Chip checks for oral cancer
Rice’s nano-bio-chip effective in pilot study to detect premalignancies

By Mike Williams, Rice News Staff

The gentle touch of a brush on the tongue or cheek can help detect oral cancer with success rates comparable to more invasive techniques such as biopsies, according to preliminary studies by researchers at Rice University, the University of Texas Health Science Centers at Houston (UTHSC) and San Antonio and the University of Texas M.D. Anderson Cancer Center.

A new test that uses Rice’s diagnostic nano-bio-chip was found to be 97 percent “sensitive” and 95 percent specific in detecting which patients had malignant or premalignant lesions, results that compared well with traditional tests.

The study is available online in the journal Cancer Prevention Research.

“One of the key discoveries in this paper is to show that the miniaturized, noninvasive approach produces about the same result as the pathologists do,” said John McDevitt, the Brown-Wiess professor of chemistry and bioengineering at Rice.

His lab developed the novel nano-bio-chip technology at the university’s Bio-Science Research Collaborative.

Oral cancer afflicts more than 300,000 people a year, including 35,000 in the United States alone.

The five-year survival rate is 60 percent specific in detecting which patients had malignant or premalignant lesions, results that compared well with traditional tests. The study is available online in the journal Cancer Prevention Research.

“One of the key discoveries in this paper is to show that the miniaturized, noninvasive approach produces about the same result as the pathologists do,” said John McDevitt, the Brown-Wiess professor of chemistry and bioengineering at Rice.

His lab developed the novel nano-bio-chip technology at the university’s Bio-Science Research Collaborative.

Oral cancer afflicts more than 300,000 people a year, including 35,000 in the United States alone. The five-year survival rate is 60 percent.

Rice Professor John McDevitt holds the LabNow device to read nano-bio-chips that will look for signs of oral cancer and other diseases. (Photo/Jeff Fitlow)

Easy, quick modeling

CDT Joachim Mosch explains that dental sculpting wax “primopattern LC” was developed in order to eliminate all the inconvenient disadvantages of conventional modeling materials. Primopattern LC is a light-curing, ready-to-use, one-component material that is available as a modeling gel or modeling paste.

‘This Is Your Mouth’ video benefits NCOHF: America’s Toothfairy

By Fred Michmershuizen, Online Editor

“This Is Your Mouth,” a new video from Johnson & Johnson Healthcare Products that is narrated by actor Neil Patrick Harris, takes a closer look at the potential effects of rapidly multiplying bacteria in the mouth and illustrates how LISTERINE Antiseptic destroys the millions of germs that are left behind from brushing alone.

Each time the documentary is viewed, a $1 donation will go from Johnson & Johnson Healthcare Products to National Children’s Oral Health Foundation: America’s Toothfairy.

“I never realized how much goes on ‘behind the scenes’ in our mouths, and...
percent, but if oral cancer is detected early, that rate rises to 90 percent.

McDevitt and his team are working to create an inexpensive chip that can differentiate premalignancies from the 95 percent of lesions that will not become cancerous. The minimally invasive technique would deliver results in 15 minutes instead of several days, as lab-based diagnostics do now. Instead of an invasive, painful biopsy, the new procedure requires just a light brush of the lesion on the cheek or tongue with an instrument that looks like a toothbrush.

“The area of diagnostics and testing has been terribly challenging for the scientific and clinical community,” said McDevitt, who came to Rice from the University of Texas at Austin in 2009. “Part of the problem is that there are no good tools currently available that work in a reliable way.”

He said patients with suspicious lesions, which are usually discovered by dentists or oral surgeons, end up getting scalpel or punch biopsies as often as every six months. “People trained in this area don’t have any trouble finding lesions,” McDevitt said.

“The issue is the next step — taking a chunk of someone’s mouth. The heart of this paper is developing a more humane and less painful way to do that diagnosis, and our technique has shown remarkable success in early trials.”

Nano-bio-chips are small, semiconductor-based devices that combine the ability to capture, stain and analyze biomarkers for a variety of health woes that also include cardiac disease, HIV and trauma injuries. Researchers hope the eventual deployment of nano-bio-chips will dramatically cut the cost of medical diagnostics and contribute significantly to the task of bringing quality health care to the world.

The new study compared results of traditional diagnostic tests to those obtained with nano-bio-chips on a small sample of 52 participants. All of the patients had visible oral lesions of leukoplakia or erythroleukoplakia and had been referred to specialists for surgical biopsies or removal of the lesions.

“Chips should also be able to see when an abnormality turns precancerous. ‘You want to catch it early on, as it’s transforming from pre-cancer to the earliest stages of cancer, and get it in stage one. Then the five-year survival rate is very high,’ he said.

‘Currently, most of the time, it’s captured in stage three, when the survivability is very low.’

The device is on the verge of entering a more extensive trial that will involve 500 patients in Houston, San Antonio and England. That could lead to an application for FDA approval in two to four years.

Eventually, McDevitt said, dentists may be the first line of defense against oral cancers, with the ability to catch early signs of the disease right there in the chair.

McDevitt’s co-authors include Rice senior research scientist Pierre Floriano, Rice postdoctoral associate Shannon Weigum and Spencer Redding, a professor and chair of the Department of Dental Diagnostic Science at the University of Texas M.D. Anderson Cancer Center.

Also contributing were: UTBSG San Antonio’s Chih-Ko Yeh, Stephen Westbrook and Alan Lin, all of the Department of Dental Diagnostic Science; H. Stan McGuff of the Department of Pathology; and Frank Miller, Fred Villarreal and Stephanie Rowan, all of the Department of Otolaryngology, Head and Neck Surgery; UTHSC Houston’s Nadarajah Vigneswaran of the Department of Diagnostic Science; and Michelle Williams of the Department of Pathology at the University of Texas M.D. Anderson Cancer Center.

The researchers received a Grand Opportunity Grant from the National Institute for Dental and Craniofacial Research Division of the National Institutes of Health for the work.

Tell us what you think!

Do you have general comments or criticism you would like to share? Is there a particular topic you would like to see more articles about? Let us know by e-mailing us at feedback@dental-tribune.com, if you would like to make any change to your subscription (name, address or to opt out), please send us an e-mail at database@dental-tribune.com and be sure to include which publication you are referring to. Also, please note that subscription changes can take up to 6 weeks to process.

