Dental Tribune MEA/ CAPPmea - IDS Cologne

By Dental Tribune MEA / CAPPmea

Dubai, UAE: The Dental Tribune MEA license owner – Centre for Advanced Professional Practices (CAPPmea) - were amongst the “movers and shakers” in the dental market during the 56th International Dental Show (IDS), which took place in Cologne, Germany, on 10-14 March 2015. The event has become the biggest and most successful “dental show” for all major players in the field, including its organizer - Koelnmesse, dental industry representatives and other dental professionals tasted the “newest spices” of the dental development cuisine at IDS Cologne.

In the year of its 10th Anniversary, and prior to the 10th CAD/CAM & Digital Dentistry International Conference, CAPPmea travelled to Cologne, for a 10-day mission, to represent globally the Middle East dental society, at the 56th International Dental Show and the 11th DTI Annual Publishers Meeting. CAPPmea provided information on its latest Continuing Dental Education events in the Middle East & Asia and distributed 2,500 up to date publications of Dental Tribune MEA at the 100m2 DTI Media Lounge stand (D66/F65) situated in hall 4.1.

11th DTI Publishers Meeting 2015

As an IDS tradition, the DTI Annual Publishers meeting was held for the 11th time. All 96 publishers from the DTI family came together at Hilton Dom Hotel for the two days meeting. The 11th Annual Publishers Meeting welcomed attendees from Australia, the U.S.A., the Middle East and many other countries. DTI’s CEO, Torsten Oemus opened the meeting with a motivational speech presenting the achievements of the last year of all the partners. Together the group evaluated, planned and strategized approaches. Amongst new projects of the partners Dental Tribune MEA / CAPPmea introduced two new innovative items: ‘Referral Clinic section’ and ‘Digital e-newspaper’ incorporating the print publication as a digital copy into the e-newsletters. The 2015 Publishers Meeting helped strengthen the global DTI platform and announced plans for the coming years to work in cooperation with the entire publishing group. Amongst the main subjects discussed were the globalization process, the digitalization of dental practices and laboratories and the relevance of on-line education and e-commerce for dentistry.

Dental Tribune International and its partners will continue to follow this path. On its part, Dental Tribune MEA / CAPPmea will join forces in asserting the same trends for the MEA region in the coming years.

Happy 10th Birthday CAPPmea

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50-52
By Dental Tribune International

Cologne, Germany: In 2013 the Henry Schein launched an umbrella brand, ConnectDental, bringing together the range of digital products and services needed to connect dental practices and laboratories while integrating open CAD/CAM systems and materials. Tuesday’s IDS press conference confirmed once more that this is the only way to establish a future-proof practice and laboratory structure. It also provided an overview of present market developments, including a strategic outlook on current and future trends in dentistry.

According to Stanley M. Bergman, Chairman of the Board and CEO, Henry Schein, the truly relevant question to ask in this context is, why not? After all, this is what was in the minds of Esther and Henry Schein when they founded their company to occupy a key position between the current health market and the idealised vision they sought to create. Now, the time has come for practices and laboratories to demonstrate similar courage and to view digitalization as a real opportunity.

In this context, Henry Schein offers two concepts for complete digitalization of practice workflow: ConnectDental and CEREC®. Both concepts are entirely structured to deliver efficiency and profitability, and are therefore trendsetting tools in the hands of practices and laboratories. The ConnectDental workflow brings together the various digital system components to produce an open solution, covering 3-D diagnosis, digital impressions, implant planning and model production using 3-D printers, while also incorporating design and manufacture for restorative surgery using grinding and milling machines.

Andreas Meldau, President, European Dental Group, Henry Schein, and Managing Director, Henry Schein Dental Deutschland, emphasised the absolute prioritisation of continuous development for the efficient treatment of patients. “50% digital—Zahnheilkunde gestalten [shaping digital dental technology]”—this theme describes a first-of-a-kind event scheduled for June that is intended to offer laboratory owners and management, as well as their customers, a 360° view of the systems, components and materials that are part of the digital workflow. The event will place particular importance on providing a variety of perspectives: digital solutions according to practices, the dental laboratory perspective and the academic viewpoint. The two-day event presented by Henry Schein will feature speakers from the world of science, practices, laboratories and industry, who will share information on the opportunities and limits of digital manufacturing technologies.

Attendees of the IDS are invited to pencil in the 500° congress scheduled for June.

Henry Schein, one of the world’s leading providers of products and services for doctors, dentists and veterinarians is at the vanguard of progress in the establishment of new concepts in the health care sector.
The new imaging plate scanner XIOS Scan completes the intraoral family from Sirona. Whether you’re taking the first steps into the digital world or establishing or updating a fully digital practice, XIOS Scan and XIOS XG Sensors offer perfectly synchronized solutions for every workflow. Enjoy every day. With Sirona.

SIRONA.COM
Bulk fill restorations in the posterior area

By Dr. Abubakar Sheikh, Pakistan

Introduction

Traditionally cavities in posterior teeth were generally filled with amalgam. With the advent of direct composites this approach gradually changed, but there were quite a few challenges that had to be overcome. These challenges included reducing polymerization shrinkage and postoperative sensitivity, achieving tight contacts in posterior teeth and sufficient strength in load bearing areas.

With the improvement in adhesive bonding systems and composite materials most of these challenges were addressed but still it has always been recommended to place composite in increments due to a variety of reasons. These include penetration of curing light to a limited depth and placing composite in increments will help reduce the effect of polymerization shrinkage to a certain degree. From a clinician’s point of view this approach is certainly time consuming and there has always been a desire to fill the cavity in a single increment and get the job done as fast as possible.

Considering the demand of the dental practitioners, manufacturers such as 3M, have now introduced bulkfill composites which can be placed in cavities in a single increment and yet can be cured effectively and have good adaptability and reduced shrinkage. We tried bulkfill material in a clinical case in which 3 posterior cavities were filled with Filtek™ Bulk Fill Posterior composite.

Clinical Case

A female patient presented with multiple cavities in her teeth. There was a moderate sized cavity in the first molar, the first premolar had a large distal carious lesion and the second premolar had cavities mesially. We decided to manage the 3 adjacent large cavities in her posterior teeth in 4th quadrant with bulkfill composite in a single appointment. Fig. 1 to Fig 15.

Conclusion

Previously with composites being placed in multiple increments, it would have been quite time consuming and tedious to do a number of such restorations in a single appointment. Certainly bulkfill composites made the job easier. Their handling and manipulation with instruments are also quite user friendly. With the composites being applied in a single increment, an ideal shade match might not be possible in all situations but in posterior restorations the effect can be masked to a certain degree. Overall I would say that bulkfill composites will definitely speed up the work and make things easy for the clinician.

Fig. 1. Initial case 1: 44 large carious lesion distally, 45 large carious lesion mesially, 46 moderate size lesion occlusally.

Fig. 2. Isolation of the affected teeth with rubberdam.

Fig. 3. Caries has been removed and cavities prepared. Premolars have been separated by sectional matrices and wedge.

Fig. 4. Selective etching done on enamel margins.

Fig. 5. Single Bond Universal adhesive being applied in the molar cavity.

Fig. 6. Single Bond Universal application in all cavities.

Fig. 7. Adaptation of Filtek™ Bulk Fill Posterior composite after completely placing in molar cavity.

Fig. 8. Occlusal anatomy being carved on the molar surface.

Fig. 9. Anatomy being carved after complete filling of Filtek™ Bulk Fill Posterior composite in both premolars.

Fig. 10. Finishing of the restorations.

Fig. 11. Polishing with 3M Spiral Polishing disc and diamond polishing paste.

Fig. 12. Restorations after finishing and polishing.

Fig. 13. Completed restorations.

Fig. 14. Completed restorations.
One step placement. One innovative material.
No expensive dispensing device.
No time-consuming layers.
Posterior restorations made simple.

Bulk fill composites are designed to make large posterior restorations faster and easier—however, productivity can be lost when using complicated layering techniques or expensive dispensing devices. Filtek™ Bulk Fill Posterior Restorative was designed to improve productivity by allowing one-step placement up to 5 mm … as easy as “one and done.”

www.3Mgulf.com/espe
By Dr. Sebastian furious, Belgium

Interdisciplinary approach in aesthetic dentistry

mCME articles in Dental Tribune have been approved by:
ADA CERP designates this activity for 2 continuing education credits.
DHA awarded this program for 2 CPD Credit Points

Introduction
In today’s dentistry, for rendering the best comprehensive dental services to our aesthetically driven patients, the paradigm has shifted to an interdisciplinary team of specialists that work together steered by a clinical co-ordinator. This person should be either a multi-specialist or a specialist with additional training outside his or her specialty area. This gives him or her the ability to bring the surgical, orthodontic, restorative and technical teams together as a whole, following treatment sequences customised especially for the patients’ best interests and expectations.

The challenge is making the correct diagnosis and selecting the appropriate treatment regimen. In order to achieve that, the clinician has to follow certain guidelines and understand the relations between teeth and the adjacent structures. Establishing the correct position of the incisal edge of a maxillary central incisor in relation to the lower lip, the correct ratios between the tooth’s width and length, and the level of gingival margin when smiling are very powerful diagnostic tools.

In order to aid memory, one may remember it as the 42.2 rule:
(a) a maximum of 4 mm of maxillary central incisor display when the lips are at rest (a minimum of 2 mm; Fig. 1);
(b) a maximum of 2 mm of gingival display during smiling; and
(c) apically repositioned flap.

2. Altered active eruption when the osseous crest does not re- sorb to a level 2 mm apical to the CEJ. The gingival margin is still located incisal to the CEJ. This is treated with periodontal surgery.

3. Compensatory eruption when the tooth surface is lost, with the reduction in facial height or vertical dimension of occlusion unaffected (short tooth syndrome).

4. Delayed eruption followed by early loss of primary maxillary incisors, delayed eruption of maxillary permanent incisors or overerection of mandibular incisors. Diagnostic features are short maxillary incisors, over-erupted mandibular incisors or a Class III maxillomandibular relation. Bearing the 42.2 rule in mind, treatment should follow incisal reduction done selective-ly with crown lengthening only or crown lengthening combined with orthodontic intrusion of mandibular incisors and possible minimally invasive restora- tion of maxillary teeth.

5. Vertical maxillary excess described as a hyperplastic growth of the maxillary skeletal base where teeth are positioned further from the skeletal base, an increased facial lower third and excessive gingival display, which is classified according to three categories:
(a) Category 1: 2–4 mm of gingival display, treated with only orthodontic intrusion, orthodon- tics and restorative therapy;
(b) Category 2: 4–8 mm of gingival display, treated with perio-dontics and restorative or ortho- gnathic surgery (Le Fort type I);
(c) Category 3: more than 8 mm of gingival display, treated with orthodontic surgery or osseous resection or with periodontal and restora- tive treatment.

6. Hypermobile upper lip—the average mobility of the upper lip is from 6 to 8 mm from the rest position. More than 8 mm represents hypermobility. Con- sidering that the average distance from the lower margin of the upper lip and the base of the nose (subnasale) is 21 mm, one could take two superimposed photographs with the patient at rest and smiling fully to calculate the lip mobil- ity very easily using the 42.2 rule. Generally normal tooth length is present and dental la- tial aesthetics is good to ideal. The treatment regimen could entail a coronally po- sitioned mucosal flap, crown lengthening combined with osseous resection or a combination of both (Figs. 8 & 9).

Examples: Photographs cap- tured at the same magnification opened in Adobe Photoshop:
Picture 10: Full smile—length of the central exposed – measured digitally in pixels distance from incisal edge to the lower margin of the upper lip in full smile.
Picture 11: Lips at rest – 2 mm central incisor reveal + 21 mm distance lower lip to base of the nose. Incisal edge to base of the nose 25 mm (incisal edge at the correct position).

By: x = distance from the incisal edge to the lower margin of the upper lip in full smile
y = the amount of central incisor exposed at rest 25 mm = 1,725 px; x = 900 px; mobility = x – y = [(25 × 900) / 1,725] – 2 mm = 12 mm – 2 mm = 10 mm (Figs. 10–12)

6. Hypermobile upper lip—the average mobility of the upper lip is from 6 to 8 mm from the rest position. More than 8 mm represents hypermobility. Considering that the average distance from the lower margin of the upper lip and the base of the nose (subnasale) is 21 mm, one could take two superimposed photographs with the patient at rest and smiling fully to calculate the lip mobility very easily using the 42.2 rule. Generally normal tooth length is present and dental labial aesthetics is good to ideal. The treatment regimen could entail a coronally po-sitioned mucosal flap, crown lengthening combined with osseous resection or a combination of both (Figs. 8 & 9).

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A crown-lengthening surgical guide (a vacuum-formed Essix appliance) was manufactured on a duplicate model of the wax-up for ideal osseous contouring during the surgical procedure (Fig. 18). The gingivectomy was performed following exactly the gingival margin of the wax-up and then used for guiding the osseous contouring, through which a biologic width of a minimum of 2 mm was maintained (Figs. 19–24).

The mock-up should be placed before the surgical appointment for an initial evaluation and then ideally six to eight weeks post-crown lengthening. If done earlier, a very well-adapted indirect acrylic prototype would be advised as the utmost care in adaptation of the bisacrylic resin (Figs. 25–27).

For the ultimate control and when time management in a private office is not an issue, the osseous contouring is performed and the flap is closed, followed by guided gingivectomy and mock-up placement at the next appointment in two to three months’ time. With this approach, the risk of recession or invasion of biologic width is reduced to the minimum.

Controlled tooth preparation was performed through the mock-up using 0.6 mm depth-gauge burs (Figs. 28 & 29). In designing restorations, the diagnostic models were used, but is not properly exposed in a tooth that tries to mimic nature because, in the majority of cases, the new design proposal and acceptance, the case presentation, treatment proposed and acceptance, and treatment plan was then presented to the patient in 3-D on (Apple) or Microsoft PowerPoint (Figs. 30–33).

The occlusion was checked after cementation and a processed acrylic night guard was delivered two weeks post-operatively.
From everyday dentistry to advanced photoacoustic endodontic applications (PIPS): Er:YAG & Nd:YAG dual wavelength laser

mCME articles in Dental Tribune have been approved by: HAAD as having educational content for 2 CME Credit Hours DHA awarded this program for 2 CPD Credit Points

By Lawrence Kotlow DDS, Enrico DiVito DDS and Giovanni Olivi MD

Introduction
Lasers provide an exciting new frontier for dentistry that allows the dentist the ability to give patients optimal care without many of the “fear factors” found in conventional dental techniques. Used with proper understanding of laser physics, lasers are extremely safe and effective. Using lasers for caries removal, root canal treatment, endodontic therapy, bone regeneration, and soft-tissue procedures can reduce postoperative discomfort and infection, and provide safe, simple control over the procedure. As a result, we can improve our efficiency, expand what we can do, achieve better results and increase production.

Lasers represent a real quantum leap forward in the treatment of our patients, including the pediatric patient. The U.S. Food and Drug Administration (FDA) gave approval for the use of the Er:YAG laser in 1997 for both hard and soft-tissue procedures. The erbium doped (erbium particles placed within the YAG crystal) crystal was developed by Dr. Manfred Garner’s (Er:YAG) development and success has made the treatment of children safer and quicker.

Plainly stated, a laser is a piece of equipment that creates a concentrated monochromatic beam of visible or infrared light that can be absorbed by a specific target. Since then, laser-assisted dental care has changed forever the way dentists can prepare diseased teeth, ablate bone and treat soft-tissue abnormalities and disease. An entire new standard of care is becoming a reality.

Lasers and pediatric dentistry are a perfect fit. There is a wide range of hard and soft dental procedures that may be performed laser-assisted. They are an alternative to conventional dental care on adults and, especially for children. Many of these procedures may be treatments dentists historically refer to as “scary.” If you understand and use your laser efficiently, you will discover that many of these are procedures that every dentist can easily complete.

The question that is often the major concern and barrier to instituting lasers in the office is how this investment will pay for itself, more recently described as return on investment. You pay for it? We prefer to speak of this as the secondary effect. If you can make a case for the ease by which you can easily pay premiums on your investment, and the cost factor becomes a non-issue.

The purchasing of lasers is an investment, not an expense, for any dental practice.

Lasers represent a fundamental change in the entire way dentistry has been taught. We can now rethink and often readjust G.V. Black’s principle of extension for prevention with the concept of minimally invasive micro-dentistry. We need to understand that laser dentistry is one portion of an entire new way of practicing conservative, pain-free dentistry.

The laser that we call the “all-purpose” laser is the Lightwalker Er:YAG & Nd:YAG laser, manufactured by Fotona and distributed in the United States by Technology4Medicine. The Er:YAG produces its effect at 2940 nm and has as its primary tissue target water and hydroxyapatite. It is very safe, relatively, eliminates the smells and vibrations associated with the dental handpiece and, most importantly, is much more comfortable for the patient, significantly reducing the need for local anesthesia.

The use of the new generation erbium lasers for repair of incipient hard-tissue disease allows the dentist to provide a stress-free means of restoring teeth in a minimally invasive manner, most often with no shot and no numb lip, without the need for any local anesthetics.

The erbium laser can be used for restoring primary and permanent teeth, including eliminating or reducing the amount of local anesthetics. In most cases, the patient will not require numbing for Class I, 2 (sometimes), 5, 4, 5, 6 restorative procedures using bonded restorative materials. Using the concept of minimally invasive restorative procedures, the Er:YAG laser allows the operator to remove only diseased tissue and thus preserves much more of the healthy, unaffected tooth.

In cases where alloy is preferred, the laser’s analgesia effect may also allow the dentist to create a restorative preparation using the erbium laser and provide ample evidence that this method is both effective and safe for children who may be needed for introducing chemicals or using electro-surgery methods.

The final result of orthodontic positioning of the front teeth results in gingival hyper-truthy, the laser can be a useful tool to increase crown length and give the patient a more esthetic smile. This may often be accomplished without the need for local anesthesia. Patients who have medically induced hyperplastic tissue, such as patients requiring dilantin, can also have their tissue reduced and reshaped with the erbium.

In addition to the many examples described in this article, lasers can be used for additional procedures not usually required in pediatric dentistry, such as revisions of the abnormal mandibular frenum, often avoiding the need for soft-tissue grafts, crown-lengthening procedures where bone may be recontoured, apicectomy, removal of frenal exostoses, removal of third molar impactions, removal of root remnants, incising and draining soft-tissue infections, advanced periodontal treatments and the latest in advanced endodontic treatment via photo-induced photoacoustic stream.

Photoacoustic endodontics using PIPS
The goal of endodontic treatment is to obtain effective cleaning and decontamination of the smear layer, bacteria and their biofilms in the root canal system. Clinically, traditional endodontic techniques use mechanical instruments, as well as ultrasonic and chemical irrigation, in an attempt to shape, clean and completely decontaminate the endodontic system but still fail short of successfully removing all of the infective microorganisms and debris. This is because of the complex root canal anatomy and the inability for common irrigation to penetrate into the lateral canals and the apical ramifications. It seems, therefore, appropriate to search for new materials, technologies and techniques that can improve the cleaning and the decontamination of these anatomical areas.

Among the new technologies, the laser has been studied in endodontics since the early 1970s1 and has become more widely used since the 1990s.

Different wavelengths have been shown to be effective in significantly reducing the bacteria in the infected canals, and important studies have confirmed these results in vitro.2 Studies reported that near infrared lasers are highly efficient in disinfecting the root canal surfaces and the dentinal walls (up to 750 microns for the diode at 810 nm and up to 1 mm for the Nd:YAG 1064 nm). On the other hand, these wavelengths did not show effective results in debridement and cleaning the root canal surfaces and caused characteristic morphological alterations of the dentinal wall. The smear layer was only partially removed and the dentinal tubules primar- ily closed as a result of setting of the inorganic dental structures.

Other studies reported the ability of the medium infrared laser in debridging and cleaning root canal walls.3 The bacterial load reduction after erbium laser irradiation demonstrated high on the dentin surfaces but low in depth of penetration because of the high absorption of laser energy on the dentin surface.4 Also the laser activation of commonly
used irrigants (LAI) resulted in statistically more effective removal of debris and smear layer in root canals compared with traditional techniques (CI) and ultrasonic (US).

Additionally, the laser activation method resulted in a strong modulation in reaction rate of NaOCl, significantly increasing production and consumption of available chlorine in comparison to ultrasonic activation.14

A recent study has reported how the use of an Er:YAG laser, equipped with a newly designed tapered tip and delivered in combination with 5.25 percent sodium hypochlorite solution, using very low pulse durations (100 μs) and low energy (20 mJ) resulted in effective debris and smear layer removal with minimal or no thermal damage to the organic dentinal structure through a photothermal technique called photon induced photoacoustic streaming or “PIPS.”15,16 Also, the root canal irrigation protocol in combination with 5.25 percent sodium hypochlorite solution has been investigated and shown to reduce the bacterial load and its associated biofilm in the root canal system three dimensionally.17,18 Other similar studies are in progress for publication and the results are promising and suggest a potential role for laser therapy in the treatment of endodontic infections. The purpose of this article is to present briefly the experimental background of this laser technique and to introduce the clinical protocol.

Scientific background

The microphotographic recording of the LAI studies suggested that the erbium lasers used in irrigant-filled root canals generate a streaming of fluids at high speed through the root canal system.19–22 The laser thermal effect generates the expansion implosion of the water molecules of the irrigant solution, generating a secondary cavitation effect on the endodontic intracanal fluids. To accomplish this streaming, it is suggested the fiber be placed in the middle third of the canal, 5 mm from the apex and stationary.23 This concept greatly simplifies the technique. However, one of the largest issues is the need to reach the apex and negotiate radicular curvatures.

Also, the recorded video of the new technique, PIPS, showed a strong “shock wave” that leads to the formation of an effective streaming of fluids inside the canal while also increasing the thermal effect seen with low energy and enhances the bactericidal effect.9,10 Other similar studies are in progress. A technique, called PIPS, showed a strong “shock wave” that leads to the formation of a high-energy streaming of fluids inside the canal while also increasing the thermal effect seen with low energy and enhances the bactericidal effect.9,10

Pathologic and distant effect of PIPS eliminates the need to introduce the tip into the root canal system. Unlike traditional laser techniques requiring placement of the tip 1 mm from the pulp apex, or even 5 mm from the pulp apex for LAI,11 the PIPS tip is placed in the coronal portion of the pulp chamber only and left stationary, allowing the photoacoustic effect to spread through the openings of each canal. A new tip design consisting of a 400-μmirrorn diameter, 12 mm long, tapered end is used for this technique (Fig. 5). The final 5 mm of coating is stripped 400 microns tip (Ficus LightWasher, Technology Medicine), it produces a large peak power of 400 watts when compared to a longer pulse duration. Each impulse, absorbed by the water molecules, creates a strong shock wave that leads to the formation of an effective streaming of fluids inside the canal while also increasing the thermal effect seen with low energy and enhances the bactericidal effect.9,10

The root canal surfaces irrigated with 17 percent EDTA and low energy (20 mJ) produced a strong activation of the solution, as reported by Mac and consumption of available chlorine in reaction rate of NaOCl, significantly increasing production and consumption of available chlorine in comparison to ultrasonic activation.14

When the erbium laser energy is delivered at only 50 microsecond pulse duration through a special designed tapered and stripped 400 microns tip (Ficus LightWasher, Technology Medicine), it produces a large peak power of 400 watts when compared to a longer pulse duration. Each impulse, absorbed by the water molecules, creates a strong shock wave that leads to the formation of an effective streaming of fluids inside the canal while also increasing the thermal effect seen with low energy and enhances the bactericidal effect.9,10

The root canal surfaces irrigated with 17 percent EDTA and low energy (20 mJ) produced a strong activation of the solution, as reported by Mac and consumption of available chlorine in reaction rate of NaOCl, significantly increasing production and consumption of available chlorine in comparison to ultrasonic activation.14

Conclusion

Lasers are an extremely versatile addition to the dental practice and can be used in many instances instead of the conventional methods employed by the vast majority of dentists. Incorporating a laser in the den- tal practice should be viewed as an investment rather than a cost. When used with a good knowledge of laser physics, training and safety, lasers provide our patients a new standard of dental care.

