Immune system response to dental plaque varies by gender and race

Will neglecting to brush your teeth damage more than just your smile? Can failing to attack dental plaque increase your risk of heart damage? The answer to both questions may be yes if you are male and black, an Indiana University School of Dentistry study published in the current issue of the Journal of Dental Research reports.

The researchers — led by Michael Kovolik, BDS, PhD, professor of periodontics and associate dean for graduate education at the IU School of Dentistry on the campus of Indiana University-Purdue University Indianapolis — studied 128 black and white men and women and found that dental plaque accumulation did not result in a change in total white blood count, a known risk factor for adverse cardiac events.

However, in black males the researchers noted a significant increase in the activity of neutrophils, the most common type of white blood cell and an essential part of the immune system.

Unlike most other studies that attempt to understand the link between oral inflammatory disease and heart disease risk, these study participants did not have periodontal disease. They were healthy individuals.

Researchers are encouraged to read OSAP’s Workshop Proceedings regarding the Dental Infection Control Research Agenda for suggestions on research topics. All submissions must be received at the OSAP Central Office no later than March 1, 2010. OSAP is offering mentorship prior to the submission deadline.

The Organization for Safety & Asepsis Procedures (OSAP) has announced a call for abstracts for its 2010 Annual Symposium, which will be held June 10–13 in Tampa, Fla.

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Dental Tribune Asia Pacific does well in poll

By DTI Staff

Dentists in Asia find Dental Tribune Asia Pacific (DTAP) to be highly up-to-date and applicable to their practice, a reader’s poll conducted at the FDI World Dental Congress in Singapore has revealed.

More than 85 percent of those interviewed said that they would recommend the newspaper to a colleague.

Topics readers were most interested in were science and research (24 percent), followed by world trends in dentistry to more than 30,000 dentists in 25 countries including Singapore, Malaysia, Hong Kong, the Philippines and Australia, to name a few.

The DTAP offices are based in Hong Kong and Leipzig, Germany.

In the last five years, DTI has grown from a rather small endeavor to a significant global publishing network.

At present, DTI — with headquarters in Leipzig, New York and Hong Kong — has publishers and editors in more than 20 countries that deliver the latest news and trends in dentistry to more than 800,000 professionals worldwide.

Local issues of DTI publications are currently available in all relevant markets, including Germany, the UK, Italy, Russia, China, Japan, the US and, new this year, France and India.

“We would like to thank all Dental Tribune readers around the world for taking the time to answer our questions. Please continue to send your suggestions, comments and critiques to feedback@dental-tribune.com.”

Dental Tribune Asia Pacific was voted by the readers as one of the best international dental news and information sources.

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Bottom line – TF helps you achieve your goals for saving natural dentition, alleviating your patients pain and managing dental trauma.

Interested in improving your endodontic efficiency? Go to our TF website for the details and the solutions.
FDI closes Annual World Dental Congress in Singapore

World Dental Federation appoints new president and invites dentists to Brazil

By Daniel Zimmermann, DTT Group Editor

Singapore has a long and successful relationship with the dental profession. Not only is the city-state home to the oldest running dental school in Asia, Dr. Henry Lee placed the first implants in Singapore almost 20 years ago. However, the island boasts a workforce of more than 1,000 dentists that are educated internationally and make use of the latest state-of-the-art equipment.

Large international manufacturers, such as 3M ESPE and Straumann, have taken advantage of Singapore’s position as a trading hub and serve most of their customers in the Asia Pacific region from there. With IDEM Singapore, the city also hosts a dental trade show every few years that not only attracts dental professionals from Singapore, but also from other countries in South East Asia.

It was no surprise that the FDI World Dental Federation, which represents the interests of dentists globally, decided to organize yet another one of its Annual World Dental Congresses (AWDC) in Singapore.

An AWDC was held in Singapore in 1994, and the FDI has been cooperating with the Singapore Dental Association (SDA) in organizing IDEM Singapore’s scientific programme for nearly four years. This year’s congress was held in conjunction with Singapore’s Oral Health Month, an annual campaign that aims to improve oral health by offering free dental screenings to every Singaporean.

According to the latest Adult Oral Health Survey conducted island-wide in 2005, almost half (46 percent) of the respondents indicated that they visit the dentist at least once a year; the average mean DMFT was 8.1 and about 10 percent of the respondents were caries free. A SDA spokesperson said that more than 200 private dentists participated in the screenings that took place during weekends in September.

This year’s scientific programme not only featured popular topics like implants, esthetics and periodontics, it also gave insight into new challenges and developments in dentistry.

Among others, the prevalence of oral cancer, salivary biomarkers as well as the therapeutic potential of dental stem cells and tissue engineering were discussed.

Limited Attendee Courses were expanded to give participants the chance to learn in a more intensive and intimate environment. Auxiliaries and office personnel had the chance to get their hands on the New Patient Experience in a special full-day program.

As one participant put it: “What strikes me about this congress is how it brings together so many different specialist areas in dentistry, all under the same roof.”

Though official numbers have not yet been released, exhibitors speaking to representatives of Dental Tribune Asia Pacific said that visitor numbers clearly did not meet their expectations.

In spite of this, most exhibitors also reported increased numbers in sales and business deals.

Plenty of new products and processes were introduced. For example, surgical instruments and hand-pieces that now come with built-in and long-lasting LED lights.

Nobel Biocare introduced its newest product NobelProcera for the first time to Singaporean dentists during an official launch dinner held at the Charlton Hotel. The system aims to combine industrialized production processes with versatile and individualized esthetics for dental restorations.

In addition, continuing education was offered to trade show visitors through Dental Tribune in collaboration with the DT Study Club, which held its first online symposia outside of the United States.

Members of the 2010 Local Organizing Committee were invited to next year’s congress in Salvador da Bahia in Brazil, home country of the newly appointed FDI President Dr. Roberto Vianna.