Editorial Board
Dr. Joel Berg
Dr. L. Stephen Buchanan
Dr. Arnoldo Castellucci
Dr. Gorden Christensen
Dr. Rella Christensen
Dr. William Dickerson
Hugh Doherty
Dr. James Donoudoulakis
Dr. David Garber
Dr. Evan Goldstein
Dr. Howard Glazer
Dr. Bernard Heymann
Dr. Karl Leinfelder
Dr. Roger Levin
Dr. Caryl B. Misch
Dr. Dan Nathanson
Dr. Gilbert Nester
Dr. Irwin Smigel
Dr. Jon Suzuki
Dr. Dennis Tartakow
Dr. Dan Ward

Copyright © 2010 Dental Tribune America, LLC. All rights reserved.

Dental Tribune strives to maintain the utmost accuracy in its news and clinical reports. If you find a factual error or to report that a publication, please contact Group Editor Robin Goodman at r.goodman@dental-tribune.com.

Dental Tribune cannot assume responsibility for the validity of product claims or for typographical errors. The publisher also does not assume responsibility for product names or statements made by advertisers. Opinions expressed by authors are their own and may not reflect those of Dental Tribune America.
BACK BY POPULAR DEMAND -
Upcoming Tele-Seminar Reveals...

“How A Former Deadliest Catch Alaska Fisherman...Who Used To Put His Life On The Line For A Paycheck...Accidentally Discovered A Secret Automatic Income System That Puts $7,000 To $100,000+ A Month Into His Bank Account, Without Lifting A Finger...And How YOU TOO Can Use It To Retire From Dentistry...Forever!”

After 7 years of working the most dangerous job in the world, as an Alaska Fisherman, (and putting his life on the line for every penny he made)...Kevin Thompson accidentally discovered a “secret” Automatic Income System that does all the work for him. He’ll be revealing the entire system at this Training Seminar so he can show you how to work less and make a WHOLE LOT MORE!

This 90-minute tele-Seminar is a $97 value, but... I’ve convinced Kevin to offer it for FREE on Tuesday, August 10, 2010 at 8 pm (EST).

• His secret automatic income system puts $7,000 to $100,000+ a month into his bank account each and every month.
• This happens without him lifting a finger... (He just sends emails!)
• YOU TOO... can use “his system” to put a boatload of cash into your own pocket (or retirement fund)...almost overnight.
• Even with the recession... Kevin is having his best year ever!

So what is Kevin’s “Automatic Income System?”

1) Kevin will show you how to determine your “personal area of expertise” that people will pay money for.
2) Information products like CDs, DVDs, e-books, etc. often have 1000% markup.
3) Vincent (who works with Kevin) will help you set up your personal website for less than $100.
4) The system will respond to visitors automatically via a built-in auto responder. The system also processes, takes and ships the orders and deposits the money in your bank account.
5) You don’t have to physically make the CDs, DVDs, books, etc., or send out the products. A fulfillment company that Kevin uses does all this for you.
6) Creating your idea, website and products will take about 20 hours. Once that’s done... you’re on autopilot! Just like it took The Beatles a lot of time to create their first album, once it was created... they collected royalties for years (and still do)! Create it once and reap the rewards forever.
7) Kevin spends less than 4 hours per day, 4 days per week on his 3 websites and grosses over $100,000/month with 15% overhead and ZERO employees.

Hey, this is sooo simple even a dentist like me can do it! Check out my website at www.buypre-ownedcars.com.

Regards,

William W. Oakes, DDS

PS – To register (or for more information), visit www.CashFlowShortcut.com or call 1-800-337-8467 TODAY!
Museum showcases the latest technology for dental practices

By Fred Michmershuizen, Online Editor

There’s no doubt that any dentist who has been to a dental meeting recently knows a lot about new technology. Now, thanks to a new exhibit at the National Museum of Dentistry, members of the general public will get to see much of this new technology as well.

The new exhibit showcases some of the most technologically advanced dental treatment systems available for dental offices — from digital X-ray systems that expose patients to less radiation to foot-operated computers that improve the delivery of procedures, reduce patients’ time in the office and improve oral health.

“The ‘Tomorrow’s Dental Office … Today’ exhibit gives us an opportunity to feature some of the latest advances in dental care, showing how far the techniques of modern dentistry have come and their positive impact on the public,” said National Museum of Dentistry Executive Director Jonathan Landers, in a press release announcing the new exhibit.

The exhibit is made possible through the support of Benco Dental, a privately owned, full-service distributor of dental supplies, dental equipment, dental consulting and equipment services.

“We were honored to be selected to put together the ‘Tomorrow’s Dental Office … Today’ exhibit for the National Museum of Dentistry,” said Benco Dental President Charles Cohen. “It’s an exciting venture, bringing dental technology to the general public.”

The “Tomorrow’s Dental Office … Today” exhibit includes the following:

• Dental operatory equipment from A-dec that was developed for tooth cleaning, root canal procedures, periodontal surgery and cavity preparation. The A-dec 500 dental chair, featuring a slim headrest and backrest to give the dentist more legroom under the chair. For the patient, the anatomically formed backrest and seat cushion reduce pressure points.

• The A-dec 5000 treatment console and storage unit, made of water-resistant materials to allow for the efficient storage and delivery of supplies while providing a flat-panel monitor, pivoting work surface and assistant’s instrumentation.

• The PaX-Duo3D Cone Beam CT unit from Vatech, featuring switching technology for digital panoramic radiographs or CT scans. The unit has dedicated sensors for each system and an imbedded camera for proper patient positioning.

• The LAVA Chairside Oral Curing System from 3M ESPE, a dental impression system that allows the dentist to both capture and view continuous 3-D images, as well as create precise digital impressions. The benefits of digital impressions include increased patient comfort and decreased seating times.

• The SIROlaser Advance from Sirona, providing preset therapy programs for laser applications in the fields of periodontics, endodontics, surgery and pain relief.

• The SWERV3 Magnetostriuctive Ultrasound Scaler from Hu-Friedy, delivering a full range of power for efficiently removing calculus on the teeth while still providing patient comfort.

• The SmartLife PS by DENTSPLY, used by the dental team to cure a variety of dental products ranging from cements and adhesives to composites.

• The NOMAD Pro handheld X-ray unit by Aribex, the first for intraoral use. The unit’s light weight and rechargeability allow for its use in humanitarian missions in remote areas and for dental forensic identification following mass disasters. The internal shielding and external backscatter shield protect the operator, making it extremely safe to use.

• The Dental R.A.T., a foot-operated computer mouse and keyboard for hands-free computer use. Developed by a frustrated hygienist to allow for single-person periodontal charting, the unit has become even more patient friendly as more patient information is recorded and stored digitally.

