DDS	Loma Linda	$160 Dentist/ $110 Auxiliary	7
LLUSD and AAID Implant Dentistry MaxiCourse®	March 8–Dec. 14	Jaime L. Lozada, DMD; Mathew Kattadiyil, DDS, MDS, MS	Loma Linda	$13,500	300
Common Pediatric Medical Conditions and Impact on Dental Practice	March 25	Barbara Sheller, DDS, MSD	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Loma Linda Periodontics — The Past, the Present, and the Future	April 1	Charles J. Goodacre, DDS, MSD; Joan Otomo-Corgel, DDS, PhD	Ontario	$195 Dentist/ $145 Auxiliary	7
Hottest Topics in Dentistry	April 22	Louis Malcmacher, DDS	Loma Linda	$160 Dentist/ $110 Auxiliary	7
Trouble-shooting in Removable Complete Dentures	June 3	Tony Daher, DDS, MSEd	Loma Linda	$160 Dentist/ $110 Auxiliary	7
MARIN COUNTY DENTAL SOCIETY				mcdsweb.org	
BLS/CPR Recertification Course	Jan. 26, Feb. 23, March 29, April 26, May 24	CPR Instructor	San Rafael	$75	3.5
Ski Seminar	Feb. 25–March 3	Charles McNeill, DDS; Patricia Rudd, PT	Park City, UT	TBD	18
MID-PENINSULA DENTAL SOCIETY				mpds.org	
Infection Control/Dental Practice Act	Jan. 20	Carolyn Mortensen, Stacey Pruitt	Palo Alto	$90	4
Esthetics and Implant Dentistry: Innovations and Controversies	March 23	Dennis Tarnow, DDS	Palo Alto	$325	7
A New Vision of Dental Diagnosis and Treatment Planning	April 20	J. William Robbins, DDS	Palo Alto	$325	7

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MONTEREY BAY DENTAL SOCIETY					mbdsdentist.com
Successful Endodontics: Foundations and New Treatment Avenues	Feb. 10	Ove Peters, DMD, MS, PhD	Monterey	$280 Member/ $130 Auxiliary	7
Infection Control and California Dental Practice Act	April 20	Eve Cuny, MS; Art Curley, JD	Monterey	$140 Member/ $60 Auxiliary	4
The Ultimate Esthetics Course	May 11	Corkey Willhite, DDS	Monterey	$280 Member/ $130 Auxiliary	7
Set Your Practice on Fire	June 29	Roger Levin, DDS	Monterey	$280 Member/ $130 Auxiliary	7
NORTHERN CALIFORNIA DENTAL SOCIETY					ncdsonline.org
New Approaches for Antimicrobial Treatment of Periodontal Disease	Jan. 13	Jorgen Slots, DDS, PhD, MS, MBA	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	7
Evolutionary Restorative Techniques and Technologies That Can Enhance Your Practice on Monday	Feb. 17	Faroud Hakim, DDS, MBA; Parag Kachalia, DDS	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	7
The New Life Saving Oral Systemic Practice of Dentistry "Gums of Steel"	March 23	Chris Kammer, DDS	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	7
CDPA, OSHA Refresher, Infection Control	April 13	Leslie Canham, RDA, CDA	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6
Overview on Periodontic Procedures, Old and New, Tried and True	May 18	Russell Holpuch DDS, MSD, Steven Borchers, DDS, Jeff Fleming, DDS, MS	Red Bluff	$125 Member/ $225 Non-Member/ $55 Auxiliary	6
ORANGE COUNTY DENTAL SOCIETY					ocds.org
Infection Control/CDPA	Jan. 10	Leslie Canham, RDA	Irvine	$79	4
BLS for Healthcare Providers	Jan. 19	Helen McCracken, RDH, MS	Orange	$69	3
Social Media — The New Revolution	Feb. 7	Neal McLeod, BDS, LDSRCS, DDS	Irvine	$79	2.5
To Your Health! Skeletal Wellness, Bisphosphonates and Dental Treatment	April 10	Allan Jones, DDS; Parish Sedghizadeh, DDS, MS	Irvine	$79	2.5
PACIFIC COAST SOCIETY FOR PROSTHODONTICS					pcsp.org
77th Annual Meeting and Scientific Session	June 20–23	Multiple	Victoria, BC	$695	16
PACIFIC COAST SOCIETY OF ORTHODONTISTS CONTINUES ON NEXT PAGE					pcsortho.org
Overhead Control, Developing Trends in Orthodontics and Transition Planning — Are These Related?	Feb. 3	Roger K. Hill	San Mateo	$125 Member/ $50 Retired/ $15 AAO Residents	4

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
PACIFIC COAST SOCIETY OF ORTHODONTISTS CONTINUED					pcsortho.org
3-D Volumetric Imaging: An Emerging Diagnostic Tool	Feb. 24	James Mah, DDS, MSc, MRCD, DMSc	Seattle	$165 Member/ $75 Retired/ $15 AAO Residents	3
Destination Success	Feb. 24	LeeAnn Peniche	Seattle	$165 Member/ $75 Retired/ $15 AAO Residents	3
From Good to Great in a Tough Economy	March 2	Ken Alexander	Los Angeles	$125 Member/ $50 Retired/ $15 AAO Residents	4
PUNJABI DENTAL SOCIETY					pdsociety.com
Infection Control, California Law and Risk Management	Jan. 29	Gail E. Harris; Att. Patrick J. Wood; Rodney M. Stine	Montebello	$79	7
Infection Control, California Law and Risk Management	March 4	Gail E. Harris; Att. Patrick J. Wood; Rodney M. Stine	San Jose	$89	7
Esthetic Dentistry	March 25	Mike Malone, DDS	Montebello	$79	7
Endodontics	May 20	James Jesse, DDS	San Jose	$89	7
Removable Prosthetics	June 17	Gregori Kurtzman, DDS	San Jose	$89	7
SACRAMENTO DISTRICT DENTAL SOCIETY CONTINUES ON NEXT PAGE					sdds.org
Principle-Driven Periodontal therapy: A Call to Action	Jan. 10	Kim Miller, RDH, BSDH	Sacramento	$57 Member	2
CPR BLS Renewal for the Healthcare Provider	Jan. 14	SDDS Member Instructors	Sacramento	$55	4
HR Audio Conference: New Labor Laws for 2012	Jan. 19	Mari Bradford	Sacramento	$35	1
SDDS 32nd Annual MidWinter Convention	Feb. 9–10	Multiple	Sacramento	Visit www.sdds.org for pricing	Varies
Endodontic Diagnosis: Understanding Pulpal Pain	March 6	Ralan Wong, DDS	Sacramento	$57 Member	2
Adult Conscious Sedation Recertification Course	March 16	Anthony Feck, DMD	Sacramento	$450 Member	7
Retirement Roundtable: It's Never too Early, But When is it too Late?	March 22	Panel of Experts	Sacramento	$69 Member	0
Medical Emergencies in the Dental Office	April 10	Tom Lenhart II, DMD	Sacramento	$57 Member	2
CPR BLS Renewal for the Healthcare Provider	April 14	SDDS Member Instructors	Sacramento	$55	4
Branding or Rebranding? That is the Question	April 19	Gordon Fowler, 3Fold Communications	Sacramento	$69 Member	0

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SACRAMENTO DISTRICT DENTAL SOCIETY CONTINUED					sdds.org
HR Audio Conference: Staff Evaluations — How, When and Why?	April 25	Mari Bradford	Sacramento	$35	1
Wait! I Still Feel That! Problem Solving the Delivery of Local Anesthesia	April 27	Alan Budenz, DDS	Sacramento	$187	5
Medical Emergencies Do Occur in Children: Are You Prepared?	May 8	David Rothman, DDS	Sacramento	$57 Member	2
HR Audio Conference: Ask the Expert — Bring All Your HR Questions!	May 16	Mari Bradford	Sacramento	$35	1
California Dental Practice Act and Infection Control	June 1	Marcella Oster, RDA	Sacramento	$125	4
SAN DIEGO COUNTY DENTAL SOCIETY					sdcds.org
Infection Control for Dental Assistants	May 17	Linda Lukacs, DDS	San Diego	$20–$40	3
CPR Renewal	May 19	AmeriMed	San Diego	?	3
SAN FERNANDO VALLEY DENTAL SOCIETY					sfvds.org
Are You Ready to Love Dentistry and Prosper?	Jan. 18	Richard Madow, DDS and David Madow, DDS	Van Nuys	$175 Member	7
Creating Predictability in Anterior Tooth Replacement and Management of Esthetic Complications	Feb. 29	Shahriar Parvizpour, DDS	Van Nuys	$175 Member	7
The Christensen Bottom Line	March 28	Gordon Christensen, DDS	Van Nuys	$175 Member	7
California Dental Practice Act and Infection Control	April 25	Nancy Andrews, RDH	Van Nuys	$175 Member	7
Dental Materials	June 20	Todd Snyder, DDS	Van Nuys	$175 Member	7
SAN FRANCISCO DENTAL SOCIETY CONTINUES ON NEXT PAGE					sfds.org
Emergency Preparedness	Jan. 20	Adrian Curry, EMT	San Francisco	$109 ADA Member/ Staff/ $159 Non-Member	4
CPR Renewal	Jan. 25, Feb. 29, March 28, May 30, June 27	Adrian Curry, EMT	San Francisco	$77	4
Quarterbacking Difficult Restorative Cases in Tumultuous Financial Times — Crab Feed	Feb. 9	Marc Geissberger, DDS, MA	San Francisco	$89 ADA Member/ Staff/ $139 Non-Member	2
California Dental Practice Act	Feb. 24, May 11	Marcela Oster, RDA	San Francisco	$60 Member/ $90 Non-Member	2

