DTMEA becomes official media partner of LDA

By Dental Tribune Middle East

B eirut, Lebanon: Dental Tribune Middle East & Africa has become the official media partner of the Lebanese Dental Association. The agreement was signed between LDA President Elie Azar Maalouf and Roddy Abdallah of DTMEA in Lebanon last September 2015.

“DTMEA is delighted to be selected as the official media partner for the LDA,” said Michael Barlow, JKM Media Group, DTMEA’s owner and publisher. “As a leading dental media, DTMEA will support LDA’s agenda and assist the association in promoting dentistry in Lebanon.”

Founded in 1948, the Lebanese Dental Association (LDA) represents the dentists in Lebanon. Every year, the LDA hosts the Beirut International Dental Meeting (BIDM), presenting the gamut of products and services available for the dental community in Lebanon. LDA recently signed an agreement with the Lebanese Dental Association to become its official media partner.

BIDM 2015 attracts over 3,000 participants

By Dental Tribune Middle East

B eirut, Lebanon: The Lebanese Dental Association successfully held The 23rd Beirut International Dental Meeting (BIDM) 2015 on 25 to 28 September 2015 in conjunction with the 42nd Conference of the Arab Dental Federation in Lebanon.

In his opening speech, President Elie Azar Maalouf said “We are striving to meet all of your ambitions and expectations to reach a profession to be proud of”. Several new projects were also launched in order to improve dentistry in Lebanon by the LDA.

The conference proved to be a vital platform for the participants to share their ideas, developments and news from Lebanon and the region.

Opening Ceremony at BIDM 2015
German quality at a low price:
The T4 instrument family from Sirona

By Sirona

Salzburg, Austria: The new T4 product class instruments from Sirona give dentists and especially dental students high German quality that is particularly cost-efficient.

Instruments are an indispensable aspect of dentistry. It is therefore extremely important that dentists can fully rely on them. This is why Sirona now offers the German quality T4 class at a rather low price, making these products particularly interesting for dental students: They can acquire all of the important instruments they need for their studies in a student kit.

“This kit contains reliable and durable products at a very competitive price for students or young people who want to set up their own businesses,” said Product Manager Eric Berndt. “The T4 products fulfill Sirona’s high quality requirements in terms of design as well as hygiene and ergonomics.”

In regards to the design and ergonomics of the T4 product line, Sirona has opted for proven quality. The instruments lie perfectly balanced in the dentist’s hand and are ergonomically shaped. The material is both non-slip and easy to clean. The instruments can be sterilized in an autoclave or cleaned and disinfected in a thermodisinfector. The T4 products include a straight and contra-angled handpiece, the T4 Racer turbine and an air motor. The kit is available either with a Midwest 4-hole or Borden 3-hole connection and can be used with all common treatment centers.

T4 Racer turbine: Exceptionally powerful

The T4 Basic turbines are fitted with ceramic ball bearings that are almost vibration-free and hard-wearing. With a pressure of 2.5 bar, they have an output of up to 17 W. The chromed-splated sleeves give the turbines a high-quality appearance.

The sleeves of both instruments are made of stainless steel and are top class in terms of appearance and feel. With the handpiece, the so-called single heads for single use can be used for prophylaxis and polishing.

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By Dental Tribune Middle East & Africa Edition

November - December 2013

Dubai, UAE: Dubai gathered, for the fourth time, the world experts of Dental Facial Cosmetics on 09th - 10th November 2012, an international conference, open to all aspects and specialists working in the field of Aesthetic Dentistry and Implantology. With the excellent ambiance and cozy atmosphere the conference again provided warm exceptional networking opportunities while connecting the leaders in the field of Aesthetic Dentistry & Implantology – practitioners, researchers and industry players.

Emirates Dental Society, Saudi Dental Society and CAPP for the 4th time achieved a great record of attendance and continued the reputation as the industry's leading international conference in the field of Aesthetic Dentistry and Implantology.

Jumeirah Beach Hotel hosted 886 participants – Dentists, Dental Technicians, Dental Industry and Dental professionals in the very elegant atmosphere. Bringing together industrial leaders and professional practitioners, the conference not only delivered extensive scientific knowledge from across the globe but gave way for an excellent opportunity to present the latest advancements and developments within the Dental Facial Cosmetic practice.

The 4th Dental Facial not only opened the doors to open-discussion and learning for this knowledge hungry region but allows the participants to build their skills and use the opportunity for networking and sharing experiences in the application of technology throughout the learning cycle – from primary and secondary education through to professional development and lifelong learning.

15 sponsors – Sirona, Ivoclar Vivavent, 3M ESPE, Noble Medical Equipment, Pharmapal, GSK, Philips Sonicare, MPC, Vita, KaVo, White Implants, Zimmer, Osstell, Southern Implants and Invisalign supported the conference.

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CPD Dubai to run multidisciplinary day

The Dean of DSMD, Professor David Wray, will be presenting a lecture on ‘Common Oral Medicine Problems Presenting in the Dental Practice’. Professor Wray commented, “Overall the day presents a fantastic opportunity for General Practitioners, specialists and students to hear from academics who specialise in these fields; and to come away with their knowledge refreshed, a better understanding of cases that present in their everyday practices and of the means to manage them.”

Professor Wray, formerly President of the British Society of Oral Medicine, continues, “It will also be a fantastic opportunity for dentists practising in the region to meet some of our professors from the Dubai School of Dental Medicine, find out more about what we do here, the types of patients we treat, who and what to refer. We are very much looking forward to meeting practitioners from the region.”

Another of the specialists presenting on the day, Professor Athanasios Athanasiou, a renowned Orthodontist who was President of The World Federation of Orthodontists (WFO) between 2005 and 2010, will be providing a lecture on the ‘Diagnoses and Temporomandibular Disorders’. When asked about his upcoming presentation, Professor Athanasiou commented, “There is a lot of misinformation given to dentists on this topic and by dentists to patients. It is an area about which dentists often feel they lack knowledge. I intend to give attendees a comprehensive overview of this range of disorders, the differing causes behind them and the evidential base for the different treatment modalities. I am sure attendees will leave feeling more confident about their examination, diagnosis and management of patients suffering Temporomandibular Joint Disorders.”

Professor Crawford Bain, a specialist in Periodontics, Prosthodontics and Restorative Dentistry, with more than 30 years of experience, will be presenting ‘Non-surgical Periodontics’. More than Hygiene Phase Therapy where amongst other things he will explain why practitioners should be focusing on ‘cause related therapy’, rather than ‘hygiene phase therapy’.

The day will be rounded off by Professor Manal EI Helabiti, Professor of Paediatric Dentistry, talking about Molar Incisor Hypomineralisation, its causes and management. This is a topic that should be of great importance to dentists in the region where we have such a large school-age demography. This is a condition that can sometimes be overlooked or misdiagnosed in everyday practice. It is one that practitioners report they are encountering more frequently and for which they are often seeking specialist help. Professor EI Helabiti’s presentation should give attendees an improved understanding of the causes behind this condition, its prevalence and, most importantly, how best to manage affected teeth.

Managing Director of CPD Dubai, Nicolas Bell, said, “We have been extremely fortunate that four of the teaching faculty as DSMD will be sharing some of their vast experience on the day. As well as some extremely worthwhile and important topics it should be a good opportunity for dentists in the region to put some faces to names and make contact with well renowned specialists in these fields.”

The day takes place at The Address Hotel, Dubai Marina on November 29th. Prices include lunch, valet parking and refreshments throughout the day.

Presentations will be as follows:

Common Oral Medicine Problems Presenting in the Dental Practice – Diagnosis and Management

Diagnosis and Management of Temporomandibular Disorders

Non-surgical Periodontics

More than Hygiene Phase Therapy

Molar Incisor Hypomineralisation and Space Management in the Mixed Dentition

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Located in Dubai Healthcare City (DHCC), Dubai, UAE
Endodontic retreatment and adhesive restoration of structurally compromised second premolar

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By Drs Stella Nicheva, Lyubomir St. Yancev and Ivan Filippov
Bulgaria

I
n light of the scientific literature concerning the outcome of the endodontic treatment, it doesn’t sound inappropriate that the restoration of the endocrown remedied the problem. This approach to endodontic treatment in such cases is a challenge concerning the isolation, overcoming different obstructions, perforation management (if they exist) and final restoration. The success rate for teeth that exhibit one or more technical problems, such as transportation, stripping, perforation or internal resorption, is reported to be 47 per cent.2 Perforation have the most negative influence.3

The present report describes the microscopic retreatment and the definitive restoration of a grossly decayed perforated maxillary premolar. The reasons for the applied treatment are discussed.

Case report
A 54-year-old male patient reported to the department of Operative Dentistry and Endodontics, complaining of symptoms from another tooth. The radiographic examination (Fig. 1) revealed inadequate endodontic treatment and perforation with radiolucent area at the apex of tooth 15. The tooth was endodontically treated four years ago.