Vianna, who took over the presidency from Dr. Burton Conrod (Canada), received his DDS from the Federal University of Rio de Janeiro in 1965.

Since then, he has been serving for many national and international health organizations, including the World Health Organization and the Latin America Association of Dental Schools.

“I am very happy to lead the FDI as president over the next two years. The organization is, of course, the voice of dentistry, but more so, it is a means of empowering dentists to think about oral health on another level, for the benefit of the greater population,” Vianna said.

“I would like to contribute and help spread the FDI message: to accomplish the objectives expressed in our mission. The FDI is a strong organization that continues to improve.

“I’d like to see us focus on developing our relationships and networks, both across the organization and outside. I am very happy with the direction we are moving in.

“Since I became part of the executive committee, there have been a lot of positive changes — new staff members, the relocation of the head office, our executive director — and important projects, like the Global Caries Initiative (GCI),” he added.

The GCI is a collaborative project led by the FDI with the long-term goal of eradicating dental caries. In July 2009, the Rio Garies Conference was held in Brazil to launch the initiative and a series of follow-up events are expected during the next 10 years.

Vianna also announced that he will support the GCI throughout his term as president.

Another important advocacy tool during his term will be the new Oral Health Atlas, which was launched at the FDI Pavilion in Singapore and will be available at Amazon U.K. after the FDI congress.

According to Vianna, this will be a landmark publication that will strengthen the FDI’s position as a world leader for the promotion of oral health information by demonstrating the state of world oral health in easy language that everyone — from dentists to government delegates to the general public — can understand.

Speaking about the 2010 FDI Annual World Dental Congress in his home country of Brazil, Vianna borrowed a phrase from France’s national anthem, “le jour de gloire est arrivé” (now is here our glorious day).

“I am very excited to see the AWDC come back to South America, for only the third time in FDI’s history.

“There has been a lot of breakthrough research and development in Brazil in recent years. Hosting the annual congress will further strengthen oral health promotion across the region,” Vianna said.
Ignorance is bliss broke

It’s time to examine your practice from the patient’s perspective

By Sally McKenzie, CMC

What do your patients really think? Many dentists believe they know the answer to that question, but few could back up their beliefs with hard numbers, data or verifiable research from an objective source.

In actuality, most dentists are blissfully unaware of the realities of the patient experience outside of the confines of the dentist’s direct care. Consequently, they routinely make incorrect assumptions about their patients. The truth is that what people will say to you and what they actually think and do can be very different.

Straw that breaks the camel’s back

In fact, it’s very rare for patients to voice concerns directly to the dentist. Why? Because in most cases patients like you and respect you, and unless they are very upset, few will ever call problems to your attention.

They really don’t want to bother you with a negative report on how rude and unfriendly your front desk staff is. They don’t want to trouble you with information concerning the apparent lack of consideration your financial coordinator displays when it comes to making sensitive financial arrangements in front of a waiting room full of curious listeners.

But they’re doing you no favors. Many of your existing patients will continue to give you the benefit of the doubt until you personally do something that becomes the proverbial straw that breaks the camel’s back.

Like any other strained long-term relationship that ultimately fails, the impetus is seldom a major infraction. Rather, it is the culmination of many smaller and seemingly insignificant breaches that frustrate and wear down the dentist/patient relationship.

The patient leaves quietly and pledges never to return because, on top of the fact that Front Desk Patty is a real pain who simply must be endured on the way to the dentist or hygienist, you, dentist, didn’t listen to the patient as he or she thought you should.

Or you didn’t appear to be interested in fully answering questions about the procedure you were recommending. Or you kept the patient waiting just too long on this particular day.

Whatever, the reason(s), you will likely never know exactly why patients walk away from your practice. They just disappear, leaving you to absorb the ongoing financial fallout.

I highly recommend surveying existing patients, but I wouldn’t stop there. You need to understand how patients, particularly new patients, view your practice, which brings me to yet another very important point:

Have you found yourself wondering lately where all the new patients have gone?

It used to be that you could count on a certain number regularly streaming into the practice, but for the past eight to 12 months you’ve noticed a change, and it’s killing your bottomline.

Yes, part of what you may be experiencing is a reflection of the economy, but I can guarantee that’s not all of it.

Someone or something is cutting new patients out of your practice. I suggest you stop blaming the daily Dow Jones report and turn your focus inward. It’s time for an internal investigation. Let me explain.

‘How do I get new patients?’

Time and again, dentists call me asking what they can do to get more new patients. It never occurs to them that the new patients do call; they may come in for an initial visit, but they never return for a number of reasons.

There are no computer reports in your practice software to tell you how many prospective patients are driven away at the first phone call.

There are no bells or whistles that sound when a new patient silently pledges never to return because it’s impossible to get a parking place within six blocks of your practice.

There’s no little mouse to clue you into the frustration the patient experiences when the signage is so poor that he needs a trail of bread crumbs to figure out how to get to your front door.

Could an outdated and uncomfortable waiting room be one of the reasons why new patients don’t ever book a second appointment with your office?

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Dec 4 Charlotte, NC
Dec 7 Orlando, FL
Jan 22 Kansas City, KS
Feb 5 Washington, DC

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Dentatus
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Body Implants will be distributed exclusively through Henry Schein Dental.
need to discover the “why” behind the loss.

Is something happening when prospective patients call? Is there an issue with your fees, with your location, with parking? Are your policies so regimented they are not worth the trouble for patients?

Is the staff unaccommodating? Do they unknowingly give the impression that you don’t want new patients? Your livelihood and your practice depend on knowing why the numbers are down.

How do you find the answers to this myriad of questions? With the help of a “private eye” for your practice.

‘Mystery patient’ services

What if you could send in your own private investigator? Someone who would quietly evaluate your practice and give you feedback as to what the experience is like from the patient’s point of view, a “mystery patient.”