References


Full list of references is available from the publisher.
Total-etch vs. Self-etch adhesives—a case-dependent choice

By Dr. Walter G. Renne, USA

Adhesive dentistry with direct and indirect restorations has advanced tremendously since the first etch-and-rinse technique introduced by Buonocore for enamel-only adhesion. Enamel and dentin are both now routinely etched and bonded, procedures that have been proven in multiple studies to be safe and reliable when proper technique is followed. As the procedures advanced, we now have adhesive systems that offer either etch- and-rinse (also known as total-etch) and self-etch options. The total-etch technique is still considered the gold standard for bond strength to enamel, and self-etch adhesive systems have been compared to these to assess the relative bond strength with each. Adhesion is the most important step in all procedures associated with adhesive dentistry and with so many options—enamel or dentin or enamel and dentin bonding; total-etch or self-etch; and multi-bottle or one-bottle systems—there is much to consider before selecting one. Both total-etch and self-etch adhesives offer reliable and repeatable results when properly selected, and the fewer steps required, the more efficient the procedure. This saves chairside time for the clinician and the patient, reducing the possibility for error. Since the appropriate technique is case dependent, the type of case must be the first consideration. If there is a large area of enamel available for bonding and only a small area of dentin, the total-etch technique is often preferred, as it has been shown to result in stronger bonding to enamel than a self-etch technique. Conversely, if a preparation has a substantial area of dentin available for bonding and a lesser area of enamel (such as a large Class II), then self-etch is more frequently used. Whatever adhesive system is chosen, it must provide for high bond strength, durable marginal integrity, and be compatible with the restorative material. The cases below show the use of universal adhesives for direct composite and indirect restorations.

Case report 1

Direct Class II Restoration

The patient in this case presented with approximal carious lesions in teeth 12 and 13, which breached the enamodentinl junctions on the radiographs. Old preventive resin restorations were also present occlusally. It was decided that direct composite restorations would be placed to restore the 2 bicuspid. At the treatment appointment, after giving the patient local anesthesia, a rubber dam was placed to isolate the teeth before preparation and provided a dry field during placement of the adhesive and composite restorations (Fig. 1). In this case, a total-etch technique was selected.

During preparation of the teeth, minimal width boxes were created that extended sufficiently for caries removal but no further and the old preventive restoration removed. Since adhesion would provide for retention of the bonding agent, there was no requirement to ensure a retentive preparation form. For this case, I chose OptiBond Solo Plus (Kerr) as the adhesive. It consists of a phosphoric acid gel etchant and a separate primer/adhesive that contains a filler to help strengthen the bond at the hybrid zone level, giving very high bond strengths with just 2 steps. After etching the enamel and dentin for 15 seconds, the etchant was rinsed off and a thin layer of enamel and dentin gently dried without desiccating the dentin. Next, the bonding agent was applied and light cured for 20 seconds (Fig. 2) before the composites were placed as bulk fills using the SonicFill System (Kerr) and light-cured. The composites were then checked for occlusion, the margins checked for any excess, and the composites were finished and polished using Progloss (Kerr) (Fig. 3).

Case report 2

Indirect Ceramic Inlay

Inlay in this case, a new patient presented with failed, old patchy composite restorations in tooth 20 (Fig. 4). Several areas of different composites were present that had been placed at various times. On presentation, the patient complained of sensitivity in this tooth when eating or drinking anything cold. On examination, the bond between the restorations and the tooth had failed and the composites were found to lack marginal integrity. In addition, the tooth was found to have marginal leakage, staining, and recurrent caries in the mesial box. This could have been due to the technique used, poor bond strength, or lack of compatibility between the adhesive systems and composite systems used at various times.
self-etch adhesive, although this may be due to overdrying of the dentin and its desiccation leading to transient sensitivity. Self-etch adhesives inherently leave less room for sensitivity to occur. OptiBond XTR has a mild pH of around 4 (versus a pH of around 2 for phosphoric acid etchants); it does not remove the smear layer or open dentinal tubules, instead preventing tubule exposure while still allowing for hybridization. OptiBond XTR contains proprietary chemistry that helps to prevent sensitivity, and its hydrophilicity ensures that the primer and adhesive can penetrate well into the dentin and seal off the surface of the dentin, helping to prevent sensitivity. Before placement of the ceramic inlay (LAVA Ultimate), it was first air-abraded at 15 psi and ultrasonically cleaned. It was then put aside while the preparation was treated.

The primer was applied to the enamel and dentin for 20 seconds with a gentle scrubbing motion then air-dried for 5 seconds to remove the solvent. Next, the bonding agent was applied (Fig. 8), agitating the brush gently over the enamel and dentin surface for 15 seconds. The adhesive was then gently air-dried (Fig. 9) and light-cured for 10 seconds. The bonding agent was then applied to the intaglio surface of the indirect ceramic inlay (Fig. 10) and gently air-dried for 5 seconds and light-cured for 10 seconds. NX3 Nexus (kerr) resin-based cement was then applied to the intaglio surface, the inlay carefully seated, and excess cement removed before light-curing all surfaces for 20 seconds each. NX3 Nexus resin-based cement is fully compatible with OptiBond XTR, making it a superior choice compared to other resin-based cements. The interproximal areas were checked for any residual cement, and the occlusion was checked before the patient left. The result was an aesthetic, durable restoration with excellent marginal integrity, excellent bond strength, and a satisfied patient (Fig. 11).

Summary

Our current adhesive system options are total-etch and self-etch variants. Without a patent and durable bond with high bond strength, restoration failure will occur with the breakdown of the bond even if all other aspects of the restoration are sound. Selecting a clinically proven adhesive ensures that you are choosing a material capable of performing under real-life conditions.

The adhesives used in the cases presented offer reliable, durable high-strength bonds, marginal integrity, easy cleanup, and ease of use.

Reference


About the Author

Dr. Walter G. Renne, DMD, USA
Dr. Walter runs the CAD/CAM clinic at MUSC in addition to treating patients in faculty practice where Dr. Renne maintains an active general dentistry practice utilizing both the CEREC AC and E4D systems.
Establishing good oral care habits from the very first tooth

By Jordan

It is important that we take care of our teeth right from the beginning and establish good brushing habits.

Parents and children do not share the same motivation when it comes to choosing their toothbrush. Parents are concerned about safety and look for quality products that they think their children will like. As many as 45% of them buy “children’s personal care” products because their children are more excited about using them. Children are primarily motivated by fun (much more than health). Colors and design play an important role in making their brushing sessions positive. Older children especially are attracted to “new” features and functions that they would like to try.

In a recent consumer study, we found that parents appreciate information that will help them to try. In the Scandinavian countries, the National Dental Associations recommended parental assisted brushing until children are around 10 years of age.

- Brushing for 2 minutes gives the best results.
- Brushing time is the easiest controlled parameter of effective everyday brushing. Increasing time from 45 seconds to 2 minutes will increase plaque removal and contribute to significantly improved oral health benefits.

In addition to brushing, the American Dental Association recommends that parents help their children “floss” as soon as two of their teeth touch each other. This can be as early as 45% of them buy “children’s personal care” products because their children are more excited about using them. Children are primarily motivated by fun (much more than health). Colours and design play an important role in making their brushing sessions positive. Older children especially are attracted to “new” features and functions that they would like to try.

To meet these needs, here are some good tips to remember when considering your next toothbrush for your child:

- Choose a soft toothbrush. Children have softer enamel than adults do, and it is easy for them to brush too hard. A soft toothbrush is gentle and safe for children’s teeth and gums.
- Children need a small toothbrush head as their mouths are smaller and it is easier to navigate around the mouth with a smaller head. A small head makes it easier to reach and clean properly all the difficult areas in the mouth, especially the back molars when they start to develop. It is in these areas that cavities are most likely to start developing.
- Children have less dexterity and motor skill development than adults do. It is easier for them to control their brushing movements with a handle that has more volume. Their hands are also much smaller than adults are. So choose a handle that will fit comfortably in their hands.
- Children should use a toothpaste that is formulated especially for them, and only a small amount is sufficient (a good rule of thumb is to think about the size of the nail on your child’s little finger and use a similar amount of toothpaste). Children’s toothpaste have a lower dosage of fluoride than adult toothpastes. Most children prefer milder tooth pastes that are not “strong”. They tend to prefer other flavours like fruit flavoured toothpaste. Children should not swallow toothpaste.
- Parents are advised to brush their children’s teeth. In the Scandinavian countries, the National Dental Associations recommended parental assisted brushing until children are around 10 years of age.
- Brushing the teeth for 2 minutes gives the best results. Brushing time is the easiest controlled parameter of effective everyday brushing. Increasing time from 45 seconds to 2 minutes will increase plaque removal and contribute to significantly improved oral health benefits.

In addition to brushing, the American Dental Association recommends that parents help their children “floss” as soon as two of their teeth touch each other. This can be as early as when they get their permanent back molars (from 6 years of age).

To keep teeth clean and healthy, it is recommended that both you and your children avoid in-between meal snacking and foods and drinks that can harm your teeth’s enamel. Try rinsing your mouth with water in between brushing sessions to help wash away food and help prevent plaque build-up. Finally, regular check-ups with your local dentist/hygienist will help you keep your teeth healthy.

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Beverly Hills Formula reveals the secrets of whitening toothpastes!

By Dental Tribune MEA/Cappmea

Beverly Hills Formula has been working hard to provide premium quality oral care products for the dental sector through their range of whitening toothpastes and mouthwashes for more than 20 years. Dental Tribune Middle East & Africa speaks to Beverly Hills Formula Managing Director Chris Dodd to reveal some secrets that lie around whitening toothpastes.

Dental Tribune MEA: Firstly, can you give us some background on Beverly Hills Formula and its overall vision?

Chris Dodd: When Eric Peter established the Beverly Hills Formula brand back in 1992, the majority of whitening toothpastes around were very abrasive and were responsible for tooth sensitivity and damage to the enamel. And so it became the company’s aim to provide whitening toothpaste that enabled everyone to attain high stain removal and effective tooth whitening results, without damaging the enamel. This was, and continues to be, the core vision of the company and Beverly Hills Formula brand.

Beverly Hills Formula whitening toothpaste has been in the oral care health and beauty sector for over 20 years now. Where do you think the secret lies?

We continuously strive to enhance our product offering and one of our latest developments is Perfect White Black toothpaste. Ideally placed to complement the Perfect White range, Perfect White Black helps those who suffer from bad breath achieve a Hollywood smile with its high performance ‘activated charcoal’ whitening whilst experiencing a fresh breath feeling.

Beverly Hills Formula Perfect White Black whitening toothpaste is specially formulated with activated charcoal and it’s unique ‘theatre’ action that includes a composition of high-strength peroxyacetic acid and potassium hydroxide. This combination offers a unique whitening effect whilst delivering a natural toothpaste taste.

Tooth whitening is one of the fastest growing markets in the dental sector. Why do you think this is?

In today’s image-conscious society, more and more celebrities are opting for tooth whitening, veneers or other cosmetic procedures, in order to attain a bright, white smile, aka the “Hollywood Smile”. Quite simply, if people aren’t happy with their appearances, including their teeth, this can impact on their confidence, self-esteem and happiness. As a result, patients are increasingly turning to their dentists and dental hygienists for help.
dentists, asking “How can I achieve whiter teeth?” Add to this, a recent survey that revealed, nearly one in five (18%) find stained teeth a real turn off (1), it’s no wonder why tooth whitening has become a fast growing market within dentistry.

With an array of tooth whitening products on the shelves, what makes your whitening toothpaste stand out from the crowd?

Taste, brand, image and ability to combat common dental problems are all common factors for choosing toothpaste, but not many look beyond the attractive packaging and into the ingredients. One of our core values is to continue to spend resources on enhancing the quality of the product and ingredients going inside the tubes instead of excessive packaging and spin marketing. The result? Low abrasion toothpastes with high stain removal, helping to protect the patient’s oral health whilst enhancing their smile.

Sensitivity is a common problem, especially after professional tooth whitening. Is there anything dentists can do to help alleviate this discomfort for patients?

After in-surgery tooth whitening treatment patients can experience sensitivity, this can be anything from a mild twinge to having severe discomfort that can last for several hours, or even days. Highly abrasive toothpastes can add to this pain, as they continue to wear away the enamel. For this reason, patients should use a low abrasion, desensitising, whitening toothpaste that contains the ingredient Potassium Nitrate. Those who require extra sensitivity relief with an extra whitening boost will appreciate Beverly Hills Formula Perfect White Gold toothpaste. This mild abrasive is harmful to the teeth.

How about their abrasivity? How safe are whitening toothpastes?

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 now the case. We recommend that patients use whitening toothpastes that contain Hydrated Silica, like our Perfect White range. 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 whitens the teeth. This mild abrasive is harmless and is even listed by the US Food and Drug Administration as “Generally Recognised as Safe”. Toothpaste abrasiveness is measured by RDA (relative dentin abrasivity) value, and any figure over 100 is considered to be “abrasive”. In July 2012, a USA-based independent testing laboratory tested the abrasivity levels of 15 toothpastes. The laboratory tests revealed that stain removal was performed after just one minute. Of the products tested, Beverly Hills Formula Perfect White toothpaste scored exceptionally well, removing nearly 90% of stains over a five minute period (2). Meanwhile other leading brands of whitening toothpaste were at removing dietary stains from Perspex, compared to water.

The laboratory tests revealed that stain removal was performed after just one minute. Of the products tested, Beverly Hills Formula Perfect White toothpaste scored exceptionally well, removing nearly 90% of stains over a five minute period. Meanwhile other leading brands of whitening toothpaste were at removing dietary stains from Perspex, compared to water.

Finally, can we expect to see any new and exciting developments at Beverly Hills Formula over the coming months? We continuously strive to enhance our product offering and our next development will be Perfect White Gold toothpaste and Perfect White Black Mouthwash. Perfect White Gold, incorporating gold elements to help in the whitening toothpaste, contains excellent anti-bacterial properties and a refreshing double mint flavour. The new Perfect White Black mouthwash contains the same whitening activated charcoal ingredient and complements the toothpaste making these products the perfect marriage.

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(1) Is a healthy mouth the key to getting a date? http://www.dentalhealth.org/news/details/601
Impeccable esthetic results with ceramic restorations

By Dr. Nelson Geoane Man-ising, Brazil, Passo Fundo, Brazil, and Alexandre Santos, Brazil

The aim of any restorative treatment in anterior teeth is to re-establish proper function and a natural-looking smile. In addition to ensuring the function and longevity of the restoration, the aesthetic expectations of the patient have to be fulfilled.

Materials that are based on biomimetic principles allow the natural teeth to be faithfully reproduced in many different clinical situations. Furthermore, biomechanical aspects and light-optical characteristics have to be taken into consideration in the restoration process.

Clinical case study
The 55-year-old patient requested an esthetic makeover for his front teeth. The slight gap (dias- tasma) in the upper anterior den- tition, which was visible when he smiled, displeased him in particular. The clinical examination also revealed dark stains on tooth 21, which had been caused by endodontic treatment and composite restorations (Figs 1 and 2). Models were created and photos taken in order to thoroughly analyze the existing situation and plan the anticipated result. The photographic documentation included portrait pictures of the patient as well as introral close-ups.

Subsequently, the tooth shade (Fig. 3) was determined. The Digital Smile Design protocol was used and a wax-up was fashioned on the basis of the information acquired during the planning stage. A composite resin (Systemp® C&B) was used to fabricate an intraoral mock-up of the planned restorations.

Selection of the restorative material
A suitable restorative system was chosen on the basis of general esthetic and functional considerations. In the following case, we decided to take advantage of the outstanding esthetic potential of feldspathic ceramic and the excellent biomechanical performance of the adhesive cementation protocol on natural tooth structure.

State-of-the-art adhesive luting techniques involving ceramic conditioning with hydrofluoric acid and silane produce reliable bonds between ceramic restorations and natural dentition.

Moreover, adhesive cementation requires less invasive preparation of the tooth structure and it imparts the restoration with excellent biomechanical properties.

Preparation and impression taking
As a result of sophisticated developments in dental ceramics and adhesive dentistry, it is now possible to fabricate delicate, ultra-thin restorations showing outstanding translucent properties. In the present case, teeth 12, 11, 21, and 22 were prepared to receive veneers. Since tooth 11 showed some discoloration, more tooth structure was removed from it during preparation (removal of approximately 1 mm of tooth structure; Fig. 4). The other three teeth required only minimal preparation. The canines 15 and 25 remained untouched, since they were to be restored with veneers that do not require any preparation. A silicone matrix made according to the diagnostic wax-up was used as an orientation aid during preparation. Tooth preparation was confined to the dental enamel in order to ensure an effective and long-lasting adhesive bond.

The impression was taken with an addition silicone (Virtual®) using the double-cord tech-nique. Subsequently, the prepared teeth were photographed together with the shade guide samples in order to ensure the best possible shade match in collaboration with the dental laboratory.

Fig. 1. Preoperative smile: The patient was dissatisfied with the a 12 alignment of his frontal teeth.

Fig. 2. Close-up: Slight gaps are visible between the frontal teeth, and tooth 21 is discoloured.

Fig. 3. Determination of the tooth shade

Fig. 4. After minimally invasive preparation of teeth 12 to 22

Fig. 5. Custom-layered veneers in the laboratory on refractory dies

Fig. 6: The veneers were made of fluorapatite leuco glass-ceramic (IPS d.SIGN). As a result, light-optical qualities that are similar to those of natural teeth were achieved.

Fig. 7. The delicate ceramic veneers were prepared for seating.

Fig. 8: The fit of the individual veneers was checked in the mouth of the patient.
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In the dental laboratory

The ceramic restorations were created on a refractory model using a fluorapatite leucite glass-ceramic (IPS dSIGN®). Prior to this step, we selected the appropriate ceramic layering material for the firing process, the restorations were conditioned with nine-percent hydrofluoric acid (HF) for 90 seconds. Then they were rinsed off with water and dried. Once the luting composite had been selected, the try-in paste was rinsed off with water and the restorations were conditioned with nine-percent hydrofluoric acid (HF) for 90 seconds. Then they were thoroughly rinsed with air-water spray. The prepared tooth surfaces were cleaned with 35-percent phosphoric acid for 20 seconds. A silane solution (Monobond® Plus) was applied and left to react for one minute, followed by the adhesive (ExciTE® F). A light-curing composite (Variolink N Clear Veneer) was used to cement the restorations in place.

The restorations were seated according to the corresponding protocol. After the excess cement had been cleaned up, the composite was polymerized for 60 seconds at high light intensity (1,200 mW/cm2, Bluephase®).

Since the canines did not require preparation before; they received the ultra-thin veneers, the transitions between the restorations and the teeth had to be lightly finished with a diamond polishing system (Optifine®). The surfaces were finished by moving from the restoration to the tooth structure in order to prevent any damage being done to the natural dental enamel (Figs 9 and 10).

Conclusion

The adhesive cementation of ceramic restorations offers a proven treatment strategy, which provides excellent biomechanical and esthetic results. In the described case, the natural-looking and esthetic result speaks volumes. A satisfied patient with a beaming smile was released from the dental practice (Figs 11 to 13).

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By Dental Tribune MEA/Cappme

Dr. Monteiro is coming to Middle East to lecture on direct restorations of anterior and posterior teeth, with special focus on new bulk fill resins and he shared with us his opinion on modern dentistry evolution and latest technologies used in dental materials.

Following the IDS Cologne we see a big change in the dental industry, towards which direction do you see dentistry heading?

Dr. Monteiro: Modern Dentistry walks towards the maximum conservation of dental tissues (enamel and dentin). Accordingly, materials which are able to emulate the natural tooth tissues in aesthetics and function have been developed.

We have witnessed in recent years a technological revolution in dentistry. With more and more applications, technology in dentistry open us new doors, new ways to go. With no doubt the technology is not only the present but is the future of dentistry.

Being an international speaker, what is the most important message you would like to portray to the audience?

Dr. Monteiro: Dentistry is constantly developing and there is a need to update regularly.

In this sense, we should not be stuck in the past, trying to follow new trends if properly supported by scientific evidence. Don’t be afraid of new technologies, new products, new dental restorative techniques. All this came to help us to simplify our daily clinical world.

“What with more and more applications, technology in dentistry open us new doors, new ways to go.”

What is your impression of Dentistry in the Middle East?

Dr. Monteiro: I have not had direct contact with dentistry in Middle East, as this will be my first time I will travel to these countries. However, I have followed the work of some colleagues in this region, which have a very high level of excellence. So I have a very positive opinion.

Can you tell us about your upcoming lecture in Saudi Arabia?

Dr. Monteiro: I am excited about the opportunity to visit and lecture in Saudi Arabia.

In these lectures we will discuss the new materials and techniques for direct restorations of anterior and posterior teeth, with special focus on new bulk fill resins. We will also discuss simple techniques to make direct restorations with a high aesthetic level.

You will love how simple it is to make an aesthetic restoration.

What is your opinion regarding bulk fill posterior restorative materials? What are the major advantages and disadvantages?

Dr. Monteiro: I really like the bulk fill resins. Especially the newer ones.

As a main advantage - the possibility of using large thickness of material, lower shrinkage and easy application. The disadvantage… Honestly only to be slightly translucent material to allow the light pass through.

In which case would you prefer to use bulk fill composite in the posterior area?

Dr. Monteiro: To be honest, in direct restorations I currently use almost always the bulk fill resins in posterior teeth.

What is the risk of post-operative sensitivity with bulk fill posterior composites vs traditional composites using traditional layering technique?

Dr. Monteiro: With bulk fill the risk is much lower, due to lower polymerization shrinkage.

What are the key success factors when working with bulk fill posterior composites?

Dr. Monteiro: Choosing the right composite resin and apply it correctly.

Currently, he works there as an assistant Professor responsible for the post-graduate program in Aesthetic Dentistry and is occupied in a dental practice. In addition Dr. Monteiro is a PhD student in Dentistry at the University of Santiago de Compostela, Spain. He is involved in research of new dental materials, including composite resins, dental adhesives, dental ceramics and new digital technologies.

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The passive abutment

By Dr. Petros Yvanouglu, Greece and Dr. Ero Pandelias, Greece

One of the main problems faced by both prosthodontists and dental technicians, with regards to implant supported dental prostheses is the problem of producing a repeatable passive fit which would eliminate the need for complex and intense laboratory procedures, usually undertaken to improve the fit of castings e.g. sectioning and soldering.

The Passive Abutment (Fig. 1) is unique to Southern Implants and has been in clinical use since 1998. It allows one to achieve a predictable passive fit of cast structures in a practical way.