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SAN FRANCISCO DENTAL SOCIETY CONTINUED					sfds.org
Infection Control — Bloodborne Pathogens	Feb. 24, May 11	Marcela Oster, RDA	San Francisco	$95 ADA Member/Staff/ $140 Non-Member	4
A Story Not Silenced by Oral Cancer	April 26	Eva Grayzel; William Carpenter, DDS; Sol Silverman, DDS	San Francisco	$74 ADA Member/Staff/ $114 Non-Member	2
SAN GABRIEL VALLEY DENTAL SOCIETY					sgvds.org
Infection Control and CDPA	Jan. 17	Leslie Canham	Alhambra	$65 Member/ $100 Non-Member	3
Crown Lengthening Procedures	Feb. 21	Hessam Nowzari, DDS	Alhambra	$65 Member/ $100 Non-Member	3
What's New in Instrumentation and Ultrasonics	March 20	Anna Pattison, RDH, MS	Alhambra	$65 Member/ $100 Non-Member	3
Revolutionary Composite and Adhesion Dentistry	April 17	TBD	Alhambra	$65 Member/ $100 Non-Member	3
TBD	April 17	TBD	Alhambra	$65 Member/ $100 Non-Member	3
SAN JOAQUIN DENTAL SOCIETY					sjds.org
CDT Coding	Feb. 23	Gary Dougan, DDS	Stockton	TBD	2
Oral Surgeon Forum	March 22	Nick Veaco, DDS; Fred Bunch, DDS	Stockton	TBD	7
Predictable Periodontal Surgical Solutions to Esthetic Challenges	April 19	Jonathan Szymanowski, DDS	Stockton	TBD	2
Dentistry Isn't Easy...Learn Secrets for Success in Conventional/Digital Technology	May 24	Robert Marbach, BA, CDT	Murphys	TBD	2
SAN MATEO COUNTY DENTAL SOCIETY CONTINUES ON NEXT PAGE					smcds.com
General Membership Meeting	Jan. 19	TBD	Foster City	$45 Member/ $55 Non-Member	3
AHA CPR — BLS Renewal Course	Jan. 24	Stephen R. John, DDS	Redwood City	$45 Member/ $60 Non-Member	4
General Membership Meeting	Feb. 23	TBD	Foster City	$45 Member/ $55 Non-Member	3
AHA CPR — BLS Renewal Course	Feb. 27	Richard A. Fagin, DDS	Foster City	$45 Member/ $55 Non-Member	4
General Membership Meeting	March 22	TBD	Foster City	$45 Member/ $55 Non-Member	3
AHA CPR — BLS Renewal Course	March 27	Stephen R. John, DDS	Redwood City	$45 Member/ $60 Non-Member	4

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AHA CPR — BLS Renewal Course	April 9	Richard A. Fagin, DDS	Redwood City	$45 Member/ $60 Non-Member	4
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SAN MATEO COUNTY DENTAL SOCIETY CONTINUED					smcds.com
General Membership Meeting	April 19	TBD	Redwood City	$45 Member/ $55 Non-Member	3
AHA CPR — BLS Renewal Course	May 14	Richard A. Fagin, DDS	Redwood City	$45 Member/ $60 Non-Member	4
General Membership Meeting	May 17	TBD	Foster City	$45 Member/ $55 Non-Member	3
Cal-OSHA and Regulatory Requirements	May 25	Julian Goduci, CHMM	Redwood City	$70 Member/ $80 Non-Member	4
Dental Board of California Requirements	May 25	Julian Goduci, CHMM	Redwood City	$60 Member/ $70 Non-Member	4
AHA CPR — BLS Renewal Course	May 29	Stephen R. John, DDS	Redwood City	$45 Member/ $60 Non-Member	4
AHA CPR — BLS Renewal Course	June 11	Richard A. Fagin, DDS	Redwood City	$45 Member/ $60 Non-Member	4
SANTA BARBARA VENTURA COUNTY DENTAL SOCIETY					sbvcds.org
Modern Endodontics	Feb. 10	George Bogen, DDS	Oxnard	$185	7
Simple Secrets to Attract More Quality Patients	March 23	William van Dyk, DDS	Oxnard	$75	2
Infection Control and Dental Practice Act	April 20	Noel Kelsch; Jason Wood	Oxnard	$150	4
Pharmacology	June 8	Bart Johnson, DDS, MS	Oxnard	$185	7
SANTA CLARA COUNTY DENTAL SOCIETY					sccds.org
Pediatric Dentistry/TBD	Feb. 9	Brent Lin, DDS	Campbell	$35 Non-Member	2
TBD	March 8	Dr. Paul Wang	Campbell	$35 Non-Member	2
The Christensen Bottom Line	March 30	Gordon Christensen, DDS, MSD, PhD	Campbell	$249 Member/ $129 Auxiliary	6
TBD	April 12	TBD	Campbell	$35 Non-Member	2
Prosthodontics/TBD	May 10	John Beumer, DDS	Campbell	$35 Non-Member	2

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
SOUTHERN CALIFORNIA OROFACIAL ACADEMY					socalorofacial.org
Complex Implant Case Solutions	April 18	Michael S. Block, DMD	Los Angeles	$390	6
STANISLAUS DENTAL SOCIETY					stanislausdental.org
OSHA/Dental Practice Act/Infection Control	Jan. 20	Diane Morgan-Arns	Modesto	$182 Member/ $262 Non-Member/ $127 RDH/ $97 RDA and Auxiliary	6
Team Building, Team Harmony and Maximizing Your Team's Potential	April 13	Lisa Philp, RDH, CMC	Modesto	$182 Member/ $262 Non-Member/ $127 RDH/ $97 RDA and Auxiliary	5
TRI-COUNTY DENTAL SOCIETY					tcds.org
Lasers	Feb. 2	Wayne Harrison, DDS	Riverside	$40	2
Prosthodontics: Troubleshooting the Common Problems in Implant and Conventional Prosthodontics	March 16	Izchak Barzilay, DDS, MS	Riverside	$80	7
TULARE-KINGS DENTAL SOCIETY					tkdentalsociety.com
Alveolar Turnover, a Tissue Engineering Goal in Full Mouth Reconstructions	Feb. 17	Hessam Nowzari, DDS	Visalia	TBD	7
Annual OSHA Refresher — All Bases Covered?	March 15	Diane Morgan-Arns	Visalia	TBD	2
Digital Dentistry and Advances in Guided Surgery and Custom Prosthetics	April 13	Mike Robertson; Tom Love	Visalia	TBD	4
UCLA SCHOOL OF DENTISTRY CONTINUING EDUCATION CONTINUES ON NEXT PAGE					dentistry.ucla.edu/continuing-education
RDAEF: Module 3	Jan. 7–8	Richard Stevenson, DDS, et al.	Los Angeles	$3995 RDAEF/ $5995 RDA	104 RDAEF/ 148 RDA
Advanced Techniques and Updates for Your Implant Practice	Jan. 28	George Perri, DDS; Shariar Parvizpour, DDS	Los Angeles	$198	7
Beyond A to Z: Achieving Predictability and Success in Your Implant Practice	Jan. 28	George Perri, DDS; Shariar Parvizpour, DDS	Los Angeles	$198	7
Sleep Medicine Mini-Residency	Feb. 3–4	Dennis R. Bailey, DDS; Robert L. Merrill, DDS, MS, et al.	Los Angeles	$5,995	60
California Dental Practice Act and Infection Control	Feb. 25	Andy Wong, DDS	Los Angeles	$135 Dentist/ $95Auxiliary	4
Hypnosis and its Application to Dentistry	March 3–4	Don Goodman, PhD, CCHT	Los Angeles	$495	14
Advanced Anterior Esthetics	Mar 9–11, Apr 20–22	Jeff Morley, DDS; Todd Schoenbaum, DDS	Los Angeles	$5,995	46

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
UCLA SCHOOL OF DENTISTRY CONTINUING EDUCATION CONTINUED				dentistry.ucla.edu/continuing-education	
Preventing and/or Resolving Patient Dissatisfaction	March 10	Jeffrey Goldstein, MBA, PhD; Ronald Mito, DDS, FDS, RCS	Los Angeles	$198	7
RDA Required Course — Infection Control	March 17	Cara Batson, RDA; Charlene Flowers, RDA	Los Angeles	$250	8
Re-Certification in Pediatric Oral Sedation	March 17	Christine Quinn, DDS, MS; John Yagiela, DDS, PhD	Los Angeles	$295	8
5th Annual Kratochvil Prosthodontic Conference	March 24	Tony Daher, DDS, MSEd	Los Angeles	$198	7
Dental Ethics for a Changing Profession	March 24	Gary Herman, DDS	Los Angeles	$198	7
Moderate Sedation with Multiple Oral and Parenteral Agents	April 19–22	Christine Quinn, DDS, MS; John Yagiela, DDS, PhD	Los Angeles; Portland, OR	$10,950 before Feb. 1/ $11,450 after Feb. 1	80
Update on Removable Partial Denture Therapy	April 21	Ting-Ling Chang, DDS; Kumar Shah, BDS, MS	Los Angeles	$198	7
UCLA Implants A to Z 2012	April 21	George Perri, DDS; Sascha A. Jovanovic, DDS, MS	Los Angeles	$3,995	56
UCLA Endodontic Continuum 2012	Apr 26–29, May 17–20	Bernice Ko, DDS, and many others	Los Angeles	$3,995	58
Evidence-Based Dentistry for the Clinician	May 19	Janet Bauer, DDS, MS	Los Angeles	$198	7
Dental Photography Workshop and Digital Presentations for Esthetic Treatment Planning	June 2	Brian LeSage, DDS	Los Angeles	$395	7
Advanced Implant Therapy	June 4–8	Sascha A. Jovanovic, DDS, MS; Henry H. Takei, DDS, MS	Los Angeles	$3,995	40
California Dental Practice Act and Infection Control	June 23	Andy Wong, DDS	Los Angeles	$135 Dentist/ $95 Auxiliary	4
Pre-Conference Hawaii 2012	June 30	Ron Jackson, DDS	Princeville, Kauai, HI	$198 Dentist/ $98 Auxiliary	4
UCFS-FRESNO CAMPUS				fresno.ucsf.edu/continuing_ed	
Intro to CAD/CAM 2012	Jan. 27	James Ryan	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7
A CAMBRA Road Map for Practice Profitability	Feb. 24	Kim Kutsch, DMD	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7
Restoring Dental Implants With Simplicity and Confidence	March 23	Richard Kinsel, DDS	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7
Profiting From Periodontal Hygiene Excellence	April 20	Jeanne Godette, RDH	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7
California Dental Practice Act — What's New in 2012	May 21	Arthur Schultz, DDS, JD	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7
Comprehensive Anterior Esthetics	June 15	Brian Lesage, DDS	Fresno	Visit fresno.ucsf.edu/ continuing_ed	7