Medical history was non-contributory. Probing was within normal limits. Local anaesthesia with Ultrastine DS was administered. After the removal of the old restoration (Fig. 2) and cleaning up the decay, a pre-endodontic buildup was accomplished. Undercuts were not removed but were under-cut with the composite resin. The operative field was isolated with rubber dam; an excavator was used in AIC5 and Matrix band (Fig. 3). While keeping the access cavity open with gutta-percha points and Cavit, a total etch technique was performed. Enamel and dentin were covered with adhesive (Prime & Bond NT, DENTSPLY) and polymerized for 10 seconds. Bulk-fill flowable composite was applied (SDR, DENTSPLY) and polymerized for 40 seconds in order to create a reservoir for the irrigants during endodontic retreatment (Fig. 4). After the removal of gutta-percha points and Cavit, the real canal (blue arrows) and the perforation (red arrow) were easily accessible (Fig. 5).

Since the artificial canal was previously obturated with a paste, cleaning, with a combination of hand files, ultrasonics (Pro Ultra 5 and 8) and irrigation with citric acid was used. To confirm the effectiveness of the cleaning procedure, an intra-operative X-ray was done (Fig. 6). Because of the different angulation of the beam, it seems as if the perforation is on the level of the crestal bone, which is not the real case.

For cleaning and shaping of the real root canal, the following protocol was used:
1. Glide path was established using SS K-files 08, 10, and Path Files 015, 016, 016, (DENTSPLY Maillefer).
2. The upper two-thirds was prepared using S1 and S2 files from Pro Taper system (DENTSPLY Maillefer).
3. The apical third—20 (04) GTX file (DENTSPLY Maillefer) was used.

Throughout the whole procedure, irrigation with Citric acid (40%, Cerkamed, Poland) and NaOCl (2%, Cerkamed, Poland) was used.

We preferred S1 and S2 files because of their ability to brush against the canal wall, which is very useful in cases with oval cross sections, where it is of paramount importance to clean all aspects of the root canal spaces. For the apical one-third we chose landed GTX file, because the canal was very narrow and we considered the possibility to transport the apical foramen. Both artificial and true canals were obturated using warm vertical compaction of gutta-percha and MTA (FILEAX, Amgelus, Israel). On the post-op radiograph, the preparation and obturation seem short, but this was the reading we repeatedly got with our apex locators (BayPex5, YDW, Germany) (Fig. 7).

After the completion of the endodontic retreatment, the pre-endodontic buildup was left at place and the endodontic access was restored again with SDR, creating a core, on which an onlay preparation with diamond burs (Mani Inc.) was performed (Figs. 8 & 9). The enamel margins were exposed and unsupposed enamel prisms were removed using fine-grit diamond points. The remaining tooth structure was prepared to receive a built-joint with the restoration margins. Internal line angles were rounded and the walls provided 5- to 15-degree path of divergence. The proximal box preparations extended to the existing composite, since they were located in the dentin.

The dimensions of the preparation provided at least 2mm of interocclusal clearance, which could be verified on the impression. A condensable silicone impression was taken (Fig. 10). A custom made provisional restoration was created using direct technique and temporarily cemented with a non-eugenol luting agent (Temp Bond NE) (Fig. 11). The fitting aspect of the restoration was sandblasted by the dental technician.

At the second appointment after assessment of the prepared restoration, removal of the provisional cleaning...
of the preparation the fit and esthetics of the overlay were evaluated. Rubber dam was placed and the preparation was cleaned with acetone, etched with 57 percent phosphoric acid for 15 seconds, rinsed and dried. The fitting aspect of the restoration was also cleaned with acetone prior to cementation. A dual cure self-adhesive luting resin (SmartCem2, DENTSPLY) was applied to the walls of the preparation and the restoration was placed with firm pressure and fully seated. The excess cement was removed with an explorer, a #12 scalpel blade and dental floss in the interproximal area after five-second polymerization that brought the cement to a “rubbery” stage (Figs. 12 & 15). The restoration was covered with glycerin and finally cured for 60 seconds from each side (Figs. 14 & 15). The minimal occlusal adjustments were done with fine diamond burs under water coolant. Finishing and polishing were accomplished with the Enhance system (DENTSPLY) (Fig. 16).

Once finishing and polishing was done, a 57 percent phosphoric acid gel was applied for 15 seconds to clean the surface of the restoration and to acid etch the marginal cermets. After washing and drying, the nanofilled adhesive (Prime&BondNT, DENTSPLY) was applied and permitted to rest for 10 seconds to permeate the surface and marginal fissures created by the finishing process. The adhesive was then thinned with a Teflon-coated cotton roll and polymerized for 40 seconds (Fig. 17). At the six-month recall, the tooth was asymptomatic and the patient was completely satisfied (Figs. 18, 19).

Discussion

This case report demonstrates endodontic retreatment and composite overlay as definitive restoration for a compromised tooth with minimal coronal tooth structure.

An endodontically treated posterior tooth presenting with extensive decay is most frequently restored with a post and a crown. That is inexcusable, because crowns are well-established and known, clinically proven restorative modality, and still a considerable amount of research is being performed in this direction. On the other hand, partial toothcolored restorations are recognized as valuable alternatives to full coverage crowns, and questions are raised if intracanal posts are necessary at all for an endodontically treated tooth.

Since their introduction in 1989, indirect laboratory processed composites are being continuously improved in their physical and mechanical properties. Now this restorative option offers adhesive, biomimetic approach far less aggressive than crowns and far less technique sensitive than ceramics.

Achieving a perfect marginal quality with composite overlays, when gingival margins are located in the dentin, continues to be critical even when new adhesive technologies and systems are used. The application of a composite base underneath indirect composite restorations represents a feasible non-invasive alternative to surgical crown lengthening to relocate cavity margins from an intra-cervical to a supra-gingival position. This also permits the placement of rubber dam for absolute isolation. Surgical crown lengthening procedures also compromise the periodontal tissue support of neighboring teeth. We did not use bone grafting with the pre-endodontic build up with SDJ. This material has the potential to improve the stability of low viscosity resin composite and in the same time polymerization shrinkage stress similar to regular viscosity composite.

For bonding indirect restorations, resin cements have been introduced recently that are promoted as self-adhesive, i.e., do not require a separate adhesive application step. Manufacturers claim that these cements are hydrophilic when mixed (acidic phase) but become hydrophobic (neutral pH) upon reaction with the tooth structure. The bond strengths to the tooth structure are questioned. In our case we decided to additionally etch the enamel margins of the preparation, although not recommended by the manufacturer, because the procedure is simple and quick, as Duarte et al. and de Andrade et al. demonstrated, improves the bond strength of the restoration.

We preferred condensation-type silicone impression material for its better ability to reproduce the surface characteristics of low viscosity resin reported by Takano et al.

The surface and margins of the restoration were sealed with filled dentin adhesive. This treatment improves the marginal adaptation, and it could be demonstrated that adhesives are superior to specially designed resin coating materials.

Editorial note: A complete list of references is available from the publisher.

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FOR INTERACTION WITH THE WRITERS FIND THE CONTACT DETAIL AT THE END OF EACH ARTICLE.
Clinical indications for a composite-metal PFM restorative

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By Barry F. McArdle, DMD

Although "metal free" has resulted in a trend toward composite bonding systems, the indications for metal restorations are still significant. The National Institute of Dental and Craniofacial Research (NIDCR) estimates that approximately 60% of people with complete dentures and 25% of people with partial dentures use metal substructures.

Metallic restorations have a number of advantages, including strength, longevity, and ease of fabrication. They are also more easily repaired than composite restorations.

For example, the UCP on Capp, a ceramic prosthesis, provides a color backdrop for the final restoration that is closest to natural tooth structure and resembles the color of dentin nearest to the pulp. These hues of gold and yellow-orange provide the most natural color background for the porcelain as dentin has an inherently yellow-gold color with a vital pulp producing a warm red background.

Therefore, the Capp coping provides the perfect base for any type of veneering—porcelain, acrylic or composite—giving it a warmer and more organic tone. The UCP's light-scattering effect also contributes to the natural appearance of Capp crowns. Light reflecting from the coping through the porcelain is scattered by the extensions of the UCP layer, much like it is by natural tooth structure. Crown light is fragmented and dispersed by natural tooth structure due to its enamel prisms and dentin tubuli just as it is by the UCP in Capp.

The Capp coping also exhibits an increased resistance to thermal shock that derives from its unique three-layered structure (a lattice of gold that is strengthened with paladium and platinum), which provides a high degree of elasticity and resilience (Fig. 4). Masticatory forces and everyday parafunction produce vibrations and shifts that can harm porcelain and its underlying supporting structure, whether implant or natural tooth.