The unsatisfactory fit of prosthodontic work on implants is due not only to the distortion caused by the physical process of investing, casting and sandblasting, but also from the distorting forces which develop when the casting is exposed to repeated high temperature cycles while baking porcelain. All these parameters cause the collection and entrapment of energy resulting in tensions, which are then transferred to the prosthetic screws. Consequently we have fractures of screws, destruction of the prosthesis (porcelain fracturing) and perimplantitis. Finally there is breakdown of relationship between the patient and the dental practitioner and tension among members of the implantology team as well (technician/dentist/prosthodontist/surgeon).

After years of research by Southern Implants, the first prosthetic abutment with a passive fit was presented to the dental implant market in 1994.

The philosophy of the passive abutment is innovative in the field of dental implantology and has reduced the stress experienced by the technician and the dentist, especially when it comes to the fit of the prosthesis.

By reviewing data from x-rays of patients who have dental implants with fixed prostheses, one can see marked differences between those with passive abutments and those without.

Passive fit is achieved by luting a premachined titanium interface component onto the finished prosthesis, using the laboratory master model as the blueprint for fit. The luting takes place in the dental lab by the dental technician. No additional clinical steps are required.

The discrepancy between the passive ring and implant reaches as low as 2 microns, independent of the length of the span of the bridge. The titanium interfacial component is kept separate from the manufacturing of the casting and is therefore not subjected to degradation by heat cycles or devestiging and finishing procedures as a cast-to-gold cylinder would. The integrity of the machined part is therefore maintained in the original condition.

The passive abutment kit includes a titanium ring, which will not be subject to external physical forces and is cemented to the porcelain superstructure after the aforementioned is cast and polished.

Description

The Passive Abutment consists of four components (Fig. 2):

1. Plastic cylinder - this component is incorporated into the wax-up of the structure and thus becomes part of the casting.
2. Titanium interfacial component (8 mm) - this pre-machined component forms the final interface between the casting and the implant.
3. Luting screw - this small screw is used to clamp the interfacial component onto the laboratory analogue during the process of luting the casting onto the interfacial component.
4. Prosthetic screw - this screw retains the completed prosthesis to the implant at final placement and provides a compressive force across the cement line.

Overview of use

The plastic cylinder is incorporated into the wax-up and becomes part of the cast structure. The casting may then undergo further laboratory processing e.g. ceramic firing, finishing and polishing before being assembled with the interfacial component. The titanium interfacial component is kept separate from the manufacturing of the casting and is therefore not subject to degradation by heat cycles or de-vestiging and finishing procedures as a cast-to-gold cylinder would.

The integrity of the machined part is therefore maintained in its original condition.

The finished cast structure is assembled with the interfacial ring by luting before placement in the patient’s mouth by the dental technician. Both titanium ring as well as the prosthesis, need to be sandblasted and cleaned by air pressure and not with a ultrasonic bath.

For assembly, the titanium interfacial component is clamped to the analogue on the master model by means of the luting screw. The luting screw ensures that the interfacial component is held in full contact with the implant analogue.

The finished prosthesis is then luted to the clamped interfacial ring using a dual-cured resin cement.

In this way the resin cement serves as a space filler between the casting and the interfacial ring, thus compensating for any minor casting and finishing discrepancies, so eliminating misfit of the casting to the implant. At placement in the mouth, the prosthetic screw retains the completed prosthesis (both casting and interfacial ring together) to the implant and maintains a compressive force over the cement line. This is achieved because the prosthetic screw engages onto the casting and not onto the interfacial ring. The cement is therefore not responsible for retention of the prostheses but is merely a space filler.
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The luting screw is discarded.

The Application
The Passive Abutment is intended for the fabrication of implant-supported SCREW RETAINED CASTINGS (e.g., crowns, bridges, etc.) in abutment cases. The Passive Abutment System is available for direct connection to all Southern Implants implant ranges.

For direct connection to Externally Hexed, IT, Tri-Nea, Deep Cone and Internally Hexed connections.

Implants, both non-engaging and engaging versions are available:
1. Non-hexed or non-engaging versions are indicated for multi implant case (bridges).
2. Hexed or engaging versions are indicated for single implant cases and multi-unit custom abutments cases.

Problems of Conventional Cast Structures
Frameworks incorporating cast to gold cylinders are very commonly used in implant reconstruction, as are castings fabricated using plastic burn-out cylinders. These castings however are subject to significant difficulties. Significant deterioration of the fit and surface finish of the implant occurs as a result of laboratory procedures, and even more frequent loosening and tightening of the retainer screws, resulting in screw fracturing.

The Laboratory Procedure
1. Model preparation: The appropriate analogues must be selected and the model prepared for the final impression. A suitable height of the analogues must be chosen. This is an important step to ensure proper seating and tightening of the prosthetic screw.

2. Fitting the casting to the model:
(a) The titanium interfacial component is secured to the analogues using the small luting screws. Do not over tighten, as this may result in damage to the interproximal vertical plane of the titanium rings.

3. Investing and Casting:
(a) The titanium ring and waxing sleeve are assembled on each implant analogue, using the brass equivalent of the prosthesis to hold them in place (Fig. 6). Do not over-tighten, as this may result in damage to the vertical plane of the titanium rings.

4. Refining the screw seat:
(a) The luting screws and interfacial rings are removed to allow cement to flow beneath the inner edge of the luting screws. This also protects the fitting surface of the titanium ring from bone loss due to the casting procedure.

5. Luting the prosthesis to the titanium interfacial component: After completing the fabrication of the prosthesis, sandblast the fitting surface of the casting and the top surface of the titanium ring. The titanium ring is best clamped to an analogue by the short luting screw for ease of handling while sandblasting. This also protects the fitting surface of the titanium ring and avoids sandblasting the polished collar of the titanium ring.

6. Refitting the prosthesis: The fitting surfaces of the titanium rings were further refined by sandblasting or dual cure resin cement to the titanium interfacial component. The correct diameter of reamer (Fig. 7) was used to protect the casting surface of the titanium ring. Avoid over-tightening the luting screws. The luting screws must be removed by forcing a sharp instrument between the luting screws and the titanium interfacial component. The luting screws can be cut back or added to as needed.

7. Finishing & Polishing:
(a) Once resin cement has hardened, remove all luting screws and then remove any prosthetic retaining screws so that the prosthesis can be lifted from the model (Fig. 8).

(b) Attach polishing protectors or implant lab analogs, of correct diameter, to each implant replica. The entire titanium ring including the casting and superstructure is subgingival, if not impossible. Where the titanium interfacial component to the casting has now been corrected for distortions caused by processing.

8. The application of cement to the titanium ring:
(a) Prior to application of cement, the titanium ring is sandblasted or dual cured resin cement to the inner engaging ledge of the luting screws in each implant (Fig. 8). The correct diameter of reamer must be chosen. This is an important step to ensure proper seating and tightening of the prosthetic screw.

9. Refitting the screw seat:
(a) The luting screw can be easily fitted and removed from the model without the need to remove and replace the luting screws. If the prosthesis needs to be re-fitted, the luting screws may be replaced.

10. Fit the prosthesis over the titanium rings and set the prosthesis firmly into place with the prosthesis (Fig. 9). Arch castings can be left seated under their own weight. Smaller bridges or single units need to be held lightly in place by placing a sandblasted porcelain screw in place (instead of using a luting screw), to allow cement to flow beneath the inner edge of the luting screws (in a three-unit structure) and prevent corrosion of the cement during setting. This may lead in distortion of the multi-unit structure.

11. Finishing & Polishing: Once resin cement has hardened, remove all luting screws and then remove any prosthetic retaining screws so that the prosthesis can be lifted from the model (Fig. 11).

12. Attach polishing protectors or implant lab analogs, of correct diameter, to each implant replica. The entire titanium ring including the casting and superstructure is subgingival, if not impossible. Where the titanium interfacial component to the casting has now been corrected for distortions caused by processing.
implant using a syringe with a blunt delivery tip.

c. Place the loose Passive rings individually into position on the implants and press the down into place using a flat-ended “plastic” instrument. When the rings are seated, the gel helps hold them in place. The soft tissue surrounding the rings also holds them in place quite well.

d. Place the metal structure over the rings in the mouth, taking care to align the casting properly so as to not disturb the rings.

e. Screw retain the structure by placing a few prosthetic screws in strategic places.

f. When removing the frame, take care of any rings that may drop. Some rings may be left on the removed frame while others may be left on the implants. Count the rings to make sure you have all of them.

It is an advantage of the Passive system that the fitting surfaces can be removed from the casting to avoid damage by heat cycles during the repair process and then be refitted.

Delivery of the Final Prosthesis

Once the final prosthesis is placed into the patient’s mouth, peri-apical X-rays should be taken in order to verify the positive fit onto the implants. The X-ray beam should be oriented perpendicular to the implant/prosthesis interface in order to increase the chances of detecting a potential discrepancy (miss fit).

Eliminating a Miss Fit

In case that a miss fit is detected, make sure that no soft or hard tissues are interfering with the positive sitting of the prosthesis. As mentioned above Passive Abutments can eliminate all discrepancies introduced into the prosthesis during the laboratory steps of the manufacturing.

If a miss fit is detected, this is attributed to one of the following reasons:

a. distorted implant impression
b. increased implant component tolerance
c. distorted plaster implant model

In order to eliminate a miss fit, a new implant impression should be taken and a new plaster implant model should be poured again. The laboratory technician is going to use the new implant model as a blueprint in order to recement the passive abutments (Fig. 15).

As a result of those actions the new radiographic examination should reveal no discrepancies to the fitting of the prosthesis onto the implants.

Conclusion

The Passive Abutment from Southern Implants allows one to achieve a predictable passive fit of cast structures in a practical way. It’s easy to use, cost effective and has repeatable results, which eliminate the need for complex and intense laboratory procedures like sectioning and soldering.

Fig. 11. Removing the prosthesis from the model

Fig. 12. The Passive Abutment is cemented, protected with a lab analogue and polished

Fig. 13. Eliminating a Miss Fit

Contact Information

Dr. Petros Yuvanoglu D.M.D, summa cum laude, Cert. Prosth. (TUFTS U.S.A.), Prosthodontist.

Dr. Petros Yuvanoglu is co-director of the Branemark Osseointegration Center Dubai. He qualified as a dentist in 1995, receiving his dental degree summa cum laude from Semmelweis University in Budapest, graduating with exceptional high grade, top of his class as valedictorian. He has lectured extensively on the “Same Day Implants & Teeth” reconstruction protocol. Together with Dr. Costas Nikopolou (Oral & Maxillofacial Surgeon), they are the co-founders of “Same Day Dental Implants” Clinic in Dubai Health Care City, U.A.E.
Super-high translucent zirconia Ceramill Zolid FX for highly aesthetic anterior and posterior restorations

By Amann Girrbach

Ceramill Zolid FX is the strong alternative to lithium disilicate, as the super-high translucent zirconia blanks from Amann Girrbach can now be used to fabricate highly aesthetic monolithic or anatomically reduced restorations in the anterior region and up to 5-unit bridges in the molar region without having to forego the excellent material properties of zirconia. In addition, Ceramill Zolid FX does not age, which ensures long-term strength and stability of the restoration. Ceramill Zolid FX is processed and fitted in the patient's mouth without additional expense and also using standard luting material, as is the usual practice with zirconia restorations.

In accordance with the integrated product philosophy of Amann Girrbach, Zolid FX is not a single product but a whole system solution consisting of material and method. A coordinated staining concept will therefore soon be available for Zolid FX Classic, which enables precise, reliable staining according to the VITA classical shade guide.

Amann Girrbach will also soon supply the super-high translucent zirconia blanks Ceramill Zolid FX Foshades for restorations, which are fabricated as efficiently as possible without a staining process.

Interview with Abdo Salem - Amann Girrbach Sales Manager MEA

By Dental Tribune MEA/CAPPmea

Amann Girrbach started its activities in the Middle East region in 2010 and has been growing ever since. Dental Tribune MEA / CAPPmea has the pleasure to interview Mr. Abdo Salem, Sales Manager MEA to find out more about the company in the area.

Dental Tribune MEA: Mr. Abdo Salem, congratulations on the continuous achievements at the innovative Amann Girrbach. How do you explain the constant success to innovate and serve your customers in the MEA region over the years?

Abdo Salem: Amann Girrbach started its activities in the Middle East region in 2010 and has been growing ever since. Dental Tribune MEA / CAPPmea has the pleasure to interview Mr. Abdo Salem, Sales Manager MEA to find out more about the company in the area.

Abdo Salem, Sales Manager MEA

languages as well as a technical support and assistance team. Furthermore we established an AG training center based at the Antonin University where a professional instructor with dental technician educational...
The new dental care system proven to reverse the enamel erosion process

By Dental Tribune MEA/CAPPmea

Dental tribune
reverse the enamel erosion process
The new dental care system proven to prove that the deposited layer is sophisticated microscopy and sis of the deposited layer – using -tailed measurement and analy-
ing the NR-5™ technology was-
ing the formation of crystals of hy-
silicate particles then trigger-
surface of enamel. The calcium-
particles deposit (stick) onto the-
with saliva to form hydroxyapa-
and sodium phosphate combine-
unique combination of calcium-
the combined NR-5™ toothpaste and NR-5™ boosting-
three days.
Finally, the NR-5™ toothpaste and NR-5™ boosting-
branched on human vol-
results confirmed that the combined-
use of the NR-5™ toothpaste and NR-5™ boosting-
provided a greater regen-
ative benefit to acid-damaged-
Normal toothpaste.

What was the motivation and inspiration to produce such formulation over ten years of research and development? The motivation was to give the consumer an improved den-
care system specifically de-
signed to help against the chal-
enges our modern, healthy,
diet pose to tooth enamel, The-
lenges our modern, healthy,
significantly help consumers in-
to study in the laboratory whether the in-
visible erosion damage of tooth enamel could be restored. A series of studies us-
ing small pieces of enamel were car-
erried out according to internationally accepted protocols and procedures. The-
emamel samples were analysed and measured to deter-
mine the beneficial effect of the NR-5™ toothpaste and the direct application-
serum. The main results have been published in a peer-
reviewed scientific journal and are available to academic-
researchers and dental practi-
tioners worldwide. We are con-
vinced that the daily use of the NR-5™ toothpaste combined with the direct application-
of NR-5™ boosting serum – a com-
pletely novel and unique way of using an oral care product – will significantly help consumers in-
the toothpaste from damaging effect of the ero-
sive acid challenges our modern diets and life styles bring.

Is it so that the advanced toothpaste also has to work in conjunction with a Boosting Serum to get the full effect? If so what are the prices for both the toothpaste and serum for the MEA region? Our studies have shown that the best effect can be achieved by using the NR-5™ toothpaste and NR-5™ boosting serum together. Serum is for 190 AED and Toothpaste for 80 AED.

What is your view on Denist-
ry in the Middle East and do you think the NR-5 will be suc-
cessful in this region? The dental profession in the Middle East is highly sophisticat-
ed and of world-class standard. Likewise, the consumers in the Middle East represent a global picture of dental care needs and oral hygiene practices. As not-
inited in other regions, the rela-
tively high living standard has increased the risk of dental ero-
son from modern diet and life-
style, for example consumption of carbonated drinks and fresh fruit such as oranges. For these reasons, we see a clear need to give the consumer an improved product system to help maintain healthy teeth able to withstand the challenges of modern life. We are convinced that NR-5™ toothpaste and NR-5™ boosting serum will therefore have a big role to play in this and be a suc-
cess also in this region.

Dr. Fred Schäfer: Regenerate Enamel Science™ is NR-5 or rather Regenerate?

Dr. Fred Schäfer – Unilever expert

Dr. Fred Schäfer: Regenerate Enamel Science™ is the first system able to prove that the daily use of the NR-5™ toothpaste combined with the direct application of NR-5™ boosting serum – a completely novel and unique way of using an oral care product – will significantly help consumers in protecting their tooth enamel from damaging effect of the erosive acid challenges our modern diets and lifestyles bring.

To answer this question we needed to understand first how the NR-5™ technology works. When brushing calcium silicate and sodium phosphate combine with saliva to form hydroxyapatite. Firstly the calcium silicate particles deposit (stick) onto the surface of enamel. The calcium silicate particles then trigger the formation of crystals of hydroxyapatite on the tooth surface.

Therefore the first step in proving the NR-5™ technology was to investigate the formation of hydroxyapatite crystals. Detailed measurement and analysis of the deposited layer – using sophisticated microscopy and x-ray technology – did indeed prove that the deposited layer is hydroxyapatite.

What is Unilever’s new NR-
In the Middle East and do you think the NR-5 will be success-

Dr. Zakaria Ben Tahar (Morocco)

Dr. Yulaw
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For further information, please contact:

www.ormcoeuropa.com / www.ormco.com

The upcoming great event will take place in Dubai at the Jumeirah Emirates Towers with international Speakers:

Dr. Stuart Frost (USA)
How about Finishing beautifully with the Damon System?

Dr. Jeff Kolutowski (USA)
Enhancing Efficiency and Effectiveness through Digital Orthodontics

Dr. Philippa Van Steenberghe (Belgium)
Early Elastic: a new world to explore

Dr. Hans Seehofer (Germany)
Marketing in orthodontics: tips and tricks to be a successful and modern orthodontist today

Dr. Andrey Tikhomirov (Russia)
Maximizing treatment outcomes: Damon System

Dr. Zakaria Ben Tahar (Morocco)
How to improve efficiency with passive self-ligating brackets?

Contact Information

Pre-congress December 3rd: Hands-on

Detailed program coming soon on our websites:
Clinical case study: esthetic anterior restoration with VITA SUPRINITY

By Daniel Carmona Cando, MDt, Spain

Initial situation
The case documentation shows a 39-year-old patient who presented at Dr. Diego Alexander Cardenas’ practice in Barcelona, Spain, with two aging metal-ceramic crowns and loss of soft tissue in regions 11 and 21 (Fig. 1).

Following comprehensive consultation, she opted for a new crown restoration fabricated using VITA SUPRINITY. Crucial in this respect was the unique characteristic of this new material that combines the esthetic potential of a glass ceramic with the improved strength provided by reinforcement with zirconia.

Complexity and material selection
Just how complex this case actually was only became apparent following removal of the inadequate restorations for preparation: the tooth stumps were strongly discolored and fitted with gold metal abutments. The question needed to be addressed as to whether the planned restoration could mask this sufficiently in order to achieve a satisfactory result from a visual perspective. In the LABORATORIO DENTAL FONTCAR laboratory, we met this challenge by combining the esthetic possibilities afforded by VITA SUPRINITY with the low-melting fine-structure feldspar ceramic VITA VM 11.

Milling and reworking
The inLab MC XL system (Sirona Dental GmbH, Wals, Austria) was used for virtual design and milling of the crowns. Following the CAM process, reworking of the new high-performance glass ceramic should only be carried out at low pressure using fine-grained diamond-tipped milling tools as well as special polishing instruments. For cost-effective surface processing that is gentle on the material, the technical and clinical versions of the VITA SUPRINITY Polishing Set are recommended. For crystallization firing, any vacuum furnace that supports slow cooling can be used. The crowns can be placed directly onto honeycomb firing trays with platinum pins, without using firing paste.

Final result
Despite the unfavorable initial situation, VITA SUPRINITY enabled a comparatively good final esthetic result to be achieved in highly efficient fashion, restoring the patient’s natural smile. The expectations and hopes of the patient and the entire treatment team were met in full. We would like to thank master dental technician Thomas Gausmann for his enormous local support!

About the Author
Daniel Carmona Cando
A master dental technician from Barcelona, Spain, follows complex patient cases to report on how laboratory users can achieve excellent results with VITA SUPRINITY restorations. This article provides a step-by-step explanation of how VITA SUPRINITY and the VITA VM 11 veneering ceramic can be used to achieve esthetic results in a challenging clinical scenario.
Torsten Oemus further pointed out that one of the main implications of these trends was the growing importance of communications working in the field of dentistry. This development offers promising opportunities for Dental Tribune International as well. The digital, educational, and event-related elements of the company’s product portfolio are becoming increasingly important in this context. In response to the growing demand for digital dentistry technologies, Dental Tribune MEA / CAPPmea intends to apply its extensive expertise in organizing CAD/CAM & Digital Dentistry International Conferences, in order to provide support to the Digital Dentistry Show (DDS) launched by DTI in Milan, Italy. Altogether, there will be six Digital Dentistry Shows in 2015 carried out in cooperation with similar major events in Athens, Moscow, Budapest, Shanghai, Istanbul, and New York.

Another fresh development that has become part of the DTI portfolio is the innovative e-commerce plug-in for the dental-tribune.com website. Its layout now offers links to local online retailers. In articles by including external company profiles and in news features selected products in the dental-tribune.com website. Its layout now receives exhibition highlights and received exhibition highlights and press releases daily on line and e-mailed newsletters. The Dental Tribune MEA / CAPPmea media reaches regularly over 45,000 dental professionals in the Middle East and North Africa region in the DTI Portfolio and has become part of the DTI portfolio. DTI’s portfolio includes the largest dental market in the MEA region and, together with DTI, provides information services to over 800,000 dental readers worldwide.

Impressions from the IDS Week - CAPP in Cologne
As usual, Dental Tribune was the best performing Media at IDS. DTI further published five today publications – the IDS official trade show newspaper, an ultimate business guide for visitors and exhibitors. Oemus Media Group, which is the German counterpart of Dental Tribune, broadcasted live news events with active 24/7 coverage of the International Dental Show during the whole period of 10-14 March. As part of the duty, a dedicated on-site editorial team was equipped with live studio tools and a production team operating from within the soundproof walls of the Dental Tribune Media Lounge editorial room. Dental Tribune MEA / CAPPmea, as part of the team worked closely with the organizers and dental societies to cover IDS press conferences, lectures, presentations and contests. In addition, exclusive interviews, industry reports and image galleries were published in newspapers and on-line at www.dental-tribune.com. Subscribers to the Dental Tribune MEA / CAPPmea newsletters and social platforms have received exhibition highlights and news every day. Furthermore, an e-paper version of the respective daily issue was sent out through e-newsletters. All press conferences have been covered by Dental Tribune representatives and published live in over 24 languages.

Once again, the Dental Tribune Media Lounge surprised the industry with the cozy friendly atmosphere and excellent ambience for networking. From morning until evening, the lounge welcomed Ritter industry “movers and shakers” and dental professionals to meet, network, plan new marketing tools and advance their business interests. Dental Tribune International further invited its partners to a number of cocktail receptions to the DTI Media Lounge. During the receptions, attendees received business updates on international markets and had the opportunity to connect with their peers and leaders from the dental industry. The feature events included a Russian Night, a CHANNEL 3 Night, a Chinese Night, and a Brazilian Night. These evenings underlined key points in the respective dental markets focusing on latest movements. The DTI Media Lounge was once again the host of the elite dental industry professionals and high-end international dentists.

CAPPmea at IDS 2015
For the third time CAPPmea experienced a very successful presence at IDS Cologne sparking up large interest within the industry through its Dental Tribune MEA Media and CAPPmea’s educational programs. CAPPmea is the only UAE based company to exhibit for the last 6 years at IDS Cologne. With its state-of-the-art sales and marketing teams in Dubai, Henry Schein Dental, Dr. Ghassan Nasser Hussein, Sales and Marketing Director (Henry Schein) Middle East and North Africa, Mobile: +971 50 4813292, Tel: +971 6 5252982, Fax: +971 6 5531291 E-mail: ghassan.nasser@henryschein.com

* * *

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References:

*In vitro single species biofilm after 5 minutes soak.