TOPIC	DATE	LECTURER(S)	LOCATION	COST	UNITS
UNIVERSITY OF CALIFORNIA SAN FRANCISCO SCHOOL OF DENTISTRY					**dentistry.ucsf.edu/cde**
19th International Symposium in Oral and Maxillofacial Surgery	Jan. 23–27	M. Anthony Pogres, DDS, MD course director	Maui, Hawaii	$995	20
Real World Endo — New Dimensions in Endodontics lecture and Workshop	Feb 3–4	Alex Fleury, DDS	San Francisco	TBD	7
CERAC Lecture and Workshop	Feb. 11	Ram Vaderhobli, BDS; Sam Huang, DDS	UCSF	TBD	7
18th Annual UCSF/Pacific Island Dental Colloquium	Feb. 20–24	A. Jeffrey Wood, DDS; Arun Sharma, BDS, MSc	Hawaii	$695	20
Anterior Implant Restorations: Advanced Concerns	March 2	George Perri, DDS	San Francisco	$249	7
Single Tooth Implant: A Critical Team Approach	March 2	George Perri, DDS	San Francisco	TBD	7
Medical Emergencies	March 17	Mehran Mossaini, DMD	San Francisco	$249	7
Implementing Occlusion into Everyday Dentistry	April 13	Jose Luis Ruiz, DDS	San Francisco	$295	7
116th UCSF Dental Alumni Scientific Session	April 20–21	Various	San Francisco	$325	up to 15
Update for New Dental Adhesives, Dental Lab Technology Update	April 27	Glen Johnson, DDS; David Nakanishi, CDT	San Francisco	$249	7
UCSF Endodontic Symposium	June 1	John Nusstein, DDS; Residents	San Francisco	$269	7
WESTERN LOS ANGELES DENTAL SOCIETY					**westernlads.org**
Occlusion for Comfortable Patients	March 6	Mark Z. Yamamoto, DDS	Culver City	$75 Member/ $120 Non-Member/ $60 Auxiliary	3
Risk Management	April 24	Arthur Schultz, DDS	Culver City	$75 Member/ $120 Non-Member/ $60 Auxiliary	3
Minimally Invasive Adhesive and Esthetic Dentistry	June 5	Abdi Sameni, DDS	Culver City	$75 Member/ $120 Non-Member/ $60 Auxiliary	3

Index to 2011 Articles

JOURNAL OF THE CALIFORNIA DENTAL ASSOCIATION

VOL. 39 NOS. 1-12

AUTHOR INDEX

TITLE INDEX

Into the Future: Keeping Healthy Teeth Caries Free: Pediatric CAMBRA Protocols
Francisco Ramos-Gomez, Man-Wai Ng
Vol. 39, No. 10:723

Intraoral Radiographic Findings in Acne Calcification: A Case Report
Gurminder Sidhu, Jaswinder Sandhu, William Carpenter
Vol. 39, No. 3:180

Introduction
Kerry K. Carney
Vol. 39, No. 2:80

Latin America: Native Populations Affected by Early Onset Periodontal Disease
Hessam Nowzari, Javier Enrique Botero
Vol. 39, No. 6:383

Lipid Characterization of Human Saliva
Maria Daniela Defagó, Mirta Ana Valentich, Adriana Beatriz Actis
Vol. 39, No. 12:874

Management of Dentinal Hypersensitivity: A Review
Abhishek Parolia, M. Kundabala, Mandakini Mohan
Vol. 39, No. 3:167

Management of Xerostomia and Salivary Gland Hypofunction
Saravanan Ram, Satish Kumar, Mahvash Navazesh
Vol. 39, No. 9:656

Molecular Regulatory Mechanism of Root Development
Yee Hung, Xiaofeng Huang, Yang Chai
Vol. 39, No. 5:321

Motivational Interviewing Concepts and the Relationship to Risk Management and Patient Counseling
Phil Weinstein
Vol. 39, No. 10:742

Mucogingival Surgery: Where We Stand Today
Vivek K. Bains, Vivek Gupta, G.P. Singh, Rhythm Bains
Vol. 39, No. 8:573

New Directions in the Etiology of Dental Caries Disease
V. Kim Kutsch, Douglas A. Young
Vol. 39, No. 10:716

Peri-Implant Management of Patients With Aggressive Periodontitis
Winston Chee
Vol. 39, No. 6:416

Periodontal Plastic Interceptive Surgery for a Labially Impacted Maxillary Canine: A Case Report
Neeraj Agrawal, Kavita Agrawal, K. Rosaiah, Ankur Chaukse
Vol. 39, No. 3:163

Prevention-Centered Caries Management Strategies During Critical Periods in Early Childhood
Peter Milgrom, Donald L. Chi
Vol. 39, No. 10:735

The Relationship Between Dentists and Dental Laboratories — Predictions for the Future
Bennett Napier
Vol. 39, No. 8:569

Saliva in Health and Disease
Mahvash Navazesh
Vol. 39, No. 9:626

Salivary Gland and Associated Complications in Head and Neck Cancer Therapy
Satish Kumar, Saravanan Ram, Mahvash Navazesh
Vol. 39, No. 9:639

Salivary Gland Imaging
Carol Anne Murdoch-Kinch
Vol. 39, No. 9:649

Societal Expectations and the Profession's Responsibility to Reform the Dental Workforce to Ensure Access to Care for Children
David A. Nash
Vol. 39, No. 7:504

Sports Drinks and Dental Erosion
Warden H. Noble, Terence E. Donovan, Marc Geissberger
Vol. 39, No. 4:233

Successful Business Models for Implementation of Caries Management by Risk Assessment in Private Practice Settings
Yasmi O. Crystal, Jean L. Creasey, Lindsey Robinson, Francisco Ramos-Gomez
Vol. 39, No. 11:795

This I Believe: a Reaction to CAMBRA and its Effects on Access to Care
Steven P.Geiermann
Vol. 39, No. 11:815

Translating the Caries Management Paradigm Into Practice: Challenges and Opportunities
Margherita Fontana, Mark Wolff
Vol. 39, No. 10:702

Validation of the CDA CAMBRA Caries Risk Assessment — a Six-Year Retrospective Study
Sophie Doméjean, Joel M. White, John D. B. Featherstone
Vol. 39, No. 10:709

Velopharyngeal, Speech and Dental Characteristics as Diagnostic Aids in 22Q11.2 Deletion Syndrome
Snehlata Oberoi, Linda Huynh, Karin Vergervik
Vol. 39, No. 5:327

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LOS ANGELES COUNTY

BELL - Long established practice located one story bldg in busy shopping center. Absentee owner. Proj. approx.$424K for 2011.ID #4085.
BEVERLY HILLS - Fee for service practice located in a multi story professional building with great window views to the city. ID#4081
ENCINO - Leasehold & Equip Only! - Corner location w/ good window views. A great starter opportunity / 3 spacious eq. ops. ID#3971.
GLENDORA - Long established general practice with 44 years of goodwill located in 2 story building.4 ops. Net of $404K ID #3041
INGLEWOOD - Long established Turnkey office in single standing bldg. w/ 5 ops. Has great street visibility and signage.ID# 4095
MONTEBELLO - Located in a free standing building w/ over 25 yrs of gdwll. Great street visibility, signage and foot traffic. ID #4051.
PALOS VERDES ESTATES (GP Group Solo) - 40 years of gdwll in a 3 story prestigious bldg w/ ocean view. Fee for service. ID #4059.
WOODLAND HILLS - Well equipped Pedo office with 3 chairs in open bay area. 31 years of goodwill. NET OF $315K. ID#3661.

ORANGE COUNTY

ANAHEIM - Leasehold & Equip Only! - In colonial style medical plaza w/ large French windows near Medical Cntr. 4 ops. ID #4061.
FULLERTON - Well established off in 1 story bldg w/ 10 ops, 3 chairs in open bay in 5,215 sq. ft. Proj. approx $590K for 2011.#41.03.
GARDEN GROVE - Turnkey practice w/ over 20 years of gdwll located in one story free standing building w/ ample parking. ID #3988.
IRVINE - Located in busy shopping cntr w/ lots of foot traffic. Modern designed w/ 4 eq. ops. Over 10 years of goodwill. ID #4053.
IRVINE - Great opportunity for GP or Specialist!! Leasehold & Equip Only! 5 eq. ops. located in busy large shopping center. ID #3401.
ORANGE -Single story med center w/ 4 eq. ops., intra oral camera, digital x-ray and Dentrix in a 1,040 sq. ft. suite.ID #3531.
ORANGE - GP located in downtown near Chapman University. Beautiful decor. Great views. Heavy traffic flow. ID # 4101.
RANCHO STA MARGARITA - Leasehold & Equip Only! In modern single story med prof. bldg w/ mountain views. ID #4079.
SANTA ANA - Absentee owner. Long established practice located a single standing bldg w/ ample parking. 4 ops.NET $82K. ID#4071
S. ORANGE COUNTY - Beautiful turnkey off located in a 5 story med/dent bldg. Absentee owner. Proj approx $210K for 2011.ID#4093.

RIVERSIDE / SAN BERNARDINO COUNTIES

HEMET GP- Established in 2004, located in a single story strip mall. Consist of 4 computerized eq. ops., w/ Easy Dental soft.ID #4077
LAKE ELSINORE - Multi specialty office in a free standing strip mall. Absentee owner. Proj approx $1,084,277 for 2011.#4099.
LA QUINTA - Leasehold & Equip Only! Office consist of 3 fully eq. ops., 1,000 sq. ft. suite located in a strip shopping center**.** ID#4063.
RANCHO CUCAMONGA - Leasehold & Equip Only! 6 eq. ops., 1,800 sq. ft. ste located in 2 story med/dent prof. bldg. ID #3191.
RANCHO MIRAGE - GP consist of 3 eq. ops., 1 chair in open bay. Great traffic flow and visibility. Proj approx $488K for 2011.ID# 4091
RANCHO MIRAGE (Perio) - Long established off in 1 story med/dent bldg w/ 4 eq. ops. Proj approx. $400K for 2011. ID#4089
TEMECULA - Fee for service practice in nice strip mall. Established late 2007. Beautiful office. Proj. approx $292K for 2011. ID#4075.
UPLAND - Established in 2005. GP located in busy shopping center w/ excellent signage & visibility. 3 ops., 1 pmbd not eq. ID#4065.

SAN DIEGO COUNTY

DEL MAR - Beautiful Décor office located in a one story medical dental building w/ ocean view. 3 fully eq. ops. Lots of traffic. ID #4083.
SAN DIEGO - Over 27 yrs of gdwll. Fee for service. Located busy shopping cntr. Great visibility and signage and foot traffic. ID#4059.

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How to Place a Classified Ad

The *Journal* has changed its classified advertising policy for CDA members to place free classified ads online and publish in the *Journal*. Only CDA members can place classified ads. Non-CDA members can place display ads.

All classified ads must be submitted through cda.org/classifieds. Fill out the blank fields provided, including whether the ad is to appear online only or online and in the *Journal*. Click "post" to submit your ad in its final form. The ad will be posted immediately on cda.org and will remain for 60 days.

Classified ads for publication in the *Journal* must be submitted by the fifth of every month, prior to the month of publication. Example: Jan. 5 at 5 p.m. is the deadline for the February issue of the *Journal*. If the fifth falls on a weekend or holiday, then the deadline will be 5 p.m. the following workday. After the deadline closes, classified ads for the *Journal* will not be accepted, altered or canceled. Deadlines are firm.

Classified advertisements available are: Equipment for Sale, Offices for Sale, Offices for Rent or Lease, Opportunities Available, Opportunities Wanted, and Practices for Sale.