Unprotected porcelain may chip and crack during function. Capp protects its porcelain by absorbing masticatory and parafunctional impacts that advance from the point of contact inward. When a restored implant or natural tooth is exposed to these continuous impacts and vibrations, their structure is weakened and the porcelain can be affected. The inner and outer layers of Capp are each 25 microns thick, 97 percent gold and 3 percent silver. These layers are very forgiving and efficiently absorb the shocks and vibrations that travel through the porcelain during routine function. This extraordinary shock-absorbing feature protects the layered porcelain, and it is particularly valuable for implant cases where no periodontal ligament cushioning exists.

What's more, Capp affords an important alternative for situations of limited space, such as at the lower incisors. With its one-of-a-kind configuration, the Capp coping can be thinner than conventional metal alloys, allowing the technician more latitude in porcelain design with conservative, minimal thickness restorations.

Even though the Capp coping is not cast, it's extensively documented marginal integrity6 and antibacterial qualities make it an ideal restorative where subgingival margins are necessary, and I have found in many cases that these properties may afford the clinician more leeway in relation to the biologic width. The coping is made directly on the die model, providing an exceedingly precise fit.

In the Capp protocol, a metal embedded wax is applied in steps directly to a refractory die for the design and construction of the final metal coping, resulting in a highly precise marginal adaptation (Figs. 5-10). Other PFM technologies employ indirect methods that can introduce inaccuracies and distortions to marginal integrity. Capp can also be burnished to further refine its marginal precision. The coping can be welded before porcelain layering with different spacers to accomplish just the desired proximity to the tooth and spacing for cement thickness. Any crown and bridge cement can be used with Capp except those that must be light cured for best results. Capp maintains its accuracy through porcelain firing thanks to its internal reinforcing skeleton that resists warpage.

Research studies have found a marginal precision after cementation of 14.5-18 microns in single crowns and bridgegaps. Either chamfer or shoulder bevel designs can be used with margins in metal or porcelain. When considering the use of this material, he certain to use a Capp certified laboratory in order to realize its full benefits.

These unique properties are the result of years of extensive research that started in 1972 by two Israelis, Izhak Shohr, DMD, MS and Aharon White-

man, MDT. Together they have developed several different dental materials, such as RPS (reinforced porcelain system/ Inoxa) and the Renaissance system, which have proven to be extremely biocompatible with outstanding esthetics in everyday dental practice. In the year 1996, their research into gold, palladium and platinum metalallurgy yielded Capp, when this material was introduced to the international dental community.

In addition, during the following years, Shohr and White-

man cultivated multiple improvements to the product, the most significant being Capp Nano, which was introduced in 2007. This version allows for the fabrication of longer span bridgework and adds implant supported resto-

rations to this material's broad repertoire.

The elemental ratios have been altered in this process to reflect a composite metal content of 84 percent gold with the higher concentrations of 5.5 percent platinum and 7.2 percent palladium for even greater strength. This permits the varying coping thicknesses—
Uses

It is often the case that the location of previous restorations, cemental exposure or new carious lesions will mandate the placement of subgingival margins. It has been my experience that because cariogenic oral bacteria are particularly anaerobic, and therefore do not have a significant presence in the subgingival environment, subgingival margin placement results in less recurrent decay. Due to the moisture inherent in situations such as these, a cementable restoration is essential, and of the new generation in metal-free products, only zirconia will fill that bill.

However, zirconia is among the leastesthetic of the ceramic restorative materials available, but C接待ptek achieves clearly superior esthetic results intrinsically and, in clinical testing, is shown to encourage the most natural soft tissue esthetics as well. This quality is explained by the influence of the Captek coping's warm metal color and its aforementioned bacteriostatic properties, which contribute greatly to gingival health. After six months or more, even including semi-precious metal copings, can be problematic (Figs. 11, 12).

Bacteriostasis occurs due to significant reduction in the bacterial adherence to Captek as compared with other crown and bridge materials, and even natural tooth structure, and significantly reduces harmful bacteria in the subgingival sulci over time. Because Captek is composed completely of precious metals, it will not react in the oral environment to cause oxidation.

This lack of oxides is a major advantage for all the Captek copings surrounding structures from the gingivae to the porcelain. Oxides from a standard crown's margins can infiltrate the adjacent gingiva, causing significant irritation, and in some instances, an inflammatory reaction. The Captek coping is bacteriostatic and non-inflammatory in the proximate gingiva, connective tissue or alveolar bone surrounding area. Oxide formation on standard crown margins can make these areas susceptible to plaque and cause greater plaque accumulations that can eventually lead to gingivitis and even, in severe cases, to periodontitis. Captek's oxide-free surface prevents the occurrence of such reactions.

In conventional crown systems, metals oxidize during porcelain firing, causing an overall grayish look at the gingival margins. Over time, the environment, these standard metals continue to oxidize, further darkening the marginal porcelain, leading to disfigurement of the oxide molecule. Captek metals will not oxidize in the oral cavity under any circumstances, thus preserving the original color of the restoration. Captek's composite metal structure also produces a micro-elec
trical bipolar stimulus that seems to progressively invigorate the tissue cells around it. Since gingivae are not only unaffected by Captek, but the productivity and hardening effect on these tissues is increased by their effects on these tissues.

Thus, there is comparatively less gingivitis and recession around a Captek crown than found around other ceramic-metal restorations. Consequently, Captek has become my material of choice for direct restorations in the esthetic zone that demand subgingival margins.

As any dentist knows, endodontically treated teeth often discolor significantly after such procedures. It is also true that there are some implant cases where it is preferable to use a metal abutment, and in these instances the effect on gingival color can be decidedly negative. The transclu
cency of most metal-free restorations will not allow for the full masking of this tooth discoloration or metal reflection, and cosmetic outcomes will be adversely affected when those materials are used under these circumstances. As a PFM restoration, Captek affords ultimate masking qualities, and its excellent esthetic results make it the prime choice in situations where masking abutment dis
coloration is of prime importance.

The longevity of direct restora
tions can achieve major conseque
tial results to the treating dentist. Remakes due to functional failure are rare to the dentist not only economically, but in terms of his or her reputation as well. The greater strength of PFM restorations over their metal-free counterparts, even including zirconia units, is well documented in the litera
ture. In cases where occlusal or parafunctional matters are of a principal concern, cer
ametal crowns will be the longest lasting.

Considering Captek's advanced esthetic capabilities and strength characteristics, there is no disadvantage to using Captek restorations in a smile design case that has wear issues, which could lead to potential failure of all-ceramic units. It is used on this last point that I am met with the most skepticism from colleagues in the design cases that we discuss among ourselves. There are many practitioners who simply will not believe that a PFM restorative can match the vitality of an all-ceramic product.

I have found in my practi
cial experience that all other things being equal (skill of the laboratory technician involved, quality of the clinical records provided, etc.), it is easier to fabricate a quality life
time restoration from a metal-free material, but in the hands of a master ceramist, Captek can achieve an organic realism that is virtu
ally indistinguishable from nature (Figs. 13, 14).

In fact, complex restorative cases blending Captek and all-ceramic units have been documented to realize a har
moneous result. Conclusion

Although all-ceramic resto
rations have been en vogue when it comes to transformational restorative cases in the esthetic zone for some time – even being taught as state-of-the-art in dental schools – they are not the be-all or end-all when it comes to solv
ing many common clinical situations.

The placement of all-ceramic restorations is much more technique sensitive than its ceramic-metal counterpart, and their long-term functionality, especially when all occlusal considerations have not been carefully accounted for, is questionable at best in com
parison.

You hesitate to use a metal-free restorative due to occlusal questions or where periodon
tal, abutment color or gingival factors are paramount, con
der Captek. It will perform flawlessly under all these conditions while delivering cosmetic results that are un
erpassed by any other material when in the hands of a gifted laboratory technician. What more could you ask for?

The author would like to thank the Elite porcelain team at Arrowhead Dental Labora
tory for their expertise in fab
crating the Captek restorations shown in this article.

Contact Information

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te practice in Portland, N.H. An expert reviewer for ZADA, he has authored numerous articles in the peer-reviewed literature. McAdoo is an alumnus of The Pankey Institute.

He co-founded the Seacoast Dental Art Institute in 2008 and his lecture series, Beyond Central Dentist Seminars, in 2009.

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For information with the writers find contact detail at the end of each article.
Cranmore – Using CBCT 3D for excellence in patient care

By Cranmore

Cranmore - Using CBCT 3D for Excellence in Patient Care

Cranmore Dental Practice in Belfast is one of the most recent dental practices in Northern Ireland to install a 3D Cone Beam System (CBCT). Dr David Nelson, the clinical director at Cranmore, launched the practice in 2011 and since then has directed its growth through considerable investment in technology.

“At Cranmore” says David, “Our key focus is that we deliver excellence in dentistry to our patients”.

Dr David Nelson himself was the first dentist in Northern Ireland to obtain a Masters Degree in Dental Implantology. His commitment to education is demonstrated in his role as an Undergraduate Tutor at Queens University, Belfast as well as establishing Cranmore as the official Irish Training Facility for the University of Central Lancashire Postgraduate Masters Degree in Implant Dentistry. He is also a Fellow of the International Team for Implantology (ITI).