In the medical community, “mystery patients” have been around for several years. Dentistry is embracing the concept more and more as practices have come to realize that they are profoundly dependent upon a satisfied patient base and a steady stream of new patients.

While there are a variety of mystery patient services out there, the McKenzie Management program is tailored specifically to dentistry. It gives dentists the opportunity to clearly view their practices from the patients’ point of view.

The program allows you to be an omniscient observer of sorts. You are able to get a much better understanding of how you, your team and your practice come across to patients from an objective patient standpoint.

Most importantly, the assessment enables you to identify exactly where you and your team can make immediate improvements.

The mystery patients can be used to evaluate staff phone skills and face-to-face interpersonal skills to determine if any of these could be having a negative effect on the practice.

Telephone assessments are used to evaluate staff strengths and weaknesses in communicating with patients over the telephone.

Walk-in visits, in which a prospective mystery patient stops in to talk to front desk staff about the office, are used to evaluate how those face-to-face interactions are handled, which is critical as nearly 70 percent of patients leave a practice because of poor customer service.

Certainly, it requires a fair amount of courage to hire a “private eye” for your practice.

Human nature is such that most dentists want to believe that all their patients are happy, that new patients are clamoring for an appointment and that their staff is simply wonderful.

However, the numbers often indicate otherwise.

Yet, with information comes power, and in this case it’s the power to change. Oftentimes, once shortcomings are revealed, they can be promptly corrected.

In many cases, staff simply don’t realize how they come across to patients. They don’t understand that their actions are having a negative effect on the office.

Once they are made aware of this, in most cases, they are ready and willing to make necessary changes.

The key is that dentists have to be willing to investigate the problems in order to implement solutions.

Sally McKenzie is CEO of McKenzie Management, which provides success proven management services to dentists nationwide.

In addition, the company offers a vast array of practice enrichment programs and team training.

McKenzie is also the editor of an e-Management newsletter and The Dentist’s Network newsletter, sent complimentary to practices nationwide.

To subscribe, visit www.mckenziemgmt.com and www.thedentistsnetwork.net. She is also the publisher of the New Dentist™ magazine, www.thenewdentist.net.

McKenzie welcomes specific practice questions and can be reached toll free at (877) 777-6151 or at sallymck@mckenziemgmt.com.

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Protecting yourself from employee theft, fraud and embezzlement (Part 1)

By Eugene W. Heller, DDS

As a practice owner, a dentist will face a multitude of business-related tasks, issues and challenges. The rewards far exceed the drawbacks, but there are challenges.

One of the challenges may be employee theft. Estimates of the number of dentists who will experience theft at least once during their dental career range from 35–50 percent. Estimates in dollar loss range from $100 to $500,000 plus. Loss due to employee dishonesty may take the form of theft, fraud or embezzlement. With certain minimal protective measures, the majority of this theft is preventable. The key is to understand where the potential exists for theft to occur and to implement strategies to prevent the loss.

Meet the ‘thieves’

Jane the Eraser: Jane simply withheld any cash payments that were made for services and then erased the patient’s account information after posting the payment (and giving the patient a receipt), thereby removing any record of the payment from the system.

Estimated loss: $50,000 plus over a three-year period. The dentist recovered $25,000 from his office insurance plan. Jane was ordered to pay $10,000 in restitution.

Doris the Duplicator: When hired, Doris had successfully lobbied against computerization, convincing the dentist that it was not as efficient as the old manual pegboard system. In turn, Doris kept a duplicate set of patient ledgers.

Payments and receipts were recorded on the duplicate ledgers while charges were posted on the real ledgers. Over a period of 18 months, Doris stole an estimated $40,000.

Mary the Master: Mary was involved in skimming, taking cash and not posting it; layering, a technique involving the taking of checks and withholding them for posting later; and an excessive need for petty cash, going through about $100 per week.

Mary also set up a second business checking account in the dentist’s name (she was the only authorized signer) and subsequently diverted the office credit card deposits to that account.

Mary paid all office bills using a different ink, which allowed the checks to be made out to her personally, and then she changed them back to legitimate vendors after they cleared the bank. The deposit slips never matched the bank deposits actually made, and subsequently the checking account could never be balanced with the ledger.

The dentists noted that while each year their taxable income had increased over the previous year, according to the computer their accounts receivable had spiraled out of control and were showing a balance of $500,000 plus. During a five-year period, Mary had embezzled $400,000.

Definitions

Different terms can be used to describe loss by staff dishonesty. Theft is simply defined as “the taking of another’s property.” Embezzlement is the theft of an employer’s property while in the employer’s trust. It is also defined as a misappropriation or conversion of entrusted money, property, etc., to the personal use of the employee. Fraud is the intentional deception that causes another to give up his/her money, property, etc.

Understanding the thief

There are different reasons for individuals to steal. It may be the need for money; for others, it is revenge or the feeling they are not compensated properly for their work; and for some, just like gamblers who continue to lose but continue to bet, it is the excitement.

Staff members who steal do share certain characteristics. Many have lifestyles beyond their means; excessive debt from children, spouses/significant others, and former spouses/significant others; or excessive habits including alcohol, drugs and gambling.

Employees who are likely to steal are intelligent, knowledgeable in office procedures, personable and friendly. They may be tireless workers who are willing to put in uncompensated overtime — rarely taking allotted vacation time. Basically, they are perfect employees, except for one tiny character flaw — they are dishonest!

Signs theft may be occurring

The most common sign that theft by embezzlement may be occurring is patient complaints regarding their accounts. Also note that constant requests for petty cash reimbursements should be closely monitored. Outright theft of petty cash is a multiple-staff office is difficult to track.

Excess patient account write-offs or adjustments and inactivated accounts are also warning signs, as are increases in accounts receivables with no off-setting increase in overall office production.