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In 1989 in France, we were 85 dentists having CEREC amongst 42.000 dentists at the time.

By Dr. Dominique Caron, France

I had a dream. In 1980 you still might have been a small child but I was already running my own practice for 2 years and I was facing what many of you, dentists, are facing today: I was wasting my time with temporary crowns. The lab always took too long and was not always on time. The prostheses done were not always fitting. These were just some of the challenges.

You know what I am talking about, remember what you think about the accuracy of the shape, the shade, I cannot even mention the labs that tell you that the restoration is wrong because of your print. This annoyance happens everywhere in the world, maybe it does not bring any consolation to you, but you might feel less lonely.

I had a dream. A dream to be in sole command of my boat! A dream! You don’t need a fairy godmother for that, just keep in touch with the profession and the wise people who will give you the necessary information (Dental Tribune MEA / CAPP meia is doing the ground work for you, enjoy).

Once upon a time, 26 years ago, we already had electricity (yes we did). Sirona was still Siemens and I was told about a strange saga that started in 1965 in Switzerland. In a valley, between trolls and cows, some kind of Steve Jobs, Dr. Mormann and Brandestini were developing a system to make your prosthesis in minutes from 100% ceramic, in one session chairside. Aliens were amongst us and I did not know about it. The flying sancer was called CEREC 1. It was slow, raw, compared to the latest CEREC it was like comparing the first Macintosh 128k to the latest Macbook.

You had to believe in it; anyway, it was the rise of a new era in front of your eyes. The time to be aware was in 1989 when came the CEREC 2, first machine bringing efficiently from the lab in to your hands. A flying sancer you can actually drive. This could have been just one more tool, one amongst the many new ones you see every year, except the fact that you soon understand that this particular one will change so much of your behavior, it will make you jump into another world.

As for same cutting-edge innovations, you are dealing with people who target quality, ethics, safety, improvement more than short-term business; this might be appealing to some of you.

Once using this system, you become part of some kind of club gathering colleagues who look for the best of their patients. In this “club”, there is a kind of friendly ethics between colleagues who have the same aims, nothing to prove to each other, without the need to show off. They share information with a very open mind. No competition, rather family minded atmosphere. Is that the actual life that you have now? Does it sound too good to be true? No, it is not. It has been my actual fairy tale story for 26 years now. Beyond the nice story however, what might be your expectations?

With Sirona, you draw your own ceramic yourself with the shape, the shade, the translucency you want. Who better than you knows what you want? Regardless accuracy, the lab will not spoil your skills. You choose the width of the gap for the bonding. Minae have 50 microns (a bacterie: 5 to 10 microns). Never forget your best foe is bacteria.

Be accurate and get the means for it. Take some minutes of your time, imagine that you are the patient, what can be the most upsetting thing? As a patient you do not feel any pain but behind you, a hidden guy is looking in side of your mouth too. Wow, it is awful, you need an inlay here and there, terrible, how can you stand this, you need crowns there, and there and but maybe you do not feel you need it. Easy to become suspicious, isn’t it? If you as a patient see step by step what your problem is, don’t you think you will understand better and feel more relaxed?

Always draw the reconstruction in front of the patient it is an entertainment for them. When you show and explain what you do, your patients will trust you even more.

Their crown, the one and only, just for them, is drawn and carved in front of their eyes, it is magic. You are no longer just a dentist you become a magician. Your patients are happy and so are you.

You are working in the dental field, the only medical field in which you can keep the whole process under your control. You do the diagnosis, the treatment plan and the actual treatment, including the prosthesis. You must enjoy the “do it yourself” part. Enhance your skills; your patients will love to see an artist. I invite you to a little time travel again, remember the laptop (if any) that you had when you were a student, your mobile phone? You see the world is moving fast, don’t be late.

Match the expectations, with this “state-of-the-art” technology: it is a state of mind your patients will appreciate, they will ask for the treatment themselves.

CEREC may be a smart tool for you: 26 million restorations already done, metal free, no chemical, non-allergic, no biological notion. For 26 years now, after thousands of restorations, many lectures, and presentation to the French Academy, I work more and more with CEREC.

For 20 years every morning, I am happy to come to the clinic and work with the best tools.

When you know you do the best, your patients feel it, a better life for everybody. It is what is called in French “L’art Dentaire”: Dental art, it is beyond technical. When you grow up, only the cost of your tons is changing but it is worth it. Be proud of what you do, be ethical.

In the UAE we are lucky, our outstanding colleague, Dr. Do brina Mollova built a unique structure CAPPraca that organizes the best dental meetings, don’t miss the opportunity, come to the next CAD/CAM event and join the CEREC team.

In 1989 in France, we were 85 dentists having CEREC amongst 42.000 dentists at the time. We preserved from that time a kind of family spirit you can still feel when you visit the Sirousa booth. Nowhere else, you will see colleagues coming and staying just to hear and talk about what they like. Have a look, you next time everyday I make 5 or 6 CEREC restorations and after the grunts are taken I say to my patients who looking at the screen: “Tea? Coffee? Now enjoy your holiday, I come to the next CAD/CAM event and use my play station.”

Join the family. Stop working and start playing!

Editorial note: Further details available from the author.

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By Dr. Ammar Alekri, Bahrain

Cosmetics is a necessity. We then start talking about the cosmetic treatment of teeth of which Dr. Alekri said explaining: “There is a misconception about what is called teeth cosmetics that it is some sort of luxury. This is not accurate because most of these treatments are necessary.”

Dentist, oral and dental surgeon, Dr. Ammar Alekri stressed that most of the treatments the teeth need are necessary to achieve the perfect health of the mouth and teeth, and that is what is called “a cosmetic treatment,” also necessary to maintain healthy teeth.

He further explained that the role of dentists is preventive in the first place and therapeutic in the second. He continued: “ Yet, the general culture that we have now directs the individual not to resort to the dentist until after feeling pain. We are aiming at changing this cultural pattern and are trying persistently to persuade everyone of the importance of maintaining the periodic examinations, especially dental examinations.”

Prevention is better than cure

Dr. Ammar El-Kery started his speech talking about hopes of dentists to take a more preventive than therapeutic role with patients of dental clinics. He said: “The general culture in our society creates a correlation between consulting a physician and the disease. This concept is incorrect, and this pattern of thinking should be changed.”

He pointed out that it is very important for the person to visit the physician to perform the necessary examination periodically. He explained: “When a person specifies a periodic schedule to visit the dentist once every 6 months, this will allow the dentist to examine the mouth and teeth, and remove lime from the gum and teeth as well as other accumulations if needed. At the same time, the dentist will be able to identify any medical conditions in an early stage and provide the appropriate treatment for them.

Dr. Ammar further mentions that many of those who are treating themselves from tooth decay or gum disease or other diseases believe that the treatment ends at the last session of the therapeutic program, thus neglecting the periodic examinations. They only resort to the dentist when they feel pain again.

He pointed out that implanting missing teeth due to a disease or a symptom is very necessary for a proper chewing process of food. He said: “From a general image prospective, losing teeth at maximum. “Another example that illustrates the need for “cosmetic dental treatment” is obvious for any patient who undergoes nerve treatment. The treated tooth becomes rigid, similar to an object made of glass and prone to break; it becomes very important to protect the tooth by capping it with what is commonly called “a crown”. Dr. Ammar added: “It is ironic that insurance policies cover nerve treatment as disease, while not covering the second part of the treatment which is protecting the tooth with “a crown” from any break. The insurance policy covers removing the broken tooth, yet doesn’t cover teeth implanting considering this to be cosmetic surgery.

He pointed out the importance of validating insurance responsible and reconsidering this topic very well to define the difference between treatment and cosmetics in mouth and teeth diseases.

Tooth Engineering

As for his objectives that made him open the Dr. Ammar Alekri Dental Centre, Dr. Alekri said: “The opening of a private clinic or medical center is considered the ambition of every doctor and the financial capability contributes to accentuation or slowing down the achievement of this dream.” He added: “Tamkeen Program, that supports small and medium enterprises, contributed in with my support, developing my clinic that was built on the philosophy of providing the best services in Bahrianis between males and females, indicating negative effects on the teeth and mouth. He hoped that the society could change the dietary patterns and trend towards healthy dietary patterns and quitting unhealthy habits as such mentioned.

Dr. Ammar said: “The centre, and assured to us the confidence of our clients to our professional standards and certified by accredited party. Dr. Alekri: “That made us very happy, the consulting body (Jafcon) revealed to us that the centre had applied a lot of technical and administrative matters that matched the requirements for the adoption of quality certification, according to the testimony of Bureau Veritas, the accredited party of the issuance of the certificate in the world.”

He also added: “This is what makes us proud and determined to provide the best services according to the highest standards of quality, also leads us to accelerate the accomplishment of our future plans to obtain quality certification in other areas, especially the environment.”

He also revealed his ambition to manufacture dentures inside the centre, he said: “Big advances in the world of medicine quoted treatment for advanced stages on both the treatment methods and the devices used.” He added: “Recently, the acquisition of the necessary devices for manufacturing dental dentures at clinic itself has been completed, hence I have the ambition to acquire the devices used to design the dental dentures.”

He explained: “The device will also enable me to make the design of tooth dimensions which I want to plant for the patient, then it will send the data to the company specialized in the dental industry. This will save the time and will ensure that the dental implants process will be done by structures that I have chosen, which ensuring a higher quality.” He said that he seeks to fulfill his dream of establishing a specialized clinic with the best services which offers the best services to the highest standards.
Immediate implant placement long term success: a case report

Dr. Bernard Alliot, UAE

By Dr. Bernard Alliot DDS, DOS, PhD, CES, DU, UaE

Summary: Immediate implant placement is sometimes a risky procedure particularly when we are replacing front teeth, patients are always expecting quick aesthetic results. This case report will try to show you how this procedure can be provided with a reduced risk for the patient.

Key words: Immediate implant placement, patient selection, aesthetic results, long term success, case report.

Introduction: In case of immediate implant placement, the selection of the patient and the site are of primarily importance. This selection will have to integrate anatomical and pathological factors. The following factors will have to be taken in consideration as it has been recommended by the ITI consensus (EVANS & CHEN / 2000):

- medical status
- smoking habits
- patient's aesthetic expectations
- lip line
- periodontal biotype
- shape of teeth crowns
- infection at implant site
- bone level at adjacent sites
- restorative status of neighbouring teeth
- width of edentulous space
- soft tissue anatomy
- bone anatomy of alveolar crest

One of the most important considerations will be the difficult detection of the patient periodontal biotype!

Soft tissue biotype was previously called gingival biotype or periodontal soft tissue (OLSSON & LINDHE / 1991), but since the advent of implants, this has been renamed to encompass tissue around both teeth and implants (KAN & al / 2005). The term refers to a composite or aggregate of four features of the soft tissues and the teeth they surround that build up to a specific picture:

- gingival width (keratinized tissue width)
- gingival thickness (thick or thin)
- papilla height and proportion
- crown width and height ratio

Thin scalloped periodontal biotypes (Fig. 1 & 2) are characterized by:

- highly scalloped soft tissues and bone contours
- delicate and friable soft tissues
- narrow band of keratinized tissue
- thin bone with dehiscences and fenestrations
- long pointed teeth

Whereas thick flat periodontal biotypes (Fig. 3 & 4) are presentaing:

- relatively flat soft tissues and bone contours
- dense and fibrotic soft tissues
- wide band of keratinized tissue
- bone thick with ledges
- short blunted papilla
- short square teeth

This detection is important more particularly to prevent aesthetic complications. Inflammation generated by accumulation of plaque on the root surface extends into the tissue around 1.5mm of the distance of 2 mm in all directions (KAN & al /2010):

- concerning thin biotypes, the distance from the root surface to the oral epithelial sulcus can be less than 2mm, inflammation will involve all the structures (cementum, periodontal ligament, bone and gingiva) rapidly resulting in a recession. Budge bone (lamina dura) is very likely to be the buccal plate we can expect considerable collapse of the socket, resulting in a contour deficiency; bone grafting and compromised position / angulation of the implant, especially if patient is getting implant treatment in the aesthetic zone.

- concerning thick biotypes, due to a thick alveolar housing around the teeth, the 2mm radius of inflammation will damage cementum, ligament and bundle bone only, producing a periodontal pocket. Patients may end up with less alveolar deficiency, restorative treatment can be viewed as being more predictable and less demanding. Peri-implant tissue health seems to depend to there being immuno-kinetic keratinized tissue around the emergent restoration:

- thin peri-implant soft tissues seems to be more prone to recession and less likely to develop nicely formed papillae around implant restorations.

- tissue recessions around implants seems to result in absence of immuno-keratinized tissue more quickly that around natural teeth, possibly because the shoulder of most implants are placed more apical to the cemento-enamel junction of the teeth they replace.

- comprehensive around an implant is associated with increased risk of development of peri-implant diseases and authors recommend an augmentation of the keratinized tissue as one of the treatment strategies in managing peri-implantitis.

A thick soft tissue biotype is a desirable characteristic that will positively affect the aesthetic outcome of an implant supported restoration because thick soft tissue is more resistant to mechanical and surgical insults, is less susceptible to mucosal recession and has more tissue available for prosthetic manipulations (COOK & al. /2011). Therefore, although tissue biotype is an inherent trait that varies from patient to patient, it can be transformed through precise management of the implant position, implant design and prosthetic design such that a desired aesthetic outcome is achieved (FU & al /2010).

Most of the literature on implant success rates has not distinguished correlation with the gingival biotype, although it is increasingly accepted that the biotype and tissue volume have an important impact on the aesthetic outcome and minimizing the risk of post-restorative tissue instability.

Case report: Patient is a man, 45 years old, he is presenting good health, he is non-smoker and his oral hygiene is good. He complained five years ago (in 2010) about the presence of a recent diastema between 11 and 21, and about a slight mobility tooth 21 (Fig. 5) After complete examination, we detected the presence of a root resorption (Fig. 6), so it has been decided to extract this central incisor and to replace it by a dental implant. A complete aesthetic risk assessment of the patient and the site has been done and the results are presented in red inside of Table 1.

An extraction without incisions has been done using periosteum in order to preserve the surrounding bone and soft tissues. A Straumann® bone level implant (length 12mm / diameter 4.1mm) has been placed inside the socket in a palatal position and the remaining gap (around 1.5mm) between the implant and the buccal bony wall has been filled with a bone graft Bio-Oss®, and the top of the socket has been protected with a Collaeron® without sutures (Fig. 7 & 8) (CORDARO /2014).

Then at the end of the same appointment, the extracted tooth (full crown and 5 mm of the root) has been used as temporary restorative and fixed to the adjacent teeth using a metal grid. The presence of this previous tooth was of primarily importance in order to support the surrounding soft tissues and more particularly the papilla on both sides of the implant (Fig. 9 & 10).

Before to restore the implant with a final crown we took into consideration the latest recommendations concerning cementation on dental implants (I.T.I. / 5th Consensus 2013):

- after bone level implants placement, if the depth of the mucosa margin is deeper than 1.5mm, screw-retained prosthodontics are highly recommended;
- reduce the quantity of cement used to cement prosthetic restoration;
- if the patient has been treated previously for periodontal diseases, use only temporary cement, you will have the possibility to remove the superstructure in order to treat an eventual peri-implantitis.

At the time of the final restoration, it is also very important to keep in mind predisposing factors leading to cement retention around dental implants:

- the soft tissue connection around dental implants (epithelial adhesion with hemidesmosomes and absence of connective tissue attachment) which is different from natural teeth (epithelial attachment and connective tissue attachment),
- the sub-gingival placement of the implant more or less deep than the cemento enamel junction of the natural teeth,
- the abutment selection: abutment with a fixed restorative margin 2-5 mm to the implant neck or one-piece implant with a built-in restorative margin,
- the radiographs are unable to show the presence of retained cement on buccal and palatal / lingual sides,
- the cementation issues: excessive quantity and unsuitable type of cement used,
- the maintenance controls not always respected by a majority of patients.

At the end of a period of healing of 10 weeks, it was seen the very good positioning of the soft tissues (Fig. 11), the implant has been exposed (Fig. 12), the depth of the sulcus was more...
Versailles Dental Clinic team and guests

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Dr. Dominique Caron, Mr. Obaid Al Susaidi CEO of Emirates Delta Investment Abu Dhabi, Mr. Hussain Al Jaziri FBC Honorary President and Dr. Dominique Caron

Madame Veronique Caron

Mr. Obaid Al Susaidi CEO of Emirates Delta Investment Abu Dhabi, Madame Veronique Caron

Fig. 10. Extracted tooth fixed using metal grid

Fig. 11. Temporary restoration after 10 months

Fig. 12. Implant exposure after 10 months

Fig. 13. Permanent restoration after 5 years

Fig. 14. Permanent restoration after 5 years

Fig. 15. Permanent restoration fixed retained after 5 years

Fig. 16. Radiographic control after 5 years

Fig. 9. Extracted tooth placed as temporary restoration

Fig. 17. Permanent restoration after 5 years

Fig. 18. Radiographic control after 5 years

Fig. 19. Permanent restoration after 5 years

Fig. 20. Radiographic control after 5 years

Fig. 21. Permanent restoration after 5 years
Midline diastema closure with direct-bonding restorations

By Dr. Sushil Koirala, Thailand

Midline diastemata (MD) are spaces of varying magnitude between the crowns of fully erupted maxillary and mandibular central incisors. Kerene describes MD as anterior midline spacing greater than 0.5 mm between the proximal surfaces of adjacent teeth. Incidences of maxillary and mandibular MD are 14.8 and 1.6 %, respectively.

MD can occur in temporary, mixed or permanent dentition and may be considered normal for many children during the eruption of the permanent maxillary central incisors. When incisors first erupt, they may be separated by bone and the crowns incline distally because of the crowding of the roots. With the eruption of the laterals and permanent canines, the MD reduces or even closes completely.

Etiological factors-The etiological factors of MD are described by various researchers. Angle concludes the presence of an abnormal frenum to be the cause of MD/a view that has been supported by other researchers. According to Tait, the frenum is the effect and not the cause of the incidence of diastemata. He reports causes such as ankylosed central incisors, flared or rotated central incisors, anomalous macrognathia, dental- alveolar disproportion, localised spacing, closed bite, facial type, ethnic and genetic characteristics, inter-precmaxillary suture and midline pathologies. Weber lists the causes for spacing between maxillary incisors as the result of high frenum attachment, microdontia, macrognathia, supernumerary teeth, peg lateral, missing lateral incisors, reduced intercanine distance, habits such as thumb sucking, mouth breathing and tongue thrusting.

Therefore, the etiological factors can be summarised as follows:

1. Developmental: microdontia, missing laterals, mesiodens, macrognathia, macro hypertrophic fibrous frenum; 2. Pathological: midline cysts, tumours and periodontitis; 3. Neuromuscular: oral habits, such as tongue thrusting during speech, swallowing or abnormal pressure during rest.

Clinicians must be prepared for patients visiting the dental office with the aim of having their diastema closed in order to fulfill their psychological (aesthetic and beauty enhancement), functional (pronunciation of ‘f’ and ‘s’ sounds and cutting foods with anterior teeth) and/or health (oral health maintenance) problems.

Treatment options for diastema closure. Treatment modalities depend on the etiological factors and complexity of the MD. It is suggested that treatment of a MD should be delayed until the eruption of the permanent canines. However, the pathological causes should be ruled out and treated at an early stage, for example extraction of supernumerary teeth (mesiodens) and surgical treatment for the removal of midline cyst, tumour and periodontal pathologies. Surgical, orthodontic (comprehensive/short term), periodontal, direct-bonding and indirect restorations are the treatment modalities that can be used alone or in combination to achieve harmony in terms of patient's aesthetics, function and health.

MICD by definition is “a holistic approach that explores the smile defects and aesthetic desires of a patient at an early stage and treats them using the least intervention options in diagnosis, treatment and maintenance technology by considering the psychology, health, function and aesthetics of the patient.” The MICD concept as the professional movement that encourages all clinicians to select diagnosis, treatment and maintenance modalities that are the least invasive in order to preserve healthy oral tissues while still achieving the natural aesthetics outcome in the best interests of the patient’s health and happiness.

Following, I will demonstrate the clinical use of MICD TP (minimally invasive cosmetic dentistry treatment protocol) to close or reduce the diastema in clinical practice (Fig. 1). The direct-bonding procedure with the application of the Flowable Frame Technique (FFT) is presented here as a special technique.

Case presentation-A 20-year-old female patient presented with the complaint that she did not like her smile because of the large gap between her upper front teeth. The patient was very concerned about her smile aesthetics and also aware of her speech difficulties.

Phase I: Understand. In the first step of Phase I, the patient’s perception, lifestyle, personality, and desires were explored in a personal interview and through completion of the MICD self-satisfaction form. The patient, who exhibited a high dental IQ, evaluated her smile as below satisfactory. After the interview, the disease, cause element and aesthetic defects of her smile were explored in a personal interview and through completion of the MICD self-satisfaction form. The patient, who exhibited a high dental IQ, evaluated her smile as below satisfactory.

Frame Technique (FFT) is presented here as a special technique. Case presentation- A 20-year-old female patient presented with the complaint that she did not like her smile because of the large gap between her upper front teeth. The patient was very concerned about her smile aesthetics and also aware of her speech difficulties.

Phase I: Understand. In the first step of Phase I, the patient’s perception, lifestyle, personality, and desires were explored in a personal interview and through completion of the MICD self-satisfaction form. The patient, who exhibited a high dental IQ, evaluated her smile as below satisfactory. After the interview, the disease, cause element and aesthetic defects of her smile were explored.
In the design step, a new smile and lacked central dominance. The tooth-size ratio of the centrals was nearly 65% #12 and 21. The tooth-size ratio effects. We found a high frenum was to gain an overview of the patient’s smile aesthetic to prepare the teeth and to finish up the placement and simplified simplified smoothen of material when restoring changing anterior aesthetic cases such as large Class IV or Class III defects and diastema closure or reduction. As the name suggests, this technique requires flowable composite resin as frame material, a plastic strip, composite brush and other usual instruments for direct resin restorations. The Flowable Frame Technique The FFT is a simple restorative technique developed to speed up the placement and simplified smoothen of material when restoring changing anterior aesthetic cases such as large Class IV or Class III defects and diastema closure or reduction. As the name suggests, this technique requires flowable composite resin as frame material, a plastic strip, composite brush and other usual instruments for direct resin restorations. Clinical steps in the Flowable Frame Technique The following steps are to be taken:

Step 1 After the completion of etching, priming and bonding of the tooth surfaces, insert a simple plastic strip to the level of gingival tissue and tooth to be restored (Fig. 2).

Step 2 Support the plastic matrix strip lingually with your index finger to create a lingual contour (Fig. 3).

Step 5 Inject the flowable composite frame material into the diastema space. (either opaquous or translucent) and smooth it to a thin layer with a plastic strip. (If necessary) (Fig. 4).