“Our key focus is that we deliver excellence in dentistry to our patients”

Until the beginning of last year when a 3D view was recommended, David had been referring patients for a medical CT scan. However he had also been researching the advantages that CBCT was bringing to implantology resulting in his decision to invest in his own unit CS 9000 3D System (CS was previously branded Kodak).

David explains, “At Cranmore it is our protocol to use a CT scan for sinus graft procedures. Previously we would send the patient for a hospital spiral CT scan. However we now carry these out in house on our own CBCT scanner. This is more convenient and

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Fig. 1

Dr David Nelson positions a patient for a 3D scan on the CS 9000 3D System.

Fig. 3, 1 and 4

The 3D volume clearly shows a spherical mass in the left sinus and fully occluded right sinus which shows as being more opaque which is not visible in the corresponding 2D OPG.
time efficient for the patient, combined with quicker diagnosis and commencement of treatment. Not only is the imaging exceptionally clear but the dose to the patient is significantly reduced compared to the spiral CT scan.

This particular case shows how important it is to have a CBCT scan available rather than to only have a 2D OPT.

On the pre-op OPT (pathology and decay treated before more complex treatment commenced) from the initial assessment we can see that sinus augmentation will be required on both sides with a lateral approach on the left and a crestal approach on the right. What the OPT does not show is that there is pathology in both the left and right maxillary sinus. The left sinus appears to have a retention cyst and the right sinus is more occluded. This pathology needs referred on for definitive diagnosis and treatment as required. My sinus pathology is referred to Eilid Qudairat, a Consultant Maxillofacial Surgeon.

In this case the pathology on the left was a retention cyst which was not treated and the right pathology was treated using a conservative medical approach initially. If this did not work then a FESS procedure may have been required.

The other benefit of the CS 9000 CBCT scan is that its field of view is relatively small and can be set up not to take orbits and cervical spine. This is important as it means that the dentist does not have to read and diagnose possible pathology in structures that they may not be comfortable doing.

“The CS 9000 CBCT scan is that its field of view is relatively small and can be set up not to take orbits and cervical spine”

Crannmore’s CS 9000 3D System was supplied and installed by Simon Shawe of Dentaquip, Ireland. Dentaquip has been supplying the Dental industry with products and services for over 50 years. Included in their customer base are; the Royal Victoria, Belfast City and Altnagelvin Hospitals and Queens University.

Initially David attended 3D application training at another CS 9000 3D site, Clinic 15 in Oxford. David, in partnership with Dentaquip and Carestream Dental, is now running his own 3D training events at Crannmore Dental Practice.

These 3D training sessions demonstrate the growing co-operation between Dentists, Dealers and Suppliers in coming together to share their knowledge and experience of new technology with the aim of providing better and safer patient treatment.
“Dental technicians forum at IDEM Singapore 2014”
Interview with Dr Mollova, Singapore

By John Batterby, PR consultant for Bridges M&G, Singapore

Singapore: We caught up with Dr Mollova in Singapore for the 2nd Asia-Pacific edition of the CAD/CAM and Digital Dentistry International Conference, held there at the beginning of October. A well-known advocate of technology and continuing education for all dental professionals she was happy to give us her take on the adoption of both in Asia.

John Batterby: You have been involved in promoting continuing education for dental professionals for quite a few years, what are the major changes you have seen in that time?

Dr Mollova: I think in recent years there has been a growing acceptance of the need for continuing education for the entire dental team not just the dentists. That is especially true for dental technicians as without constant training they can’t hope to keep up with the rapid advances in technology. I hope that in the future we will see more countries in the Asia-Pacific region requiring a minimal number of CPD credit hours per year for dental technicians as Singapore already does.

Has the emphasis of the Centre for Advanced Professional Practices (CAPP) training programmes altered since you started the company?

The most obvious and biggest change since CAPP was set up 10 years ago has to be the exponential growth in CAD/CAM technology and digital dentistry in general. And I think they will remain the fastest growing technology in dentistry for some years to come.

Your events are well established in Europe and Middle East but this is only your second event in Asia-Pacific, is the region lagging behind in the adoption of CAD/CAM and other digital technologies?

The Asia-Pacific is a huge and very diverse region so it is difficult to generalise. Some countries like Singapore and Australia are advanced and wealthy economies while others like Vietnam and Cambodia are still developing so it is unfair to compare them to more established or wealthier markets such as Europe and the Middle East.

There certainly seems to be a growing appetite for conferences and seminars dealing with the topics. I will be back in Singapore in April for IDEM Singapore 2014 which is introducing a new track especially for dental technicians called the Dental Technician Forum which will include several lectures on the topic of CAD/CAM as well as other subjects such as the latest implant products and techniques. An event co-organized by CAPP and Koelnmesse.

For a country generally thought of as pro technology and innovation Singapore has been surprisingly slow in adopting CAD/CAM and Digital Dentistry, do you think that will change?

I think that is already changing, the fact that the Singapore Dental Association and Koelnmesse invited us to run a Dental Technician Forum at IDEM Singapore next year is proof of that; as is the overwhelmingly positive response that our own CAD/CAM and Digital Dentistry International Conferences have received.

So you don’t think there is reluctance on the part of some labs and technicians to adopt CAD/CAM and other Digital Dentistry technologies for fear of being replaced by them?

I doubt that is the case. There will always be a need for technicians, for highly skilled pro-
Meet the 3Shape D900 Scanner
- the “cream of the crop”

By 3Shape

Earlier this year, 3Shape presented its latest technology wonder for 3D scanning in dental labs: the 3Shape D900 with color scanning capabilities. The new scanner combines advanced technologies with a strong focus on speed and accuracy — while providing new features for productive workflows and optimal user experience.

More cameras – more speed

The 3Shape D900 has 4 cameras, rather than the 2-camera platform found in previous 3Shape scanner models. While 3Shape’s 2-camera D700 series and D800 series are already considered among the world’s fastest, the D900 takes scanning speed even further. With more cameras on board, the D900 can capture 3D data even faster. For comparison, the scan time for a single die is 15 seconds on the D900, and 25 seconds on the D700 and D800.

The 3Shape D900 combines texture scanning and Real-Color™ scanning technology that allows technicians to capture their color guidance markings directly off the model, and bring these into the design process. For some labs, the specific color of the gypsum is a significant element in their work, and the D900 lets them duplicate this in CAD/CAM. As one dental technician stated while examining a D900 scan result on the screen: “It’s like holding the model in your hand.”

New Multi-Die scan technology for high productivity

The 4 cameras on the D900 facilitate a new high-speed Multi-Die technology that captures and registers all dies on the re-designed multi-die plate using a single scan — sweep, without mechanical processors to position the dies. This feature, combined with the many new technologies in the D900, make it the perfect choice for large, high volume production-oriented labs that are working with all types of dental indications. See the video: Using color scans when designing Removable Partial.

See texture color scans created by the D900 and learn how they can be used in the lab. Video: Dental System 2015 - “Removal Partial Design.” You can see it at youtube.com/3Shape or scan the QR code.

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- Reduces plaque build-up with proven bactericidal and antifungal activity

1 denture care regime

By recommending a Daily Denture Care Regime to your patients with dentures, you can be assured that you are helping to improve their comfort and confidence every day, day after day

This is where Corega fits in

professionals who are experts in the use of the machines that make the prosthetics that modern dental practices rely on to stay in business. The machines and technologies they use may change from generation to generation but the need for experts to work them will always remain. So as long as technicians keep their skills and knowledge up to date they will always be a vital part of the dental team.

What do you think will be the next big thing in CAD/CAM and Digital Dentistry; do you see 3D printing making a big impact?

Predicting the impact of new technologies is always difficult; in the 1980's all the pundits were predicting that computers would lead to paperless offices by the end of the century but instead in the second decade of the next century we see that because computers have made the handling of data and the process of document printing so much easier we go through more paper than ever. Having said that, I have a feeling 3D printing will have a big impact on everything and every industry in the future but I think it is too early to predict which industries in particular and to what extent.

"3D printing will have a big impact on everything"

Of course 3D printing is already with us in dentistry and I am sure that as new materials and technologies develop, to exploit it will become more common place but like all the other new manufacturing technologies it will still need technicians to run it.
FKG presents TotalFill, a revolutionary pre-mixed bioceramic sealer paste

By FKG

For FKG Dentaire SA, of Swiss city La Chaux-de-Fonds, all stages of each dental treatment should benefit from the very latest technology and best products. FKG is bringing a revolutionary bioceramic sealer paste to market. Setting time is reduced by half, it does not shrink when drying and has increased resistance – making TotalFill BC Sealer a veritable ally and reliable tool for dentist and endodontists alike.

Gone are the days when a trip to the dentist meant waiting for hours to be able to eat! A new sealer paste system is revolutionary. Dentists’ treatment rooms. The bioceramic paste comes pre-mixed in a syringe, and is extremely simple to use. Its hydrophilic nature means it is possible to clean the tooth immediately following the intervention. And what’s more, a perfect seal between the tooth, the gutta percha and the sealer is guaranteed, as there is no shrinking, either during setting or thereafter. The fluidity of the paste ensures a perfect three-dimensional fit, filling all voids. It is radiopaque and can even be reworked.