At the museum, visitors can also see for themselves how dentistry has changed dramatically over time. Galleries include some of the hand-forged iron tools of the early American dentist on the hand-forged iron tools of the father of dentistry, to the “Father of Dentistry,” to the cutting-edge dental equipment available today.

In short, the museum shows how dental care has evolved and oral health has improved through the ages.
Musings from CDA Anaheim meeting

By David L. Hoexter, DMD, FACD, FICD, Editor in Chief

The California Dental Association (CDA) had its annual southern meeting in Anaheim, Calif. on May 14-16. The very successful meeting was facilitated by the spacious and plentiful facilities of the convention center.

The CDA presented a multitude of educational courses, including practical “hands-on” lectures, which were all very well attended.

The commercial booths were a delight, both from the participants’ and the exhibitors’ points of view. Course times were staggered, allowing for a constant flow of participants on the commercial floors, and avoiding mad rushes and bunched-up crowds of participants. Also adding to the comfort and enjoyment was the presence of wide aisles in the commercial areas.

The highlight of the meeting for me was the appearance of “The Greatest,” Wayne Gretsky. He was at the Glove Club booth, meeting and speaking with the attendees. Gretsky is truly one of the great athletes, the finest hockey player of all time, was much taller than I had thought, and humble to boot. He even signed pucks for all who requested it.

He regaled me with conversations about his career and his personal relationship with dentistry. Interestingly, it appears that most hockey players eventually seem to need dentistry, especially when their playing careers are over. Gretsky truly sets an example, both in leadership and class.

The CDA has dedicated an area called “The SPOT,” and equipped it with comfortable couches, chairs, conversational areas and work cubicles and tables with electrical outlets for computers and cell phones.

The CDA also cleverly arranged for educational presentations and hands-on courses around The Spot. As described by Dr. Rick Rou-
Employee embezzlement: Don’t let it happen to you

By Stuart Oberman, Esq.

The day-to-day pressure in running a dental practice is enormous, especially in today’s economy when every dollar counts. Unfortunately, dentists spend most of their day practicing dentistry instead of supervising the staff members who manage their dental practice. In this type of atmosphere, embezzlement can thrive.

According to industry statistics, approximately 40 percent of dental offices have been or will become the victim of employee embezzlement. Recent studies indicate that employee embezzlement in a dental office has become so rampant that it accounts for the majority of ordinary business losses suffered by dentists.

The average amount of employee embezzlement from a dental office is approximately $105,000 per incident, which is a staggering amount.

Listed below are signs employee embezzlement may be taking place:

- You fail to receive financial information in a timely manner.
- Employees are resistant to any type of change in the present accounting system.
- You have large numbers of unexplained accounting adjustments.
- Your collections have slowed.
- Your cash deposits have declined.
- An employee refuses to take a vacation.
- A staff member resents your authority.
- An employee always works late and/or takes work home.
- You have employees who always seem to have cash on hand, and/or appear to live above their means.
- An employee treats office procedures as an annoyance.

Perform an embezzlement audit of your practice

If you suspect that an employee is embezzling funds, there are three ways to initiate a practice audit.

1) Request that your accountant performs a practice audit or hires a forensic accountant that specializes in employee embezzlement;
2) Ask your accountant to design a brief self-audit process for you to follow; or
3) Perform an immediate, cursory, on-the-spot random audit by pulling approximately 15 to 20 patient charts from the past week’s schedule in order to confirm that the treatment performed has actually been posted to each patient’s account.

If you suspect embezzlement in your practice

Anytime you suspect that you are the victim of embezzlement, you should seek legal advice immediately. Your attorney should prepare an investigation strategy that should include working closely with your practice CPA or an outside forensic accountant.

When the owner of a dental practice is first confronted with the prospect of employee embezzlement, there are four primary objectives, which are:

1) to determine whether employee embezzlement has actually taken place,
2) to determine the total amount and method(s) of the theft,
3) to remove the dishonest employee from the workplace (and take remedial actions to prevent employee embezzlement in the future), and
4) to recover the money or property lost.

Conducting the investigation

It is extremely rare that an employee is actually caught embezzling funds by direct observation. Most embezzlement cases are detected based upon initial circumstantial evidence, such as an inconsistent practice financial report or through a random audit.

If you suspect that employee embezzlement has taken place, one of the first things you should do is conduct an investigation with an attorney and CPA in private, and proceed with extreme confidentiality.

The reason for this is two-fold: to avoid exposure to defamation claims and to avoid premature disclosure of information to the wrong party.

The next step is to identify employees at every level of the practice that had access to financial information and the opportunity to commit the theft. In addition, it is important that you identify employees that may have known that embezzlement was taking place, but failed to disclose it.

All employees with access to financial information and the opportunity to commit the theft should be included in the investigation regardless of their employment record, length of employment or position within the practice. No one should be exempt from investigation, including a partner in the practice, if you have one.

If you suspect that the loss is potentially large, or the theft appears to be complex, you should always seek the advice of legal counsel, a CPA, a computer-data-retrieval specialist and other required experts to assist in the investigation.

It may be appropriate for such experts to be hired by outside legal counsel in order to maintain privileged communication with the experts and to avoid any appearance of a conflict of interest.

At the early stages of an employee embezzlement claim, and depending on the extent of the theft, you may wish to contact your insurance agent in order to determine whether you have employee dishonesty coverage. Most insurance policies have strict time requirements for reporting an employee dishonesty claim.

For substantial losses, an attorney should assist the owner of a dental practice in determining whether insurance coverage may exist, and how much coverage may be available.

Depending on the type of employee embezzlement, you may wish to interview employees. However, you must ensure that the interview is conducted with appropriate regard for confidentiality and without undue coercion or duress in order to avoid a false imprisonment claim and other state law tort claims.

The owner of a dental practice or the office manager should never interview any employee without seeking the advice of legal counsel.

Appropriate disciplinary action

Once the investigation has been thoroughly completed, and if you have determined that employee embezzlement has actually occurred, you must decide what action you should take, including termination of the suspected employee.

In certain ways, investigating suspected embezzlement is similar to investigating other employ-
SPACE-AGE TECHNOLOGY.
NEW-AGE AFFORDABILITY.

WITH FEATURES LIKE DUAL WAVELENGTH TECHNOLOGY, IT’S A MODERN MARVEL.