Missing documents/invoices, insurance claim forms, explanation-of-benefits (EOB) forms, patient checks, practice checks, checking account records, patient clinical records, patient account records, etc., are definite signs of a problem as are sloppy filing and record keeping.

The practice checking account also holds potential signs of a problem. Unusual deposit patterns and deposits; inability to balance the checking account; and missing sequential checks are all red flags that should be investigated.

Preventing theft

Whether theft takes the form of fraud or embezzlement, theft by an employee shares three steps. For theft to occur, all three components of the theft triangle must be intact.

The first component is motive. The employee needs a reason to steal.

The next component is opportunity. In a dental office, unimpeded access to the funds with minimal or no restraints, checks or accountability provides an easy route to employee theft.

And, finally, the third component is the need to rationalize behavior creates justification that what they are doing is acceptable.

The key to preventing theft is to remove opportunities.

Controlling access to opportunity must be done to avoid theft with these five steps:

1) Control how money is handled.
2) Split money-handling duties; discrepancies can be more easily noticed in this way.
3) The dentist or his/her accountant must open and balance the bank statement. This means bank statements should be mailed to the dentist’s residence directly to the accountant.
4) The dentist or his/her accountant must review pay stubs and mailing all checks if a staff person makes out the checks for vendors. The signed check should not be put back into the control of a staff person.
5) Either the accountant or a payroll service should prepare payroll. If a payroll service is used, it is the dentist’s or accountant’s responsibility to call the information into the payroll service.

(*All names are fictitious.)

Part of this article will appear in DTUS Vol. 4, Nos. 31 & 32.

About the author

Dr. Eugene W. Heller is a 1976 graduate of the Marquette University School of Dentistry. He has been involved in transition consulting since 1985 and left private practice in 1996 to pursue practice management and practice transition consulting on a full-time basis. He has lectured extensively to both state dental associations and numerous dental schools. Heller is presently the national director of Transition Services for Henry Schein Professional Practice Transitions. For further information, please call (800) 750-8885 or send an e-mail to hsfs@henryschein.com.
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"An unforeseen combination of circumstances or the resulting state that calls for immediate action." That’s how Merriam-Webster defines the word emergency — a word Americans are all too familiar with these days, thanks to the global economic downturn.

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Dentists and their patients are no exception to the rule. Like their peers in manufacturing, retail and travel, their businesses have been bruised by the recession.

And although recovery is inevitable, in dentistry and elsewhere, things are certain to get worse before they get better.

To cushion the blow when they do, dentists must mitigate their risks and minimize their risk exposure.

Among the largest risks facing dental practices are dental office emergencies, of which surveys have shown that there are more than 30,000 every year in the United

Save lives, save your business

In good times and in bad, your office needs an emergency drug kit. Here are five reasons why.

By Jeff Sheets

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To cushion the blow when they do, dentists must mitigate their risks and minimize their risk exposure.

Among the largest risks facing dental practices are dental office emergencies, of which surveys have shown that there are more than 30,000 every year in the United
States. Risk mitigation therefore starts with emergency planning and response.

Because while the world’s economic emergencies can’t be controlled, your patient emergencies can — so long as your office has the proper equipment, including an emergency drug kit, such as Savalife’s M100, for treating common emergencies related to angina, asthma, insulin problems, allergic reactions, fainting and heart attacks.

Emergency drug kits are critical when it comes to saving patients’ lives.

They’re equally important, however, when it comes to saving your practice, particularly during an economic downturn, when the financial consequences of patient emergencies can be especially damaging.

Unfortunately, many dentists wrongly assume, “My practice is safe.”

If you’re among those who assume this, consider the following five reasons for equipping your office with an emergency drug kit that will help your business weather the recession and thrive during the recovery.

Drug kits can...

1) Protect your bottom line.

Although it can help you minimize the financial burden of an emergency, insurance is no match for prevention, planning and response, which can help you safeguard the investments you’ve made in your business.

2) Provide legal protection.

In the event of an emergency, having the right emergency response equipment can save your business from costly litigation.

3) Give you a competitive advantage.

Having equipment that other offices lack gives you a leg up on your competition, which can help you attract new patients and retain existing ones.

4) Promote professional development.

Emergency planning requires education, and professional development has been shown to increase employee engagement, loyalty and productivity.

5) Empower patients.

Because many patients are afraid of going to the dentist, just having an emergency drug kit can help you calm their nerves. And, because happy patients talk, it can also help you stimulate referrals.

Jeff Sheets is a spokesperson for Savalife.com, a Fort Wayne, Ind.-based company that manufactures emergency drug kits and supplies emergency planning training materials for dental offices nationwide. He can be reached at jsheets@savalife.com.

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Universal Mirror Handle

The Universal Mirror Handle is designed to work with most intraoral mirrors that have been made in the last few decades. You can position the mirror inline with the handle or the mirror can be angled. There is approximately 35 degrees of rotation to allow comfortable positioning for buccal and occlusal views. Unlike other handles on the market, the Universal Mirror Handle can be locked to hold the mirror at the angle you choose.

The Universal Mirror Handle is available individually to work with existing mirrors, or in a kit that includes: one mirror handle, one adult occlusal chromium mirror, one buccal T1 chromium mirror and one “O” utility mirror.

Information and pricing can be found at: www.photomed.net/mirror_handle.htm, or call (800) 998-7765.
Medidenta is pleased to announce the expansion and improvement of its Endo Direct™ product line, which offers some new products and improvements on products already used by thousands of dental professionals in clinical practice. These endodontic-related products are not only proven and viable, but also very effective alternatives for practitioners that perform endodontic procedures in their practice, all at a substantial savings over any other company or technique, bar none.

There is no doubt that endodontics has come a long way since the 1960s. In those days, when a tooth had serious infections or suspected endodontic issues it was generally extracted, but endodontists worked diligently to provide some alternatives in saving teeth. With so many advances today, it is unimaginable to think that back in the ‘50s and ‘60s the primary instruments in a practitioner’s armamentarium were barbed broaches, rat-tail files and silver points, and even arsenic for pulpal devitalization.

Advancements in endodontic armamentarium did occur, with improvements such as hand files, reamers, Hedstrom files and ISO sized gutta-percha, which allowed a practitioner to perform endo on more patients in a more simplistic manner. While all endo procedures were still performed with a “hand style instrument,” the most significant change came in 1969 when Medidenta introduced automation to root canal therapy and introduced the Giromatic ¼-turn contra angle.

The quarter turn is defined as a classical endodontic maneuver replicating a winding watch movement. The Giromatic endo device by Medidenta enabled general dentists to navigate canals safely and precisely, and greatly reduced any instrument breakage. Some endodontic study groups even promoted one-visit root canal that utilized canal sealers and/or gutta-percha, which was deemed controversial by some prominent endodontists.

Yet today’s endodontists have become the biggest advocates of one-visit automated endodontics, particularly with super expensive rotary nickel titanium files and equipment, and the current advertisements of those endodontic manufacturing conglomerates is the proof in the pudding.

While there are many techniques and products in the marketplace, they all seem to work in their own right and get the task at hand completed, the question is: At what price?

Dentists have become cognizant that the “endo conglomerates” have broken the $50 barrier for a package of NiTi endo files, which they have also discovered are not unbreakable.

Dental practitioners also report that some of those endo-conglomerates have attempted to corner the market by stifling competition and charging exorbitant pricing for all endo files and equipment, thus significantly raising overhead for dentists.

Medidenta has been and is always ready, willing and able to offer their customers real choices in endodontic systems, all at reasonable and real Endo Direct pricing.

Medidenta is fully cognizant that no one product from even its own line or from any other competitor can miraculously perform all endodontic procedures or totally resolve any endodontic problem, but ¼-turn technology and sonic irrigation has put Medidenta at the forefront of endodontics by delivering time proven products at Endo Direct pricing, which has simplified endo procedures collectively or individually while it can still be incorporated with any rotary NiTi technique from any competing manufacturer.

Medidenta continues to stay on the cutting edge of Endo innovations, and with their endo Direct product line you’re guaranteed the best products at the best pricing. Check out www.medidenta.com for more information.
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Dr. Berland celebrates 25 years in dentistry

This month Cosmetic Tribune Editor in Chief Dr. Lorin Berland celebrated 25 years of practice in the Dallas Arts District. For a quarter of a century, Berland has strived to provide the utmost in patient care.

Berland started his career in the dental technology field. He is best known as the originator of “Spa Dentistry,” the developer of www.denturewearers.com, the Same Day Inlay/Onlay Technique and co-creator of the Smile Style Guide and Lorin Library. These ideas were the culmination of years of listening to patient’s needs and wants. In 1982, he was the first to achieve fellowship in the American Academy of Cosmetic Dentistry (AADC).

As one of the first accredited members of the AADC, Berland produced “A Full Mouth Rehab in 2 Visits” DVD. He also co-created the Smile Style Guide, a book used to help dentists, laboratories and patients in esthetic smile design.

For the past 15 years, Berland has shared his hard-earned dental pearls of wisdom with his colleagues in the form of lectures, CDs, DVDs, clinical articles and books.

During his nearly 30 years in dentistry, he has been featured in various dental and public mediums in America and throughout the world — including television appearances, international and national publications and major dental journals — promoting cosmetic dentistry, as well as the AADC.

Berland knows from personal experience that ongoing education and expert training are the keys to success because applied knowledge means better results, happier patients and a thriving practice.

He has contributed to the public’s education and awareness of cosmetic dentistry while encouraging and empowering innumerable cosmetic dentists to become even better clinicians.

In 2008, Berland received the AADC’s Outstanding Contribution to the Art and Science of Cosmetic Dentistry Award.

Berland Dental Arts, his multi-doctor specialty office, is nestled in the burgeoning Arts District of Dallas, Texas.

Customized patient care, sedation and a caring and dedicated team are among the many ways he strives to make the patient feel comfortable, important and relaxed.

The latest techniques are utilized in conjunction with modern technology to deliver world-class dentistry that is both functional and esthetic.

For more information on The Lorin Library Smile Style Guide, www.denturewearers.com, the Biomimetic “Same Day Inlay/Onlay” 8 AGD credits CD and the “Full Mouth Rehab in 2 Visits” DVD please call (214) 999-0110 or visit www.berlanddentalarts.com.
Straight talk on 3-D imaging from an orthodontist

By Bradford Edgren, DDS, MS

Studies on learning have shown that visual images provide 80 to 90 percent of the information that the brain receives. So it makes sense that in the dental office, details received from our radiological workups are imperative for precise diagnosis and communication with patients.

Now, cone-beam technology has brought 3-D imaging right into the dental office, expanding the scope of treatment for my patients as well as other dental practitioners. The greatest benefit of 3-D imaging is the amount of information contained in each scan. The 360-degree scan of the entire head shows the maxillofacial complex in a format that can be rotated or sliced to achieve the best view of these structures.

For oral surgeons, periodontists or general dentists placing implants, 3-D imaging allows the clinician to determine the height and width as well as the quality of the bone in the implant area.

Moreover, 3-D provides the ability to precisely evaluate the distance and angulation between roots of adjacent teeth to avoid damaging said teeth during implant planning.

Because implants are generally preferred for restoration of the missing single tooth, an orthodontist can scan a patient before demanding to determine exactly how the teeth are aligned within the bone and make any necessary corrections.

It would be very disappointing for a patient to anticipate receiving an implant and crown only to realize later that the orthodontist didn’t create enough space for the implant. Three-dimensional imaging provides for more precise measurements than 2-D panoramic radiographs, which can be unreliable because of distortion and superimposition.