“Patient comforts, as well as easing practitioners’ workloads, have always been our guiding principles in our goal to offer the highest performing instruments and products” emphasised Thierry Rouiller, CEO of FKG Dentaire. “Thanks to its biocompatibility, TotalFill BC Sealer eliminates all risk of rejection or allergic reaction. During setting and the following hours it is anti-inflammatory and antibacterial, which helps prevent post-intervention complications.”

As TotalFill has the same biological characteristics as dentine, it even activates regeneration.

“These products represent a major advance in bonded root filling restorations. A high pH during setting, biocompatibility when set and dimensional stability are important advantages over traditional root canal sealers” said Dr. Martin Trop, clinical professor at the University of Pennsylvania.

Availability

1. TotalFill BC Obturation Kit Preloaded Syringe (1.5 g) BC Points/Paper Point Assortment Wheel (04, 06) 15 Tips
2. TotalFill BC Sealer Preloaded Syringe (1.5 g)
3. TotalFill Root Repair Material (RBM) Putty Jar (2.5 g)
4. TotalFill BBM Paste Preloaded Syringe (1 g)
5. BC Points/Paper Point Assortment Wheel (04 or 06)
6. BC Gutta Percha Coated Refill 04: 25, 55, 55, 40, 50 Refill 02: 40, 45, 50, 60 Other sizes on request.

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2594 La Chaux-de-Fonds
Switzerland
T +41 32 924 22 44
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*These products represent a major advance in bonded root filling restorations over traditional root canal sealers*

Dr. Martin Trop, Clinical Professor
University of Pennsylvania
FDI appoints two CE program regional directors

By Dental Tribune Middle East

The FDI Council has approved the appointment of two new Regional Directors for the FDI Continuing Education Programme. They are Prof. Mourad Doumit (Beirut) for the Middle East and Dr. Damían Elías Basrani (Argentina) for Latin America. They will be working on the 2015 FDI CE Programme.

Prof. Mourad Doumit (Lebanon) CV:
Specialist in Public Dental Health Dentistry (PJD) and Consultant and collaborator in Oral Health projects with the Lebanese Ministry of Public Health (M.P.H), Professor (PJD) and Dean of the School of Dentistry at the Lebanese University. Expert WHO for oral health since 1994. First vice-president of CID-CDF (Premier vice-président de la conférence internationale des Docteurs des Facultés Dentaires d’expression Française). Member of the Middle East section of ICD Board, President of the National Commission for Oral Health for the Ministry of Public Health (M.P.H).

Prof. DOUMIT has lectured internationally.

Contact Information

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“*The response of the audience is amazing, dentists are very friendly and excited to learn more about Laser Dentistry*”

by Prof. Jihad Habb, Faculty of Medicine, University of Genoa, Italy

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explore potential new advances in technology and foster closer ties. “The theme of “Sharing Solutions” is more relevant than ever as we face conflicting ideas in our daily practice and there is a real urge to be able to respond to this with evidence-based knowledge” said Dr. Nahih Nader, LDA President of the Scientific Committee.

Despite the difficult situation in the region, the event attracted over 2,100 Lebanese and international registered dentists, 56 highly esteemed guest speakers from 18 countries around the world (Brazil, USA, France, Germany, United Kingdom, Italy, Belgium, South Korea, Canada, Lithuania, and from the Arab countries Kuwait, Sultanate of Oman, Egypt, Yemen, Sudan) in addition to an interesting panel of Lebanese talented lecturers.

The four-day event began with pre-conference workshops, organized by Professor Carina Mehana, LDA Director of Continuing Education Programs and included over 127 sessions, 25 young podium presentations, poster presentations and a newly introduced panel discussion together with a series of 6 pre-congress “step-by-step” courses. The event combined excellence and expertise in all fields of dentistry and served as a forum to explore new technologies, innovations and new materials helping the participants to take smart decisions on why, when and how to use them.

The event received sponsorship from over 88 major international industry players and regional dealers taking part under the impressive 3,000 square meter tent specially built to hold the event.

This year LDA joined CAPP (an ADA CERP recognized provider) spearheaded by Dr. Dobrina Mollova as co-organizer in the scientific program of the conference. Their professional guidance in the scientific program was helpful to allow all BIDM 2013 delegates to be eligible in receiving ADA CERP CME Hours.

The Workshops:

1. Lazer in Dentistry and stomatology with the collaboration of Lazer association and LDA (Theory and Hands-on) by Professor Torbey Zeinoun and Professor Samer Naennour
2. Direct composite veneers as the ultimate solution (Theory and hands-on) by Dr. Walter Dias, DDS, Adj Professor, school of dentistry, UNG, USA
3. Gradedentics rotary techniques and canal therapy (Theory and hands-on) by Professor Roger Rebeiz, Founder and Director of the Dental College for continuous education
4. Short implant at the atrophic jaw (Theory) by Dr. Shahd Dabbour, DMD, Boston University, Diplomate of the American board of oral and maxillofacial surgery.
5. Orthopaedics (Theory) by Professor William Wiltshire, Head of the dept. of preven-tivdental SC, University of Manitoba, CANADA

All in one, it was a high tech event with an international and personal attendance of 15 Dental President from 15 different arab countries. This event will even definitely grow bigger in the coming year 2014 under the title “Planning to the Future “BIDM 2014”

The Dental Tribune Group supported the event as its Official Media Partner

The event ended with a gala dinner at Hilton Hotel, Beirut giving the audience an opportunity for networking in an educational and friendly atmosphere.

Dental Tribune Middle East & Africa enjoyed being the official media partner at the event.
BioHorizons Asia Pacific symposium series 2013

By BioHorizons

Experts in dental implantology and its related specialties came together on September 6-8, 2013 at the prestigious Palladium Hotel in Mumbai, India for the BioHorizons Asia Pacific Symposium, hosted by BioHorizons and its local authorized distributor, Katara Dental Pvt. Ltd.

“We are proud to have hosted a Symposium in India for the first time”

The program developed by Dr. Mukesh Katara, Managing Director of Katara Dental in cooperation with BioHorizons, included two sold out pre-congresses conducted by Drs. Bach Le, Udayata Khera and Ali Tunkiwala, and two days of clinical presentations led by internationally recognized opinion leaders. The scientific program addressed topics such as immediate placement and loading, implant complications, treatment planning and tissue regeneration and featured clinical case review and practical techniques for implant dentistry.

“I believe that the program was highly informative and educational,” said Dr. Srinath Thakur, Principal, SDM Dental College, Dharwad, India. “Such programs are the need of the hour for dentists practicing implantology. I hope and look forward to many more similar programs in future.”

Mr. Mark Neri, VP International Sales, stated: “We are proud to have hosted a Symposium in India for the first time. The internationally renowned group of speakers presented exciting advances in dental implantology and provided an opportunity for our attendees to continue learning ways to restore smiles through innovation.”

“India is one of the world’s finest business destinations”

“India is one of the world’s finest business destinations and Mumbai, in particular, offered us a magnificent experience when conducting such an important educational event for BioHorizons,” said Veronica Zamora, Manager, International Marketing & Education. “Our next destination will be Dubai and we plan to host many clinicians from the Asia Pacific region for this symposium, which is scheduled for May 7-9, 2014.”

About BioHorizons

BioHorizons is a leader in advanced dental implant technologies and tissue regeneration products in the dental implant industry. The company, based in Birmingham, Alabama, offers a broad spectrum of products for the replacement of missing teeth including dental implants, restorative and laboratory components, soft and hard tissue biologic products, and surgical planning software. BioHorizons unique dental implant designs are recognized for intuitive design, excellent primary stability, and high-end, esthetic outcomes through the use of BioHorizons proprietary Laser-Lok® microchannel surface technology. With 25 years of research and 55 published studies or articles, Laser-Lok has been shown to uniquely achieve both bone and soft tissue attachment for long term crestal bone maintenance. The BioHorizons portfolio is offered in 85 markets around the world.

For more information, visit biohorizons.com.

Contact Information

For more information, visit www.biohorizons.com

BioHorizons
Veronica Zamora
Manager, International Marketing & Education
Madinat Jumeirah Resort
Dubai, UAE • May 7-9, 2014

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Paediatric Dentists join hands to form UAE’s first Emirates Paediatric Dentistry Club supported by EMA and Oral-B & Crest

By Dental Tribune Middle East

Dubai, UAE: Under the umbrella of Emirates Medical Association (EMA) and with the support of P&G’s Oral Care brands, Oral-B & Crest, paediatric dentists in the UAE have joined hands to create the UAE’s first organisation dedicated to elevating standards and accessibility of oral health care for children in the UAE; the Emirates Paediatric Dentistry Club (EPDC).