With dual wavelength output, you can be sure that the SmartLite® Max LED Curing Light cures your light cure materials. It also features high output – up to 1400 mW/cm², a built-in radiometer, plus four output modes. And never worry about running out of battery in the middle of a procedure again – the SmartLite® Max LED Curing Light can be used both cordless and corded, with an illustrative LED display that tells you exactly what you need to know.

All of this, without an astronomical price tag.

For more information contact DENTSPLY Caulk at 1.800.LD.CAULK, visit www.smartlitemax.com or call an authorized DENTSPLY distributor for more information.
The scope and manner of the investigation will depend in part on the size and complexity of the theft.

Of course, as with any investigation, the employer's rights and abilities to investigate the facts and circumstances surrounding the incident are intertwined with the myriad of rights and protections conferred upon employees by federal and state law.

An often-discussed issue is whether a dishonest employee's pension or profit-sharing plan may be seized in order to repay the amount of money that was embezzled.

The Employee Retirement Income Security Act (ERISA), as construed by the courts, may very well prohibit any type of garnishment, attachment or constructive trust regarding an employee's pension or profit-sharing plan, even if an employee is terminated for embezzlement.

However, an employee may voluntarily request distribution of his or her plan in order to repay the amount that was stolen. Extreme care must be used in order to avoid any type of undue coercion or duress should this path be undertaken.

**Recovering the losses**
Depending on whether the loss is covered by your insurance policy, and if so, the amount of the deductible, the owner of a dental practice may wish to file a civil action against the dishonest employee in order to recover any type of loss.

However, the prospects of recovery (depending on the wrongdoer's assets) may not justify the costs of litigation.

Another avenue to consider is criminal prosecution, which can be a very slow process. It is important to note that civil lawsuits and criminal prosecution are matters of public record, and as a result, you must weigh the consequences of any adverse publicity.

**Summary**
In today's marketplace, employee embezzlement is rampant. However, with a little precaution, the financial hardship of employee embezzlement can be avoided.

In addition, with proper employee screening, proper control and oversight, as well as prudent financial control, a devastating financial loss can be avoided.

---

**About the author**
Stuart J. Oberman, Esq., has extensive experience in representing dentists during dental partnership agreements, partnership buy-ins, dental MSOs, commercial leasing, entity formation (professional corporations, limited liability companies), real estate transactions, employment law, dental board defense, estate planning and other business transactions that a dentist will face during his or her career.

For questions or comments regarding this article, visit www.godentalattorney.com.

The average amount of employee embezzlement from a dental office is approximately $105,000 per incident.
Implant fracture: A look at the physical mechanisms for failure

By Dov M. Almog, DMD, Odalys Hector, DMD, Samuel Melcer, DMD and Kenneth Cheng, DDS

The etiology and physical mechanism of fractured dental implants phenomenon have been reviewed and studied at length in recent years. For the most part, the studies concluded that the crown-to-root ratio guidelines associated with natural teeth should not be applied to a crown-to-implant restorations ratio.

According to these studies, the crown-to-implant ratios of those implants that were considered successful at the time of the reviews took place were similar to those implants that failed. Apparently, according to some of these studies, the guidelines that are used by some clinicians to establish the future prognosis of implant-supported restorations are usually empirical and lack scientific validation as far as the possible causes for implant fractures.

However, as oral implantology has been the fastest growing segment in dentistry, the gaining of insight into these failure processes, including the accurate understanding of critical anatomical, restorative and mechanical information, might stimulate the clinicians’ implementation of preventive action that may avoid the future fractures outcome with dental implants.

Case report

A 72-year-old Caucasian male recently presented to our clinic. Consistent with the patient’s chief complaint, a comprehensive oral and maxillofacial examination, including full-mouth X-rays, revealed, among other things, two fractured endosseous implants #6 and #7 (Fig. 1).

These 3.3 mm x 15 mm implants (Lifecore Biomedical, Chaska, Minn.) were placed and restored in 2003. The implants were placed as per protocol, utilizing a surgical template consisting of two guiding sleeves (DePlaque, Victor, N.Y.). The implants were allowed to integrate for six months. No surgical complications were noted during this time. At the conclusion of the six-month waiting period, the implants were uncovered in the normal manner and healing abutments placed.

The implants were subsequently restored with implant-supported crowns that were functional for approximately six years until the implants fractured.

While this treatment option was developed with an appreciation of the patient’s occlusal and mechanical circumstances and habits, following the implants’ fracture, a retrospective analysis of the site planned for the implants revealed extended inter-occlusal space on the articulated models and widespread occlusal wear of the opposing dentition (Fig. 2).

When the patient presented recently to our clinic, the only portion of the restoration that was still present in his mouth was abutment #6, which was still connected to one of the fractured implants, and was removed with a hex driver (Fig. 3).

Proceeding with careful assessment of all the available retrospective diagnostic information and upon further discussion with the patient, several diagnostic assumptions and one follow-up treatment option were established that included replacement of the implant-supported crowns by a removable cast partial denture.

Considering the need for the removal of fractured implants must be balanced against the risk of increasing damage, a decision was made to remove the remaining abutment and the fractured piece of implant #6 allowing for primary closure of the remaining implants bodies #6 and #7, i.e., “put them to sleep” (Fig. 4). This was followed by insertion of an immediate acrylic removable partial denture, and subsequently, a cast partial denture will be fabricated.

This report attempts to provide an argument in favor of the consideration of physical mechanisms as potential contributors to implant fractures.

While controversy continues to exist as to whether crown-to-root ratio can serve as an independent aid in predicting the prognosis of teeth, the same certainly applies to crown-to-implant ratio, unless multiple other clinical indices such as opposing occlusion, presence of parafunctional habits and material electrochemical problems, just to name a few, are considered.

Implant fractures are considered one potential problem with dental implants, especially delayed fracture of titanium dental implants due to chemical corrosion and metal fatigue.

Following careful review of the referenced articles, which are very enlightening, we realized that to a great extent they support our theory that there are multiple factors involved in implant fractures.

These factors include magnitude, location, frequency, duration and direction of compressive, tensile and shear stresses; gender; implant location in the jaw; type of bone surrounding the implant; pivot/focal point in relation to abutment connection; implant design; internal structure of the implant; length of time in the oral environment as it relates to metallurgic changes induced in titanium over time; gingival health and crown-to-implant ratio.

Considering the multiple factors involved in implant fractures, both physical and biological, we can only assume that it can happen especially if the forces of the opposing occlusion and/or parafunctional habits are greater than the strength of the implant, especially over time.

Therefore, it is imperative that the clinician be knowledgeable about the diversity of factors before recommending dental implants.