Cone-beam imaging offers true 1:1 anatomical measurements, eliminating geometric errors of projection and supporting accurate linear measurements. All of this improves surgical predictability for orthognathic surgery cases. With 3-D, I don’t have to calculate for magnification errors when determining the amount of surgical correction on these cases.

Before 3-D imaging, my orthodontic diagnostic records always included panoramic X-ray and lateral and frontal cephalograms. Now, with one scan I gain the panoramic, lateral and frontal images, as well as everything in between.

Skeletal asymmetries that may not be clearly visible on 2-D head films are more evident with a cone-beam scan. Three-dimensional imaging makes it easier to determine the buccal, lingual and vertical position of impacted teeth.

Cone-beam imaging also helps with informed consent. Three-dimensional scans reveal pathologies that may have become lost in 2-D images because of distortion, magnification and the superimposition.
I discovered a horizontal root fracture on a patient and subsequently referred him to an endodontist for evaluation. This patient needed to be aware of the likelihood that the tooth could be lost because of previous trauma. Without this insight, foreshortening of the root or even tooth loss may have been blamed on the orthodontic treatment.

For TMJ disorders, with one scan that takes just a couple of minutes, I get panoramic, frontal and lateral views as well as corrected tomographs that would have taken me an hour or more with 2-D methods. After implementing cone-beam, I discovered some interesting cases that will be discussed in my Webinar at 11:35 a.m. EST on October 17. In one case, we were waiting patiently for the second permanent molars to erupt before initiating phase II treatment.

After the other three second molars had already erupted, as part of progress records, the i-CAT® scan showed that an impacted third molar was impeding the eruption of the maxillary right second molar (Fig. 1).

On previous “standard” pans, the fourth third molar was perfectly superimposed with the second molar and was not evident. This second molar may never have erupted, or worse yet, would have been presumed to be ankylosed.

In another example, a patient was referred from an oral surgeon for an i-CAT scan. The referring oral surgeon wanted to clarify diagnoses made at another office based upon previous digital pans, including a supernumerary, odontoma, failure to erupt and/or ankylosed deciduous second molar.

On the scan (Fig. 2), it was evident that it was just an ankylosed deciduous second molar, eliminating the need for a previously planned exploratory surgery. This patient also owes her future nice occlusion to 3-D imaging and diagnosis.

Our cone-beam also gave us a great view of another patient’s horizontally impacted maxillary central incisor (Fig. 3). When treatment started, the i-CAT machine aided the oral surgeon in exposing and placing a gold chain on the central for guided eruption. Her impacted canine, detected on the previous scan, has also since been brought into place.

Regarding patient education, an oral surgeon referred a patient for an i-CAT scan to verify the position of the mandibular canal in relationship to the impacted third and dentigerous cyst before extraction (Fig. 4). This helped the patient visualize the extent of the third molar impaction and appreciate the size of the cyst. The patient was so impressed...
with the i-CAT scan that he consequently set his daughter up for orthodontic treatment.

One of my most unusual cases involved a young patient who came in for braces, but after the i-CAT scan left with some clues that led to an ENT solving the mystery of her hearing loss (Fig. 5).

I’ll be discussing these cases and others in detail at my Webinar. While some of these cases show hidden pathologies, it is no secret that 3-D imaging sheds light on our more difficult cases, and no matter what our specialty is, adds a new dimension to our practices.

I’ll be discussing these cases and others in detail at my Webinar. While some of these cases show hidden pathologies, it is no secret that 3-D imaging sheds light on our more difficult cases, and no matter what our specialty is, adds a new dimension to our practices.

Dr. Bradford Edgren earned a doctorate of Dental Surgery from University of Iowa, College of Dentistry and a master’s in orthodontics. He is certified by the American Board of Orthodontics (ABO), is a diplomate of the American Board of Orthodontics and a member of the College of Diplomates of the American Board of Orthodontics. He is also a member of the American Association of Orthodontists, Rocky Mountain Society of Orthodontists, Colorado Orthodontic Association, The Edward H. Angle Society of Orthodontists—Southwest Component, American Dental Association, Colorado Dental Association and Weld County Dental Association.

**Attend Edgren’s Webinar**

**11:35 a.m. EST Oct. 1**

Register (it’s free!) for Dr. Edgren’s live online broadcast and earn C.E. credits.

Register at: www.OTStudyClub.com (did we mention its free?)

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**About the author**

Dr. Bradford Edgren earned a doctorate of Dental Surgery from University of Iowa, College of Dentistry and a master’s in orthodontics. He is certified by the American Board of Orthodontics (ABO), is a diplomate of the American Board of Orthodontics and a member of the College of Diplomates of the American Board of Orthodontics. He is also a member of the American Association of Orthodontists, Rocky Mountain Society of Orthodontists, Colorado Orthodontic Association, The Edward H. Angle Society of Orthodontists—Southwest Component, American Dental Association, Colorado Dental Association and Weld County Dental Association.

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New paradigm for crown preparation: Great White Ultra carbide instruments

By George Freedman DDS, FAACD, FACD

The standards of dental care have evolved rapidly during the past 50 years. Today’s best practice modalities require both tooth conservation and clinical efficiency. These concepts are not always mutually compatible. The efficient and preferably rapid removal of existing tooth structures and restorative materials must be accomplished with minimal heat generation during the preparation phase.

In most clinical situations, water and air coolants are utilized in conjunction with high-speed bur preparation to reduce the risk of thermal damage to the tooth. The clinical efficiency of tooth preparation is largely dependent on the shape and design of the cutting bur, and the number of steps that comprise the overall treatment.

The more often that the dentist must change burs during tooth cutting, the less time consuming the process and the less efficient the technique.

Practitioners use both visual and tactile clues to determine tissues to be removed. Darker dentin is assumed to be affected by caries; it should be removed (unless, of course, it is rehardened secondary dentin). Lightly colored dentin and enamel are presumed to be healthy tissues. For the dentist to observe color differences during preparation, the bur’s rotation should remove debris as quickly and effectively as possible (Fig. 2).