Step Light cure the flowable composite and remove the plastic strip. A flowable frame is now ready (Figs. 5, 6). The diastema, shape and thickness of the flowable frame can be adjusted using the sharp edge of the hand instrument or a diamond point if required. The advantages of the FFT are:

- time and cost saving (no direct or indirect mockup required);
- thickness of the layer of restoring materials (dentine, enamel and opaquous group) can be pre-determined;
- as with the silicone template method, an opaque halo, mucosal, and transillumination effects in the proximal and incisal areas can be created;
- smooth, polished surface is achieved with minimal finishing;
- smooth adaptation of the restorations can be achieved even in the gingival sulcus;
- it is the most suitable lingual frame creation technique for diastema reduction or closure.

Material selection and clinical steps for diastema closure Material selection for diastema closure should be guided by optical properties (light transmission and diffusion characteristics) and tissue responses of the materials (restoration in diastema closure normally touches the gingival tissue and sulcus).

Amongst the various materials available, gionmers are amongst the least invasive in order to preserve sound tooth structure and achieve natural aesthetics considering the patient’s best interests.

Editorial note:
A complete list of references and the MICD forms are available from the publisher.

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MicD summary ten

| 1. SMILE SELF-EVALUATION: BELOW SATISFACTORY |
| 2. SMILE GRADE: B |
| 3. TREATMENT COMPLEXITY: GRADE I |
| 4. TREATMENT COST: GRADE I |
| 5. PROPOSED TREATMENT: ACCEPTED |
| 6. ESTABLISHMENT OUTCOME: NOT APPLICABLE (N/A) |
| 7. SMILE EVALUATION: N/A |
| 8. ENHANCEMENT CATEGORY: NATURO-MIMETIC (NEED-BASED) |
| 9. EXIT REMARKS: EXCELLENT |
| 10. CLINICAL SUCCESS: SATISFACTORY |

Table 1

Phase II: Keep in touch
After completion of the treatment, the importance and role of the keep-in-touch concept in the long-term success of aesthetic enhancement procedures were briefly explained to the patient. She was advised to conduct normal oral hygiene procedures and shown how to keep the interdental space of the diastema clean. In the final step of MicD TP, the patient was requested to fill out the MicD clinical evaluation form. The patient evaluated her new smile as excellent and mentioned that she was fully satisfied with the overall treatment rendered at our centre. The MicD summary ten (Table 1) helps to evaluate the overall success of the case.

Conclusion
Diastema closure or reduction in clinical practice requires detailed case analysis. The success of treatment depends on etiological factors, size and extent of the diastema, and the patient’s affordability in terms of time and cost involved. The MicD TP guides the clinician and the patient and helps both to understand, plan and complete the clinical case using diagnosis and treatment modalities that are the least invasive in order to preserve sound tooth structure and achieve natural aesthetics considering the patient’s best interests.

Clinically, necessary digital photographs were taken, along with diagnostic study models for further exploration of existing diseases, force elements and aesthetic defects. The patient had good oral health, normal function and no para-functional or other destructive oral habits.

The collected clinical and diagnostic information, such as extra and intra-oral digital photographs, study models and X-rays, was further analyzed to determine her smile aesthetic grading in terms of her health, function and aesthetics, as well as to gain an overview of the clinical problems and the maxo-, mini- and micro-smile defects. We found a high frenum attachment and the space analysis of the study model revealed a MD of 3.5 mm between teeth #12 and 21. The tooth-size ratio of the centrals was nearly 65% and lacked central dominance.

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Current guidelines for the use of nitrous oxide inhalation analgesia/anxiolysis in pediatric dentistry

By Dr. Manal Al Halabi, UAE

Abstract

Nitrous oxide/oxygen inhalation analgesia and anxiolysis is a behavioral management intervention in children that has maintained an excellent safety record and is, therefore, utilized widely by pediatric dentists. As is true of any diagnostic or therapeutic dental intervention, however, its usage merits periodic review, especially when it is routinely applied. When nitrous oxide/oxygen is used in combination with other sedatives, such poly-pharmacy can produce potentially serious side effects. Bioenvironmental risks to patients and staff can be encountered if proper use of the gas and appropriate dispensation of exhaled nitrous oxide is not monitored. Using historical publications, current empirical articles, professional usage policies, and educational textbooks, the purpose of this article was to review indications and contraindications of nitrous oxide/oxygen inhalation analgesia and anxiolysis and discuss various factors that should or should not be considered about its use. Even though today’s parents may be more accepting of pharmacological approaches such as nitrous oxide, the choice to use it should always be made with the child’s best interest in mind and with adequate training and understanding.

Introduction

After the analgesic qualities of nitrous oxide were determined in the 19th century, dental prac-titioners experimented with nitrous oxide/oxygen an-la-gesia for almost a century, fre-quently pushing beyond physi-cal and psychological boundaries. The safe and effective use of nitrous oxide/oxygen was determined as a behavioral management intervention (BMII) when children were shifted to that of an analge-sic and subsequently to an inha-lation sedative. The application of reduced dosages needed to elicit sedation rendered the drug much safer and enabled dentists to administer nitrous oxide with ever-greater frequencies. Con-sequently, by the dawn of the 21st century, N2O had become a routine component of dental care among many dentists. Nitrous oxide/oxygen inhalation is considered a safe and effective technique to reduce anxiety, produce analgesia, and enhance effective communication between a patient and health care provider. The essential need to properly diagnose and treat, as well as to ensure the safety of the patient and practitioner, should be care-fully considered when using nitrous oxide1, in medicine, nitrous oxide has long been used as an inhalation anesthetic for both the sedation of infants and maintenance of general anesthesia. More recently, nitrous oxide protocols have been established for pediatric patients undergo-ing diagnostic procedures such as computer tomography, endoscopy, electroencephalography and bone marrow biopsies. All children should be able to experience painless, high quality dental care. While anxiety and pain can be modified by behav-iour management psychological techniques, additional pharmaco-logical approaches may be necessary. Anxiolysis/anxiolysis is defined as diminution or elimination of pain and anxiety in a conscious patient2. The path-type A (GABA) receptors and non-norenergic pathways that modulate nociceptive process-ing at the spinal level. The an-xiolytic effect involves activation of the GABA receptor both di-rectly and indirectly through the benzodiazepine binding sites3. Nitrous oxide demonstrates rap-id uptake, it is absorbed quickly from the alveoli and held in a simple solution in the serum. It is relatively insoluble, passing down a gradient into other tis-sues and cells in the body, such as the CNS. It is excreted quickly from the lungs. As nitrous oxide is 34 times more soluble than nitrogen in blood, diffusion hy-poxia may occur. Studies have shown that chil-dren desaturate more rapidly than adolescents, and adminis-tering 100 percent oxygen to the patient once the nitrous oxide has been terminated is impor-tant. Nitrous oxide causes slight depression in cardiac output though peripheral resistance is marginally increased, thereby sustaining the blood pressure3. This is of particular advantage while handling patients with cerebrovascular system disor-ders. Nitrous oxide is absorbed quick-ly, allowing for both rapid on-set and recovery (two to three minutes). It causes negligible impairment of any reflexes, thus protecting the cough reflex3. It exhibits a superior safety pro-file with no recorded fatalities or cases of serious morbidity when used within recommend-ed concentrations4. Studies have reported negative outcomes asso-ciated with use of nitrous ox-ide greater than 50 percent and as an anesthetic during major surgery5. Although rare, silent regurgitation and subsequent aspiration need to be considered with nitrous oxide/oxygen seda-tion. The concern lies in wheth-er pharyngeal-laryngeal reflexes remain intact. This problem can be avoided by not allowing the patient to go into an uncon-scious state. Nitrous oxide has been associated with bioenvironmental concerns because of its contribu-tion to the greenhouse effect. Bacteria in soils and oceans emit nitrous oxide naturally; it is pro-duced by humans through the burning of fossil fuels and for-ests and the agricultural prac-tices of soil cultivation and ni-trogen fertilization. Altogether, nitrous oxide accounts for five percent to the greenhouse effect6. Only a trivial fraction of this five percent (0.35 to two per-cent), however, is actually the result of combined medical and dental applications of nitrous ox-ide gas7. The decision to use nitrous oxide/oxygen inhalation analgesia Nitrous oxide/oxygen inhalation analgesia should be offered to children with mild to moderate anxiety to enable them to accept dental treatment better and to facilitate coping across sequen-tial visits. The decision to use nitrous oxide/oxygen analgesia/anxiolysis must always utilize alter-native behavioral guidance modalities, the patient’s dental requirements, the effect on the quality of dental care, the pa-tient’s emotional development, and the patient’s physical con-siderations. Nitrous oxide gener-ally is acceptable to children and can be titrated easily. Most chil-dren are enthusiastic about the administration of nitrous oxide/oxygen; many children report dreaming, floating or being on a “space-ride”.6 For some patients, however, the feeling of “losing control” may be troubling and patients suffering from claustro-phobia can find the nasal hood restraining and disagreeable8. Fitness for nitrous oxide/oxygen inhalation analgesia

Review of the patient’s medical history should be performed pri-or to the decision to use nitrous oxide/oxygen analgesia/anxiolysis. This assessment should include: 1. Allergies and other allergic or adverse drug reactions. 2. Current medications includ-ing, if at that time, test, see and site of administration. 3. Diseases, disorders, or physi-cal abnormalities and pregnan-cy status. 4. Previous hospitalization to in-clude the date and purpose. 5. Recent illnesses (e.g. cold or congestion) that may compro-mise the airway. Children who are ASA I or II (Table 1) can be deemed fit to undergo nitrous oxide/oxygen inhalation sedation in general, community or specialist (pediat-ric) practice. Those who are not in these categories requir-ing conscious sedation should be treated in a hospital environ-ment with due consideration to their individual needs and medici-nal condition, involving the as-sistance of colleagues of medical where appropriate9.

Table 1. ASA Classification. American Society of Anesthesiologists.

<table>
<thead>
<tr>
<th>ASA Classification</th>
<th>Description</th>
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<tbody>
<tr>
<td>Class I</td>
<td>No organic, physiological, biochemical or psychiatric disturbance.</td>
</tr>
<tr>
<td>Class II</td>
<td>Mild to moderate systemic disturbance, e.g. mild diabetes, moderate anemia, well-controlled asthma, not disabling.</td>
</tr>
<tr>
<td>Class III</td>
<td>Severe systemic disease, e.g. severe diabetes with vascular complications, severe pulmonary insufficiency, disabling.</td>
</tr>
<tr>
<td>Class IV</td>
<td>Severe systemic disorders that are already life threatening, e.g. signs of cardiac insufficiency.</td>
</tr>
<tr>
<td>Class V</td>
<td>Severe systemic disorders and with adequate training and health care needs.</td>
</tr>
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</table>

Disadvantages of nitrous oxide/oxygen inhalation analgesia:

Disadvantages of nitrous oxide/oxygen inhalation may include: 1. Weak potency. 2. Significant dependence on psychological reassurance. 3. Interference of the nasal hood with injection to anterior maxil-lary region. 4. Patient must be able to breathe through the nose. 5. Nitrous oxide pollution and potential occupational exposure health hazards.

Indications for the use of nitrous oxide/oxygen inhalation analgesia:

Indications for use of nitrous oxide/oxygen analgesia/anxiolysis include: 1. A fearful, anxious, or disrup-tive patient. 2. Certain patients with special health care needs. 3. A patient whose gag reflex interferes with dental care. 4. A patient for whom profound local anesthesia cannot be ob-tained.
10 Years of Successful “Continuing Dental Education” by CAPPmea

By Dental Tribune MEA/CAPPmea

Dental Tribune MEA/CAPPmea will mark a significant milestone in the history of the Centre for Advanced Professional Practices (CAPPmea) in Dubai, which has come to celebrate its 10th anniversary. This event is a landmark not only for CAPPmea but also for the entire Dental Society in the Middle East, who have participated in CAPPmea’s Continuing Dental Education programmes. The dentists are those who are at the forefront, driving the industry in the right direction through valuable feedback, experience and increasing demand for high level technology and education.

Thanks to the hard work of our colleagues, sponsors, partners and supporters for the last 10 years, CAPPmea has built a frontrunner standard committed to the highest echelons of continuing dental education. A big “Thank You” is owed to all participants, followers and partners, having helped CAPPmea develop the professional training tools adjusted to the specific needs of the region.

CAPPmea has been an American Dental Association (ADA) CERP Recognized Provider for the last 5 years, specializing in CME and CDP dental programmes - conferences, hands-on courses, workshops and self-instruction events. During the past 10 years, CAPPmea facilitated over 530 CME programmes with over 32,000 international participants taking part. With the opening of CAPPmea Asia in 2012, the professional reach of CAPPmea expanded to the Asia-Pacific region and beyond. In 2012 CAPPmea also joined a global family of 96 publishers by becoming the proud licensee of the Dental Tribune and Dental-Facial Cosmetic International Conferences. Today, even if I would want, it is not possible to stop these events. There is a huge demand for the education and showcasing of the fast developing dental industries –” Dr. Dobrina Mollova, Managing Director CAPPmea, emotionally commenting on the achievements.

The 10th CAD/CAM & Digital Dentistry International Conference will be celebrated jointly with CAPPmea’s 10-year anniversary. The journey in the last decade came along with many challenges related to the incredible pace of growth of industry and new technologies, particularly in digital dentistry. Ten years ago, one could not imagine that such opportunities existed. They are now able to change dentistry and improve dramatically the patient care. All from diagnostics, planning to the treatment in term of precision, time consuming and aesthetic treatments.

What has been accomplished in the past 10 years is truly significant. CAPPmea would like to express its highest appreciation of the role of our business partners, industry, sponsors and supporters in helping CAPPmea make the success story that it is today. Thanks to all who have worked with CAPPmea, sharing the challenges and the passion that come along. Thanks to all dentists, dental technicians, dental hygienists and assistants, who followed us in this decade of fast development of dental industry and technology. We look forward to another decade of being together.

For more information please visit www.cappmea.com

CAD/CAM & Digital Dentistry significant growth in Middle East in last decade

By Dental Tribune MEA/CAPPmea

Dubai, UAE: Behind great achievements are great people. Over the last 10 years the Centre For Advanced Professional Practices (CAPPmea) International Conferences have hosted some of the finest dentists in the dental profession. Dental Tribune MEA managed to catch their opinion on the milestone 10 year anniversary of CAPPmea prior the 10th CAD/CAM & Digital Dentistry Int’l Conference on 08-09 May 2015.

Dental Tribune MEA/CAPPmea: Where was CAD/CAM & Digital Dentistry 10 years ago?

Dr. Julian Caplan, U.K: 10 years ago CAD/CAM was being heavily used by laboratories but still had limited capabilities chairside. The limitations of the camera and the software reduced the clinical options and the interplay between CAD/CAM technology in-surgery and CAD/CAM technology in-lab. The software was “3D” but there were still few “players” in the market. There were a number of competitors beginning to enter the arena and this would be a catalyst for established companies to make radical changes to their systems.

Prof. Aref Shakar, Egypt: CAD/CAM & Digital Dentistry was dealt with if it came from Mars in our region 10 years ago.

Many dentists were dealing with this topic as “Not for every dental field”. But with such a specialized event like CAD/CAM & Digital Dentistry Int’l Conference in Dubai, the awareness of this highly important field of Dentistry became more and more known and developed.

Dr. Munir Silwan, Canada: 10 years ago CAD/CAM dentistry was more or less in its infancy stage. Though chairside systems, such as the CEREC chairside system from Sirona, were well in a reasonably advanced stage, most of the dental laboratories oriented systems were just learning to crawl. Very few dental manufacturers ventured into this technology. A side from some high precision milling units, such as the Everest Milling Unit from KaVo, both hardware as well as software did not enjoy the required features to warrant predictable and precise restorations.

Dr. Mark Moran, USA: CAD/CAM was available but only provided a limited scope. The number of users was very small. There was only one company that made the machine. It could only do limited types of restorations and there were limited materials available to make the restorations.

Lutz Kedelau, Germany: Digital dentistry was driven by closed systems, resulting in sharing of capacities not implemented, not even at most in people’s mind. The major driver for CAD/CAM were full ceramic restorations, ZrO2 an upcoming material with a lot of hope and trust - not always fulfilling all expectations.

Lutz Kedelau, Germany: Digital dentistry was driven by closed systems, resulting in sharing of capacities not implemented, not even at most in people’s mind. The major driver for CAD/CAM were full ceramic restorations, ZrO2 an upcoming material with a lot of hope and trust - not always fulfilling all expectations. The usage was mainly driven through a lack of understanding on the lab side though. I remember the Procera days, where a scanner which just could create single restorations was enough to win fans all around the world with a central manufacturing solution using AI05, on the other hand a DC8 in-house system which was on exhibitions, grinning restorations out of hip-material.

The switch came with the ZrO2 green stage material, as it allowed to mill economically ceramic materials.

Even though there was no movement for open systems, the industry realized the implementation of CAD/CAM possible, due to support and training of dental technicians. Information Technology was never part of the dental world and the majority of dental technicians did not even believe that soft and hardware would change their
whole working environment. Even just a couple of years ago, lab owners told me that they are still waiting for the right system to go for, unless there was the perfect system. I believe there is still no perfect digital solution, but we are getting closer. We have to admit however that hand craft was neither perfect – but we adapted perfectly to the conditions.

Rik Jacobs, The Netherlands: 10 years ago, the dental industry in terms of CAD/CAM was in an exploring stage, definitely in terms of economics of scale. It was the time that the first dental design software came on the market as far as I can remember it was transferred from the hearing aid market on the one hand and on the other 3D systems like CEREC were just launched. However the first serious milling machine came shortly after in 2007.

Dental Tribune MEA: Today, which aspects of dentistry have been altered most due to the rapid development of CAD/CAM?

Dr. Julian Caplan, UK: In-surgery restorations, particularly for posterior indirect restorations have become simplified and far less technique sensitive to finally make this technology a mainstream option. Dentists can now visualize how they can integrate this technology into their everyday dental practice. The ability to morphe CAD/CAM scans into CT scans is simplifying computer-guided surgery. Pre-planning for accurate implant placement utilizing CAD/CAM and CT scans will become the industries standard although the necessary surgical skills will still be a requirement – the computer has not replaced the surgeon – yet.

Prof. Atif Shaker, Egypt: Well, development of CAD/CAM and its speed progress, have touched every dental field. Of course Restorative and Fixed Prosthetics fields have gained the highest advancement, but Orthodontic, Surgical, Removable Prosthetics & Radiology branches of dentistry have been included in the CAD/CAM developments. In my opinion, within 5 years from now, CAD/CAM & Digital Dentistry will be covering all specialties of the dental science.

Dr. Manir Sikhaudi, Canada: Almost every single discipline of dentistry has its share of CAD/CAM technology. Probably the fields of Aesthetic, Restorative and Prosthetic Dentistry got the lion’s share. Indirect Restorations are more precise and predictable when fabricated through CAD/CAM systems. Guided Implant Surgery made the field of Implantology an easier and safer procedure. CAD/CAM driven orthodontics as well is getting more and more utilized.

Dr. Mark Morin, USA: I feel that today the aspects of dentistry that has already been altered the most in our profession by CAD/CAM is the implant and the lab work. The lab world is now almost all digital and connected to the office through the internet. Dentists have learned how to work with these labs differently than they did in the past. The implant world has now been simplified with cone beam technology. It has made it easier for the dentist to treatment plan, place, and restore the implants.

Lutz Ketelaar, Germany: I am often surprised how quick the old values of manual dentistry have changed for the new solutions and how the markets adapt this opportunity worldwide. For me personally, the direction of monolithic restorations with the opportunity to go nodule-free and virtual adaptations, without losing esthetics out of the view, is a big change and can be seen on the material that are being offered - simple ZrO2 has been replaced for translucent variations in 16 shades, classical porcelain has a successor in high strength technical glass materials which natural opalescence and fluorescence.

CAD/CAM is not limited by its opportunities, but of economic aspects - not everything that is possible makes sense. The trust into the investment of new technologies with an open end is limited. The price for machines, materials and dental restorations is very much under pressure, knowledge and service are underestimated and almost ignored behind the pricing policies.

Rik Jacobs, The Netherlands: So many aspects, it is based on imagination what happened only 10 years ago. Certain treatments can be completely planned and executed by CAD CAM, consider Cone Beam CT, the success of CEREC at the practice of the Dentists, the transformation from a handcraft into a high tech virtual planned 3D working environment, the start of the Milling centers, the overproduction of the total number of milling centers in certain countries, the total acceptance of Zirconia for crown & Bridge applications and shortly 3D Printing which will become more and more accepted in the profession.

Dental Tribune MEA: What advantages do CAD/CAM systems offer for the dental practices versus conventional techniques?

Dr. Julian Caplan, UK: In-surgery CAD/CAM systems allow the dentist immediate evaluation of their preparations - specifically clarity of their margins and occlusal clearance. In fact many universities are utilizing this technology for their undergraduate teaching. The wondrous progression of this pre-manufacture assessment using digital scanners is that the preparation can be altered where there are deficiencies in the preparation, the altered parts removed from the original scan and only this part need be resawned. This comes into a world of its own when a dentists is involved with multiple preparations which previously would require a completely new impression if one of the preparations did not fulfill the required criteria. CAD/CAM scanning is not only time efficient it also greatly reduces a dentist stress.

Prof. Atif Shaker, Egypt: CAD/CAM systems added many advantages to the dentists as well to the dental patients. Speeding up the dental treatments was a recognition which was not possible without CAD/CAM systems.

High quality of precision has transferred the dental field to another spectrum of perfection. Technology-based treatments have increased our patient’s expectations, which are now possible, thanks to the versatility of Digital dental products.

Dr. Munir Sikhaudi, Canada: CAD/CAM generated restorations are more precise and fit better than conventionally produced restorations. They can be manufactured in a faster and better reproducible way. CAD/CAM technology saves time, offers safer treatment methods, and makes practicing dentistry less stressful and more enjoyable.

Dr. Mark Morin, USA: The advantages that CAD/CAM offers to the dental practice over conventional technologies are numerous. The first one is efficiency. The ability to do crowns in one visit helps increase the profitability of the dental office. It allows us to participate in more of these PPO type insurance plans since it helps us control our cost by eliminating the lab expense and a second appointment. Studies have also shown how the use of digital impressions are much more accurate and predictable than the traditional impression technique. It also benefits the patients because it makes the treatment predictable and convenient.

Lutz Ketelaar, Germany: CAD/CAM allows a constant high quality of restorations, not only depending on manual skills in dental education - this is not the end of the classical dental technicians, otherwise we could also expect PC-gamers who play flight simulators to take over your next flight to Europe. Dental knowledge allows to use the instrument of CAD/CAM to become a perfect solution for an efficient workflow in high, mid and low price segment.

Rik Jacobs, The Netherlands: Predictability, efficiency over flow management, relieving the client & saving costs.

Dental Tribune MEA: Given the proven positive results, what are the reasons why some dentists practices are remaining on the sidelines when it comes to CAD/CAM technology?

Dr. Julian Caplan, UK: There are many reasons but the main reason is perceived cost of the systems to purchase. However this is only because the practitioner has not understood the savings that they would make in materials and laboratory costs.
Understanding how to integrate this technology into their busy practice can also be daunting. The systems are becoming incredibly user friendly and this hurdle is becoming far easier to overcome.

Dr. Munir Silwadi, Canada:

spot. ing them in a dark and isolated development will pass by leaving them behind, otherwise, the train of skills. But my opinion is, it is dentists with limited computer based software are considered old fashioned technologies until recent CAD/CAM systems in lieue, no one can still deny the impact of CAD/CAM technology in the first year. I also see dentists still do not think they can justify the cost of the technology. Dentists find just doing one crown a day the procedure is best.

Prof. Atef Shaker, Egypt:

"elite dentistry". The second hurdle is becoming far easier to overcome. Dentists do not realize the full positive impact of CAD/CAM technology on their daily practices. Manufacturers, organizations, and educators have to put more effort to bring this technology to the average dental practice.

Prof. Atef Shaker, Egypt:

This is a very rapidly developing field. What was a wishful thinking few years ago is now a reality. Digital intraoral and extraoral scanners will definitely replace conventional impressions techniques in the very near future. Most of Indirect Dental Restorations will be CAD/CAM produced. Dentists will be able to digitally connect with dental laboratory technicians. This will be a link chain between the innovations of such and an advanced career to the majority of dentists worldwide.

By Sirona

SIRONA LLC founded in Dubai to support a direct operation for UAE private market


As the dental market leader and a technology pioneer, all at Sirona are passionate about enhancing our products and services. We are permanently investing in research and development, as well as our global sales and service structures. Being close to our customers is essential, which is why we have 26 sites around the world where we work together to advance global dental health.

In May 2015, SIRONA LLC will be founded in Dubai in order to support a direct business operation towards the private custom ers market in UAE. The big success of previous years has been recorded through increasing sales and services experienced by Sirona in the region. This is an important step for Sirona in improving the delivery of professional sales, after sales and dental education to the UAE market. SIRONA LLC will continue to work alongside MPC in order to fully service the needs of the Government sector which remains equally important.

With UAE being a significant hub for its business and education in GCC, the setting up of SIRONA LLC underlines the constant commitment to research, development and better servicing of the end-user with surpassed quality to the dental industry whilst reinforcing the image of Sirona worldwide. This will be achieved through a fully dedicated SIRONA sales and technical team and Product specialists who will work closely together to deliver premium ser vices to the private market in the UAE.

As you can imagine we have much more to share, so Sirona encourages you to browse our website and review the highlights of 2014 and novelties of IDS 2015. You will enjoy diving into our world of innovation and reading about some of Sirona’s advancements, both within this issue of Dental Tribune MEA and on our official website as well as through all of our online channels.

Make sure you visit Platinum Sponsor Sirona at the upcoming 10th CAD/CAM & Digital Den tistry International Conference on 08-09 May 2015, Jumeirah Beach Hotel where we will present the latest trends and developments for the first time after IDS Cologne.

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Dr. Lutz Ketelaar, Germany:

I think we are going to see a complete digital platform in dental offices with full connectivity to all technologies. I also see the ability of the CAD/CAM technology to help us diagnose and treatment plan our cases. By taking a picture before we start and doing a 3D analysis it can help us determine whether treatment is necessary and what procedure is best.

Lutz Ketelaar, Germany:

The future will bring dentist and labs closer together for a better, faster and more economic service towards the patient. Necessary patient data and scheduled appointment can be shared between both parties, manufacturing sites involved and their status shared - the workflow gets lean. The dental field of restorations is limited, but it still needs innovations and progress in finding new applications - possible technical approaches also need to be affordable - Dental treatment is in direct competition with luxury goods, vacation or even affording standard of living. We can learn a lot from the US about marketing the beauty and business of dentistry, but should not forget that we also need highly educated and trained dental technicians to achieve future success.

Rik Jacobs, The Netherlands:

The next revolution will be the total integration of newly developed Dental 3D printers for a wide range of Dental applica tions.

Dent al Tribune Middle East & Africa Edition | May-June 2015
FKG Dentaire launches first anatomic finisher for root canal treatments

By FKG

The latest innovation from FKG Dentaire lets practitioners treat complex root canal systems and clean once impossible-to-reach areas with minimal impact on the dentine. Made with a highly flexible Ni-Ti-based alloy, the XP-endo Finisher follows the contours of the canal with an improved reach of 6mm in diameter— or 100-fold that of a standard instrument of the same size.

“With the XP-endo Finisher, we can finally solve a common problem for dentists,” said Thierry Rouiller, CEO of FKG Dentaire, one of the world’s leading manufacturers of endodontic instruments. “They’ll now be able to reduce the risk of future infection by offering patients a deeper cleaning for a better root canal treatment.”

Studies using micro CT technologies show that standard NiTi files manage to clean just 45 to 55 per cent of the canal walls, leaving debris and bacteria to accumulate in areas left untouched. However complex the morphology of the canal, dentists can use the XP-endo Finisher following a root canal preparation starting at diameter ISO 25. A unique FKG alloy, the MaxWire (Martensite-Austenite electropolish-flex), gives the instrument unparalleled flexibility so it can remove debris from those hard-to-reach areas, while limiting the impact on the dentine.

“Now (the canal) is cleaner, perhaps two to three times compared to the conventional techniques we have today,” said Dr. Gilberto Debelian, Norway. The instrument also features a strong resistance to instrument fatigue, thanks to its zerotaper design, and is simple enough for dentists to quickly learn to use.

The XP-endo Finisher joins a growing list of innovative high-precision products patented by FKG Dentaire to meet the most demanding needs of general practitioners and endodontists around the world.

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FKG Dentaire to meet the most demanding needs of general practitioners and endodontists around the world.

Interview with Dr. Martin Trope

By Dental Tribune MEA/CAPPmen

Dental Tribune MEA has the pleasure to interview Dr. Martin Trope, past Endo program director at University of Pennsylvania, and chairman of the Endo division at Temple University Dental School and University of North Carolina Dental School. Dr. Trope was also the Director of the American Board of Endodontics.

Dental Tribune MEA: Dr. Martin Trope, you have lectured and provided training in the Middle East several times. What is your experience and feeling of the level of Endodontics in the MEA region?

Dr. Martin Trope: The level of the dentists who have attended my courses is very high. I don’t really know the general level of endodontics in each country. The variability comes in what the dentist can afford in terms of cutting edge technology. In some countries the fees charged for root canal treatment limits what the dentist can afford. This is a universal problem so not limited to the Middle East.

How important is it for a dentist to specialize, particularly in Endodontics and what is the reason you chose to do so?

There are some cases that require additional expertise. I don’t think it is important for a dentist to specialize but to recognize those cases where a specialist is needed. I like to do one thing well so endodontics suits my character although I must admit sometimes it can be very tedious.

How do you stay up to date with the latest technologies?

> Page 41
being developed in dentistry? I am a faculty at the University so the students keep my up to date by making me read and challenging me all the time.

Known for your research and development in material development for root canal fillings, can you share with us specifically your philosophy of Biological Endo? Endodontics is simply microbial control and all the research and technologies I have developed are directed at either removing microbes from the root canal or sealing the canal after the instrumentation and irrigation is completed.

What are the main advantages of Bioceramic sealers like TotalFill BC Sealer? These sealers do not shrink and wash out so they have tremendous advantage over traditional sealers that do. Because of these advantages the sealer does not have to be in a thin layer which changes the entire philosophy of root filling.

Due to your extensive academic background and clinical experience, you have started Next Level Endodontics, can you share with us more information on this? I am trying to combine my academic expertise with the need for efficiency and profitability in private practice. Next Level Endodontics is my private teaching center that will remind the dentist of what is essential for success in root canal treatment and evaluates new technologies in order to achieve this aim predictably and in a reasonable time. We offer a wide range of courses to fit the level and time commitment that the dentist has available.

Do you plan to extend Next Level Endodontics course in the MEA region? Yes – hopefully we will have a branch in Dubai in the next year. How came the idea of the new XP-endo Finisher? We have understood the need to clean the canal in all dimensions but have been limited because the files are round but the canals are oval. The engineers and researchers at FKG were able to manipulate the martinite and austenite phases of the NiTi file in order to make it flexible enough to move in all directions and so clean areas unreachable in the past.

What are the advantages of the XP-endo Finisher and did it change your vision of endo treatments? The advantage is that it reaches areas that were previously left untouched by round files. In addition it causes the disinfecting irrigants to work in a turbulent fashion which makes them much more effective.

Would you like to share anything else with the readers of Dental Tribune MEA? My advice is always the same: the biologic requirements for successful root treatment always stay the same. The technology continues to change but is not always useful to reach the biological goals. An educated dentist can evaluate new technologies in the context of the biological requirements and change only if there is an improvement in this direction.

TotalFill range is available in FKG Dentaire distributor network: https://fkg.ch/dealer

TODAY’S DENTAL PROFESSIONALS RELY ON NUOSS ANORGANIC BOVINE BONE.

- NuOss® is physically and chemically comparable to the mineral matrix of human bone
- NuOss® is one of the most reliable bone substitutes used by dental professionals
- Natural anorganic bovine bone matrix; available in 6 different forms to best suit your surgical needs
The first impression is the final impression, but…?

By Dr. Ehab Heikal

From a fancy looking clinic to a friendly smile, first impressions are no doubt the most vital impression you will ever make in business so it is important to get it right first time.

But no, this does not just mean making sure that your feet aren’t unclean or your receptionist might make appointments with first impressions is vital as it continually faced with making the right impressions in their minds to make it easier for them to choose. This is a vital part of any dentist practice management program.

Shifting away from an obsession with first impressions is vital as it can often be encompassing, so shift well clear of only treating your patients extremely well on your first ever contact with them. We all know that in the current economic climate it can be very easy to lose some of your most valued customers, so be sure not to count your chickens before they are hatched!

To prevent any loss of patient reassurance it is important to make sure that your story and message is the right one. It is more about the other details.

Even the slightest mistake in the first impression is enough to create an impression that will last a lifetime.

The success of your practice is in the hands of everyone within it. They all play a part in defining what your practice looks good and bad. If you do not know your message, create one and define it.

Once created, first impressions are very difficult to change or eliminate. This mindset then affect every subsequent decision that patient makes. It will either make your future dealings with the patient easy or difficult; this is why any comprehensive dental practice management strategy should consider this.

It is vital not to take any chances. Everything your patients experience as a result of doing business with you must be exceptional. Everything you and your team, say and do must match up and be the same thing. For example, if your sign and exterior of your practice looks good and you are in a good location but your team and your services are not up to that level of quality, then you will always reach below patient expectation.

It is important to note that your patient’s expectations are created primarily by several attributes, from past experience, to word of mouth, to the effectiveness of your marketing campaigns. If you do not at the very least meet those expectations, you will always disappoint your patients. For this reason, it is vital to deliver what you promise in your marketing. If you exceed the expectations your patients walk into your practice with, then you will have developed a fan for life!

Incorporating a “WOW” customer service experience whilst your patients are with you often exceeds the good impression process. Taking positive steps to developing a good solid reputation is the way to gain customer confidence and this can be built by using a series of techniques.

Create a First Impression at Your Clinic:
- Make sure you know how you are portraying yourself to your patients. What is the message you are sending to your market.
- If you do not know your message, create one and define it.

The foundation of this usually involves creating a unique selling advantage.
- Then create a good marketing strategy, which will attract the right type of patients to your practice. The kind of patients who are more likely to be interested in your specific type of dentistry or service.
- You need to get your entire team in on the action of what you are trying to do.
- Create systems within the clinic on accomplishing the unique experience for your patients, which complies with your marketing message.
- Customer service is a key element and an excellent provision of your dentistry.

How are we doing? Getting the best from your staff

By Fiona Stuart-Wilson

It is easy to understand that good staff are your most valuable asset. As part of your successful practice, you need to have clear plans and strategies for developing your staff to achieve the results you seek.

The success of your practice is in the hands of everyone within it and depends on their delivering a good service. Any weak link in the chain will have a negative effect on your practice and on your ability to deliver a high level of service to patients and run a successful dental business. The point of managing performance is to make sure that the performance of your team contributes to the greater plan for the practice, and taking action to improve things when this does not happen.

If you manage performance effectively it will mean that everyone in your practice understands:
• what the practice is trying to achieve,
• their role in helping the practice achieve its objectives

It is also important to make sure that your team are delivering on the expectations you have set for them.

Fiona will be presenting a great seminar on the Dental Business Management Conference in Dubai - 12th June, 2015

For more information please email to info@dbmc.ae

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Look at the bigger picture

By Eniko Simon

Analyse data to understand the performance of your dental business

There are many important decisions we have to make when managing a dental clinic - we make these decisions on gut instinct or based on previous experiences or by analysing data that is available for us.

Most of the dental clinics I have been working with had some understanding of the power that data can add to their business. It is essential that you regularly track a wide range of data across your clinic to allow you to have a good understanding of your business. Nowadays there are fantastic dental software such as Software of Excellence or R4 very well known on the market. These dental software can assist dental businesses to analyse important key performance indicators gain a better understanding of their business.

Some data that you need to look at – who are your patients, how did they hear about your clinic, nationality, age group, your chair occupancy in your clinic, the hourly turnover your associates generating, how many new patients you have monthly and many more KPI’s we can look at. Undeniably collecting clean and reliable data and analysing it in a consistent way is part of 21st century management.

Data is the fundamental ingredient in decision making, figuring out where to focus your resources, create your targeted marketing approach.

Taking control of your data

The data on its own has no meaning, it can not provide the full picture, it does not take into account the values you stand for and the culture you trying to create in your dental business or your patients’ personal feelings they feel about your clinic.

Practice data alone can not be used to guide the success of the clinic. In order to fully utilize the facts and figures they need to be put into context. Hours spent collecting data is wasted if the bigger picture not taken into consideration.

The clinic’s short and long term goals needs to be agreed upon and once you are on your journey the collected data can demonstrate if you are on the right track to achieve your goals.

The numbers provide an effective tool to help manage and control the growth and development of your dental business but do not set the strategy you need to adopt.

Constantly analyse your data – look at how your clinic is performing. The right data at the right time will aid your decision making process regarding your finances, marketing, operations of your clinic – but be ensure that you control your data and put it into context.

Always understand the “whys” to know the way forward to the “hows”. 

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The winning combination – CAD/CAM work and 3D CBCT data in one software

By Planmeca

The field of digital dentistry is rapidly evolving, with new dental technologies emerging as part of a more efficient and comprehensive workflow. By pairing Planmeca CAD/CAM solutions with X-ray units in the Planmeca ProMax® 3D family, dental professionals can bring together a wide range of detailed information for treatment planning and diagnostic purposes. This seamless combination of CAD/CAM and 3D CBCT technology has opened new doors in creating a new standard of care for patients – offering high-quality features for different specialties, all available through one software interface.

Planmeca Romexis® is the only dental software platform in the world to combine all imaging and the complete CAD/CAM workflow. This powerful solution is at the heart of the Planmeca ecosystem, as it provides dental professionals with the ability to acquire more detailed data sets than ever before. Planmeca Romexis includes advanced tools for all specialties, such as implant planning and other restorative treatments. The software presents dental clinics with a superior way to increase their patient flow and improve the level of care offered.

Seeing more than ever before

Planmeca PlanMill

Planmeca ProMax

Bringing together CBCT data and CAD/CAM work provides a comprehensive level of clarity. Planmeca ProMax® 3D imaging units reveal intricate information on soft and hard tissue structures, including the mandibular nerve canal, while the Planmeca PlanScan® intraoral scanner captures precise data above the gum line. This combination of these data ensures a complete understanding of any case and makes 3D prosthetic designing quick, accurate and easy. Clinics are able to operate more flexibly, as restorations can either be milled at a clinic with the Planmeca PlanMill® 40 milling unit, or easily sent to a dental lab in an open STL data format.

The rise of same-day dentistry

A more active role in the manufacturing of restorations opens up avenues for dental clinics to significantly increase their patient volume and grow their business. A streamlined digital workflow ensures the full utilisation of resources, leading to a more efficient treatment environment. Same-day dentistry is as beneficial for patients as it is for clinics; instead of two visits, patients can be treated in one hour – with no temporary crowns or physical dental models required.

Open architecture for maximised efficiency

Standardised data is the driving force behind many of the latest developments in digital dentistry, as it guarantees the interoperability of images and dental data across different hardware platforms – reducing costs, increasing predictability and enhancing patient safety. Bringing Planmeca’s CBCT and CAD/CAM systems together through the Planmeca Romexis software platform makes effective chairside dentistry a reality and presents dentists with a streamlined opportunity to substantially grow their practice.
5. A cooperative child undergoing a lengthy dental procedure.

Contraindications for the use of nitrous oxide/oxygen inhalation analgesia

Contraindications for use of nitrous oxide/oxygen inhalation may include:

1. Some chronic obstructive pulmonary disease
2. Common cold, tonsillitis, nasal blockage
3. Pre-cooperative children
4. Severe emotional disturbance or drug-related dependences
5. First trimester of pregnancy
6. Treatment with bleomycin or drug-related dependency

Contraindications for the use of nitrous oxide/oxygen analgesia/anxiolysis:

- Expiration of gas concentrations
- Fasting is not required for patients undergoing nitrous oxide/oxygen inhalation sedation
- The patient and/or the administration of analgesic/anxiolytic agents must be trained in the use of such agents and techniques and appropriate emergency response
- Selection of an appropriately sized nasal hood is very important. A flow rate of five to six L/min generally is appropriate for most patients. The flow rate can be adjusted after observation of the reservoir bag. The bag should pulsate gently with each breath and should not be either over- or underinflated. Introduction of 100 percent oxygen for one to two minutes followed by titration of nitrous oxide in 10 percent intervals is recommended. During nitrous oxide/oxygen analgesia/anxiolysis, the concentration of nitrous oxide should not normally exceed 50 percent. Studies have demonstrated that gas concentrations dispensed by the flow meter vary significantly from the expected respiratory rate and level of consciousness. The effects of nitrous oxide are largely determined by psychologic and behavioral factors. Therefore, it is important to continue traditional behavioral guidance techniques during treatment. Once the nitrous oxide flow is terminated, 100 percent oxygen should be delivered for five minutes. The patient must return to pretreatment responsiveness before discharge.

Monitoring

The response of patients to commands during procedures performed under nitrous oxide/oxygen analgesia/anxiolysis serves as a guide to their level of consciousness. Clinical observation of the patient is the major method of determining respiratory rate and must be performed. Spoken responses provide some indication that the patient is breathing. If any other pharmacologic agent is used in addition to nitrous oxide/oxygen, continual clinical observation of the patient's respon-siveness is mandatory. In clinical anesthesia, the flow rate and a local anesthetic, monitoring guidelines for the appropriate level of sedation must be followed.

Adverse effects of nitrous oxide/oxygen inhalation analgesia

Nitrous oxide/oxygen analgesia/anxiolysis is an excellent safe-ty record. When administered by trained personnel on carefully selected patients with appropriate equipment and technique, nitrous oxide is a safe and effective agent for providing pharmacologic guidance of behavior in children. Adult and chronic adverse effects of nitrous oxide on the patient are rare. Nausea and vomiting are the most common adverse effects, occurring in 0.5 percent of patients. A higher incidence is noted with longer appointments of nitrous oxide/oxygen, fluctuations in nitrous oxide levels, and increased concentrations of nitrous oxide. Typically, if a child appears restless during the course of administration of nitrous oxide/oxygen, they might be ready to vomit or they might be entering a deeper stage of sedation. Fasting is not required for patients undergoing nitrous oxide/oxygen inhalation sedation. The practitioner, however, may advise that only a light meal be consumed in the two hours prior to the administration of nitrous oxide. Diffusion hypoxia can occur as a result of rapid release of nitrous oxide from the blood stream into the alveoli, thereby diluting the concentration of oxygen. This may lead to headache and disorientation and can be avoided by administration of a very low percent oxygen after nitrous oxide has been discontinued.

Documentation

Informed consent must be obtained from the parent and document in the patient's record prior to administration of nitrous oxide/oxygen. An explanation of the sedation technique to be proposed and of appropriate alternative methods of pain and anxiety control must be given. In advance of the procedure, the child and their parent or guardian must be given clear and comprehensive pre- and postoperative instructions. The record should also include documentation of the response to the use of nitrous oxide and the postoperative instructions. Any adverse effects of the procedure should be documented.

Facilities/personnel/equipment

All newly installed facilities for delivering nitrous oxide/oxygen must be checked and calibrated regularly. If nitrous oxide/oxygen delivery equipment capable of delivering more than 70 percent nitrous oxide and less than 50 percent oxygen is used, an inline oxygen analyzer must be used. The equipment must have an appropriate scavenging system to minimize room air contamination and occupational risk. A thorough check of the equipment should be carried out in advance by the dental personnel any time nitrous oxide/oxygen inhalation sedation is to be used. The practitioner who utilizes nitrous oxide/oxygen inhalation analgesia/anxiolysis for pediatric dental patients shall possess appropriate training and skills and have available the proper administration facility, equipment, and personnel, and equipment to manage any reasonably foreseeable emergency. Training and certification in basic life support are required for all clinical personnel. These individuals should participate in a periodic review of the office's emergency and protocol for emergency drug cart, and simulated exercises to assure proper emergency management response.

An emergency cart (kit) must be readily accessible. Emergencies occur and patients may require additional equipment to accommodate children of all ages and sizes. It should include equipment to resuscitate a non-breathing, unconscious patient and provide continuous support should the patient's condition deteriorate. A positive-pressure oxygen delivery system capable of delivering greater than 90 percent oxygen at a 10 L/min flow rate for at least 90 minutes (65% “O” flow) must be available. When a self-inflating bag valve mask device is used for delivering positive pressure oxygen, a 15 L/min flow is recommended. There should be documentation that all emergency equipment and drugs are checked and maintained on a regularly scheduled basis.

Oncological safety

In the medical literature, long-term effects of nitrous oxide used as a general anesthetic has been linked to bone marrow suppression and potential immune system disturbances. Exposure to nitrous oxide can result in depression of vitamin B12 activity resulting in impaired synthesis of RNA. Dental surgeons and their staff are particularly at risk as they are exposed to high concentrations in the confined space of a dental surgery, especially if scavenging is inadequate. In an effort to reduce depression of vitamin B12 activity associated with nitrous oxide, it is recommended that exposure to the use of nitrous oxide/oxygen be minimized by the use of effective scavenging systems and periodic evaluation of the containment of the delivery and scavenging systems.

References


The full list of references is available from the publisher.

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Our target:
We make more than just art for your patients smile

Our work:
Ceramic work
Zircon work
In ceram work
In ceram support by zirconium 30%
E-coated work
Implant work
Acrylic work
Chrome cobalt work
Orthodontic work
Aesthetic Smile work

DENTAL TRIBUNE Middle East & Africa Edition | May-June 2015

PEDiATRIC TRIBUNE 45
Bigger than ever: IDS 2015 reports visitor, exhibitor and area increase

BY DENTAL TRIBUNE INTERNATIONAL

COLOGNE, Germany: On 14 March, the 50th International Dental Show (IDS) in Cologne closed after five days with a record result. The organisers reported that about 136,500 visitors from 151 countries attended the most important trade fair in the dental industry, which represents an increase of nearly 11 per cent compared with the 2015 IDS.

A new record was also set with regard to the number of exhibitors and exhibition space. A total of 2,201 companies (+6.9 per cent) from 56 countries presented their latest innovations, product developments and services over 157,000 m² (+6.2 per cent). More than 70 per cent of the exhibitors came from abroad (+2 per cent). In addition, the number of visitors from Germany increased by 4.5 per cent.