Errors in diagnosing potential con-
tributors to implant fractures are the most common reason that dental implants fail.

Conclusion
Although, according to the literature, the use of the crown-to-implant ratio in addition to other clinical indices does not offer the best clinical predictors, and even though no definitive recommendations could be ascertained, considering that dental implants are becoming increasingly popular, an increase in the number of failures, especially due to late fractures, is to be expected.8

This report attempted to provide an argument in favor of consideration of physical mechanisms as potential predictors to implant fractures.

Therefore, it is essential for us to familiarize ourselves with the understanding, and diagnostic competence of the multiple factors involved in implant fractures. Once observed, this predictor would certainly lead to better diagnosis and treatment planning.  

A complete list of references is available from the publisher.

About the authors
• Dov M. Almog, DMD, prosthodontist, chief of the dental service, VA New Jersey Health Care System (VANJHCS)
• Odalys Hector, DMD, general dentist, VANJHCS
• Samuel Melcer, DMD, periodontist, assistant chief of the dental service, VANJHCS
• Kenneth Cheng, DDS, oral and maxillofacial surgeon, VANJHCS

For queries about this article, please contact:
Dov M. Almog, DMD
Chief, Dental Service (160)
VA New Jersey Health Care System (VANJHCS)
385 Tremont Ave., East Orange, N.J. 07018
E-mail: dov.almog@va.gov

Figs. 4A, B, C: The remaining abutment and the fractured piece of implant #6 were removed, allowing for primary closure of the soft tissue over the remaining implant bodies #6 and #7 (A, B), followed by an insertion of an immediate acrylic removable partial denture (C). (Photos/Provided by Dr. Dov M. Almog)
Two is better than one

The Greater New York Dental Meeting announces two Live Dentistry Arenas with no tuition and no pre-registration fee

As the leading dental convention and event in the United States, the Greater New York Dental Meeting (GNYDM) continues to grow and reach for new innovative programs in hopes of attracting the most renowned clinicians and dental professionals from around the world.

In 2009, the GNYDM registered 59,166 attendees from all 50 states and 124 countries, a remarkable increase from the previous year. The GNYDM organizers feel that the event must contain programs to inspire the entire dental team to excel in their profession.

This year, the GNYDM is expanding to include two Live Dentistry Arenas in order to incorporate more cutting-edge oral health-care programs. Attendees will watch procedures on numerous 60-inch high-definition LED screens that will project up-close views of live procedures, allowing dental professionals the chance to learn the most about innovative dental products, technology and procedures.

This year, the GNYDM is offering an innovative live hygiene session where, for the very first time, dental hygienists and assistants will learn and see the latest materials and equipment available on the market to advance their skills and knowledge.

This arena is a place where the most prominent and respected clinicians can share breakthrough technology and techniques, allowing dental professionals the chance to learn the most about innovative dental products, technology and procedures.

This year, the GNYDM is offering an innovative live hygiene session where, for the very first time, dental hygienists and assistants will learn and see the latest materials and equipment available on the market to advance their skills and knowledge.

In these two modern high-tech arenas, attendees will watch procedures on numerous 60-inch high-definition LED screens that will project up-close views of live procedures right on the exhibit floor. By using the most modern equipment to view real-time dental procedures, the GNYDM continues to set educational standards that other dental meetings seek to emulate.

Due to its immense popularity, the arenas fill up quickly so be sure to pre-register and arrive early to obtain a seat at one or all of the tuition-free sessions.

Check out the schedules (see tables) and visit the GNYDM’s website at www.gnydm.com for additional information and updates on this year’s Live Dentistry Arenas as well as other workshops, seminars and essays scheduled for the 86th annual session.

During the holiday season, New York is indeed a magical place to be, with the city dressed up in all its holiday finery; the festive spirit is evident citywide. New York City has something for everyone during this spectacular time.

Meeting attendees can enjoy world-renowned museums, Broadway theaters, restaurants, historical sites and stores lavishly decorated for the season. A must-see event includes the annual lighting of the Christmas tree at Rockefeller Center, which takes place on Wednesday during the Greater New York Dental Meeting.

“No pre-registration fee for dentists, their staff and their families is only found at the Greater New York Dental Meeting. We want the entire dental team not only to enter the meeting at no cost, but to have the opportunity to attend at least eight hours of free continuing education programs every day,” said GNYDM Executive Director Dr. Robert Edwab.

Come be a part of the GNYDM and experience New York City during one of the most marvelous times of the year starting on Friday, Nov. 28 and continuing through Wednesday, Dec. 1.

For additional information, please contact the Greater New York Dental Meeting at 570 Seventh Ave., Suite 860, New York, N.Y., 10018-1698; telephone (212) 598-6922; fax (212) 598-6954; info@gnydm.com.

(at right) Dr. Bruce Lish of New York City prepares for his talk on ‘Mini Dental Implants to Retain Lower Dentures’ in the Live Dentistry Arena on Tuesday, Dec. 1, 2009.
Henry Schein announces sponsorship of NYU College of Dentistry Henry Schein Cares Global Student Outreach Program

Five-year commitment supports sustainable international and U.S. oral-health programs to educate and treat underserved populations

Henry Schein, Inc., the largest distributor of health-care products and services to office-based practitioners, and the New York University (NYU) College of Dentistry have announced a five-year sponsorship of the dental school's national and international outreach programs — the NYU College of Dentistry Henry Schein Cares Global Student Outreach Program.

Through the sponsorship, Henry Schein will provide dental supplies to be used for each individual program throughout the year. In 2010, the six geographic areas targeted for outreach include the tri-island nation of Grenada; Fort Yukon, Alaska; Machias, Maine in the fall; Chiquilistagua, Nicaragua; Santo Domingo, Dominican Republic; and finally Tivoli in St. Andrew’s Parish, Grenada. NYU team participants also provided free emergency dental care for hundreds of children and adults — including root canals, fillings and extractions — at the Tivoli Medical Clinic in St. Andrew’s Parish.

In addition, NYU dental team participants provided education for primary care providers on the importance of preventive oral health care and provided free continuing professional education in both the specialties of pediatric dentistry and endodontics for dentists throughout Grenada. The NYU College of Dentistry Henry Schein Cares Global Student Outreach Program plans to return annually to Grenada to maintain the care provided to the children of Tivoli in St. Andrew’s Parish.

NYU dental team participants provided education for participating in a series of week-long national oral health assessment, which included the NYU College of Dentistry Henry Schein Cares Global Student Outreach Program team participants conducted a comprehensive nationwide oral public health assessment, which included the NYU College of Dentistry Henry Schein Cares Global Student Outreach Program team participants conducted a comprehensive nationwide oral public health assessment, which included the examination of 1,075 children at 22 schools throughout the country.