The earliest dental burs were manufactured from a variety of metals that were harder than natural tooth structure. With time, steel became the preferred bur metal. Developments in particle-to-metal adhesion technology resulted in the first diamond burs. These burs were preferable for high-speed tooth preparation to steel.

The subsequent introduction of carbide cutting instruments was a leap forward for dentistry; carbide offered more effective tooth preparation with less surface striation than diamonds. More recently, crosscuts and innovative attack angles were introduced to the carbide cutting shank to make preparation better, faster and easier (Figs. 3a, b).

In the past, dentists have tended to favor diamond burs for extra-coronal tooth preparation while carbide burs have been used largely for intra-coronal cutting. The relative popularity of carbide and diamond burs varies considerably in various parts of the globe, largely due to local availability, cost and education.

One factor that is often not considered by the clinician is that as diamond burs are used, their cutting efficiency tends to decrease dramatically. Their cutting diamonds tend to wear down in particle-to-metal adhesion. In order to compensate, dentists tend to press harder on the tooth with the bur in order to maintain the earlier cutting efficiency. Inadvertently, this actually decreases the efficiency of the procedure and increases the potential for heat formation.

Diamond burs tend to grind tooth structures while carbide burs cut these same materials. This leads to the conclusion that crown and bridge preparation, where rapid and effective gross tooth reduction is required and desirable, is best accomplished with carbide instruments.

Recent research has indicated that when a crown or onlay restoration is to be bonded to the tooth surface, carbide bur preparation can improve the bond to the dentin. A more effectively bonded crown increases the longevity of the restoration by decreasing leakage, and thereby the possible adhesive failure of the restoration. Carbide burs typically generate a smoother surface and the partially visible smear layer.

This smear layer may be more easily dissolved and incorporated by self-etching primers, thus providing a stronger hybrid layer. This results in higher bond strengths. Cross-cut carbide burs improve the retention of crowns cemented with zinc phosphate by approximately 50 percent. Thus, the use of finishing burs on axial walls is discouraged.

Current concepts of conservative dentistry dictate that a minimum of healthy tooth structure be removed during the preparation prior to the restorative process. Natural enamel and dentin are very likely the best dental materials in existence. Tooth structure conservation is thus inherently a desirable dental objective.

Consequently, minimally invasive procedures that allow a greater part of the healthy tooth structure to be preserved are preferable (Fig. 5). The patient also benefits greatly from minimally invasive dentistry. There is typically less discomfort during treatment, and a greater likelihood that the repaired tooth will last a lifetime.

The dental profession tends to take burs for granted. They are frequently used for patient treatment every day, and their effectiveness and efficiency can have dramatic impact on the practice. It is interesting to note that if the practitioner uses burs that are just 10 percent more efficient, the savings in operative time can easily increase practice billing significantly.

continued
without any corresponding increase in overhead. Thus, the entire revenue increase goes directly to the bottom line.

Generally, burs are one of the least expensive components of the dental armamentarium, at least relatively. A small difference in bur cost can often make a major clinical impact. The most important parameter to consider is whether the best bur for the job, keeping in mind that a small added expense of opting for a premium instrument pays off handsomely. Some burs are designed for single use. They can be sterilized and reused, but often exhibit a significantly decreased cutting efficiency. Other burs are designed to be sterilized and re-used.

Recent research at the University of Rochester, Eastman Dental Center, jointly undertaken by the prosthodontic and the mechanical engineering departments, examined the efficiency of various dental burs with respect to cutting rate and load needed to complete standardized preparations in Macor samples. Both air-driven and electric handpieces were tested.

The cutting rate represents the speed at which the bur (reflecting its material composition and design) cuts through a standardized material. The faster the speed, the more efficient the preparation. The load measures the operator pressure needed to cut effectively. A higher required load will cause more operator fatigue at the end of a long working day.

In the air-driven high-speed handpiece, the SS White Great White Ultra (SS White Burs, Lakewood, N.J.) had a significantly greater cutting rate than the other burs tested (Fig. 6). In addition, the Great White Ultra bur required the least load, or operator pressure, for effective preparation (Fig. 7).

Similar results were observed for electric high-speed handpieces. The SS White Great White Ultra had a cutting rate significantly greater than the other burs tested (Fig. 8) and required the least load, or operator pressure, for effective preparation (Fig. 9).

In practical terms, the Great White Ultra bur is an excellent choice for cavity preparation. Operative burs are either straight-bladed or crosscut. Straight-bladed burs cut more smoothly but are slower, particularly with harder substrates. Crosscut burs tend to cut faster, but may create more vibration. Finishing burs have more flutes, closer together and shallower, than operative instruments (Fig. 11). This design allows for fine finishing and polishing of dental materials or tooth surfaces.

The Great White Ultra bur is an excellent choice for cavity preparation.
The aggressive cutting angle (Fig. 13) of the Great White Ultra allows the operator to use less pressure on the tooth during preparation (resulting in decreased tooth heating and dentist fatigue). The tightly controlled parameters of manufacturing quality control develop a high degree of concentricity in the Ultra burs that offers less vibration and chatter during use, and decreased maintenance costs for handpieces (Fig. 14).

The goals of conservative tooth preparation include:15

1) Re-contouring the remaining tooth and restored structures to a specified shape and size to accommodate a crown.
2) Providing a depth guide on all surfaces, including the occlusal, to allow the crown to have sufficient bulk and strength to withstand occlusal and other intrusive forces.
3) Completing the preparation process with a single pass by one bur on the buccal, lingual, mesial and distal.
4) Creating the intended marginal finish, whether shoulder or chamfer, at the same time as accomplishing the gross preparation of the other surfaces.
5) Developing a surface that is suitable for bonding the indirect restoration.
6) Remaining conservative of tooth structure.
7) Preparing the tooth quickly and efficiently for both patient and dentist comfort.

For most dentists, the cutting speed tops the list of features that are important in selecting dental burs. Carbide manufacturers have produced a variety of designs and shapes that are intended to reduce the time that it takes a practitioner to prepare the tooth for a crown.

The Great White Ultra burs cut quickly and smoothly through enamel. It negotiates amalgam and other restorative materials with minimal clogging and no drag or stalling in these harder materials. The bulk reduction in the crown preparation phase can be accomplished with a single instrument (Fig. 15).

The highly dentated body of the Great White Ultra cuts efficiently and quickly, and combined with the smooth tip, helps to provide two reduction actions in one single pass with a single bur (Fig. 16). The rounded, non-crosscut tip provides smooth, precise and controlled margins with the same cutting motions as the gross reduction preparation. Thus, the Great White Ultra is more efficient; there is less chair time.

There are two preferred marginal anatomies for crown preparation, the chamfer and the shoulder. Accordingly, two margin-specific clinical series of burs have been crafted. The Great White Ultra 856 Series develops a rounded axial-gingival margin providing a chamfer finish for the preparation (Fig. 17). The Great White Ultra 847 Series creates a 90 degree axial-gingival wall and provides a shoulder margin for crown restoration (Fig. 18). The Great White Ultras are available in a variety of diameters and cutting lengths.
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The Great White Ultra bur kits organize a variety of shapes and sizes that are typically used in routine crown preparation. The bonus is that once the correct bur is selected, the entire preparation can often be completed without changing to another instrument. Bulk reduction AND a smooth margin are created with the same reduction instrument.

Clinical case No. 1
The preparation of the bicuspid crown is very rapid and straightforward. A single pass of the Great White Ultra bur reduces the bulk of the tooth at the height of curvature and finishes the chamfer margin simultaneously (Fig. 19). The inter-proximal preparation must be accomplished without mar ring the surface of the adjacent tooth. One of the thinner GWU burs may be used (Fig. 20).

The buccal surface is not smoothed out with a disc or diamond; the striations created by the bur increase the surface area available for adhesion (Fig. 21). The occlusal reduction is completed to provide 1.5–2.0 mm clearance for the crown (Fig. 22). The completed preparation, ready for impressions, is viewed from the occlusal (Fig. 23).

Clinical case No. 2
The molar crown preparation is begun on the buccal surface (Fig. 24) and continued circumferentially as in the case above. The bulk and marginal preparations are completed at the same time. The completed preparation, ready for impressions, is viewed from the occlusal (Fig. 25).

The stone model is verified against the intra-oral preparation, and the crown is tried on extra-orally (Fig. 26). If the fit on the model is correct, then the crown is tried intra-orally and cemented on to the prepared abutment (Fig. 27).

A circumferential preparation that has even depth throughout and adequate space for the restoration, as well as a well-defined margin (whether chamfer or shoulder), results in a well-fitting and long-lasting crown.

Clinical case No. 3
Some practitioners prefer to use depth grooves to guide crown preparation. The Great White Ultra bur is well suited to this task. The depth grooves are placed quickly and evenly to the desired preparation depth (Figs. 28a–d) at the same time that the location of the margin is determined.

The depth grooves are joined, maintaining the selected depth of the preparation and the location of the restorative margin (Fig. 28a, b). The occlusal surface is reduced to an ideal depth and shape (Figs. 28a–c) and the preparation, completed within a matter of minutes, is viewed from the occlusal (Fig. 28d).

It is reasonable to expect that Great White Ultra burs can be used for multiple tooth preparations, and that they can be cleansed effectively between patients. There are two important steps to follow for the proper sterilization of multiple-use tungsten carbide burs.

Step 1: Burs should be cycled through an automated washer such as the Hydrim (SciCan, Toronto, Canada), that provides rapid and effective washing, rinsing and drying with a single push of a button. (The instruments may be cleaned manually, but they should be pre-soaked to loosen debris and handled with extreme care to avoid skin punc tures. Avoid cold sterilizing solutions that contain oxidizing agents that can weaken carbide burs. Ultrasonic systems can be used as well. The re-use of solutions in these systems is less than ideal, however.)

Separate the burs from each other in a bur block during ultrasonic immersion to prevent damage to the cutting surfaces. Brush any remaining debris away with a stainless steel wire brush. Rinse and dry the burs.)

Step 2: It is only at this point that sterilization can be initiated. The importance of this step cannot be overstated. Only the effective sterilization of burs eliminates the threat of cross contamination to patients and staff. Steam autoclaves will effectively sterilize carbide burs, but some units may allow surface corrosion to develop.

Metal bur blocks may promote galvanic corrosion and should be avoided. Both dry-heat sterilizers and chemi cliners can be used without corroding.
or dulling carbide burs.

**Conclusion**

Great White Ultra burs are an innovative solution for the crown and bridge tooth preparation process.

The differential reduction provided by the varied cross cutting of the bur’s active surface allows intrasoral multitasking.

Great White Ultras simplify the clinical procedure by reducing the circumferential bulk of the tooth and preparing the final margin at the same time. Rapid cutting, less structural stress and a more adhesive surface are additional advantages.

**References**


Dr. George Freedman is a founder and past president of the American Academy of Cosmetic Dentistry, a co-founder of the Canadian Academy for Esthetic Dentistry and a Diplomate of the American Board of Aesthetic Dentistry. He is the author or co-author of 11 textbooks, more than 600 dental articles, and numerous Webinars and CDs, and is a team member of REALITY. He lectures internationally on dental esthetics, adhesion, desensitization, composites, impression materials and porcelain veneers. A graduate of McGill University in Montreal, Freedman maintains a private practice limited to esthetic dentistry in Toronto, Canada.
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