“We managed to make the International Dental Show in Cologne, both nationally and internationally, even more attractive, making it the most successful IDS ever,” concluded Dr Martin Rickert, Chairman of the Association of German Dental Manufacturers (VDDI).

Katharina C. Hamma, Chief Operating Officer at IDS organiser Koelnmesse, stated: “The increasing international attendance once again underlines the character of the IDS as the world’s leading trade fair for the dental industry. Particularly strong growth was recorded at the International Dental Show in the number of visitors from the Near and the Middle East, the US and Canada, Brazil, as well as China, Japan and Korea. We also noticed re-emerging business in the southern European market, especially Italy and Spain.”

The 2015 IDS focused on intelligent networking of components for computer-based dentistry. As computerised processes have gained increasing importance, digital systems in diagnostics and production today span the entire workflow from the practice to the laboratory.

A visitor survey showed that more than 75 per cent of attendees interviewed were either satisfied or very satisfied with the show. Overall, 95 per cent of the visitors surveyed would recommend visiting business partners at IDS and 77 per cent plan to attend the show in two years’ time.

The next IDS will be held from 21 to 25 March 2017.
DTI Media Lounge Where movers and shakers in the dental market meet

By Dental Tribune International

COLOGNE, Germany: Over the past week, the International Dental Show (IDS) drew thousands of people from all over the world to Cologne. As an IDS tradition, Dental Tribune International (DTI) invited its partners to a number of cocktail receptions to the DTI Media Lounge. During the receptions, attendees received business updates on international markets and had the opportunity to connect with their peers and leaders from the dental industry.

The traditional Russian Night was celebrated at the DTI booth on the first day of IDS. The event was organised in collaboration with the Russian Dental Association, the Moscow Dental University, and Dentalexpo. Ilya Brodetski, General Director of Dentalexpo, provided some insights into the Russia dental market and its importance for the global dental industry. Currently, there are 85,000 dentists and 25,000 dental technicians in Russia. The market has a yearly supply turnover of US$ 1 billion.

On the second day of IDS, DTI hosted the CHANNEL3 Night, which was organised together with Exit Strategies, for the first time. About 80 key opinion leaders from 15 countries gathered on Wednesday at DTI’s ME-DIA Lounge for their annual meeting. As part of the event, Harvard professor Myron Nevins received the first annual PI Brånemark Award. The number three in CHANNEL3 signifies the three channels of sales in the dental industry: sales by dealer, direct sales and sales resulting from the work of key opinion leaders. The group consists of leaders from all three areas.

On 12 March, industry partners of DTI gathered for the DDS WORLD and Chinese Night in Hall 4.2. In 2014, DTI launched its Digital Dentistry Show, the first exhibition to focus solely on digital products and applications for dentistry, in Milan in Italy as part of International Expodental. The show will travel around the world and be present in all major dental markets. Participants of the night were informed that the next DDS World show will take place in Athens from 22 to 24 May 2015 and will be organised in collaboration with OMNIPRESS. Further shows in 2015 are planned in Moscow, Budapest, Istanbul, Shanghai and New York. The event on Wednesday was also attended by representatives of the Chinese Stomatological Association.

The Brazilian Night on 15 March attracted many people. The event was a joint project of DTI and Associação Paulista de Cirurgiões-Dentistas (APCD), the São Paulo association of dental surgeons, with which DTI entered into an international media agreement in 2013. Under the contract, DTI’s today trade show newspaper became the official and exclusive publication at the Congresso Internacional de Odontologia de São Paulo (CIOSSP), one of the leading congresses worldwide.

CHANNEL3 Night was attended by almost 100 guests. (Photograph: Robert Strehler)
By Dental Tribune International

Cologne, Germany: No Thursday during the IDS would be complete without the traditional SHOFU evening programme—and this year was no different. The festive setting of the Cologne Hyatt Hotel served as backdrop for news about a number of important matters. These included the announcement that Martin Hesselmann will succeed Akira Kawai as managing director of the company on 1 April 2015.

Thursday evening provided several reasons for the global Japanese company SHOFU to enjoy a special sense of satisfaction. By this time, the company’s team had not only enjoyed three successful days at the IDS, it had also seen a positive start to the year, as Akira Kawai, Managing Director of SHOFU Dental, and Noriyuki Negoro, President of SHOFU Japan, announced during their welcoming comments while also offering a strategic outlook on the coming year.

As in the past, some 500 guests from home and abroad, consisting of sales partners, SHOFU staff and representatives of the media, were invited to share in an evening of excellent food, pleasant conversation and a fine exchange of views in a stylish atmosphere. The guests at this year’s event also included the general managers from Singapore and the US, together with their staffs, who contributed to making the evening a success through their experience and their insights into the market—presented in a spirit of friendly cooperation and professional exchange. SHOFU places considerable importance on the event as a way of showing appreciation for productive teamwork while also using the occasion to provide a look ahead to future projects.

Martin Hesselmann, responsible for Sales and Marketing at SHOFU Dental, had two reasons to be pleased. He was not only celebrating his 50th birthday, it was also announced that he had been chosen to succeed Akira Kawai. The sincere congratulations offered by numerous guests was an indication that the company has found an ideal successor in Mr Hesselmann, who stands out not only in terms of his professional skill and market expertise but who also possesses the right human element necessary to lead this venerable company successfully into the future.

SHOFU celebrates, announces change of management

Planmeca presents real-time visualisation of jaw movement and other highlights

By Dental Tribune International

Cologne, Germany: Incomparable visualisation and measurement data of mandibular 3-D movements in real-time are possible with the new Planmeca 4D Jaw Motion system now on display by Finish dental equipment manufacturer Planmeca in hall 11.1 at IDS in Cologne. According to Vice President of the Group, Tuomas Lokki, to whom Dental Tribune International had the opportunity to speak on Tuesday morning, the system is available for patients, among other things, for the camera feature of Planmeca Romexis Smile Design software that allows dentists to create harmonious new smiles for patients, among other things. The company’s overall presentation is bigger and better this year with about 200 sqms additional booth space compared to 2015.

“Connectivity and digital workflow are a particular focus of this year’s presentation,” Lokki said. “We have a very good technology range. The challenge is to bring it into practice so that dentists can efficiently work and get the benefits of all that technology,” Lokki added.

Lokki added that in the future, practices will be an all-around connected system, for which the IDS is a good example. “We have seven kilometres of cable here connecting every thing. Every single product here is connected, and that is the way it goes. It is all about productivity, whether it is CAD/CAM or imaging.”

Imaging expert Carestream Dental introduces latest trends at IDS

By Dental Tribune International

Cologne, Germany: Global manufacturer of imaging solutions Carestream Dental presented the latest trends in oral imaging and CAD/CAM technologies yesterday at their stand at the International Dental Show (IDS) in Cologne. The company is one of few that offer a complete product range in the field of dental imaging.

“We are the only company in the field of radiographing that offers a complete portfolio from film to 3-D imaging,” said Frank Barsch, Trade Marketing Manager at Carestream Dental.

The company introduced several novelties at this year’s IDS, one of them being the compact and intra-oral scanning system CS 7200. The new scanner offers dentists all the advantages of the digital storage phosphor imaging technology without having to change their normal workflow.

In addition, Carestream Dental announced the release of its new imaging system CS 8100SC, an advancement of its renowned system, CS 8100, for the second half of 2015.

At its booth, Carestream Dental offers individual consultations for interested visitors in order for them to find out which imaging solution is the right one for them and how they can optimise their own workflow. Moreover, the manufacturer offers dentistry students the opportunity to download its 3-D diagnosis software, “3D Viewer” and “Demo-Evolution,” for free during IDS.

To learn more about Carestream Dental’s products, IDS attendees can visit the company’s booth (T040/L040/T045/L049) in Hall 10.2.
KaVo Kerr Group Prepares to Present 35 + New Products at the 36th IDS in Cologne

By KaVo

New products in Digital Imaging, CAD/CAM, Equipment and Consumables further cement organization’s role as global innovation leader.

KaVo Kerr Group, a global portfolio of leading dental brands, presented 55+ new products at the 56th International Dental Show (IDS) in Cologne. KaVo Kerr Group delivers products and solutions to 99% of dental practices worldwide, making IDS — the world’s leading trade fair for the dental industry — the ideal stage to share the latest KaVo Kerr Group has to offer. The meeting, March 10-14, 2015, expected more than 125,000 attendees from 149 different countries.

The 55+ launches include brand new products, products released in North America but new to the global market, and updates designed to take legacy products to the next level. These releases will cover everything from Digital Imaging, to CAD/CAM, Operatory Units, Handpieces, and a wide range of Consumables.

The breadth and depth of product development on display not only reinforces the role of KaVo Kerr Group as a leader in innovation, but will highlight the organization’s unmatched role in delivering complete workflow solutions and introduce its own sophisticated approach to digital dentistry.

Among the 55+ products introduced at IDS, highlights included:

- The KaVo Lythos Introral Scanner is designed to replace traditional impressions, facilitating a fully integrated workflow. Dentists can capture highly detailed images quickly, with or without powder, in an intuitive and flexible scanning workflow that offers the clinician maximum flexibility: easily rescan anytime during the scanning process, review data at any point during or after processing the scan, or use the touch screen to rotate the model in an infinite number of ways for heightened visibility of captured data. Dentists can proceed to complete design-in-office or on-source complex design cases to KaVo’s unique Remote Design Service by wirelessly uploading scan data to the cloud.

- The KaVo MASTErNatic Series offers excellent visibility and access for speed increasing instruments, combined with maximum precision and durability. Its new design and product features — including a 20% reduction in head size — make it the ideal replacement to the traditional impressions, facilitating a fully integrated workflow.

- Kerr elementsfree: Kerr Endodontics is proud to introduce its latest innovation in endodontic obturation, the cordless elementsfree obturation system. Designed for use with the warm vertical condensation technique, the elementsfree obturation system offers both downpack and backfill capabilities in a cordless design — giving dentists and endodontic specialists the freedom of movement to perform endodontic procedures anywhere without restrictions.

- The KaVo ESTETICA E70/E80 Vision is a delivery system designed to help dental professionals get in touch with their vision for optimized chairside treatment. Product features include sensitive touch screens with a completely new user interface; hygiene center with automated cleaning programs; a modern patient communication system with integrated introral camera and hi-res KaVo EID screens; and unique system software CONEXIO for direct access to all relevant patient data. Its innovative suspended chair concept delivers complete workflow and access for speed increasing instruments, combined with maximum precision and durability. Its new design and product features — including a 20% reduction in head size — make it the ideal replacement to the 12-year leader in the Premium series, GENTLEpower.

On the evening of March 10, 2015, KaVo Kerr Group hosted the “Art of Innovation” event, inviting dental professionals, dealer partners, industry leaders, and global media to see many of the new products up close. This first-class event took place at the Flora Köln, an historic formal park and botanical garden located adjacent to the Cologne Zoological Garden.

“It was just over a year ago that KaVo Kerr Group formally brought together our world class dental brands under one identity, with shared values and a lasting commitment to the dental profession,” said Henk van Duijn-hoven, Senior Vice President of the KaVo Kerr Group. “We have started the work of taking more than 500 years of combined experience among these market leading brands and translating that expertise into leading product innovation that improves patient care and enhances clinical workflows for dental professionals. We can’t wait to showcase our unmatched global brand on this one-of-a-kind global stage.”

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INTERVIEW

Mr. Torsten Oemus, CEO of DTI

Sirona introduces broad digital product line-up at IDS

By Dental Tribune Middle East & Africa Edition

Sirona press conference on 10 March

Dentists are no longer merely providers of care, but also entrepreneurs, according to Dr. Dobrina Mollova, a global leader in dental technology.

Cologne, Germany: Under the motto “Proven Digital Solutions”, global dental manufacturer Sirona presented many product novelties for the modern dental practice and for practicing dentists, and looked back on the 35th International Dental Show in Cologne. Sirona’s new product ideas supported the work of dentists with innovative instruments and equipment, as well as providing efficient digital workflows and optimal comfort during treatment.

The company sees itself to be one of the main drivers of digitisation in the dental industry. “Sirona quite simply is digital dentistry,” said Jeffrey T. Slovin, President and CEO of Sirona. To digitalise and thereby simplify dentistry, the global manufacturer developed several integrated digital solutions for efficient workflows in implantology, endodontics, orthodontics and prosthodontics that are presented at IDS by the company.

Sirona looks back at a long history of developing digital solutions to improve dental workflows. “Twenty years ago, not only did it take years to design a digital X-ray machine on the market, but as many as 30 years ago with CEREC, we made digital impressions and computer-aided dental restoration suitable for chairside use,” Slovin said. “Our path and the history of the company stand for successfully clinically tested and scientifically proven technologies that set quality standards.”

In this interview, Dr. Dobrina Mollova, a global leader in dental technology, talked with Dr. Dobrina Mollova and her business partner, Mr. Tsvetan Deyanov, who had earned an excellent reputation for combining world-class events, conferences and continuing education in one place. For nearly 30 years, Mr. Tsvetan Deyanov has been a widely respected leader in the dental industry.

Mr. Tsvetan Deyanov said: “The company aims to set standards in the local language and style. We regard these dramatic changes in the marketplace un-doubtedly as an opportunity for us to have on the other side of an interview table. Could you tell us how you began DTI and the motivations behind it?”

Mr. Torsten Oemus: It all started 20 years ago as a family business. My father was an orthodontist, my mother and my grandmoth-er were general dentists, and, therefore, dentistry and the challenges it presents to dentists were daily discussion topics in my family. While I was studying economics, I realised the need for more business-orientated information and training for the dentist as an entrepreneur, something that was not taught in dental schools. We launched a business magazine and a business school for dentists in Germany, an idea that took off im-mEDIATELY. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our German operation had become the leader in German-speaking dentistry and the global operation had become immediately. Within ten years, our

By Dental Tribune Middle East & Africa Edition

Sirona employs a workforce of 3,500 at 29 locations worldwide and markets its products in more than 135 countries on all continents. The company develops, manufactures and markets a complete line of dental products, including CAD/CAM restoration systems (CEREC), digital intraoral, panoramic and 3-D imaging systems, dental treatment centers and dental handpieces.

By Dental Tribune Middle East & Africa Edition

Sirona introduces a broad digital product line-up at IDS. (Photograph: Dental Tribune International)
Sensodyne Repair & Protect

Presenting a new layer of protection

Think beyond pain relief and recommend Sensodyne Repair & Protect

Sensodyne Repair & Protect harnesses advanced NovaMin® technology to help build a robust hydroxyapatite-like layer over exposed dentine and within dentine tubules.1-5

With Sensodyne Repair & Protect, you can do more than treat the pain of dentine hypersensitivity – you can repair and protect your patients’ exposed dentine.

References:

Clinically proven to relieve your patients’ dentine hypersensitivity* 1-4

Active lifting and prevention of extrinsic dental stains 5-7

Ultra-low abrasive formulation appropriate for your patients with exposed dentine 8

*With twice-daily brushing


Ultra-low abrasion for your patients who need sensitivity relief and seek gentle whitening

Recommend Sensodyne – specialist expertise for patients with dentine hypersensitivity
GENEVA, Switzerland: World Oral Health Day (WOHD), which takes place annually on 20 March, inspired many national dental associations, dental students and other participants around the globe this year to organise a wide range of awareness-raising activities. According to the FDI World Dental Federation, reports are only just coming in from around the world and signs are that the event has exceeded expectations.

Over 300 students gathered in Amsterdam in the Netherlands for the second edition of the ToothCamp, a theatrical informational event that seeks to educate children and adolescents about dental issues. The participants were able to try out dental tools, as well as learn more about the benefits of eating healthily and about the importance of optimal oral health through exciting chemical experiments with acid and lime or porcelain and abrasives under the supervision of biology, chemistry and physics experts.

Hong Kong’s Department of Health organised an oral health carnival, which attracted an audience of about 2,300 local citizens. Through interactive games, exhibitions on oral health information and teeth-cleaning demonstrations, the public were reminded of the importance of taking care of one’s oral health from an early age by adopting good oral self-care habits and seeking regular professional oral care.

In Costa Rica, the second edition of Lavatón was organised by the Colegio de Cirujanos Dentistas de Costa Rica, the local dental association. Dental professionals participating in this initiative visited more than 35 schools to educate students on toothbrushing, disease prevention and important oral hygiene habits. On 20 March, thousands of students across the country brushed their teeth simultaneously as part of Lavatón.

In Vietnam, over 6,000 people participated in the Run for Life WOHD 2015 race, which was sponsored by the Vietnam Odonto-Stomatology Association, Unilever and the Vietnamese Ministry of Health.

Unilever’s Kenyan Closeup toothpaste brand and the Kenya Dental Association kicked off a new partnership in the town of Naivasha to support the WOHD “Smile for life” campaign with free dental check-ups and tooth-brushing lessons that they will be rolling out across the country.

The “Smile for life” message was also broadcast to the world via the giant NASDAQ screen in Times Square in New York. A collage was shown of pictures that were individually created by users of a poster application specially introduced by the FDI for WOHD.

As the official media partner of WOHD 2015, Dental Tribune International provided comprehensive coverage of the FDI’s message. Among other activities, the publisher helped promote WOHD 2015 through news articles, banners and advertisements in its various international print publications and on its website, www.dental-tribune.com, including a topic page solely dedicated to WOHD 2015.
Shape and colour – factors in sectional matrices as well?

By Prof. Claus-Peter Ernst

D irect composite restorations can now be considered the standard treatment method in the posterior region [1, 5]. However, treatments can differ significantly with regard to extension and stress, and this can have a definite influence on long-term survivability. There are many factors that determine the long-term success of a composite restoration: tightly sealed edges are primarily guaranteed by the adhesive technique [2]. For dental materials, besides low shrinkage stress [4, 11], the material also has a high flexural strength [6–10] in order to minimise the risk of the restoration undergoing a cohesive-type failure. A fractured filling is clearly a more dramatic event for the patient than a discoloured edge. For the patient, the success of direct posterior tooth treatment with composites thus depends on its stability. Besides the adhesive technique and the selection of materials for the restoration, the crucial key function of correct light polymerisation also plays a decisive role [5]. It is completely possible to double the flexural strength of one’s own composite just by using the correct light curing and light curing technique. A further possible influence on the stability of a posterior composite restoration is less well-known: the correct anatomical shape of the interproximal surface. If this is shaped like a natural tooth, the interproximal contact is at the height of the tooth equator and the marginal ridge is not too eccentric. This reduces the risk of ridge fractures – both purely cohesive crumbling fractures as well as more complex, mixed cohesive/adhesive failure patterns. Luchetti et al. [6] were able to show that the stability of an interproximal composite restoration can be increased significantly by using an anatomically shaped matrix. The correct positioning of the interproximal contact also facilitates the achievement of sufficient contact strength – provided clamping rings are used correctly. Surprisingly, the interproximal contact strength is not the result of the pressure of a wooden wedge; it is primarily caused by the separation force of the sectional matrix ring [7, 9]. Autonomically – as a side-effect – fewer interproximal food impactions occur as a result.

For this reason, sectional matrices are now the first choice for all interproximal composite restorations. The extremely stable and thus highly ‘wrinkle-resistant’ sectional matrix in the cervical seal, as there is no ridge, a minor amount of abfraction could be tolerated. After explaining all possible treatment options to the patient, there was a choice. That the best option might be the directly placed resin in composite restoration. Figure 1 shows the cavity, isolated with rubber dam and also equipped with the LumiContrast sectional matrix system (Polydentia, Switzerland). In contrast to case 1, the interproximal silicone surfaces were far more evenly compared to case 1. For this reason, the triangular silicone sleeves were fitted to the LumiContrast separation ring. This made it possible to better adapt the finished matrix foil to the sides of the preparation and thus consequently minimise the material overhang, resulting in less finishing and polishing work. Due to the silicone sleeves that can be fitted individually from case to case, e.g. only one ring foot may be needed to fit a sleeve, the costs may remain free. This significantly increases flexibility in using the clamping ring. The improved interproximal separation silicone rings have to be taken care of. Figure 9 shows the finished composite restoration (Optibond FL, Kerr, Venus Diamond A3/Heraeus Kulzer); figure 10 shows the same tooth one year later. The distal portion of the amalgam filling in the 1st lower right molar fractured – this offered the rare opportunity for a clinical–visual inspection of the interproximal surface of the 2nd lower molar created one year earlier.

Clinical case 1: 1st lower right molar

The 20-year-old patient exhibited mild occlusal hypomineralisation (MIH). His lower 1st molar required restorative treatment in the region of the mesio-occlusal amalgam surface (Fig. 11). For cost reasons, as well as from the viewpoint of a minimally-invasive caries treatment, it was agreed with the patient to initially undertake direct treatment in the form of a resin composite restoration. Figure 12 shows the excavated, prepared cavity equipped with the LumiContrast sectional matrix system under rubber dam. In the present case – similar to case 1 – it was again not necessary to use the sectional sleeves to the LumiContrast clamping ring. Sufficient moulding and adaptation of the sectional matrix foil was possible there. The excellent contrast between the almost black, conventional contrast of the interproximal -cervical tooth enamel margin can once again be seen. The composite restorations was again made out of the nano hybrid composite Venus Diamond A3/Heraeus Kulzer, this time in the shade A2.5 using a traditional two-bottle adhesive system (Optibond FL, Briet Dental GmbH & Co. KG, Germany). This is shown in figure 13. The 1st lower right molar fracture. This offers the patient the chance of a visual and clinical inspection of the inner proximal surface of the 2nd lower right molar created one year earlier.
HEALTHIER & STRONGER TEETH* STARTING FROM DAY 1
WITH CONTINUED USE

*ON ENAMEL PLAQUE AND ENAMEL EROSION VS ORDINARY TOOTHPASTE
While anxiously waiting for the “Downtown Abbey” television series to start up again, I got my English history fix by reading the history of Wentworth Castle. The book covered the trials and tribulations of an aristocratic family in a home three times the size of Buckingham Palace. I was taken by surprise when the author mentioned the cause of death of a high-ranking nobleman as “quinsy throat.”

In modern times, with the arrival of antibiotics, you wouldn’t hear of this — at least not in a developed nation. The more I thought about it, I don’t think I had heard the term “quinsy throat” for a very long time. At least here, if your throat is starting to close off, you’ve probably gotten yourself to an emergency room pronto.” This is an abscess in the peritonsillar area that often needs drainage.

While tonsillitis is more common in children, both kids and adults are susceptible to quinsy. One can only assume that if the breathing restrictions don’t kill you, the resulting septicaemia might later. A quinsy sore throat can infect both the blood supply and individual organs.

I can recall having my tonsils out in the 1950s due to severe tonsillitis and being sent to a local city clinic to do checkups on grammar school children. These children were the poorest of the poor and were seen on old WWI wooden field chairs. There was no money in the budget for fancy things like “discharging Tablets.” Instead, we used iodine on long cotton swabs to paint the teeth and close the plaque, our instructor kept the large bottle of iodine. The key to this is the dosage. I recommend subgingival irrigation (Chapter 3) and individual organs.

The old-time iodine bottle with a poison-control statement and a poison label. Children might find yourself detained at customs for questioning about your toiletry kit. The glycogen-staining test used to assist in the differential diagnosis of a tonsil abscess cannot be identified as such without the aid of a proximal contour on marginal ridge fracture of Class II composite resin restorations. J Dent 2006; 34: 826–832.