The findings of this assessment, as well as recommendations for the establishment of a sustainable oral health model for the country, were presented to the Grenadian Ministry of Health in June 2010. NYU dental team participants also provided free emergency and dental care for hundreds of children and adults — including root canals, fillings and extractions — at the Tivoli Medical Clinic in St. Andrew’s Parish.

“Over the past 16 years, the NYU College of Dentistry has developed a dental outreach program designed to reduce disparities in access to dental care resulting from geographic, physical, developmental, financial and cultural barriers. This has evolved to become a unique, sustainable model, with teams of dental faculty, students, post-graduate residents and staff annually participating in a series of week-long visits to underserved communities,” said Dr. Charles N. Bertolami, dean of the NYU College of Dentistry.

“The NYU College of Dentistry has developed a dental outreach program designed to reduce disparities in access to dental care resulting from geographic, physical, developmental, financial and cultural barriers. This has evolved to become a unique, sustainable model, with teams of dental faculty, students, post-graduate residents and staff annually participating in a series of week-long visits to underserved communities,” said Dr. Charles N. Bertolami, dean of the NYU College of Dentistry.

Prolonged commitment supports sustainable international and U.S. oral-health programs to educate and treat underserved populations

Henry Schein, Inc., the largest distributor of health-care products and services to office-based practitioners, and the New York University (NYU) College of Dentistry have announced a five-year sponsorship of the dental school's national and international outreach programs — the NYU College of Dentistry Henry Schein Cares Global Student Outreach Program.

Through the sponsorship, Henry Schein will provide dental supplies to be used for each individual program throughout the year. In 2010, the six geographic areas targeted for outreach include the tri-island nation of Grenada; Fort Yukon, Alaska; Machias, Maine in the fall; Chiquilistagua, Nicaragua; Santo Domingo, Dominican Republic; and finally Tivoli in St. Andrew’s Parish, Grenada. NYU team participants also provided free emergency dental care for hundreds of children and adults — including root canals, fillings and extractions — at the Tivoli Medical Clinic in St. Andrew’s Parish.

In addition, NYU dental team participants provided education for participating in a series of week-long national oral health assessment, which included the NYU College of Dentistry Henry Schein Cares Global Student Outreach Program plans to return annually to Grenada to maintain the care provided to the children of Tivoli in St. Andrew’s Parish.

NYU dental team participants provided education for participating in a series of week-long national oral health assessment, which included the examination of 1,075 children at 22 schools throughout the country.

The findings of this assessment, as well as recommendations for the establishment of a sustainable oral health model for the country, were presented to the Grenadian Ministry of Health in June 2010. NYU dental team participants also provided free emergency and dental care for hundreds of children and adults — including root canals, fillings and extractions — at the Tivoli Medical Clinic in St. Andrew’s Parish.

“Over the past 16 years, the NYU College of Dentistry has developed a dental outreach program designed to reduce disparities in access to dental care resulting from geographic, physical, developmental, financial and cultural barriers. This has evolved to become a unique, sustainable model, with teams of dental faculty, students, post-graduate residents and staff annually participating in a series of week-long visits to underserved communities,” said Dr. Charles N. Bertolami, dean of the NYU College of Dentistry.

“The NYU College of Dentistry has developed a dental outreach program designed to reduce disparities in access to dental care resulting from geographic, physical, developmental, financial and cultural barriers. This has evolved to become a unique, sustainable model, with teams of dental faculty, students, post-graduate residents and staff annually participating in a series of week-long visits to underserved communities,” said Dr. Charles N. Bertolami, dean of the NYU College of Dentistry.

Prolonged commitment supports sustainable international and U.S. oral-health programs to educate and treat underserved populations
Why dentists need a secondary income

By Kevin Thompson

Though they may not admit it openly, many dentists are extremely frustrated with their practice. How can I be so sure? Simple. I’ve spent time talking with many of them, and have been amazed by how open and candid they’ve been with me. Maybe it’s because I’m not associated with the profession, and they know their secrets are safe with me?

I was recently in Louisville, Ky., speaking with a group of dentists, and that evening I had the opportunity to speak privately with one dentist in particular who told me how frustrated he was with everything that was happening to him.

His practice was completely controlling his life, and he felt trapped. He found himself adding and adding to the list of things he had to do in order to grow his practice — and now he was becoming increasingly frustrated with the whole process.

In November of last year, I was in Las Vegas, speaking for another group of dentists, and the same thing happened. When the Vegas event concluded, several dentists stayed afterward so they could speak with me privately. Surprisingly, I heard much of the same story that I’d heard in Louisville months earlier.

I’ll never forget the conversation I had with one of those dentists. He was almost in tears as he told me about his situation. Though he had a thriving practice that provided him with a great lifestyle, his personal life was a mess. His wife was preparing to file for divorce. His daughter wanted nothing to do with him. Basically, his entire personal life was “caving” in on top of him, and he was desperately searching for answers.

At this point, you’re probably wondering, who in the heck I am and why are so many dentists coming to me for advice? My name is Kevin Thompson (and though you and I come from different worlds), we have more in common than you might imagine.

In 1996, I started my first business with huge dreams and aspirations. By 1999, I had a business that was massively successful by most people’s standards, but I was completely miserable. And as I began to look at what I’d created, I thought to myself, “This is not what I had in mind when I originally started going down this path.”

To make a long story short, I took swift action to remedy the situation. Now, I have a business that compensates me more than I could possibly imagine, for doing what I love doing, and this business fits in perfectly with the lifestyle that I’ve chosen to live. Since figuring out how to have a “lifestyle-business” of my own, I’m now been on a mission to help as many other people as I can by sharing my discovery.

So, let me ask you a question: If you woke up excited every morning knowing that you’d be spending your day doing what you loved, and that you got compensated extremely well for doing it, what’s the thing you’d most want to be doing? Because the fact is, life is too short to spend all your time doing stuff that you don’t even enjoy.

What if I were to tell you that you could have a lifestyle-business that compensated you better than you ever imagined, was more fun than you ever imagined, and you wouldn’t have to sacrifice your integrity, family or health in order to make it happen? In my business I collect $100,000-plus per month with less than 15 percent overhead, have no stress and have zero employees. To find out if this is a right fit for you, go to page 3A of this publication.

P.S. If you currently enjoy your dental practice, what would happen to your income stream (lifestyle) if you become disabled?
Velopex’s air abrasion unit has many uses

There are many uses for the Velopex Aquacut Quattro Fluid Air Abrasion Unit.

- Cutting enamel, composite, dentine
  - fissure cleaning and sealing
  - composite repair
  - cavity preparation
  - white spot removal
  - pre-bonding conditioning of enamel

- Stain removal
  - fissure cleaning and sealing
  - stain removal
  - caries removal

- Cleaning and polishing
  - fissure cleaning and sealing
  - stain removal
  - caries removal

- Etching
  - etching
  - porcelain repair
  - metal bonding
  - treating lab work
  - pre-bonding conditioning of enamel
  - wash and dry

The Aquacut Quattro will give you greater control and flexibility than any other piece of equipment you own. Some of its other benefits include:

- no vibration, turbine noise, heat generation or smell,
- greatly reduced need for local anesthesia,
- a handpiece that creates a fluid curtain around the powder medium,
- a triple-action foot control that speeds treatment by allowing cut, wash and dry operations through the same handpiece,
- no chipping or stress fracturing,
- minimal loss of sound tooth material.

Bone expander kit

Bone expander drills are an alternative to osteotomes for the expansion and condensing of the atrophic mandible and maxilla in preparation for dental implant insertions. Expanders are also an alternative to the maxillary sinus elevation technique.

Many patients do not tolerate the trauma of the osteotome technique. Additionally, there have been documented reports of a variety of complications resulting from the technique.

Expanders are driven into the bone with a ratchet wrench or low-speed handpiece. This decreases the surgical trauma of osteotomes. Bone expanders improve the clinical success by improving stability, maintaining bone density and increasing fixation.

The Bone Expander Kit from ITL Dental includes five bone expanders, a ratchet wrench, a pilot drill, a ratchet wrench connector, a handpiece connector and a thumb knob for finger usage.

The kit is autoclavable. The cost of the kit is less than $500, making it one of the most economical expander kits.

ITL Dental
51 Peters Canyon
Irvine, Calif. 92830
Tel: (800) 277-0073, (949) 223-8950
sales@itldental.com, www.itldental.com

Bone expander kit (Photo/Provided by ITL Dental)
EXECUTE YOUR STRATEGY NOW

1. Survive Economic Downturn
2. Increase Services Offered
= Take Neuromuscular Based Orthodontics for Children Course at LVI

NEUROMUSCULAR BASED ORTHODONTICS FOR CHILDREN

Each participant in this three-day course will be instructed on the various options of orthodontic diagnosis, case selection, treatment timing and treatment modalities from the neuromuscular perspective. To facilitate a complete learning experience, numerous hands-on typodont projects will be utilized as well as project exercises and mini-clinics. These teaching methods will allow each participant to return home and immediately put into practice the learned techniques.

Visit www.lviglobal.com for complete course information.

The next class is September 28-30, 2010, reserve your seat today!

REGISTER NOW!
www.lviglobal.com
888.584.3237

Ortho Organizers is a proud supporter of Dr. Jay Gerber and the Orthodontics Program at LVI.

There are no prerequisites for this course. Begin your orthodontic study now. Increased dental services means increased value. Set yourself apart from the competition. See you in Las Vegas!

- Dr. Jay Gerber
Director of Orthodontics

ADA CERP is a program of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. LVI Global designates this activity for 22 continuing education credits.

Academy of General Dentistry
Approved PACE Program Provider
FAGD/MAJD Credit
6/1/2007 to 5/31/2011
A banker’s bond: When less is more

By Sarah Kong, DDS

This banking executive was recently chosen as the official cosmetic dentist for the Georgia and South Carolina United States Pageant contestants.

Morton said he is excited to help contribute to the grace and beauty of the event by making every smile as beautiful as it can be.

The United States Beauty Pageant provides a great opportunity for women from all over the country to showcase their talent and beauty on a national stage. The competition brings together representatives from every state to compete in a wide range of areas.

These young women strive to be the best they can be in all aspects of their lives, always reaching for excellence in education, community service and peer leadership. Recently, Cope lyn Jue of Georgia was named 2009 Miss Junior Teen United States.

More recently, he came in for his routine prophylaxis appointment and again wanted to improve his smile a little more. This time, he wanted to see how we could make his teeth look more aligned, and again, without the aid of orthodontics. He asked about porcelain veneers for all his teeth, wondering if this was a feasible option.

The patient was adamant about not having orthodontics again, so we did a mockup on his canines to see if he liked the way it would look if we bonded his teeth sans ortho treatment. He loved them and was immediately motivated to whiten his teeth and get his teeth bonded.

His teeth were deep bleached and the mesial surfaces of the canines were bonded to diminish the pointiness of his canines. He loved how the bonding created a more natural and less aggressive look (Fig. 5). That was about three years ago.

A closer clinical examination revealed several cosmetic issues including, but not limited to:
1) palatally inclined lateral incisors,
2) prominent and mesially rotated canines,
3) #9 slightly more retroclined than #8,
4) an uneven gumline due mainly to a large cervical divot on #8 with associated gingival overgrowth,
5) anterior crowding and
6) retruded premolars that made the smile end at the canines in a narrow arch form (Fig. 5).

We discussed all these factors with the patient and then, as before, we did a mockup of teeth #7 through #10 to show the patient what he would look like with four resin veneers (Fig. 5).

The patient did not understand the need for the gumlift on #8, so we added bonding to the gumline to give the illusion of a more uniform gumline that the patient could see and understand.

At this stage, we pointed out how his pre前后 seemed to drop off his smile and get lost in the buccal corridor. The premolars on one side were mocked up as resin veneers so he could see the difference the extra teeth would make in comparison to the other side if left undone.

"Any smile can be effectively treated with the wide range of cosmetic procedures offered," Morton said.

"Bonding can quickly repair damaged or misaligned teeth, porcelain veneers can cover unsightly gaps or stains, and professional whitening procedures can brighten any smile."
Multiple images were taken of the various mockup options and e-mailed to the patient, along with multiple treatment plan options. After careful consideration, the patient opted to do the resin veneers on teeth #7 through #10 as well as the gumlift. It was because of the mockup and photographs that the patient realized the value of the gumlift in creating a more ideal smile. He wanted to think about the resin veneers for the premolars and possibly have them done in the future.