For information on display advertising, please contact Corey Gerhard at 916-554-5304 or corey.gerhard@cda.org.

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OFFICES FOR RENT OR LEASE

DENTAL OFFICE FOR RENT/LEASE — Starting in January 2012, prime office space of 2150 sq.ft. is available in Salinas, CA. This office suite is prime location across the street from Salinas Valley Memorial Hospital. This is a great opportunity to start a new practice or relocate an existing practice. Office comprised of 5 plumbed operatories, lab, reception, sterilization, conference or lunch room with wet bar, and additional upstairs storage with two private offices. No patient records or dental equipment included. All operatories have cabinets and sinks. Contact Dr. John Hirasuna at hi2jtsumo@gmail.com or 831-484-9439. Upon request, photos can be emailed.

DENTAL OFFICE FOR RENT/LEASE — High Tech and beautiful dental facility with 3 operatories, small lab, private office and reception area. The dental office is equipped with Dentrix software management and Dexis digital x-rays in all operatories, business area and private office. The office is located in a heavy foot traffic area adjacent to a post office. Walking distance from a medical/professional building and hospital and a ½ mile from the Americana entertainment center. This is an ideal opportunity

CONTINUES ON 926

CLASSIFIEDS, CONTINUED FROM 925

for a specialist for a satellite office or someone who wants to work on her/his own patients without incurring the expense of buying or owning an office. * Flexible lease terms — short term or long term. * Rent on a per day basis; pick your day of the week. Email: maralkazaz@yahoo.com or call 323-202-5228.

DENTAL OFFICE FOR RENT/LEASE — 15300 Devonshire St, Mission Hills California 91345 2,140 feet. All tenant improvements are in. Patients coming here for 35 years. Needs equipment and ambition. Contact 818-294-0227 or drgiovanni@hotmail.com.

DENTAL OFFICE FOR RENT/LEASE — Modern and professionally designed dental office for lease/rent. 3 partially equipped dental operatories. Contact 408-839-4090.

OFFICES FOR SALE

DENTAL OFFICE FOR SALE — State of the art office for sale. Leasehold and equipment only. Well designed beautifully built out office in the heart of Irvine, Orange county. Excellent location for GP or specialist. If interested, please call 949-400-7863.

DENTAL OFFICE FOR SALE — Beverly Hills Fee-for-Service General/ Implant Dentistry office offering spectacular Penthouse views from 4 Operatories. Primely situated in prestigious G & L Medical Building and walking distance to Wilshire Blvd and Rodeo Drive. Practice has been at the same location for 28 plus years with well-established, longtime patient base. Excellent fee schedule with veneer or crown fee at $1750. Updated Reception area with modern touches... Practice is well-known for Reconstructive, Elective, Cosmetic Dentistry in the community and has some international following as well. Current dentist can no longer do commute and has 3 small children. This is a once in a life-time opportunity for a talented General Dentist, Prosthodontist or Periodontist to buy into an established practice in one of the most desirable zip codes and locations in the U.S. Contact doctorbeverlyhills90210@gmail.com or 626-297-9554.

DENTAL OFFICE FOR SALE — Beautiful Beach Town Practice in Grover Beach in 1800 sq ft office W/4 ops with 2 others available. Ave GR $1.2M, 50+ new pt's/mo. Fee for Service, no HMO. Owner retiring and motivated. 5Yr renewal lease. Practice purchased from previous owner est. 34 yrs, One mile from beach on highly visible main road in small shopping center. Comfortable mild weather year round. Ideal place to retire or to raise family in quite neighborhood. Email gethealthy528@yahoo.com or call 805 709 6117.

DENTAL OFFICE FOR SALE — Four operatory dental building In the beautiful mountain town of Dunsmuir, located in far Northern California on the I-5 corridor, we offer this modern four operatory dental building for sale or lease. The building is well maintained, the seller is motivated and can carry paper, all terms negotiable. Dunsmuir is in dire need of a dentist who uses modern techniques and materials. Dunsmuir, located seven miles south of Mount Shasta, on the Sacramento River, and offers a wide variety of outdoor recreational opportunities. Please contact seller at info@dunsmuirdental.com or Brett at Doris Moss Realty at brett@mtshastarealty.com. For additional details, please visit our website at http://www.dunsmuirdental.com.

DENTAL OFFICE FOR SALE — Newly Equipped 3 operatories dental office for sale in Sunnyvale, CA. Contact DMENGDDS@gmail.com or 408-839-4090.

CONTINUES ON 930

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BAY AREA

A-8941 SAN FRANCISCO– Move-In Ready! Two Fully Equipped ops/plumbed for 1 add'l **Only $65k**

A-9991 SAN BRUNO – Facility- Ready to Move in 1,500 sf w/3 ops and plumbed for 1 add'l **$48,800**

B-9791 OAKLAND Historic building 2,050 sf w/ 4 fully equipped ops **$275k**

B-9851 SAN RAMON Facility—This remarkable opportunity will not wait for the hesitant buyer! Office ~ 1,700sf w/ 3+ ops **$219k**

B-9941 Central Contra Costa-Stellar reputation - Strong, loyal patient base. 863 sf w/3 ops **$675k**

C-8901 SANTA ROSA– Residential area. 40+ new pats/mo. Highly Visible! 1291sf & 3 + 1 op. **$468k**

C-976 PETALUMA—Prestigious area! ~ 800 sf w/2 fully equipped ops **$295k**

C-989 SANTA ROSA - Foot traffic generates new patients & continuous growth for this modernly equipped office. ~ 2,500sf w/ 5ops. **$295k**

C-1016 MARIN CO-Well-established w/wonderful patient base! 800 sf w/3 ops **$280k**

CG-025 NAPA FACILITY- Large, picturesque, floor-to-ceiling windows capture scenes of bustling heart of town! 1,285 sf w/ 4 ops. Only **$45k**

CG-021 SUISUN CITY-Quality, FFS Practice. With only 2 DDS in town of 28k, this is expertly located in historic Dwntwn on Main St.1,200 sf & 3 ops **$348k**

CC-027 MILL VALLEY-Quality practice w/stable patient base! 2,088sf w/5 ops **$650k**

D-877 LOS ALTOS -Pristine Professional plaza. Office is ~ 2,400sf - 6 ops **2009 Collections - $819k!! Reduced to $350k to offset rent amount**

D-9091 ATHERTON -Turnkey operation 969 sf & 3 ops ***Call for Details!***

D-960 *Facility only* SAN JOSE - *Reasonable rent and great lease*. **Opportunity to purchase condo suite also!** 1,158sf w/3 ops **$85k**

D-965 WATSONVILLE - Office ~ 2,400 sf, w/ 4 equipped ops + plumbed for 4 add'l ops. **$420k**

D-967 SAN JOSE – FACILITY— Beautiful! Office ~1,600+ sf w/ 4 ops **Only $110k Seller fin. avail. to qualified buyer w/10% down!**

D-982 SUNNYVALE Facility - 2 ops & space to add an add'l op & business office - Rent only $1,750 including triple-net! **Now Only $108k**

D-1003 CENTRAL CONTRA COSTA CO - Quality practice with a wonderful patient base! 1,550 sf w/ 4 fully equipped ops **$575k**

BAY AREA CONTINUED

D-991 SANTA CRUZ-Practice by the beach! 1,050 sf w/ 3 ops + plumbed for more! ***$195k***

D-9921 SANTA CRUZ CO - Professional center, good design for patient flow. 1,140 sf w/3 ops **$225k**

D-1015 SAN JOSE - 1,160 sf w/3 ops w/ plumbing and space for 2 additional ops **$250k**

D-997 SAN JOSE -Well established, FFS practice. ~ 1,008 sf w/ 3 ops + 1 add. **$230k**

D-1020 CASTRO VALLEY - Quality, fee-for-service practice. 1,784 sf w/5 ops **$545k**

DG-028 LIVERMORE – Well maintained, free standing Prof Bldg. 1,400sf w/4 ops **$425k**

NORTHERN CALIFORNIA

E-8641 SACRAMENTO-FACILITY - 2,100+ sf w/ 3 ops & plumbed for 1 add'l **$50k**

E-969 FAIR OAKS Everyday will be a joy to come to work. Office is ~ 600sf w/2 ops. **$250k**

E-995 ELK GROVE -Quality, FFS practice. $900k+ in 2010! ~1,692sf w/ 5 ops. **$600k**

E-1018 *Facility Only* FOLSOM—Sparkling! Medical/Dental building. ~2305sf w/ 5ops**. $150k**

EN-026 ROSEVILLE—Warm Caring Environment, ~1000sf, w/ 3 ops . **$380k**

F-1013 FORTUNA-Well respected FFS GP. Loyal stable patient base. 1,000 sf w/ 3 ops **$195k**

G-875 YUBA CITY–Estab. 30 + years, GP, FFS, 3,575sf /9 ops, great location. **$1.63m w/Cerec ~ Assoc Buy-In Op!**

G-883 CHICO VICINITY – Quality FFS GP. Attractive Prof Plaza. 1,990 sf w/ 5 ops **$495k**

G-998 CHICO/PARADISE—Surrounded by breathtaking natural beauty! ~898sf, 3 ops. **$275k**

H-856 SOUTH LAKE TAHOE Over 50 new patients/ mo Respected & Growing! 1568 sf & 4 ops **$325k**

G-1019 CHICO AREA—Small Community practice! ~1,600sf w/ 2 ops. **$215k**

SOUTHERN CALIFORNIA

K-986 NEWPORT BEACH -Attractive, multi-story Medical/Dental bldg. 1,000 sf w/2 ops **$195k**

KG-023 IMPERIAL VALLEY- Free-standing, Medical Prof Bldg. 1,050 sf w/3 ops **$195k**

CENTRAL VALLEY

I-966 MODESTO - Facility Newly renovated, w/ prof. décor and floor plan~ 700sf w/2 ops, **$89k**

I-9721 STOCKTON –Prof. complex 1,450 sf w/3 ops & plumbed for 1 add'l op. **$75k.** Partial Bldg Buy-out available

I-974 MODESTO FACILITY – Newly Remodeled / Reasonable Rent! 950sf w/3ops **NOW ONLY $79k**

I-945 TRACY - Young, growing, highly motivated patient base. 1,300 sf & 4 ops **$350k**

I-996 MERCED- Collected $500k w/owner dds. Ready for new owner to revitalize wall of charts. 1,450 sf - 3 ops **$140k**

I-1005 SAN JOAQUIN VLY- Long-established High-End Restoratives. 2,500+ sf w/ 6 ops **$650k**

I-1012 MANTECA- Location, Growth, High Profit. Well-equipped 780 sf w/2 ops **$479k**

IN-024 MERCED - This immaculate practice is an absolute jewel! ~1250sf, 3 ops + 1 add'l **$240**