There is another clinical application of iodine in dentistry. An iodine staining test used to assist in the differential diagnosis of a tonsil abscess cannot be identified as such without the aid of a proximal contour on marginal ridge fracture of Class II composite resin restorations. J Dent 2006; 34: 826–832. Iodine was determined by the iodo-chromic in 1998 and stated that there is no federal mandate on the sale of Mercurochrome. The limitations on the sale of Mercurochrome vary from state to state. While the glycogen-staining test used to assist in the differential diagnosis of a tonsil abscess cannot be identified as such without the aid of a proximal contour on marginal ridge fracture of Class II composite resin restorations. J Dent 2006; 34: 826–832.

While iodine is widely available as a homeopathic remedy, some Lugols may be effectively used to assist in the differential diagnosis of a tonsil abscess — i.e., more than $100 worth. When I asked my local pharmacist about Walgreen’s policy, he pointed to the surveillance cameras above the tincture of iodine shelf. Legalistic medical laboratories that do gram staining now have additional paperwork due to the restrictions on iodine strengths and quantities.

Iodine getting harder to find The old-time iodine bottle with a poison-control statement and a poison label. Children might find yourself detained at customs for questioning about your toiletry kit. The glycogen-staining test used to assist in the differential diagnosis of a tonsil abscess cannot be identified as such without the aid of a proximal contour on marginal ridge fracture of Class II composite resin restorations. J Dent 2006; 34: 826–832.


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The Ultimate Sonicare Power Toothbrush

New Philips Sonicare DiamondClean—the ultimate clean for ultimate results.

Help your patients experience the difference of Sonicare technology. It will be love at first brush.
• Our newest power toothbrush removes 45% more plaque than Sonicare FlexCare+ with ProResults brush head.
• Powerful yet gentle dynamic cleaning action helps improve gum health in just 2 weeks.
• Clinically proven to whiten teeth in just 1 week.

Infection control in an era of emerging infectious diseases

By Eve Canny, USA

More than three decades have passed since the emergence of human immunodeficiency virus (HIV) as a global pandemic. More than any other infection, it is possible to single out HIV as the primary factor causing changing infection control practices in dentistry. Prior to the mid-1980s, it was uncommon for dentists and allied professionals to wear gloves during routine dental procedures. Many dental clinics did not use heat sterilisation, and disinfection of surfaces was limited to common disinfectants such as alcohol-soaked gauze sponges.

This was despite our knowledge that HIV transmission had already been spread in clusters in the offices and clinics of infected dentists and that dentists were clearly at occupational risk for acquiring HBV.

Today, many take safe dental care for granted, but there is still much to do in improving vigilance in ensuring an infection-free environment for providers and patients. HIV has fortunately proven to be easily controlled in a clinical environment using the same precautions as those effective for preventing the transmission of HBV and hepatitis C virus. [1] These standard precautions include the use of personal protective attire, such as gloves, surgical masks, gowns and protective eyewear, in combination with surface cleaning and disinfection, instrument sterilisation, hand hygiene, infection control and other basic infection control precautions.

The research project in southern Thailand focused on increasing awareness of the importance of oral health in order to foster a healthy school environment and encourage regular dental care habits in young children. (Photograph: Bork/Shutterstock)

Emerging and re-emerging infectious diseases present a real challenge to all health care providers. Three of the more than 50 emerging and re-emerging infectious diseases identified by the Centers for Disease Control and Prevention and the World Health Organization (WHO) include Ebola virus disease (EVD), pandemic influenza and severe acute respiratory syndrome. [3, 4] These previously rare or unidentified infectious diseases burst into the headlines in the past several years when they exhibited novel or uncharacteristic transmission patterns.

Concern about emerging infectious diseases arises for several reasons. When faced with a particularly deadly infectious disease such as EVD, which can be spread through contact with an ill patient’s body fluids, health care workers are naturally concerned about how to protect themselves if an ill patient presents to the dental clinic. With diseases such as pandemic influenza and severe acute respiratory syndrome, which may be spread via inhalation of aerosolised respiratory fluids when a patient coughs or sneezes, the concern is whether standard precautions will be adequate.

In addition to standard precautions, treating patients with these diseases requires the use of transmission-based precautions. These encompass what are referred to as contact, droplet and airborne precautions for diseases with those specific routes of transmission. Transmission-based precautions may include patient isolation, placing a surgical mask on the patient when he or she is around other people, additional protective attire for care providers, and in some cases the use of respirators and negative air pressure in a treatment room. In most cases, patients who are contagious for infectious requiring droplet or airborne precautions should not be treated in a traditional dental clinic setting.

Updating a patient’s medical history at each visit will assist dental health professionals in identifying patients who are symptomatic for infectious diseases. Patients with respiratory symptoms, including productive cough and fever, should have their dental treatment delayed until they are no longer symptomatic. Additionally, health care professionals who are symptomatic should refrain from coming to work until they have been fever-free of infection for 24 hours after taking fever-reducing medication for 24 hours.

In most cases, a patient with symptoms as severe as those experienced with EVD will not present for dental care and therefore extra-screening and protection protocols are not recommended. If a patient is suspected of having a highly contagious disease, he or she should be referred to a physician, hospital or public health clinic.

Dental professionals should take action to remain healthy by being vaccinated according to accepted public health guidelines, understanding that the recommendations may differ according to the outcome of the disease.

Performing hand hygiene procedures at the beginning of the day, before and after removing gloves, changing gloves for each patient, wearing a clean lab coat, and wearing protective eyewear are all positive actions that help prevent occupational infections. In addition, cleaning and heat sterilisation of all instruments and disinfection of clinical surfaces ensure a safe environment for patients. There is solid evidence that dental care is safe for patients and providers when standard precautions are followed, but patients and dental health care workers are placed at risk when precautions are compromised and breaches occur.

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

Tackling poor oral health around the globe

By Dental Tribune International

COPENHAGEN, Denmark: Researchers from the University of Copenhagen have examined the benefits of enhanced oral health promotion combined with a closely supervised toothbrushing programme in schools in southern Thailand. The two-year study aimed to establish an effective model for the fight against the increasing burden of tooth decay among children in Asia.

The research project, which was based on the World Health Organization’s Health-Promoting Schools concept, focused on increasing awareness of the importance of oral health in children and on encouraging regular dental care habits in young children, including the use of effective fluoride toothpaste. Over 2,500 Copenhagen researchers compared the effects of closely supervised toothbrushing with a toothpaste containing 1,450 ppm fluoride and 1.5% arginine to customary oral hygiene practices in the control group. The study was conducted in nine public schools in Thailand and involved 15 schools with 5,296 preschool students, of whom 1,090 were in the intervention group and 1,706 in the control group.

During the course of the study, dental plaque scores significantly improved among the children in the intervention group. According to the researchers, the project achieved a caries reduction of up to 54% for all schools included in the study and a reduction in new caries lesions of up to 41% per cent for the most compliant schools. This points to the positive effect of the use of fluoride-containing toothpaste administered by schoolteachers via an enhanced school oral health programme.

“The project emphasises the necessity of engaging the school as well as family and schoolteachers,” said lead researcher Prof. Poul Erik Petersen, from the Department for Global Oral Health and Community Dentistry at the university’s School of Dentistry.

“Globally, very few school health programmes are evaluated scientifically. This research project has provided sound information and will thus contribute to the promotion of preventive measures in school oral health programmes,” Petersen concluded.

According to Petersen, the experience gained from the study could offer new insight into the global fight against oral health in children. Further, he expressed the hope that the research results would assist ministries of health, public health administrators and oral health planners in low- and middle-income countries in Asia in developing evidence-based school health programmes.

In Asia, the number of children suffering pain and discomfort resulting from poor oral health, in addition to missing school lessons, is increasing. High levels of tooth decay in developing countries such as Thailand are primarily related to poor living conditions, the high intake of sugars, poor oral hygiene practices, low exposure to fluoride for disease prevention, as well as limited availability of and access to preventive dental health services.

According to figures of the FDI World Dental Federation, between 60 and 90 per cent of schoolchildren worldwide have cavities but the majority of dental decay remains untreated due to inappropriate, unaffordable or unavailable oral health care services.

The study, titled “School-based intervention for improving the oral health of children in southern Thailand,” was published in the March issue of the Community Dental Health journal.
Ultra-low abrasion for your patients who need sensitivity relief and seek gentle whitening

- Clinically proven relief from the pain of sensitivity
- Gently lifts stains and help prevent new stains from forming
- Ultra-low abrasive formulation appropriate for your patients with exposed dentine

Recommend Sensodyne – specialist expertise for patients with dentine hypersensitivity

*With twice-daily brushing

Translucent Zirconia… Can it be esthetic enough for the esthetic zone?

By Aiham Farah, CDT, Syria

The ongoing evolution of restorative materials is bringing dentists more options than ever before to achieve the most desirable mix of properties. In the field of laboratory-fabricated restorations, clinicians and their lab partners have long been seeking to balance aesthetics, strength, and ease of use.

While the concepts of strength and ease of use are well understood, aesthetics are of course more subjective, yet can still be discussed in some objective terms. When we speak of aesthetics in this category, we typically mean two things: color and translucency. In order to best mimic natural tooth structure, a restoration must reflect, scatter, and absorb light similar to the way that a natural tooth does. Lithium disilicate has proven popular in recent years, thanks to its high performance in the aesthetic category.

Today, Zenostar Zirconia is one of the top ranked high esthetic Zirconia, in our current test on the material below. I used all the working techniques instructed by the material manufacturer (staining tech on one set, and cut-back tech on the other), but I implemented my own experience in order to pull out its esthetic optical properties, and display it for you in this case report, so you can be the judge whether it’s esthetic enough for the esthetic zone!

For instance, IPS emax ZirPress can be pressed onto it, or IPS emax Ceram can be veneered onto it. Or even the shade and stains (from IPS emax Ceram kit or Zenostar Art Modul) can be used to characterize a full contour restoration to their high translucency and enhanced esthetic properties.

What’s the concept behind the disks (T & MO)?
Zenostar T discs are particularly suited for the manufacture of monolithic restorations, supplied in pre-shaded basic shades, allowing easy reproduction of all the 16 shades and 4 bleaches (Fig.2).

The fact that Zenostar disks are matched to the IPS emax press input range, is important to the success of full dental rehabilitation, (for instance; IPS emax veneers on anterior teeth and Zenostar full contour bridges on posterior teeth), to guarantee the shade match. Ivoclar Vivadent made it simple by having relevant coding for the Zenostar T (Translucency) to the emax press LT (Low Translucency).

Never the less, Zenostar MO (Medium Opacity) disk is also available and particularly suitable for esthetic frameworks on discolored preparation and metal components, where a full masking even with a thin layer is guaranteed.

> Page 3C
This month: the 10th CAD/CAM & Digital Dentistry Int’l Conference by CAPPmea will be held in Dubai, how do you see the progression of CAD/CAM over the last ten years and what has it meant for you and the company? CAD/CAM is the technology that determines the dental business today and changed the job description of a dental technician immensely and within a very short time. If we take a look on the use of CAD/CAM in the dental business ten years ago and what can be realized today is that we recognize a revolution of a complete industry which happened and is still happening. Ten years ago the amount of CAD/CAM-systems for dental labs has been very manageable, today a dental technician is faced with a jungle of systems to fabricate its frameworks and restorations. At this point Amann Girrbach benefits from its more than 55 years of experience in CNC technology and we do not offer single products but these complete processes just mentioned. The combination of both makes us able to offer one of the most versatile and technologically adapted CAD/CAM-system in the market. This experience values and knowledge in mechanical engineering and CAD/CAM makes it possible to produce our products with a high proportion of in-house manufacturing which includes also the in-house production of the control units as the core of the machines. Thus we can adapt our system components to the very specific requirements of the dental markets. We hope that we can remain in this leading position also in the future. Amann Girrbach continues to grow in the region. How important is education for you and getting your newest technologies across to your customers and potential clients? Education and knowledge transferred is essential for dental technicians in general as well as for our customers. Although our systems can be used intuitively, we are talking about complex systems consisting of soft- and hardware components that can be combined with various materials and techniques to get the best results. Furthermore, our customers come from different generations and differ sometimes strongly regarding the access to modern technologies. For these reasons we offer a wide variety of education and training either by our local training centers or online by webinars or video tutorials that can be downloaded from our homepage.

IDS 2015 once again whitewashed many novelties, which new systems will AG be exporting to the MEA region? How will you educate your clients to see the benefits? As we have seen at the IDS this year our inhouse milling machines Ceramill Motion 2 and Ceramill Mikro – a new small 4-axes unit for dry millable materials - in combination with the diversity of CAD/CAM materials is of great interest to our customers in MEA region.

In addition to our presence in the CNC technology we are working on new materials such as the super-high translucent zirconia Ceramill Zolid FX that could be quite successful in MEA. It is easy to process but it is also a perfect material to achieve high aesthetic results in the anterior regions as it was previously only possible with lithium disilicate. At the same time this zirconia does not undergo ageing but maintains it strength over the long term. In accordance with the integrated product philosophy of Amann Girrbach, Ceramill Zolid FX is not a single product but a whole system consisting of materials and method. A coordinated staining concept will therefore soon be available which enables precise, reliable staining according to the VITA classical shade guide. Customers who want to process this material can visit our training course or take a look in our video tutorials or step-by-step guidelines.

What are the plans for the rest of this year and 2016 for Amann Girrbach in the MEA region? Surely we strive to strengthen our sales activities so we will continue supporting our customers in the region and provide them with the latest knowledge and updates on our novelties. This year we will be renewing our training center at the Antonian University and have a complete new setup that can match the demand and the growth of the region. This way we will be able to receive more and more of our customers. At the moment the project is already in progress and we will announce it as soon as it has reached its final stage.

Additionally we are planning to have a helpdesk based in the Kingdom of Saudi Arabia to be able to assist our biggest installed base in the region in parallel with our local distributor.

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Note: Continuation from Dental Tribune MEA Page 22
for example), we remove all the trace of milling dust and residue from the inner surface, then we can use the oil-free compressed air. But we never use steam or water bath to clear non-sintered restoration.

- With a fine grinders head, and diamond bars, we could leave a natural texture on the labial surface of some high esthetic restoration. Note that the hand piece speed should be low.

- With the coloring liquid and (Brush) infiltration technique, and with the help of the VisualiZR we can map-shade the white stage, like enhance the translucency in the incisal third by using Violate-gray.

- With the infrared lamp or drying cabinet, The infiltrated restorations must be fully dried before they are sintered, less than 140°C.

Note in (Fig. 4) the final outcome after glaze of Zeranol T0, being shifted by stain to BL1 color.

2nd Set: Working steps after the milling (Fig. 5).

Cut-back tech & character- izing using brush infiltration tech.

- If our CAD design not chosen to be (reduced) design first, and we decided to do the cut-back later after milling, we have to do it manually on the white-chalk stage. (In our case, a cut back was done on one central all the way to the cervical, and the other one was left full contour to be stained).

- With the correct grinding instrument, we reduce on the incisal third of the labial surface of the restoration.

- With a sharp rubber polisher, and on a low speed, we create the suitable mamlon cut.

- With the coloring liquid and (Brush) infiltration technique, and with the help of the VisualiZR we can map-shade the white stage, like enhance the translucency in the incisal third and between the mamlon fingers by using Violate-gray, and highlight the mamlon fingers by using Ivory. (Fig. 6 shows the results after sintering).

- With the infrared lamp or drying cabinet, The infiltrated restorations must be fully dried before they are sintered, less than 140°C.

Layering with IPS e.max Ceram

After applying the Zirliner on the labial cut-back area (Fig. 7) and slightly glaze and stain the other central, we bake on (960°C for 1 min), then we proceed with layering over the central (Fig. 8):

1. 1st Wash & foundation layer (baked on 750°C for 1min)
2. 2nd Internal (Impulse) layer (baked on 750°C for 1min)
3. 3rd Transpa Incisal (Ti1) layer (baked on 750°C for 1min)
4. 4th Final glaze on both centrals is conducted on (725°C for 1min)

Manual polishing on both centrals is necessary after glaze for perfect gloss match (Fig.9).
A ceramic furnace that leaves nothing to be desired

By Ivoclar Vivadent AG

COLOGNE, Germany / SCHAAN, Liechtenstein: The new Programat P710 ceramic furnace incorporates a digital shade analyzer and telephone functionality. Packed with innovative features, the new Programat P710 can do more than just fire. The innovations include a Digital Shade Assistant (DSA) for accurate shade selection, telephone capabilities and infrared technology for enhanced process reliability.

Digital Shade Assistant (DSA)

The patented Digital Shade Assistant (DSA) enables users to determine the exact tooth shade in a snap. The user preselects the three closest shades and takes a photograph of the teeth and the selected shades. This information is transferred to the furnace via SD card, WLAN or USB flash drive. On the furnace, the user selects the shade analysis mode to import the photographs and start digital shade selection. In addition to the shade, the brightness and saturation values ($L$-, $A$- and $B$-values) can be determined. The software compares the shade of the tooth to be analysed with the three pre-selected tooth samples from the shade guide. Special image processing software automatically recognizes which tooth to analyse and displays the best shade match. The software also allows users to manually select specific aspects of the tooth for shade analysis. No further appliances are required.

Experience new freedom in your lab processes breaking the chains of former dependencies with inLab and the new 5 axis milling and grinding unit inLab MC X5. Open for all restoration data, combining the largest material range and the possibility to machine both wet and dry disks and blocks - for no limitations to your production.

Enjoy every day.

With Sirona.

INLABMCX5.COM

The Dental Company

inLab MC X5:
DENTAL LAB FREEDOM OF CHOICE.

The new Programat P710 ceramic furnace leaves nothing to be desired.

Telephony functionality

The new ceramic furnace comes with integrated telephonic capabilities. This allows users to discuss individual patient cases with the clinician directly at the furnace at any time, without having to change workstation. Both hands stay free to carry on working. The user’s mobile phone connects to the furnace via Bluetooth wireless technology and transfers the user’s contact list to the furnace screen. A built-in hands-free system and a microphone ensure a high level of call quality.

Infrared technology

The integrated infrared technology represents another milestone achievement in the design of dental furnaces. The use of infrared technology heightens the process reliability and the overall speed of the process. This increases the cost-effectiveness of the furnace and offers users a twofold advantage: the firing process can be completed up to 20 per cent quicker and the quality of the fired objects is superior compared with the results achieved with conventional ceramic furnaces. Cleverly devised software uses a thermographic camera to calculate the most suitable pre-drying and closing parameters for each firing cycle. Sensor controlled measurements ensure that the furnace recognizes at which point the objects have been optimally pre-dried. Potential fluctuations in quality resulting from the individual adjustment of firing programs are therefore eliminated.

Ease of operation

In addition to several new features, the Programat P710 offers a high level of user friendliness. The furnace is easy to operate by means of a large, swivelling colour touchscreen. The most important functions, however, are selected on the proven membrane-sealed keypad.

Proven portfolio

The firing and press furnaces from Ivoclar Vivadent are based on long-standing success. The company has been designing high-quality dental furnaces for discerning customers for many decades.

Programat is a registered trademark of Ivoclar Vivadent AG.
Happy 10th Birthday CAPPmea
CAD/CAM Digital Dentistry in a milestone year

By CAPPmea

In the year of IDS, important for all dental industry, another significant dental meeting in digital dentistry will take place in Dubai at Jumeirah Beach Hotel on 08-09 May 2015. This will mark the 10th Anniversary of CAD & Digital Dentistry International Conferences in Dubai.

Almost 20 years after the first CAD/CAM system was presented on the market with big enthusiasm, passion and belief in digitalizing of dentistry, CAPPmea started its first CAD/CAM and Computerized Dentistry Int'l Conference in Middle East ten years ago. Together with a group of believers such as Dr. Munir Silwadi, Dr. Aisha Sultan, Dr. Omar Aseeb, CAPPmea started the unique event with the support of 3M ESPE, Sirona, KaVo, Eikon and the UAE Ministry of Health. Through the passion of these leaders and supporters, what has been achieved today is the result of ten years of continuing dental education focused on Digital Dentistry. Today more than 15,000 dentists and dental technicians have been educated in digital dentistry by CAPPmea over the past decade.

When I started the CAPPmea over a decade ago, I couldn’t have imagined that I will be writing this post to all of you. But here we are, greater and stronger than ever before. It is really a decade. 2005-2015: 10 years since we organized our 1st CAD/CAM & Computerized Dentistry International Conference and invited our first contributors to join us, most of which are still with us.

Back in 2005, I had a vision for what I wanted CAPPmea to become – a company that was professionally close to the client, fun, recognizable and innovative. I can see that we have achieved this through the hard work of our colleagues, sponsors, partners and support- ers. CAPPmea has been able to establish a first-class standard for continuing dental education programs in Dubai for the MEA region. Our very 1st CAD/ CAM & Computerized Dentistry International Conference summed it up successfully. I am proud to say that we have established and achieved a balance during all these years and continue to do so with every organized event.

Those attending the upcoming 10th edition of the symbolic CAD/CAM & Digital Dentistry Int’l Conference will have the pleasure to see for the first time the new dental high-technologies post IDS. The event is packed with 17 international Key Opinion Leaders, 19 breathtaking scientific presentations and 8 hands-on courses where attendees will be able to practice on topics such as Advanced Anterior Composites, Indirect Inlays, Onlays & Partial Crowns, Non-Prep Veneers, Emergence Profile, Tilasases, Abutment Selection, proper Temporization, Bone Tissue, Indirect Veneers, Biological Preparations for CAD/CAM and non CAD/CAM Restorations as well as Chairside Economical Restoration of Esthetic Ceramics and Implant crown/abutment design.

The scientific program has accreditation from three important bodies, HAAD, DHA and ADA C.E.R.P. Centre for Advanced Professional Practices (CAPP) is an ADA C.E.R.P. Recognized Provider: ADA C.E.R.P. is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA C.E.R.P. does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. During the two day agenda at the Jumeirah Beach Hotel podium will become the center-piece for 17 top dental educators including Prof. Daniel Wimperis, ACTA University The Netherlands, Prof. Richard Simonsen (USA), Prof. Paul Tipton (UK), Dr. med. Dent. Jan-Frederick Guth (Germany), Dr. Morten Worsøe (Denmark), M.Dr. Petr Hajny (CZ), Dr. Munir Silwadi (Canada), Dr. Andrea Gandolfi (UK), Dr. James Russell (UK), Dr. Harald Huskens (Germany), Dr. Jochen Kania (Germany), Dr. Nawal Aldousari (Kuwait), Dr. Biju Krishnan (UK), Dr. Safa Tahmasebi (USA), Dr. Ritu Krishnan (UK), Dr. Eduard-dio Malm (Chile), Dr. Gary Severance and Angela Severance (USA).

The long journey to the 10th Anniversary came along with plenty of challenges of running behind the incredibly fast growing industry and technological developments. A decade ago one could not even imagine such kind of opportunities which are now available and changing the face of dentistry, whilst improving patient care. All from diagnostic, planning to the treatment in terms of precision, improved efficiency in order to change the outcomes and aesthetic needs of patients.

During the upcoming Anniversary...
**Friday / 08 May 2015**

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**Hands on Courses**

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<td>09:00 - 17:00</td>
<td>Dr. Eduardo Mahn, Chile - Biological Preparations for CAD/CAM and Non CAD/CAM Restorations</td>
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Dr. Munir Silwadi, Canada
Dr. Maria Hardman, UK
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