Guest of Honor, Dr. Aisha Sultan President of Emirates Dental Society and Head, Dental Department, Ministry of Health, UAE presided over the inauguration ceremony held on October 28th in Dubai and decreed, “Each child in the UAE has a fundamental right to complete oral health care. I’m proud to announce the formation of the Emirates Paediatric Dentistry Club which will serve to ensure that all children living in UAE receive optimal-quality and accessible oral health care.”

“Emirates Paediatric Dentistry Club’s primary objectives are to elevate standards, drive preventive care programs and encourage research”

The membership based entity has been created to serve as an advocate for children’s oral health and for the professionals involved in delivery of oral care for children. The primary aim of the club is to improve oral health in children aged 0 to 15, and to encourage the highest standards of clinical dental care by: Streamlining policies and guidelines, providing continuing dental education programs for paediatric and general dentists, and promoting the proliferation of research and science to ensure optimal oral health and disease prevention for all children both at the professional and family level.

“Each child in the UAE has a fundamental right to complete oral health care”

Further the club aims to become a chief liaison between public and private sector to develop oral health preventive care programs and build effective partnerships towards preventative goals.

“We remain steadfast in our long-term commitment towards elevating the level of dental hygiene awareness and promoting preventative oral health measures across UAE. We are very proud of this feat today, and look forward to continuing our role as facilitator to enable the members of the EPDC and EMA to reach their goals of oral health maintenance and preventative care, said Dr. Ashbad Kashi, Procter & Gamble, Professional & Academic Relations Manager for the Arabian Peninsula. The UAE’s state of oral health for children as per the last census conducted revealed that 85% of children aged 5 suffered from dental caries, (National survey of the oral health of 5-year-old children in the United Arab Emirates) - Preventive Dentistry Section, Ministry of Health, Dubai, United Arab Emirates and General Authority for Health Services for the Emirate of Abu Dhabi, Abu Dhabi, United Arab Emirates.

“We remain steadfast in our long-term commitment towards elevating the level of dental hygiene awareness and promoting preventative oral health measures across UAE”

The EPDC will be in effect immediately and will be open for memberships by practitioners from university and hospital paediatric dental departments, paediatric dental practice who serve as primary care providers to infants, children, adolescents and patients with special health care needs.

For more information, kindly visit dubai2014.eapd.eu or email us at dubai2014@eapd.eu

The newly elected board of the Emirates Pediatric Dental Club
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President Elie Azar Maalouf elected as President of the ADF

By Dental Tribune Middle East

A scientific breakthrough and a distinctive addition to the dental profession in Lebanon took place on 28th of September 2013. An exceptional meeting gathered 15 representatives of the Arab Dental Federation, various Arab Associations, Orders and Syndicates who witnessed the inauguration of President Elie Azar Maalouf of The Lebanese Dental Association as the new President elect of the Arab Dental Federation for a two year mandate.

During the meeting, President Elie Maalouf received the honors from Dr Mohannad Ben Hafer, President of The Yemen Dental Association who was the President of the Arab Dental Federation for last two years. Dr Abdulwahab Alawadi, President of the Kuwait Dental Association was elected as the vice president for the two year mandate.

The newly elected board discussed various points and agreed on taking responsibility to unite and develop further the dental profession in the region.

Dental Tribune Middle East & Africa was the only media partner present at this historic event.

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>Page 1

a partnership agreement with Dental Tribune Middle East & Africa to become the official international media partner. The Dental Tribune combined portfolio includes more than 100 trade publications that reach more than 500,000 dentists in more than 91 countries as well as continuing education programs, symposia, congresses and exhibitions.

LDA will benefit from this partnership as DTMEA will be promoting internationally in order to attract larger numbers of foreign exhibitors and visitors as well as publishing LDA editorials, special feature articles, audio/video materials, statistics and interviews in support of LDA through the Dental Tribune website and print publications.

Dental Tribune Middle East & Africa will support all Lebanese Dental Association events.
Myth vs. Truths

By Beverly Hills Formula

There are many misunderstanding surrounding whitening toothpastes. We tackle the common patient misconceptions to help you confidently recommend the most suitable choice for your patients...

Although teeth whitening has become one of the most sought-after cosmetic dental treatments requested by patients, not all will want to “splash their cash” on these expensive treatments, but, by the same token, they are also dubious about whitening toothpastes:

- **“Whitening toothpastes are ineffective”**
  In late 2012, whitening toothpastes came under scrutiny when Arco & Hamner’s Advanced Whitening toothpaste advertisements were banned after it emerged that 45 per cent of users, during a four-week trial, either saw no improvement or were left with darker teeth (1). By association, many patients assume that all whitening toothpastes do not live up to their claims.

Contrary to this, it’s important that the effective toothpastes available, which are clinically proven to work, are brought to your patients’ attention. These products should contain ingredients such as the stain-dissolving agent, Pentasodium Triphosphate and anti-tartar ingredients, Tetrasodium Pyrophosphate. Pentasodium Triphosphate can remove deep surface stains as part of a daily oral care routine to brighten, lighten and whiten teeth. It also prevents food particles settling on the teeth, effectively keeping teeth whiter for longer. For extra stain removal, Tetradoxodium Pyrophosphate coats the surface of teeth to prevent bacteria forming, leaving teeth feeling and appearing brighter all day.

- **“Whitening toothpastes use harsh abrasives to remove stains”**
  There is a misconception that to remove dental stains caused by smoking and some foods and drinks, patients need to resort to products that contain harsh abrasives. This is not the case. Recommendations for using whitening toothpastes that contain Hydrated Silica. This low abrasive polishing ingredient, which is frequently combined with the softer calcium carbonate to provide a smooth gel-like quality, works hard to remove plaque and stains and whiten the teeth. It has no distinctive taste or odour and may also be labeled as amorphous silicic dioxide, silicic acid, or silica gel. This mild abrasive is harmless and is even listed by the US Food and Drug Administration as “Generally Recognised as Safe”.

- **“I suffer from sensitivity so whitening toothpastes are not for me”**
  Teeth sensitivity is a common dental problem and there are many brands of toothpastes that claim to treat sensitivity. However, for patients who use a toothpaste that contains Potassium Citrate. This desensitising agent relieves tooth sensitivity by effectively blocking the transmission of pain sensation between the nerve cells that enable cold and hot sensations to reach the tooth’s nerves. There are toothpastes available that contain Hydrated Silica for high performance whitening and Potassium Citrate for rapid sensitivity action.

- **“Whitening toothpastes don’t offer all-round protection”**
  Thankfully, many patients recognise that a healthy smile should come hand-in-hand with a brighter smile. It’s a win-win, but most people suffer from some form of gum disease, which is the major cause of tooth loss in adults and, often, many show no symptoms and unaware that they may have it. An oral health product that contains a gum protection system can help prevent the causes and effects of gum disease whilst restoring teeth to a natural, white colour, without using harsh abrasives or bleach. Bleeding gums can be a cause of vitamin and nutritional deficiencies. Toothpastes which contain Vitamin E (Tocopheryl Acetate), Pro Vitamin B5 (Panthenol) and B Vitamin Folic Acid, anti-inflammatory revitalising agents, will help invigorate and strengthen the gums to keep the oral tissue healthy, whilst toothpastes that contain the ingredient Permethol and Q10 and Folic Acid will help reduce and stop bleeding, promoting healthy gums. In light of these, it’s worthwhile recommending patients use a toothpaste that contains such ingredients.

Addressing concerns

Beverly Hills Formula offers an entire range of products to address all these patient concerns. Low in abrasion, Perfect White toothpaste contains Hydrated Silica; stain dissolving agent, Pentasodium Triphosphate; and anti-tartar ingredient, Tetrasodium Pyrophosphate. For extra stain removal, this toothpaste can be left on the teeth for up to one minute before brushing. And for patients who suffer from sensitivity, but long for that gleaming Hollywood Smile, Perfect White Sensitive is the toothpaste of choice as it contains desensitising agent, Potassium Citrate. Boosting a unique gum protection system that contains Vitamin E, Flouride, Permethol, Panthenol, Q10 and Folic Acid, Dentist’s Choice Gum & Whitening Expert toothpaste protects against tooth decay whilst restoring teeth to a natural, white colour without using harsh abrasives or bleach. Ultimately, Beverly Hills Formula’s range of whitening toothpastes offers patients an affordable way to restore the natural whiteness of their teeth by removing stains from the tooth surface, whilst providing that all-important, long-lasting protection.

References
(1) The whitening toothpaste that can make teeth DARKER—Ad starring Blue Peter girl Katy Hill banned after customers say product didn’t work: http://www.dailymail.co.uk/news/article-2218775/The-whitening-toothpaste-make-teeth-darker-Advert-starring-Katy-Hill-banned-custome rs-say-product-didn’t-work.html#nfo-feeds-newsxml

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Interview: Biolase could become the next intuitive surgical

By Dental Tribune International

In a recent statement, US-based provider of dental and medical lasers BIOLASE announced that health care fund Cambria Capital Management in Boston in the USA has purchased US$5 million of the company’s common stock.