J-1000 TULARE— *Real Estate Available too!* Great highly visible location! ~ 1650sf w/ 4op. **$349k and R.E. $249k**

J-1001 LINDSEY— All American City! Conveniently located ~ 3,380sf w/5 ops $325k

J-928 ATWATER - Established & respected for gentle treatment. 1,313 sf w/3 spacious ops **$230k**

J-1009 VISALIA- Buy 50% or 100%! Prof Bldg. Desirable area. 4 ops. **$250k /$500k**

SPECIALTY PRACTICES

I-7861 CTRL VLY ORTHO- 2,000sf, open bay w/8 chairs. FFS. 60-70 patients/day. Prof Plaza. **$370k**

D-892 MORGAN HILL ORTHO- Remarkable Oppty! 1900sf & 6 chairs in open bay. **$275k**

I-9461 CENTRAL VALLEY/ORTHO - .~ 1,650 sf w/5 chairs/bays + (2) add'l plumbed. **$140k**

E-980 SACRAMENTO VICINITY ORTHO – ***4 for the price of 1***! Sold as cluster of satellite offices in multiple locations, grab this w/ no regrets! **$1.5M**

J-983 CENTRAL VALLEY ORTHO - Practice focuses on service and comfort! Attractive, single-story building . ~1,773sf w/ 6 chairs/bays. **$325k**

G-975 CHICO ORTHO—Providing quality care 2 Denti-Cal patient base. ~ 900 sf w/ 2 + ops . **$90k**

DN-022 ENDO TRI-VALLEY-~ 30 new pats/mo. 975 sf w/ 2 fully equipped ops **$275k**

Timothy G. Giroux, DDS

Jon B. Noble, MBA

Mona Chang, DDS

John M. Cahill, MBA

Edmond P. Cahill, JD

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- **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. SOLD
- **EL DORADO HILLS:** *For Sale*-General dentistry practice. Gross Receipts of $834K with adj net of $389K, 53% overhead. Office has five equipped operatories in 1485 sq.ft. Pano, Intra-oral Camera, Dentrix, 5 days of hygiene. Owner retiring. SOLD
- **FOLSOM:** *For Sale*-General Dentistry Practice. Gross Receipts in 2010 were $703K with an adjusted net income of $300K. 5 days of hygiene and approx 3500 active patients. Leased Office is 2,000 sq ft with 4 equipped operatories-5 possible. Patient Base software. Owner to retire. SOLD
- **FOLSOM:** *For Sale*-General Dentistry Practice. Gross Receipts in excess of 1.5M the past three years. 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 SOLD
- **FRESNO:** *For Sale*-General Dentistry IV Sedation Practice. (MERGER OPPORTUNITY) Owner would like to merge his practice into another high quality general dentistry or IV sedation practice. The merger would be into Buyers office. Seller would like to continue to work as either a partner or associate after the merger. 2010 collections were $993K with a $422K adjusted net income. There are 7 days of hygiene. #14250.
- **GLENDALE:** *FACILITY SALE*-General Dentistry Office Space & Leasehold Improvements Sale- Office located in a medical plaza, 1760 sq. ft. 7 operatories, computerized equipment approximately 5 years old. Two 5-year options available.
- **GRASS VALLEY:** *For Sale*-General Dentistry Practice. GR of $307,590 (3 days/wk) with adjusted net income of $105K. 3 Ops. refers out most/all Ortho. Perio, Endo, Surgery. Intra-Oral Camera, Diagnodent, EZ Dental Software. Good Location. Owner retiring. #14337.
- **GRASS VALLEY:** *For Sale*-General Dentistry Practice. GR 545K 3 days/wk (4 avail). 3 hygiene days/week. 5 Ops (6 Avail) 1,950 sq ft. Refers out most/all Ortho, Perio, Endo, Surgery. Office has Laser, Intraoral Camera, Pano, & Dentrix Software. Owner retiring.
- **GRASS VALLEY:** *For Sale*-General Dentistry Practice. Owner retiring. Gross Receipts $89K. Practice has been in the same location for the past 33 years. 2 equipped operatories, 3-4 available. Panoramic X-ray. Doctor owns building, which is available for purchase. This practice can also be combined with another Grass Valley practice also listed for sale. #14362.
- **GREATER CHICO:** *For Sale*-General Dentistry Practice. Gross receipts in 2010 were $584K, with an adjusted net income of $152K. Approx 1,100 active patients. 4 operatories, Pano, Intra-Oral Camera. Easy dental software. Leased office 1,200 sq. ft. Owner is retiring. #14359.
- **GREATER SAN JOSE AREA:** *For Sale*-General Endodontic Practice. 2009 Collections were $1,187MIL with an adjusted net income of $696K. There are 4 ops in this nicely decoreated 1,400 sq office space. 4 microscopes. Owner has been in same location for 26 years with long-term employees. Owner is retiring but will continue to work 1 ½ to 2 years through the transition with the buyer. SOLD
- **HAWAII (MAUI):** *For Sale*-General dentistry practice. Gross Receipts of $636K. Office has four equipped operatories in 1198 sq.ft. Pano, Laser, I.O. Camera, Fiber Optics, 2 ½ days of hygiene. Owner retiring: Don't miss this opportunity to live and work in paradise. #20101
- **HAYWARD:** *For Sale*-General Dentistry Practice. This practice consists of 1,600 sq ft with 4 treatment rooms in an excellent location. 2010 Gross was $501,000 with a $228K adjusted net income. Dental Vision software, Average age of equipment is 8 yrs. Approximately 1,200 active patients.
- **IRVINE & COSTA MESA:** *For Sale*-General Dentistry practice combined. Gross receipts combined $781K with adjusted net of $396K. Both office spaces are leased with 4-5 ops in each. Both are 1,600 sq. ft. Irvine is equipped with Intra-Oral Camera, Pano & Dentrix. Costa Mesa is equipped with Laser, Intra-Oral Camera, Pano and Dentrix. #14355.
- **LAGUNA NIGUEL:** *For Sale*-General Dentistry Practice. 2010 gross receipts were $503k. 4 operatories, Pan, computerized with EZ dental software. 1,500 sq. ft. lease. 10 years in present location. Owner retiring. #14352
- **LAKE COUNTY:** *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, and Data Con software. Owner to retire. #14338
- **LEMOORE/HANFORD AREA:** *For Sale*-General Dentistry Practice & Building. Owner has worked in this location since 1971. Gross Receipts were $378K with $139K adj. net income. There are 3 equipped operatories and 3 days of hygiene. Purchase of the building is optional to the Buyer. 100% financing is available for both building and practice. Excellent opportunity for new grad or satellite practice.
- **LINDSAY:** *For Sale*-General Dentistry Practice & building. Gross Receipts $330K with adjusted net income of $219K. Owner has operated in present location for 27 years. Office space 1,489 sq. ft., 3 operatories available (2 equipped), Intra-Oral Camera, Soft-Dent software. 3-hygiene days a week. Owner retiring. #14363.
- **LIVERMORE:** *For Sale*-General Dentistry Practice. 2009 Collections were $688K with an adjusted net income of $287K. There are 4 ops in this nicely updated 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 SOLD
- **LOS ANGELES:** *For Sale*-General Dentistry Practice.1,200 sq ft 4ops, 29 yrs in present location. Gross Receipts $274K with adjusted net income of $89K. Owner to retire. #14348
- **MARIN COUNTY:** *For Sale*-General Dentistry Practice. This is a small 650 sq.ft. office with three treatment rooms. The practice has a very low overhead of only 48%. 2010 gross receipts were $179,000 with $90,000 adjusted net. Practice includes Panoramic X-ray and Easy Dental Software. Refers out O.S., Perio., & Endo. Practice has been in its present location for 30 years. This is an ideal practice for the new grad or satellite practice for the established dentist. Owner is retiring. #14370
- **NAPA:** *For Sale*-General Dentistry Practice. Gross Receipts $800K, with adjusted net income of $250K. Fee for Service. 1300 sq ft 4 ops 6 hygiene days. 38 yrs in present location, 30 yrs in previous location. Owner to retire. SOLD
- **NEWPORT BEACH:** *For Sale*-General Dentistry Practice. Practice has operated at its present location since 1986. Located in a highly affluent Newport Beach community. Three (3) hygiene days per week. Leased office space with 4 ops. in 1,450 sq. ft. Pano & Practice Works software. #14354. SOLD
- **NEVADA CITY:** *For Sale*-General Dentistry Practice. Gross Receipts $491K with an adjusted net income of $130K. Overhead 73%. Office leased 1,555 sq ft. 4 equipped operatories 5 available. Laser, Intra-Oral Camera, Cerac, & Eaglesoft software. Owner would like to retire.

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- **NORTHERN FRESNO:** *For Sale*-General Dentistry Practice. This is a perfect starter or satellite practice. Excellent location in North Fresno. Gross Receipts in 2010 were $173K. Approximately 450 active patients. 3 operatories. Dentrix software. Leased office 1,200 sq. ft. Owner has been accepted to an Endodontic Residency after starting practice 1 1/2 years ago. SOLD
- **NORTHERN CALIFORNIA:** *For Sale*-Endodontic Practice. This Endodontic practice is located in an upscale professional office complex. The owners condominium occupies 1,770 sq ft, There are 4 equipped treatment rooms with an additional 5th room available. Gross Receipts were $638K with $239K adjusted net income. Owner will stay for transition to introduce buyer. Owner is retiring. #14251
- **NORTHERN CALIFORNIA:** *For Sale*-Pediatric practice. Owner has operated in same location for 32 years. Approx 1,760 active pts, 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. SOLD
- **OCEANSIDE:** *For Sale*-Modern looking office. 4 op, office space and equipment only. Belmont chairs. Gendex x-ray system, intraoral camera, approx 1300 sq ft. Low overhead-Rent is $1,900/month, and it's a 5 year lease. Staff is available for rehire-front desk $15/hr, assistant 13/hr. Update all the computer systems after purchasing the office in 07. Computers and monitors in every room. #14346 SOLD
- **PLEASANTON:** *For Sale*-General Dentistry Practice. Owner has other practice in Bay Area only in Pleasanton 1 day/wk. 300 active patients. Excellent location-beautiful 1600 sq.ft. 5-op office. Equipment like new, intra-oral camera, pano, Easy Dental software. Must See. #14364.
- **PLUMAS COUNTY:** *For Sale*-3 equipped ops. Space available for 4th op. 1,245 sf office in good location. Gross Receipts $475K. Practice in present location over 50 years. Owner is retiring. #14318
- **RENO:** *For Sale*-General Dentistry Practice and Dental Building: 2009 Gross Receipts $517K with adjusted net income of $165K. 4 ½ hygiene days/week. 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 SOLD
- **ROCKLIN:** *For Sale*-General Dentistry Practice. Gross Receipts $593K in 2010 with $240K adjusted net income. Office is 1,630 sq. ft., with 4 operatories equipped with fiber optics. Owner has been in present location for the past 13 years. 3 1/2 days hygiene. Intra-Oral Camera, Dentrix software. Owner to retire. SOLD
- **ROSEVILLE:** *For Sale*-General Dentistry Practice. Great Location. 2009 GR $900K with adjusted net income of $300K. 1,975 sq. ft. with 4 ops, 3 days hygiene/wk. Digital, Intra-Oral Camera, Dentrix, Trojan, fiber optics, P & C chairs - all less than 5 years old. Owner is retiring. #14327 SOLD
- **SACRAMENTO:** For Sale-General Dentistry Practice. Gross Receipts $546K with adjusted net income of $159K. Office is 2,400 sq ft with 7 operatories. Practice has been operating in the same location for the past 50 years. Pano, Softdent software. Owner to retire.
- **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 BERNARDINO:** *For Sale*-General Dentistry Practice. GR $972K. Practice has been in its present location for the past 35 years. Leased 4, 500 sq ft of office space- 12 equipped operatories. Dentrix software, Pano and Cerac. Owner to relocate.
- **SAN DIEGO:** *For Sale*-General Dentistry practice. Gross Receipts $414K. Practice has been operated by the same owner for the past 6 years. Leased 950 sq. ft. office with 3 equipped operatories. Dentix software, Intra-Oral camera, Panoramic X-Ray. Owner to relocate. #14356.
- **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 SOLD
- **SANTA BARBARA:** *For Sale*-General Dentistry Practice. This excellent practice's 2009 gross Receipts $891K 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. #14333 SOLD
- **SAN LUIS OBISPO:** *For Sale* - Two Doctor General Dentistry Practice. Gross receipts $1,537,142 for 2010 with an adjusted net income of $691K. The office has 2,331 sq. ft. with 8 equipped operatories. Pano, E4D, and Dentrix software. Practice started in 1990 and has been in its present location since 1998. Approx. 3000 active patients. Great location with nice views. #14353.
- **SANTA CLARA:** *For Sale* - BUILDING ONLY: This building is located just west of Westfield Mall and Santana Row. The building has two units. One side is designed and plumbed for dentistry and the other was a law office. There is 3,776 sq. ft. of office space. The dental office is approximately 1,800 sq. ft. with 6 operatories. The building has been recently re-roofed. Excellent opportunity for a startup practice or for the dentist that needs more space. Financing available through various dental lenders. #14368
- **SANTA CRUZ:** *For Sale*-General Dentistry practice. Gross Receipts $300K with a 57% overhead. Office is 1,140 sq. ft. 3 equipped operatories. Intra-Oral Camera, Pano, Digital X-Rays, and Dentrix software. Practice has been in its present location since 1980. Owner retiring. SOLD
- **SANTA CRUZ:** *For Sale*-General Dentistry practice. This excellent practice is centrally located in a professional complex. Office is approx. 1,885 sq. ft., 4 operatories with room for one additional. There are approx. 2000 active patients with 6 days of hygiene per week. Practice Pano, Intra-Oral Camera and Easy Dental software. Owner is retiring. Reasonable lease available. #14361
- **TORRANCE:** *For Sale*-General Dentistry practice. This excellent practice is centrally located in a professional complex. Office is approx. 1,885 sq. ft., 4 operatories with room for one additional. There are approx. 2000 active patients with 6 days of hygiene per week. Practice Pano, Intra-Oral Camera and Easy Dental software. Owner is retiring. Reasonable lease available. #14320 SOLD
- **TORRANCE:** *For Sale* - General Dentistry Practice. Gross Receipts $413K with an adjusted net income of $203K. 50% overhead. Practice has been in its present location for the past 25 years. The office has been tastefully remodeled. Office is 800+ sq. ft. with 3 equipped operatories. 4 -hygiene days per week. Doctor is to retire. #14369
- **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 Sordexdigital x-ray processor, 1 Statim 5000, 1 Harvey autoclave. 2,800 Sq ft, 6 Ops. New lease available from landlord. SOLD
- **VISALIA:** For Sale- General Dentistry Practice. Gross Receipts $616K with an adjusted net income of $ 321K. Office is 1,380 sq ft with 3 equipped operatories. Intra-Oral Camera, Digital X-Rays, Mogo software, equipment & leaseholds look new. 5 years in present location. Owner to relocate. #14347 SOLD

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SUN VALLEY/KETCHUM, IDAHO — Traditional, established, profitable fee-for-service dental practice looking for versatile experienced person with successful record to buy practice. General, cosmetic, endo, implant surgery, Invisalign, prosthetics. Excellent staff, fantastic lifestyle, incredible environment. World-class skiing, fishing, hunting, golf, hiking, water sports, culture, dining and weather. Contact sunvalleydentalpractice@gmail.com.

OPPORTUNITY AVAILABLE — We are a private practice, seeking a Board Certified Pedodontist (bilingual English/Spanish a plus) to treat our young patient base. We currently have about 680 young patients, some of which are in the Healthy Families program. We are looking to employ on Saturdays and possibly Fridays for this position. If you are interested please fax or e-mail your CV to my attention. This is a great opportunity based on geography and demographics. Potential to obtain referred patients from other practices. Contact Paul S. Crespo, DDS at paulcrespo@comcast.net or 510-236-5640.

OPPORTUNITY AVAILABLE — We are looking for a part-time front/back office employee for our small private practice. We are open M/W/F/and Saturdays. Must be available Saturdays (half-day). Chinese/Vietnamese-speaking preferred. Contact dr.pham@culverfamilydental.com or 949-559-9600.

OPPORTUNITY AVAILABLE — The growth of our friendly, state-of-the-art, fee for service, multi-specialty practice has created an exceptional opportunity for highly skilled dentist with good communication skills to join our professional, well-trained dental team in providing high quality dental care to our patients. Our recently expanded high-tech facility is equipped with the latest in technology, including laser, paperless charts, digital radiography, digital panoramic radiography, Cerec, Diagnodent, Zoom Advanced, Nobel Biocare Implant System, chair side multimedia and more! We are seeking an experienced doctor proficient in performing all phases of dentistry including molar root canal therapy, surgical extraction, implant and cosmetic dentistry. Applicants should be available evening and weekend hours. If you are looking for a long-term opportunity with unlimited professional growth potential, please fax your resume to 650-475-1877, call 650-787-1157 or email bill@familydentalfostercity.com.

OPPORTUNITY AVAILABLE — Dentist-Concord CA. Established practice. HR Job#NA1011, Dental Specialty Group, 1255 Willow Pass Rd, Concord, CA 94520. Contact khazaee@yahoo.com or 925-680-4443.

OPPORTUNITY AVAILABLE — Wonderful opportunity for General Dentist to become an Associate in our well established successful practice on a full-time basis, with a future buy-in option. Our mercury-free dental practice emphasizes innovation and an alternative approach to dentistry. Therefore, we are looking for a General Dentist who has the desire and willingness to adapt to the alternative dentistry protocol. We are a patient-focused practice with a full dedication to quality patient care. Our candidate has to have a desire to meet our production goals without compromising quality dentistry. This is great opportunity for an energetic, hardworking, self-motivated and passionate General Dentist! Please email your resume to: tamosia14@yahoo.com or call 408-688-1354.

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3069 NAPA VALLEY ENDO
Endodontic practice now available in Napa Valley. Gorgeous state-of-the-art 1,450 sq. ft. facility w/4 fully-equipped ops & microscope in every op. Single story professional building. Well-established w/seasoned & loyal staff. Avg. GR over $1M past 3 years w/4.5 doctor days. Excellent referral sources and upside opportunity.

3049 SAN JOSE GP
Well-located, across from O'Connor Hospital, general practice in 2,118 sq. ft.state-of-the-art facility w/ 3 fully-equipped ops. 2 pvt. offices (1 can be plumbed for 4th op.). This office is beautifully designed and is stunning. In addition to his general practice, owner treats sleep apnea patients. He is selling just the general operative portion of the practice and is willing to help for a smooth transition. Ideal for an experienced dentists looking to merge an existing practice. Asking $195K.

3059 SANTA CRUZ COUNTY GP & BDG
Charming practice tucked among soaring redwoods in Santa Cruz County. Located in a single level professional building in the heart of town. Well established and part of the small community landscape. 2010 GR $595K+ w/3 doctor days. All fee-for-service. Owner retiring and willing to help for a smooth transition. This is a great turn key practice and opportunity to own a hidden gem. Practice asking price $373K, building is also available.

3061 SAN JOSE DENTAL FACILITY
Dental facility ideal for Pediatric or easily converted to GP. Located in desirable Evergreen area in a two-story, handicap accessible, high profile, medical and professional building. Gross lease with utilities included expires July 2013 with 5 year option to renew. Modern, tastefully designed, approximately 1,321 square feet. Asking $95K.

3060 SACRAMENTO COUNTY GP
General & Cosmetic practice located in the charming, picturesque town known as "The Jewell of Sacramento County". For those who enjoy cycling, running and other outdoor activities. The American River parkway winds through this town and can be ridden all the way to Folsom Lake.

Beautifully & thoughtfully designed, this well appointed office has 6 fully equipped ops with state-of-the-art equipment and facility. The practice is located in a single occupancy, free standing, single story professional building of approximately 2,000 sq. ft. The building's lot has ample on-site parking and is located on a major thoroughfare with fantastic visibility. Approximately 1,500 current/active patients (all fee-for-service) with an estimated 16 new patients a month. 2010 GR $1.6M with an adjusted net income of almost $500K. Asking price $950K.

3064 SAN JOSE GP
Now available. Great turnkey opportunity. Beautiful 1,500 sq. ft. facility with 4 fully equipped ops. State-of-the-art fully networked office, Dentrix software, digital x-ray & recently purchased dental & office equipment. Avg. GR $328K+ with 4 doctor-days. Owner relocating out of the area. Asking $295K.

3065 FREMONT GP
Don't miss this opportunity. Spacious 1,150 sq. ft. office w/ 3 ops. No Capitation. 2010 GR 169K+ w/ just 2-2.5 doctor days. Perfect opportunity to take this practice to the next level. Owner retiring. Asking $124K.

3057 SAN JOSE GP
Priced to sell. Located in 2 story professional building w/3 fully-equipped ops. in 990 sq. ft. office. Part of historic Rose Garden neighborhood. Block from the Alameda, & near a well travelled intersection. Seller transitioning due to health reasons. FY 2010 GR $415K. Asking Price $120K.

3052 PETALUMA GP
Well-established 3 Dr. day practice in 2,268 sq. ft. office w/6 ops. Avg. gross receipts for past 3 years $315K. Located just a mile from the Petaluma River in the historic town of Petaluma. Centrally located 32 miles north of SF in the Sonoma County Wine Country. Bldg. is available for purchase. Asking $145K.

Upcoming:
Owner retiring from well established San Jose GP in single level professional building near well travelled intersection. 1,200 sq. ft. office w/4 fully-equipped ops. This one won't last long call immediately.

SOLD

SOLD

SOLD

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Redwood City, CA 94061

Phone:
650.403.1010

Email:
dental@carrollandco.info

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CA DRE #00777682

CLASSIFIEDS, CONTINUED FROM 930

OPPORTUNITY AVAILABLE — Oral Surgeon: About The Position: The position is one day per week. Duties: Perform appropriate consultations and treatments on scheduled referred patients and unscheduled walk-in emergency patients as needed. Evaluate patients and make diagnoses and perform extractions or other surgical procedures as indicated by treatment plan. Perform dental operations, biopsies and other surgical procedures. Supervise/mentor AEGD residents for oral surgery related procedures. Qualifications: Graduation from an accredited school of dentistry and possession of valid dental license in the State of California. Completion of an accredited residency program or certification in exodontia. Two years experience-general dentistry, oral surgery and auxiliary utilization. Ability to do fourhanded dentistry. Bilingual English-Spanish is preferred. If you are interested, please send your Letter of Interest and Resume to: Lisa Barnard, Human Resources Recruiter at recruiter1@laclinica.org or 510-535-2942.

OPPORTUNITY AVAILABLE — A dental group in North Hollywood is looking for an experienced manager with business degree and dental assistant with fluent English and Spanish. Please don't call and just send your resume to evanfarrdds@aol.com.

OPPORTUNITY AVAILABLE — A busy dental group in North Hollywood looking for an experienced Dentist with good communication skills. Please email your resume to evanfarrdds@aol.com.

OPPORTUNITY AVAILABLE — Dental office seeking office manager with 3 years min experience in marketing. Candidate must be Bilingual, self-motivated, organized, and capable of multi-tasking several projects/assignments at a time. Must have experience in the front office with managing self/staff/drs/patient schedules and be able to maintain business operations with efficiency and accuracy. Must have knowledge and skill set to handle, date entry, multiple phones lines/general office duties, treatment planning, billing and claims aging. Travel is a must for this position, but gas reimbursement is provided. Candidates will be required to learn pre-existing client base as well as acquire new clients thru strategized marketing. Previous sales experience is a plus for the marketing aspect of this position. Serious candidates that feel you fit this job description, please c ontact me asap for an interview. $16-21/ hourly plus monthly bonuses, negotiable based on experience. MUST BE BILINGUAL IN SPANISH. Contact lisakung@rootvisionendo.com or 310-780-5278.

OPPORTUNITIES WANTED

IN HOUSE PERIODONTIST/IMPLANT SURGEON AVAILABLE FOR YOUR PRACTICE — In the Greater San Francisco Bay Area. Implant Surgeon/Bone Grafting/ Perio Surgery/3rd Molar Extractions. Contact bayareaperio@gmail.com or 617-869-1442.

OPPORTUNITY WANTED — Seeking associateship position in LA county area. My cumulative years of experience in dentistry is as follows: 5 years as private practitioner in the Philippines, 8 years as assistant in prosth/implant practice, 3 years as student clinician at the University of Maryland. I have such a passion for dentistry that I went to dental school twice. Not only do I have a gentle and professional demeanor that patients appreciate, I bring an empathetic ear to the staff that fosters teamwork, morale and harmony. The capacity to reach out and build trust among the patients is the most important quality a dentist should possess. I am comfortable in all phases of general dentistry, have a keen esthetics eye and proficient in Dentrix. But mostly, my communication/relationship-building skills have been honed from years of interviewing patients, presenting/ implementing treatment plans and educating them in the vital role they play in their treatment outcomes. Contact mitoihizon@gmail.com or 818-334-0038.

OPPORTUNITY WANTED — I am a USC trained dentist with 7 years experience. I am ready to purchase a practice in Calabasas, Agoura Hills, Woodland Hills, Westlake Village or any of the surrounding areas. Please email me if you have a practice you are selling at sharedentaloffice@gmail.com.

OPPORTUNITY WANTED — Gentle, Motivated, and Enthusiastic Female GP available part-time in the SF/Bay Area. Currently working independently part-time in a Bay Area private family practice. Over 3 years of experience, AEGD completed at University of the Pacific. Looking for a high quality family practice to develop a long-term relationship with. Please email for CV and more info at bayareadentisto8@gmail.com.

OPPORTUNITY WANTED — Experienced general dentist available for locum tenens coverage. Facile with most phases of general dentistry, and very comfortable working with existing team while principal dentist is out. Ideal for maternity, personal sick leave or crisis coverage. Willing to cover within 1 hour travel from SLO. Contact 617-721-7172.

OPPORTUNITY WANTED — General Dentist, with 4 years clinical experience is looking to fit in a suitable dental office in LA/OC/SFV/San Gabriel and surrounding area. Clinical experience in all phases of general dentistry. Focus on high quality dentistry with great attitude and interpersonal skills. Also available to cover during illness, vacations, pg leaves. Resume available upon request. Pls contact me by e-mail at cdadds1@gmail.com.

CONTINUES ON 934

Professional Practice Sales of The Great West

Specialists in the Sale and Appraisal of Dental Practices

If you want your practice "For Sale", we are not the firm for you.
If you want your practice "SOLD", contact us!

5999 **"SOLD" PLEASANTON** Adjacent to Hacienda Business Park. 2011 tracking $900,000. Strong profits. Digital radiography with computers in Ops. Great visibility.

6003 **"SOLD" PINOLE - HERCULES AREA** 4-days of Hygiene. 90%+ effective Recall. Produced $740,000 and collected $709,500. Low AR balance. Endo referred.

6004 **"SOLD" SAN JOSE'S SANTA TERESA AREA** Asking slightly more than what it would cost to replicate this office today. Digital & paperless 3-Op suite. 2010 produced $385,000 with collections of $277,000 and Profits of $190,000+. Gorgeous facility. Lease allows occupancy thru 9/30/2024.

6008 **MENDOCINO COAST - FORT BRAGG** Nestled in desirable cultural haven creates attractive lifestyle. 4-days of Hygiene. 2011 shall top $700,000 in collections making this its best year ever. Owner works 3-day week and states he could work more if desired. Computerized Ops and digital radiography.

6010 **"SOLD" BERKELEY – ALTA BATES MEDICAL VILLAGE** Attractive revenues. Last 2-years Profits have averaged $225,000. 2011 doing better!

6011 **"SOLD" SAN JOSE – WEST OF I-280** Long established practice off Saratoga Avenue. Has averaged $400,000 per year in collections. 3-Ops with 4th available in 1,000 sq. ft. suite.

6012 **"SOLD" FREMONT** Well established practice as evidenced by 6+ days of Hygiene. Fantastic Recall System. Great location. Collects just shy of $900,000 per year. Total Available Profits in 2010 were $360,000. 5-Ops.

6013 **"SOLD" LIVERMORE** Not yet 4-years old, tracking $430,000+ in collections 2011. Attractive 4-Op suite fully networked, employs computer charting and digital radiography.

6014 **SAN FRANCISCO** Located in "Heart" of the Mission. Owner does not speak Spanish. 2011 tracking $425,000+ with $185,000 in Profits on 3-day week. 3-Ops. Great opportunity for Successor who shall devote more attention. Building has private garage for tenants.

6015 **SONOMA COUNTY'S HEALDSBURG** Vibrant economy and great small town atmosphere. Anchored by 4-day per week Hygiene schedule and great Office Manager. Revenues tracking $545,000 with Profits of $235,000 in 2011.

6016 **BERKELEY** Collecting $30,000/month on 3-day week. Did better when Owner was able to devote more time here. Profits tracking $140,000+ for 2011.

6017 **CAMPBELL** 7-year old practice collected $519,000 for 10-months ended 10/31/11. Adec delivery systems, computer charting, digital radiography, Biolase Waterlase, Panorex. $365,000 invested here. Full price $350,000.

6018 **SAN JOSE'S CAMPBELL** Senior partner in esteemed Group Practice is retiring. Produced $460,000 and collected $420,000 in 2010 with Profits of $190,000+. Great opportunity to simply treat patients and go home as Administrator oversees all front-end operations. Full price $230,000.

For complete details on any of these opportunities, go to www.PPSsellsDDS.com

Professional Practice Sales of The Great West

Ray and Edna Irving
(415) 899-8580 ~ (800) 422-2818
www.PPSsellsDDS.com

Thinking on selling your practice? Call "PPS of The Great West" today.
This shall be the best decision you make regarding this important change in your life!

"I listed with a competitor for 12 months. Had two people visit my practice. First weekend PPS had my listing, I had 3 people visit and an offer by the end of the first week. Thank you for allowing me to move on to the next step of my life."

"It was a pleasure to work with PPS. I had to sell because of health complications. Mr. Irving listed my practice on Jan 1st, we closed escrow on Feb 27th. It took him less than 60 days to complete the sale as promised."

"When I decided to sell my ortho practice, I sought the services of a large company. Over the 12-month contract, I had one buyer visit. Word was out. It had a devastating effect on my bottom line. Fortunately, I found Ray and Edna Irving! When I finally sold, I choose between two good offers. My regret was the time and money lost with the other guys."

"When I signed the Listing on June 1st, Ray stated he would have the practice sold by Labor Day. The sale was concluded on Sept 1st, two days before Labor Day. Wow!"

"I will always remember your statement when I questioned your contract being only four months. You stated: 'If I can't sell your practice in that time, you should get someone else.' Well, you did with time to spare!"

"Before I called Ray, I had a listing with another prominent Broker. After eleven months without a sale, I called Ray. He sold it in about a month! Would I recommend Ray? Yes!"

"In April, I asked Ray Irving to sell my practice. At the same time my friend decided to sell his practice. He employed another firm. My practice sold June 22. My friend's practice still hasn't sold and he was putting his dreams on hold."

PPS of The Great West's reputation is built upon grounded ethics and effectiveness. Our trademark "client services" include accurate assessments, impeccable marketing plans, complete transparency, generating quick responses, realizing multiple Offers, securing 100%+ financing in days, expert papering of our transactions and sound counsel. Everything is done to protect our Client and to effect a successful transfer. Our intent is simply to provide the best service imaginable for this very important engagement.

CA DRE License #1422122

CLASSIFIEDS, CONTINUED FROM 932

OPPORTUNITY WANTED — Hello, I am a new graduate of the University of Louisville School of Dentistry who has recently relocated to San Francisco, CA. I have 2 years of patient-based experience at the university clinic, 5 weeks of externship at the private dental office, and hours of volunteering, which gave me the current in-depth knowledge of general dentistry (feel confident with posterior root canals and surgical extractions). I have a current California dental license, DEA number, CPR training, malpractice, and disability insurance. If you are looking for quality-oriented, self-motivated with excellent communication skills Associate to join your practice for FT/PT, please email for resume and further information. Thank you for you considerations! Contact 415-322-9035.

PRACTICES FOR SALE

SUN VALLEY/KETCHUM, IDAHO — Traditional, established, profitable fee-for-service dental practice looking for versatile experienced person with successful record to buy practice. General, cosmetic, endo, implant surgery, Invisalign, prosthetics. Excellent staff, fantastic lifestyle, incredible environment. World-class skiing, fishing, hunting, golf, hiking, water sports, culture, dining and weather. Contact sunvalleydentalpractice@gmail.com.

MISCELLANEOUS

MISCELLANEOUS — Locum Tenens Service. Experienced general dentist available for temporary coverage. Facile in most phases of general dentistry. Excellent option for maternity, personal sick leave, or general incapacity of principal dentist. References and CV available on request Contact 617-721-7172, or drjaymcd@aol.com.

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Dental Practice Sales

QUESTIONS MOST OFTEN ASKED BY . . .

. . . SELLERS

1. Can I get all cash for the sale of my practice?
2. If I decide to assist the Buyer with financing, how can I be guaranteed payment of the balance of the salesprice?
3. Can I sell my practice and continue to work on a part-time basis?
4. How can I most successfully transfer my patients to the new dentist?
5. What if I have some reservation about a prospective Buyer of my practice?
6. How can I be certain my Broker will demonstrate absolute discretion in handling the transaction in all aspects, including dealing with personnel and patients?
7. What are the tax and legal ramifications when a dental practice is sold?

. . . BUYERS

1. Can I afford to buy a dental practice?
2. Can I afford not to buy a dental practice?
3. What are ALL of the benefits of owning a practice?
4. What kinds of assets will help me qualify for financing the purchase of a practice?
5. Is it possible to purchase a practice without a personal cash investment?
6. What kinds of things should a Buyer consider when evaluating a practice?
7. What are the tax consequences for the Buyer when purchasing a practice?

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LEE SKARIN & ASSOCIATES gives straightforward answers to these important questions as well as others you may have – by phone or in person – **without obligation!**

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DR. BOB, CONTINUED FROM 938

pigeons winging our way across the miles, we met at a beach in California eight years later — Kismet. "There is a destiny that shapes our ends, rough hew them as we will," I concluded sagely, neglecting to mention I was quoting Frank Harris.

"Pish tosh, I knew it all the time. No miracle," she stated.

"But what if I had met some babe in Kansas, we married and had a bunch of little Jayhawkers?

"Couldn't have happened," she relied confidently.

"Why not?"

"Because here we are, 64 years later. It was all written in the Big Book."

This was my first encounter with the Big Book. I had a lot to learn.

My bride, a class-A fatalist, filled in the gaps. It seems that at birth, one's entire life is laid out in exquisite detail. Every move, every success, every failure — all written out in the Big Book. You just think you're in control of your destiny. A fatalism advocate once said, "You want to give God a laugh? Just tell him your plans."

You aren't issued a copy of your life's scenario, although Nostradamus is said to have been given a peek. "You think I'm making all this stuff up?" he declared indignantly a moment before his death in 1566 A.D. "I gotta go," he added prophetically.

Fatalists are blamed for employing the second-most annoying response in the English language following "whatever."

"It is what it is," my wife agrees.

"Everybody is in the Big Book?" I narrow my eyes and grit my teeth. "Lincoln? Hitler? That guy pitching Geico insurance on the TV?

"Yep, all of us," she says. Probably started about the time of the Big Bang. The Big Book mentioned the Big Bang and everything since.

"Sounds like the Big Crock. I don't believe it!"

"I know. It was written that you wouldn't," she smirks in that irritating way women have when they know they're on solid ground.

For 60 years or so, I have given myself over to a worry-free existence similar to Alfred E. Neuman, knowing that no matter what I did, it was foreordained according to my wife. Free will was only an illusion. On the plus side, if you are a born-again convert to fatalism, you are home free on multiple levels.

"Did you forget the shampoo and the eyebrow pencil I asked you to pick up at the store?" she laments, poring through the shopping bag.

"Sorry. Your hair and eyebrows look just fine the way they are."

"But I gave you a list. How could you forget!"

"The Big Book — remember? Look it up. Maybe it says you forgive me."

Long sigh; eyes roll.

She lapses into a heavy silence. As an inside family joke now, it doesn't come close to the stuff Lucy and Desi are still doing posthumously in syndication, but what will be, will be, even if it never happens. Move over, Nostradamus! ■■■■

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Que Sera, Sera

You aren't issued a copy of your life's scenario, although Nostradamus is said to have been given a peek.

Robert E. Horseman, DDS

ILLUSTRATION BY DAN HUBIG

FA-TAL-ISM *n*: a doctrine that events are fixed in advance for all time in such a manner that human beings are powerless to change them.

Several times during the last year as I filled out certain regulatory forms and applications that required my Social Security number and my age expressed as mm/dd/yyyy, I have had to conclude that privacy is a chimera, an illusion from the past that shall not pass this way again.

"That's 1920?" the public servant eyeing my completed form voices skeptically as one might question the provenance of an artifact in an antique store.

"Yes."

"No way! You don't look a day over 89," she dissembled, adopting the comforting smile requisite in dealing with potentially unstable citizens.

"Way!" I replied affably. Having gone this route before, I departed with a spring in my gait reminiscent of Tim Conway's depiction of an old man's shuffle.

I often wish I had my wife with me to explain how no credit accrues to me for existing so long beyond the actuarial tables of insurance companies. She knows it's not my fault, I had no choice.

My spouse is a fatalist with a capital F. In the early years of our marriage after infatuation and lust had given way to a more sustainable comfort level, I was wont to remark on the wonder of the pairing of two such disparate people.

"What a miracle!" I murmured, misty-eyed, pledging eternal fealty. "You born in Oregon; me born in Kansas. Me bravely engaging the Axis barbarians at 19; you at 12 working diligently on your multiplication tables. Yet, somehow, like homing

CONTINUES ON 937

When you want your practice sales DONE RIGHT.

Dr. Robin's upcoming speaking engagements. Call us for more details.

- *November 18th, 2011* - **California Dental Association Sponsored Event, Los Angeles; *Practice Sales and Transitions.***
- *January 19th, 2012* - **Southern California Oral/Facial Study Club; Tarzana; *Dental Practice Act.***
- *March 4th, 2012* - **Loma Linda University, Loma Linda; *Dental Practice Act.***
- *May 3rd, 2012* - **California Dental Association, Anaheim Session; *Dental Practice Act.***
- *December 2nd, 2012* - **Loma Linda University, Loma Linda; *Dental Practice Act.***

BetteRobin, DDS, JD

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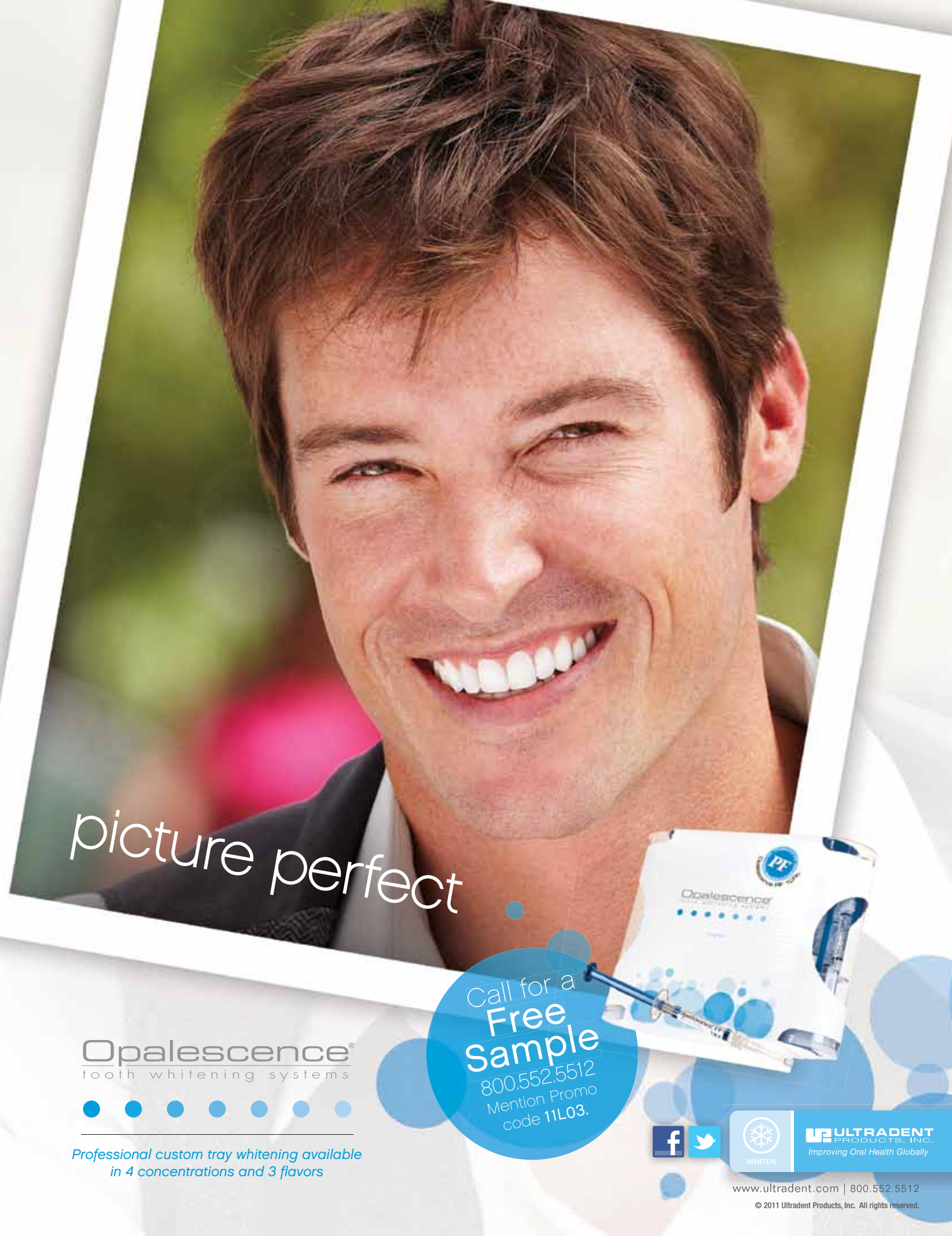

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