The procedure

The patient presented for the bonding appointment with his teeth whitened and ready to go. We began by placing topical anesthetic before anesthetizing teeth #7 through #10 with The Wand. Subsequent injections of Lidocaine were placed around the gumline of teeth #7 through #10 before electrosurgery of the gums. Using Bident, a bipolar electrosurgery unit, the gingiva around #8 was contoured to ideal proportions (Fig. 7). Once the gingiva was removed, it was discovered that the underlying bone had grown into the cervical divert of #8, right on top to the enamel. It was then decided that crown lengthening would be indicated, so a small, round diamond bur was used to contour the bone to match the ideal gumline.

We proceeded to contour the gin-
Sarah Kong, DDS, graduated from Baylor College of Dentistry, where she served as a professor in restorative dentistry. She focuses on preventive and restorative dentistry, transitional, anesthesia and periodontal care.

Kong is an active member of numerous professional organizations, including the American Dental Association, the Academy of General Dentistry, the American Academy of Cosmetic Dentistry, the Texas Dental Association and the Dallas County Dental Society.

You may contact her at drkong@dallasdentalspa.com.

The Bident unit allowed for gentle, clean coagulation in a wet field. There was no grounding needed, and because the unit is meant to be used with water, there was no tissue charring or shrinkage.

A more effective, more precise and safer result was achieved with essentially no post-op bleeding—a perfect scenario for bonding teeth immediately with no worries of a contaminated field.

The teeth were now ready to be bonded. They were carefully cleaned with pumice to remove any surface debris and stains. Metal strips were placed interproximally to isolate each tooth.

Then they were microetched with aluminum oxide to allow for better mechanical retention. Thirty-seven percent phosphoric etch was placed and rinsed before the application of a bonding agent, such as OptiBond Solo Plus Unidose.

Tooth #8 was bonded first using various layers of composite, starting with a microhybrid (Premise) and ending with a microfilled composite (Flenamel). This tooth was contoured and polished with a series of polishing discs (Shofu) before proceeding so the next tooth (#9) could be matched to this tooth without being bonded to it.

Teeth #7, #9 and #10 were bonded in a similar fashion with various shades to create a more natural, graded appearance.

As before, each tooth was polished before bonding the next one. Final contouring and polishing were achieved and a high shine was gained with a Twist-2-It and polishing paste.

In about two hours, the patient had a new smile! Even the gumline looked amazing immediately post-op (Fig. 9).

Gentle Gel, an aloe vera and herbal-based gel, was placed along the gumline and given to the patient to apply at home to help soothe the gums and provide for quicker healing.

The patient was amazed and in love with his new smile, even immediately post-op.

When he returned for his two-week follow-up visit, the gums were ideally contoured and the resin veneers looked wonderful, and the patient said they felt wonderful, too (Fig. 10).

No polishing was needed, so we just did another high shine polish to make them sparkle. Post-op photographs were taken and the patient loved the results (Fig. 11).

He also mentioned that he had no post-op pain originally and the gums looked and felt better in just a couple days after the bonding appointment.

Overall, the patient was ecstatic about the dramatic improvement, especially how contouring the gumline contributed immensely to the final cosmetic result.

He also loved the fact that orthodontics was avoided and a beautiful smile was achieved in a single bonding appointment with a minimally invasive approach—less is more.

Now he is already thinking about and looking forward to his next dental venture—resin veneers for his premolars.
The Future of Dentistry
What’s In, What’s Out: Materials and Methods to Keep You on the Cutting Edge

Just because the economy is unstable does not mean that your practice has to be.

LVI will steer you in the right direction!

Now is the time to take the driver’s seat and invest in yourself and your future.
Recession-proof your practice with an education from LVI.
Bring a new enthusiasm to yourself, your practice, your team, and your patients!
You can have the practice of your dreams, and we can show you how.

<table>
<thead>
<tr>
<th>Location</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appleton, WI</td>
<td>July 30-31</td>
</tr>
<tr>
<td>Rapid City, SD</td>
<td>August 20-21</td>
</tr>
<tr>
<td>Helena, MT</td>
<td>August 20-21</td>
</tr>
<tr>
<td>Cincinnati, OH</td>
<td>August 27-28</td>
</tr>
<tr>
<td>Minneapolis, MN</td>
<td>September 10-11</td>
</tr>
<tr>
<td>Long Beach, CA</td>
<td>September 17-18</td>
</tr>
<tr>
<td>Wichita, KS</td>
<td>September 17-18</td>
</tr>
<tr>
<td>Rohnert Part, CA</td>
<td>September 24-25</td>
</tr>
<tr>
<td>Calgary, AB</td>
<td>September 24-25</td>
</tr>
<tr>
<td>Lincolnshire, IL</td>
<td>September 24-25</td>
</tr>
<tr>
<td>Portland, OR</td>
<td>September 24-25</td>
</tr>
<tr>
<td>Hilton Head, SC</td>
<td>September 24-25</td>
</tr>
<tr>
<td>Sudbury, ON</td>
<td>September 1-2</td>
</tr>
<tr>
<td>Edmonton, AB</td>
<td>October 1-2</td>
</tr>
<tr>
<td>Omaha, NE</td>
<td>October 1-2</td>
</tr>
<tr>
<td>Sioux Falls, SD</td>
<td>October 8-9</td>
</tr>
<tr>
<td>Toronto, ON</td>
<td>October 15-16</td>
</tr>
<tr>
<td>Palo Alto, CA</td>
<td>October 15-16</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>October 15-16</td>
</tr>
<tr>
<td>Stockton, CA</td>
<td>October 22-23</td>
</tr>
<tr>
<td>Moncton, NB</td>
<td>October 22-23</td>
</tr>
<tr>
<td>Littleton, CO</td>
<td>October 22-23</td>
</tr>
<tr>
<td>Madison, WI</td>
<td>October 22-23</td>
</tr>
<tr>
<td>Kansas City, MO</td>
<td>November 5-6</td>
</tr>
<tr>
<td>Carlsbad, CA</td>
<td>November 12-13</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>November 19-20</td>
</tr>
<tr>
<td>Kitchener, ON</td>
<td>November 26-27</td>
</tr>
</tbody>
</table>

LVI is bringing 11 CE credits TO YOU with The Future of Dentistry in your area!

For complete details visit www.LVIREgionalEvents.com

If paid in full within the promotion period of 12 months, interest will be charged to your account from the purchase if the balance is not paid in full within the promotional period 12 months, if you make a late payment, or if you are otherwise in default.

ADA CEREP® Continuing Education Recognition Program

LVI Global is an ADA CERP Recognized Provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. LVI Global designates this activity for 11 continuing education credits.

Sponsored by

MAC