Dental Tribune ONLINE had the opportunity to speak with CEO Ryo Fujimoto about what this means for the company, mistakes of the past and the reason that the company’s WaterLase technology has the potential to revolutionise dental surgery.

Dental Tribune ONLINE: Mr Fujimoto, your company seems to have been struggling recently, according to some analysts. What is your company’s plan right now, and what does the recent sale of shares to Cambria Capital mean for your business?

Fujimoto: The confusion arises from the fact that we grew from 40 to 50 per cent a year for two years and in 2013 our growth has slowed down to “only” 15 to 20 per cent. We believe that BIOLASE will grow strongly in the years to come. We just needed to raise our capital with a few million dollars in order to improve our balance sheet. This capital raise, combined with our US$8 million Comerica Bank credit line, will give us enough capital to continue our plan of business expansion.

Also, as we approach the fourth quarter we see net income and positive cash flow returning and we are expecting this positive development to continue in 2014. We feel very positively about where BIOLASE is right now.

So have the recent restructuring measures paid off?

Yes, they have paid off handsomely, but there is more to do. I admit that in the past there have been some unhappy customers, but in our defence the company back then was managed by entirely different people and was locked into a restrictive government agreement with Henry Schein. In the new BIOLASE, customers are the number one priority and we do what it takes to take care of them.

What people need to realise is that BIOLASE is a cutting-edge technology company with a new technology that is potentially going to radically transform the way dental surgery is performed and practised. As a new step in informing the marketplace about WaterLase, we have recently embarked on a social media and press campaign to reach out to millions of patients to educate them about the many advantages of being treated with BIOLASE technology.

We are particularly glad to have Dr Fred Moli, the co-founder of Intuitive Surgical, who values our technology such that he joined our board of directors recently. He is a legend in the medical field because with his company’s technology the surgery is approached through the use of robotics. Thanks to a visionary like him, today tens of thousands of patients with cancer can be treated in a much more precise way than ever before.

We believe BIOLASE has a technology that is so advanced and revolutionary that the company could become the next Intuitive Surgical. That is because with WaterLase technology we can transform surgical dentistry for hundreds of thousands of dental practices around the world, while providing better and safer care for patients.

Why do you think lasers and particularly WaterLase will be the technology of choice in dentistry for the future?

If you think about it, dentistry has not really changed very much since the dental drill was invented by the Egyptians 7,000 years ago. The principle of removing tissue by mechanical rotation has remained the same since that time, with the only major change in the past 70 years being the attachment of a high-speed engine. With WaterLase technology, we are able to make use of the most basic element of human tissue – water. The human body in its entirety consists of 60 per cent water, so water can be found in almost all tissues. Dentine, for example, has 20 per cent water in it. By energising water molecules with a laser, tissue can be cut without pain, heat, abrasion, vibration, or the risk of micro-fractures. At the same time, it is also much more precise. Clinically, this is much better dentistry.

Furthermore, there is no need for any anaesthetic for the patient; 99 per cent of patients can be treated without Novocaine. How wonderful is that? On top of that, laser energy kills bacteria, viruses and fungus, and that provides another advantage for dentists: since it is almost impossible and certainly very costly to have surgical instrumentation like dental burs and endodontic files fully sterilised, and too costly to use new instrumentation for every patient to be treated.

With all these advantages, why does it seem that the technology has not been adopted widely by dentists yet?

That is not exactly true. Since the introduction of WaterLase technology 15 years ago, we have sold over 10,000 units worldwide, 8,000 of which were in the USA alone. The main challenge however is education. Dentists need to be better educated about the return on investment and the system’s extensive clinical advantages in comparison with conventional dentistry.

In fact, only two and a half years ago, WaterLase technology for the very first time broke the speed barrier, which means that it now cuts as fast as a conventional dental drill, sometimes even faster. Furthermore, it allows impressive treatment and cutting of soft tissue, which is something a dental drill cannot do. These additional options mean that dentists no longer need to refer patients to a specialist for these tasks, thereby boosting revenue in the practice.

Where do you see the technology in the next five to ten years?

In contrast with other market-leading systems or technologies, such as Sirona’s CEREC, WaterLase is protected by over 100 patents, which will allow us to protect our competitive advantage. The adoption cycle of new technologies is growing increasingly shorter and more advanced technologies like WaterLase will rapidly find their way into dental practices. Dentists that do not upgrade their practices will likely begin to lose patients, become uncompetitive and lag behind. You cannot fight technology; you cannot fight innovation. If you do, you are doomed to be left out of the market.

We regularly ask patients whether they would like to be treated by a conventional dentist or high-tech dentist, and almost 100 per cent of patients would like to be treated by a high-tech dentist. Therefore, we believe that WaterLase will be part of most dental practices in the near future.

Thank you very much for the interview.
Modified fluoride toothpaste technique reduces caries in orthodontic patients: a longitudinal, randomized clinical trial

By Ana H. Al Malla, Saad A.I. Khuraus, Joseph Birdblood, Governor Sowar, and Riyadh, Saudi Arabia

Fluoride toothpaste has been widely used for more than 4 decades and remains a benchmark for the prevention of dental caries. It reduces caries in both permanent and deciduous teeth. For this reason, fluoride toothpaste is regarded as an essential caries-prevention measure worldwide. Topical fluoride (gel or paste) is used in children, in addition to fluoride toothpaste, to achieve a more rapidкий prevent caries compared with toothpaste used alone. Several studies have shown that even low levels of fluoride, from the regular use of toothpaste, can have a positive effect on enamel demineralization and remineralization. Four factors influence the anticaries efficacy of fluoride toothpaste: brushing frequency, duration of brushing, fluoride concentration, and rinsing after brushing. Brushing should be done twice daily, and patients should be persuaded to brush for a longer time. The supragingival fluoride concentration measured after dentifrice application decreases significantly as the water rinse volume, rinse duration, and rinse frequency increase. A toothpaste technique in which a supragingival rinse with the toothpaste is used after brushing increases the efficacy of the fluoride toothpaste. In a recent clinical trial, caries in preschool children by an average of 26%. Further, brushing immediately after brushing reduces the salivary fluoride level about 12 times compared with brushing alone. Postbrushing rinsing habits may play an important role in the oral health of patients from dentifrices that could, in turn, affect their clinical efficacy.

Enamel demineralization associated with fixed orthodontic appliances is a rapid process caused by cariogenic microorganisms that develop around brackets and under ill-fitting bands. Despite improvements in mechanical and preventive efforts, demineralization can occur around orthodontic appliances after only 1 month. There is a higher risk of demineralization adjacent to brackets at earlier ages, because of the lower resistance of enamel and worse cooperation by younger patients in the orthodontic treatment process. Children in the Kingdom of Saudi Arabia (KSA) have a high prevalence of dental caries. A recent study by Brown found a mean incidence of decayed, extracted, and filled teeth of 6.3 in healthy 5-year-old children.

Clinical trials are needed to give evidence-based advice on the optimal caries-prevention strategies with clear practice guidelines. For orthodontic patients, more research is required on various modes of delivering fluoride. The hypothesis of this study was that toothpaste slurry rinsing would reduce the numbers of decayed and filled tooth surfaces (DFS) in orthodontic patients.

Material and Methods

A power analysis with an assumed significant level of 5%, standard deviations of 5.0 DFS, least detectable difference of 2.0 DFS, and a power for that detection of 90% was performed and produced a minimum sample size of 45 observations per group.

Our subjects consisted of 150 orthodontic patients at a private orthodontic clinic in Riyadh, KSA. They were randomized into 2 groups (test and control groups) with 75 patients in each. The clinic’s receptionist assigned patients with odd birth dates to the test group and patients with even birth dates to the control group. The Saudi Ministry of Health Ethics Committee approved the study. Information sheetlets were given to the patients before they consented to participate in the study; written consent was obtained from all subjects before the trial.

Before the start of the treatment or the trial, the follow-up and control groups were identified for both control and test groups by using a standardized form: frequency of brushing, amount of toothpaste, frequency of fluoride rinses, and the fluoride content of the toothpaste used. The number of meals eaten in a 24-hour period was also recorded. The information was obtained by a dentist (A.M.) who was blind to the patients’ group.

The examination consisted of recording the plaque index according to Sillness and Löe's registration of caries according to the World Health Organization’s guidelines after prophylaxis, flapping, and radiographic examination according to the method of Mejare et al., which consisted of 4 bitewings taken with double film. A total of 24 surfaces were included in the radiographic DFS index, from the distal aspect of the first pre-molars to the mesial surface of the second molars. Filled surfaces underlined with caries were scored as recurred caries.

After the data collection, the patients in both test and control groups received Colgate Max Cavity toothpaste containing 1450 ppm fluoride (Colgate, Riyadh, KSA).

The test group received verbal and written instructions about the brushing technique: (1) use 2 cm (1 g) of dentifrice on a wet toothbrush; (2) spread the toothpaste evenly in both arches; (3) brush all surfaces for 2 minutes; (4) use a small amount of water, the equivalent of a handful with the dentifrice remaining in the mouth and fill the dentifrice slurry between the teeth by active cheek movements for 30 seconds before expectorating; (5) avoid further rinsing with water; (6) avoid drinking or eating for 2 hours; (7) brush twice a day, after breakfast and at night before going to bed; and (8) abstain from all other types of dentifrice during treatment and until its completion (Fig. 1). To ensure that all patients in both groups had a supply of the ground toothpaste, they were given a tube at each visit or on request.

The control group was given the routine clinical oral hygiene instructions: brushing twice a day after breakfast and after dinner before going to bed, and rinsing with a flouridated mouthwash. At each patient visit to the clinic for the treatment follow-up, the instructions were repeated by the assigned nurse or assistant.

At the end of the trial or treatment, a check in the use of flouridatedmouthwash and the study toothpaste by the control group and the use of the toothpaste and brushing and rinsing instructions by the test group was as assessed. For the test group patients, a standard form was used to rank their compliance with the duration of brushing, the frequency of brushing, the amount of water used, and the method of filtering the dentifrice slurry, and the time between brushing, rinsing, and eating. They were ranked from 1 to according to the number of instructions they followed. Of the 5 instructions, if patients followed 1 or 2, they were considered “good,” and, if they followed more than 3, they were “very good.”

Statistical Analysis

The Statistical Package for Social Sciences (version 18.0, Chicago, IL) was used for the statistical analysis of the determined measurements. DFS and prevented fractions (PF) were calculated according to these 2 formulas (DFS5 follow-up DFS baseline DFS) and PF 5 (control group DFS5 test group DFS5/control group DFS5 100). For the descriptive statistics, the mean values with standard deviations were calculated. To determine statistically significant differences between test groups, the independent sampl e test was applied between the groups follow-up test, and good vs very good. The significance level was set at 0.05. The paired t test was used to check intrarater reliability for the radiographic analysis. The 25 randomly selected radiographs were checked within a 1-week period.

<table>
<thead>
<tr>
<th>Table 1. Plaque index, clinical DFS, radiographic DFS, and total DFS of the groups</th>
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<td>Test (n = 51)</td>
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<td>Baseline</td>
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<td>Mean ± SD</td>
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<td>Plaque index</td>
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<td>Radiographic DFS</td>
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<td>Total DFS</td>
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Results
At the end of treatment, 50 patients were lost or excluded, leaving 150 patients. This loss did not affect the power of the study as determined by the power analysis to determine the sample size (Fig 2). The patients were divided into the test group (n = 51: 10 male, 41 female; mean age, 16.2 ± 4 years) and the control group (n = 49: 17 male, 32 female; mean age, 16.9 ± 4 years). Interexaminer reliability for the radiographic examination showed no significant difference (P = 0.05), indicating good reliability.

The information obtained was standardized by the examiner blinded to the patients’ groups. The test group was fed at the start of the trial: 70% brushed 2 or 5 times daily; about 50% used 1 g of toothpaste, and more than 85% used only fluoride toothpaste with no other fluoride supplement; 90% had 5 to 10 meals (plus snacks) a day; and only 6% had 7 or more meals (plus snacks) a day. At follow-up, 86% of the control patients used fluoride toothpaste only; 8% used fluoride toothpaste with fluoride mouthwash infrequently, and the remaining 6% used no fluoride.

The test and control groups’ baseline and follow-up plaque index, clinical DFS, radiographic DFS, and clinical and radiographic DFS values are shown in Table I.

At baseline, there were no significant differences between the groups. At follow-up, the total number of tooth available was almost the same in both groups (test, 20.9 ± 6.17; control, 20.8 ± 6.77). At the end of the study, the test group patients had significantly better plaque index scores compared with the control group (P = 0.05). Both groups had increases in their DFS index, both clinically and radiographically, with a higher increment in the control group.

The clinical, radiographic, and clinical plus radiographic DFS (incidences) are shown in Figure 5. Compared with the control group patients, the test group patients had more than 7 times the clinical DFS (P = 0.001), more than 5 times the radiographic DFS (P = 0.001), and more than 5 times the clinical plus radiographic DFS (P = 0.001), with PF values of 87%, 78%, and 85%, respectively.

Baseline and follow-up clinical plus radiographic DFS (total) and DFS (incidence) compliance are shown in Table II. The patients with “very good” compliance had a lower DFS incidence than those with “good” compliance, but the difference was not statistically significant.

Discussion
The results of this study provide support for the hypothesis that the recommended MPTT was more effective in preventing caries in orthodontic patients than normal oral hygiene instructions. We observed a difference in the mean caries increment between patients who followed the MPTT and those who did not. This technique resulted in 5 times fewer DFS compared with the control group. The focus of the test group was the MPTT. On the other hand, the control group received oral hygiene instructions, but no special instructions on a toothpaste technique. Our results therefore indicate that, in this population, the use of fluoride toothpaste combined with the MPTT is an important regimen that should be considered in the orthodontic clinic.

The MPTT aimed to both increase the fluoride concentration and prolong the time that the fluoride level is elevated in the oral cavity. Spreading dentifrice on the teeth before brushing and rinsing with toothpaste slurry immediately after brushing can be expected to produce more even distribution of the dentifrice and enhance fluoride concentration compared with a more conventional technique.

Brushing twice daily has been shown to be an important factor for caries prevention, whereas not eating or drinking for 2 hours allows a longer time for the elevated fluoride concentration. The MPTT contains a package of advice.

The MPTT technique is easy to teach. Patients can be instructed on how to perform it, they can perform it in the orthodontic clinic, and a pamphlet can be handed to them with clear illustrations and instructions. Compared with other dental specialists, orthodontists have a great opportunity to implement toothpaste regimens in their clinics, since patients usually visit the clinic every 4 to 12 weeks, giving the orthodontist an excellent opportunity to stress the importance of using fluoride toothpaste and illustrating the instructions again.

Although the MPTT is important, patients must be aware that the fluorosed enamel and any rinsing with the toothpaste can cause some oral discomfort and irritation of the oral mucosa. In our experience, however, few patients reported any complaints. The MPTT delivers more fluoride to the oral cavity, and it will eventually be ingested. However, only 5% to 10% is swallowed, which is negligible from a toxicological point of view.

Orthodontists must be aware that the MPTT used in this study was used for patients with a high risk for caries. The caries prevalence among teenagers and adolescents in KSA is high. Saudi children have high sugar intake and poor knowledge of oral hygiene. The large difference found in the DFS between the test and control group patients in KSA would not be expected in other countries with a low DFS prevalence. For example, Sweden has a long tradition of fluoride toothpaste and other fluoride products for orthodontic patients; therefore, the expected caries reduction after using the MPTT is lower.

Conclusions
The use of the MFTT described in this study significantly reduces the incidence of new caries lesions in orthodontic patients. A regimen of this kind should therefore be considered in the orthodontic clinical, especially for patients with a high risk for caries.

Editorial note: A complete list of references is available from the publisher.
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In ‘bleeding on probing’ trials over 4 weeks, **parodontax**

demonstrated significant effects in reducing bleeding
gums by 22% (p<0.01)

Bleeding on probing increased after 4 weeks of brushing
with the fluoride control toothpaste

![Graph showing reduced bleeding on probing index after 4 weeks with parodontax](image)

**Reduced bleeding on probing index after 4 weeks with parodontax**

<table>
<thead>
<tr>
<th>Change vs baseline in bleeding on probing index after 4 weeks</th>
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<tr>
<td>Fluoride-containing control toothpaste</td>
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<tr>
<td>Baseline</td>
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<td>4 weeks</td>
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Helps stop bleeding gums

Adapted from Saxer et al 1994. All interdental spaces from 64- to 46 were tested at baseline and 4 weeks for bleeding on probing on the right side (buccal) and left side (lingual). Findings were recorded as 0=no bleeding; 1=slight/isolated bleeding; 2=marked bleeding. Mean scores were determined. N=22.

Baseline values (Mean SD): Control (fluoride-containing toothpaste) group 24.75 (6.34); parodontax® group 25.40 (5.80). After 4 weeks: Control (fluoride-containing toothpaste) group 26.00 (1.14); parodontax® group 19.80 (7.38). **parodontax® vs control p<0.05.**
Modern life can be challenging.

Modern, healthy lifestyles and dietary habits often mean an increase in the consumption of acid-rich foods and drinks. However, experts believe that as few as 4 acidic challenges a day can put patients at risk of Acid Wear.\(^3\) In addition to giving behavioural advice (e.g. diet and brushing), your patients may also benefit from a daily toothpaste that can protect enamel from these multiple acid challenges.

Pronamel is proven to reharden acid-softened enamel and provide ongoing protection from the effects of Acid Wear.\(^4,6\)

Daily protection from the effects of Acid Wear.

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References: