SAUDI DENTAL SOCIETY
International Dental Conference 2014

EXPO 2020 DUBAI UAE

DENTAL TRIBUNE

The World's Dental Newspaper · Middle East & Africa Edition

PRINTED IN DUBAI | www.dental-tribune.me | JANUARY-FEBRUARY 2014 | NO. 1, VOL. 3

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Ten years of Dental Tribune International

Torsten Oemus Publishers' Meeting at IDS Cologne 2013 (Credit: Daniel Zimmermann, DTI)

By Dental Tribune International

LEIPZIG, Germany: On Monday, 9 December, Dental Tribune International (DTI) celebrated another milestone in its history in the dental publishing business. The date marked the tenth anniversary of the company's foundation in 2003.

"What started about 20 years ago in Germany has developed into an international dental and educational network over the past decade. Although the very first Dental Tribune edition was published in 1893, the real globalisation of the business ultimately started with the involvement of our publishing partners around the world. Today, we are able to produce unique local content with a truly global perspective," said DTI's CEO Torsten Oemus.

Currently, DTI offers more than 130 print publications and multiple websites that reach over 650,000 dentists in more than 90 countries in 27 languages. Since its foundation in 2003, the publisher has become the official media partner of a number of major events dedicated to the dental industry, such as the International Dental Show, the Greater New York Dental Meeting, the annual congress of the FDI World Dental Federation and IDEM Singapore.

In addition to its print and online publications, the group can look back on its projects in dental education and its flagship e-learning platform, Dental Tribune Study Club, in particular. Since its foundation in 2009, the sophisticated Web-

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Meeting review: 89th Greater New York Dental Meeting

GNYDM in New York (Photo Courtesy of DT America)

By Dental Tribune America

NEW YORK, USA: The 89th Greater New York Dental Meeting was held Nov. 29 to Dec. 4 at the Jacob K. Javits Center in Manhattan, offering meeting attendees the opportunity to expand their professional knowledge and expertise, and to visit with hundreds of exhibiting companies to learn about new products and services.

Educational sessions covered all the bases — and all the body parts.

All-day live sessions at the Live Dentistry Arena included Dr. Jack Griffin Jr. demonstrating dependable, efficient preparations for monolithic lithium disilicate or zirconia crowns, digital impressions, cementation and finishing, featuring some of the most dependable materials available today. Dr. Aeklavya Panjali also spoke in a Live Dentistry session, as he surgically placed and restored a complex immediate placement implant case.

Orascoptic's Vanessa Velasco and Tom Lindsey brought the best in human engineering to the Dental Tribune Media Lounge with a presentation on two of the company's most recent additions: the groundbreaking XVI all-in-one dental loupe and headlight and the Body Guard PRO saddle chair. Velasco and Lindsey also talked about the Body Guard Pro saddle seat, which they described as stunning and comfortable.

At the Laser Pavilion Lecture Series, Dr. William R. Gianni of

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New hyaluronic matrix accelerates soft-tissue healing

The new Hyaloss matrix. (Photo courtesy of imperiOs)

By Dental Tribune International

FRANKFURT, Germany: German specialist in the field of bone augmentation imperiOs has presented a new product that is based on hyaluronic acid, a substance primarily used in plastic surgery but with potential applications in dentistry. According to the company, Hyaloss matrix, a hyaluronic matrix, promotes and accelerates the healing process to a significant degree.

According to imperiOs, Hyaloss matrix is a bioactive and resorbable matrix composed of hyaluronic acid fibres and is produced through esterification of the hyaluronic acid molecule with benzyl alcohol. Once the fibres of the matrix come into contact with liquid, the matrix gelatinises and can easily be inserted into the respective bone defects, where it releases hyaluronic acid gradually.

Through activation of angiogenesis and mesenchymal stem cells, the matrix promotes regeneration processes during the first ten days after surgery in particular and thus contributes to faster healing.

According to the company, Hyaloss matrix is recommended for use in intraosseous and periodontal defects. The best results can be achieved when the matrix is mixed with autologous bone grafts, imperiOs stated.

An advantage of the matrix is that it can be stored at room temperature and can thus be used immediately to fill defects. In smaller periodontal defects, it can even be used unmixed. DT

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based continuing-education portal has become an essential part of DTI's product portfolio and serves more than 180,000 members worldwide. Today, DTI also provides continuing medical education through its clinical master's programme, Tribune CME, which offers comprehensive training in aesthetics, orthodontics and implantology, among other fields of dentistry.

With its headquarters based in Leipzig, Germany, the publisher today has a total of 34 licence partners covering over 90 dental markets, including China, Brazil, South Africa, the US and the Middle East. Only recently, a new partner in Israel joined the publishing group. Talks for future projects in Sweden and Ukraine are currently underway.

The group is looking forward to celebrating the anniversary with its partners at its Annual Publishers' Meeting, which will be held in Turin in July of next year. DT

Publishers' Meeting at IDS Cologne 2013
(Credit: Daniel Zimmermann, DTI)

International Imprint

Licensing by Dental Tribune International Group

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"Dubai School of Dental Medicine has been highly successful"

By Dental Tribune Middle East

DUBAI, UAE: A year after the successful opening of the Dubai School of Dental Medicine we managed to catch up with Professor David Wray, Dean of DSDM to learn more about the developments since the opening.

DTMEA: Professor Wray, almost a year ago you opened the doors of the Dubai School of Dental Medicine with the aim to attract dental students and provide them with the opportunity to "Embark on a three year intensive clinical training program with a clear didactic component and a research dissertation". How has the school developed since the opening?

Professor Wray: Since opening to students in January of this year DSDM has been highly successful. We accepted residents into our Pediatric Dentistry and Orthodontic programs in January and after completing our initial accreditation process with the CAA we have now accepted residents into all the specialty programs which we offer including Oral Surgery, Periodontiology, Prosthodontics and Endodontics.

Seeing the growth of the DSDM since its launch, what sets you apart from the other Dental Universities in the UAE and the region?

The big bonus about DSDM is that graduates, as well as receiving their Master's Degree at the end of their course, also receive a conjoint Specialty Membership Diploma from the Royal College of Surgeons of Edinburgh. This Specialty Membership Diploma gives DSDM graduates a clinical qualification to complement their academic degree and a membership to the Royal College which is globally recognized, and DSDM provides a stimulating environment for graduates to carry out their postgraduate degree.

"DSDM is part of Dubai Healthcare City"

What are the major reasons for the regional dental students to choose DSDM?

DSDM provides both academic and clinical training within Dubai without having to leave the Gulf region which is a huge benefit especially to female residents with domestic commitments.

This can be achieved without compromise since we have a world-class international faculty of teachers. DSDM provides education and training of the highest quality in a range of specializations to its students, and has also received initial academic accreditation from the Commission for Academic Accreditation of the UAE Ministry of Higher Education and Scientific Research. The school is led by world-renowned specialists and is home to some of the world's top specialists in the field. In addition, DSDM's Partnership with The Royal College of Surgeons of Edinburgh (UK) provides postgraduate students, through a conjoint exam, with a membership diploma which guarantees recognition internationally at specialty level in all areas. DSDM is part of Dubai Healthcare City, which is the world's first healthcare free-zone, and DSDM students are able to make the most of the world-class education facilities offered by the medical hub.

"DSDM provides both academic and clinical training within Dubai"

What are the further plans of DSDM in the coming 2 to 3 years?

DSDM has plans to expand its clinical facilities to cope with the increased numbers of residents and patients expected next year. Our partnership with the Royal College of Surgeons of Edinburgh is also progressing and we have already run four college examinations in DHCC this year. We anticipate that we will become one of the largest global hubs for dental postgraduate examinations in the near future.

Could you please share your thoughts on the level of Dentistry in the UAE and the region?

The quality of dental education and clinical practice in the UAE and the region is already very high but we hope to drive standards even higher with our postgraduate programs and of course, our graduates will be benchmarked clinically with the global standards set by the Edinburgh Royal College.

"We have now accepted residents into all the specialty programs"

Could you emphasize on the dental industry developments in the region?

We have seen dental companies expanding within the region and new ones coming. This reflects the interest in serving the dental community and the needs of the patients. In addition, the many conferences which Dubai hosts act as a platform to showcase the latest technology and how it can benefit the patients.

Through your experience as an educator, what should young students target when becoming a dental professional?

Dentistry is largely a community-based profession and we need both general dentists and specialists to provide a full range of healthcare support for our patients so there is not just one path for a young dentist to follow. DSDM is dedicated to training specialists but there is a hugely important role for the generalist. Regardless of the path a young dentist chooses, it is important not to lose sight of the need for lifelong learning through continuing professional development be it in formal courses or through attendance at courses and self-directed learning. Dentists have a professional responsibility to keep up-to-date and DSDM is here to support them in that endeavor.

How can you describe the dental students in Dubai?

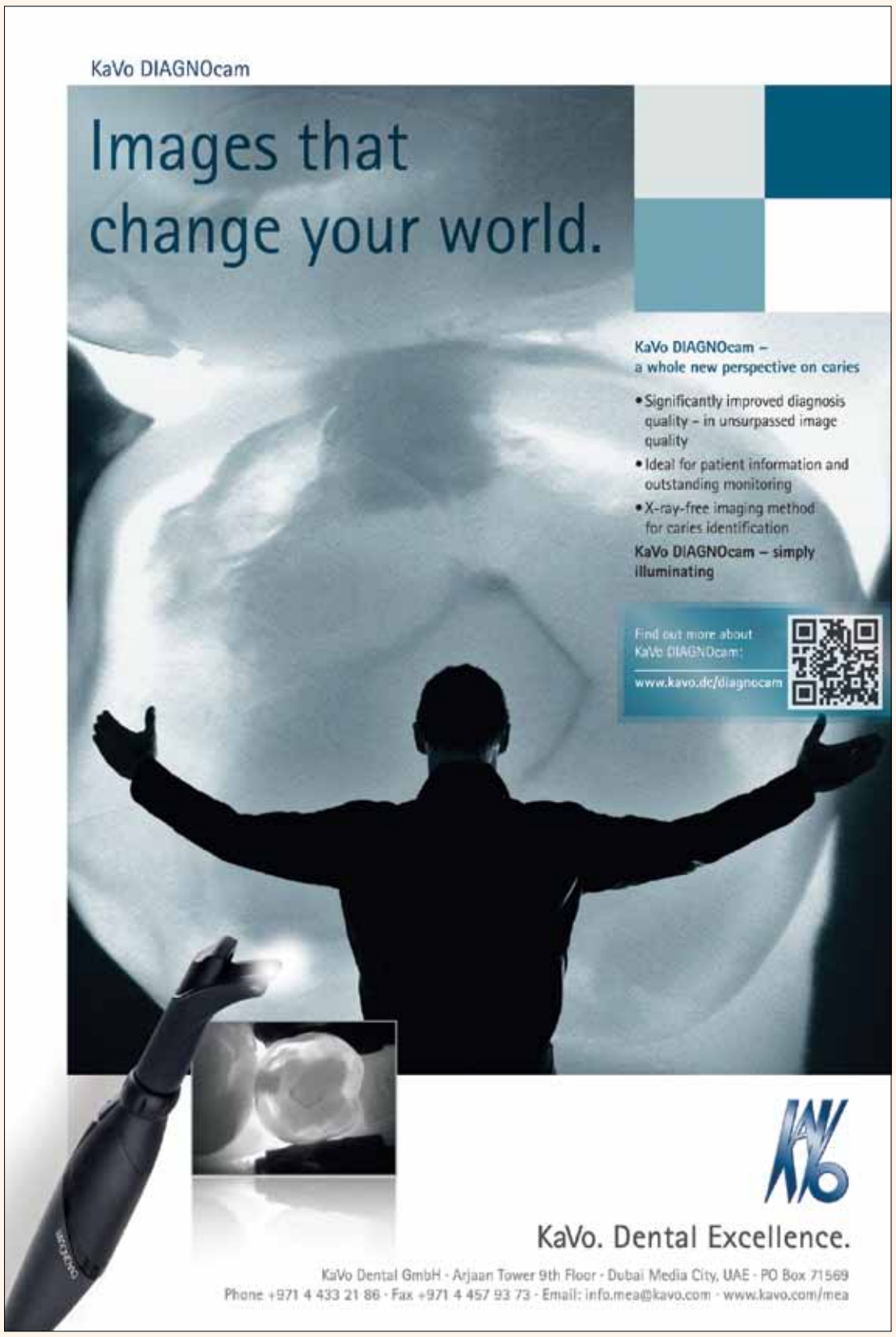
The students in Dubai today are wonderful, mature, professional young dentists who are a family working towards a common goal. Our residents are a joy to teach and a privilege to be colleagues with.

Do you have any tips you would like to share with the young dental professionals?

Because of the explosion of new knowledge, young dentists must be constantly diligent and always treat the patients holistically. We don't just do fillings; we care for the total oral health needs and wellbeing of our patients. We should be proud of our profession and the care we can provide.

Do you have anything else to share with the dental audience?

Because DSDM is dedicated to specialization in dentistry we now represent a fantastic facility providing secondary oral healthcare to the community. Many dentists in UAE do not have the facilities or capacity to provide a fully comprehensive level of care and DSDM is here to provide support and expertise to the dental community. Whether the patients have complex restorative problems or serious mucosal disease, DSDM is here to help and welcomes referrals from all branches of the profession. DT



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Mineral trioxide aggregate revisited: a cement for all seasons

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By Gary Glassman, DDS, FRCD

Pulpal and periradicular pathology develop when the dental pulp and periradicular tissues become exposed to microorganisms. In experimental, germ-free conditions, pulpal and periradicular tissues fail to show the development of pathosis and associated lesions when exposed to bacteria.[1,2] The conclusion: Microorganisms are the main irritants of the dental pulp and periodontium, and sealing the pathways of communication between the root canal system and the periradicular tissues is imperative if bacterial leakage is to be prevented.

An ideal orthograde or retrograde filling material that seals the pathways of communication between the root canal system and its surrounding tissues should be non-toxic, non-carcinogenic, biocompatible, insoluble in tissue fluids and dimensionally stable.[3,4] Furthermore, the presence of moisture should not affect its sealing ability; it should be easy to use and be radiopaque for recognition on radiographs.[4]

Because existing restorative materials used in endodontics did not possess these "ideal" characteristics, 4 mineral trioxide aggregate (MTA) was developed and recommended initially as a root-end filling material and subsequently has been used for pulp capping, pulpotomy, apexogenesis, apical barrier formation in teeth with open apices, repair of root perforations and, most recently, in revascularization cases. MTA has been recognized as a bioactive material.[5,6]

MTA has been shown to seal off the pathways of communication between the root canal system and surrounding tissues, significantly reducing bacterial migration.[7] It is made up of fine hydrophilic particles that set in the presence of water, and it is composed of tricalcium silicate, dicalcium silicate, tricalcium aluminate, tetracalcium aluminoferrite, calcium sulfate dihydrate (gypsum) and bismuth oxide, which provides it with radiopacity.[8]

Portland cement is the most common type of cement in general use around the world, used as a basic ingredient of concrete, mortar, stucco and most nonspecialty grout. It usually originates from limestone.

MTA is available as gray MTA and white MTA. The crystalline structure and chemical composition of gray and white MTA are similar, except for the presence of iron in gray MTA.

Both contain bismuth oxide and calcium silicate oxide. Portland cement is composed mainly of calcium silicate oxide and does not contain bismuth oxide but does contain potassium. Calcium oxide is added in both Angelus white and gray MTA (Angelus, Londrina, Brazil) to reduce the setting time, which is too long in MTA cements of other brands (Fig. 1).

MTA has a similar mechanism of action to calcium hydroxide9 in that the main component of the material, calcium oxide, when in contact with a humid environment, is converted into calcium hydroxide.[10] This results in a high pH of 12.5, making its surroundings inhospitable for bacterial growth and producing an antibacterial effect for a long period of time. But unlike calcium hydroxide products, such as Dycal® (DENTSPLY, York, Pa.) and MTA Angelus (Angelus, Londrina, Brazil), it has very low solubility, so it maintains a hard, excellent marginal seal.

Finally, unlike most dental materials, MTA actually needs moisture to set, so it thrives in a moist environment. Of the commercially available MTA products, MTA Angelus is well suited for most of the indicated endodontic procedures due to its setting time of 10 minutes, compared with the four-hour setting time of the other commercially available MTA. It is also packaged in air-tight bottles, allowing the practitioner to use only what is exactly needed, without introducing undue moisture into the remainder and without waste.[11]

Endodontic revascularization

Treatment of the immature, non-vital tooth with apical pathology presents several challenges. The mechanical cleaning and shaping of such a tooth with a blunderbuss canal is difficult, if not impossible, to achieve predictably. The thin, fragile lateral dentinal walls can fracture during mechanical filing, and the large volume of necrotic debris contained in a wide root canal is difficult to completely disinfect.[12]

A new technique is presented to revascularize immature permanent teeth with apical periodontitis. The canal is disinfected with copious irrigation and a combination of three antibiotics. After the disinfection protocol is complete, the apex is mechanically irritated to initiate bleeding into the canal to produce a blood clot to the level of the cementoenamel junction.

A double seal of the coronal access is then made, first with MTA over the blood clot and then a bonded composite. The combination of a disinfected canal, a matrix into which new tissue could grow, and an effective coronal seal appears to have the ability to produce an environment necessary for successful revascularization.[13] The development of normal, sterile granulation tissue within the root canal is thought to aid in revascularization and stimulation of cementoblasts or the undifferentiated mesenchymal cells at the periapex, leading to the deposition of a calcific material at the apex as well as on the lateral dentinal walls.[12]

A case of mistaken identity

A 15-year-old girl of Asian descent was referred to the author's private endodontic clinic for evaluation on the lower left second premolar. The healthy young patient with an unremarkable medical history presented with a history of buccal swelling of the left mandibular area and discomfort to direct pressure on the tooth. On clinical examination, the patient was asymptomatic, and the tooth appeared intact, without caries. The presence of an enamel pearl on tooth #45 suggested that one may have been present on this tooth, which was fractured during function, resulting in a microexposure and necrosis of the pulp.

The tooth had an open apex associated with a large radiolucency (Fig. 2).

Periodontal probings were within normal limits for all teeth in the lower left region. Diagnostic testing was negative to cold and electric pulp testing, with mild sensitivity on percussion and palpation.

Because of the presence of a wider than 4 mm open apex and thin dentinal walls prone to possible future fracture,[14] it was felt that an attempt to achieve regeneration of the pulp should be made by a technique similar to that described by Rule and Winter[15] and Iwaya et al.[16]

An access cavity was made, purulent hemorrhagic drainage obtained, and the necrotic nature of the pulp confirmed. The root canal was slowly flushed with 20 ml of 5.25 percent NaOCl for 15 minutes.

It was delivered with the master delivery tip and the macro canulae of the EndoVac apical negative pressure delivery system (Axis/SybronEndo, Coppel, Texas) (Fig. 3).

The canal was dried with paper points, and a mixture of ciprofloxacin, metronidazole and minocycline paste as described by Hoshino et al.[17] was prepared into a creamy

Fig. 1 MTA Angelus (Angelus, Londrina, Brazil) available in resealable vials. (Photos/Provided by Gary Glassman, DDS, FRCD(C))

Fig. 2 Radiograph of a necrotic lower left second premolar with large periradicular radiolucency with an incompletely formed root, both longitudinally and laterally.

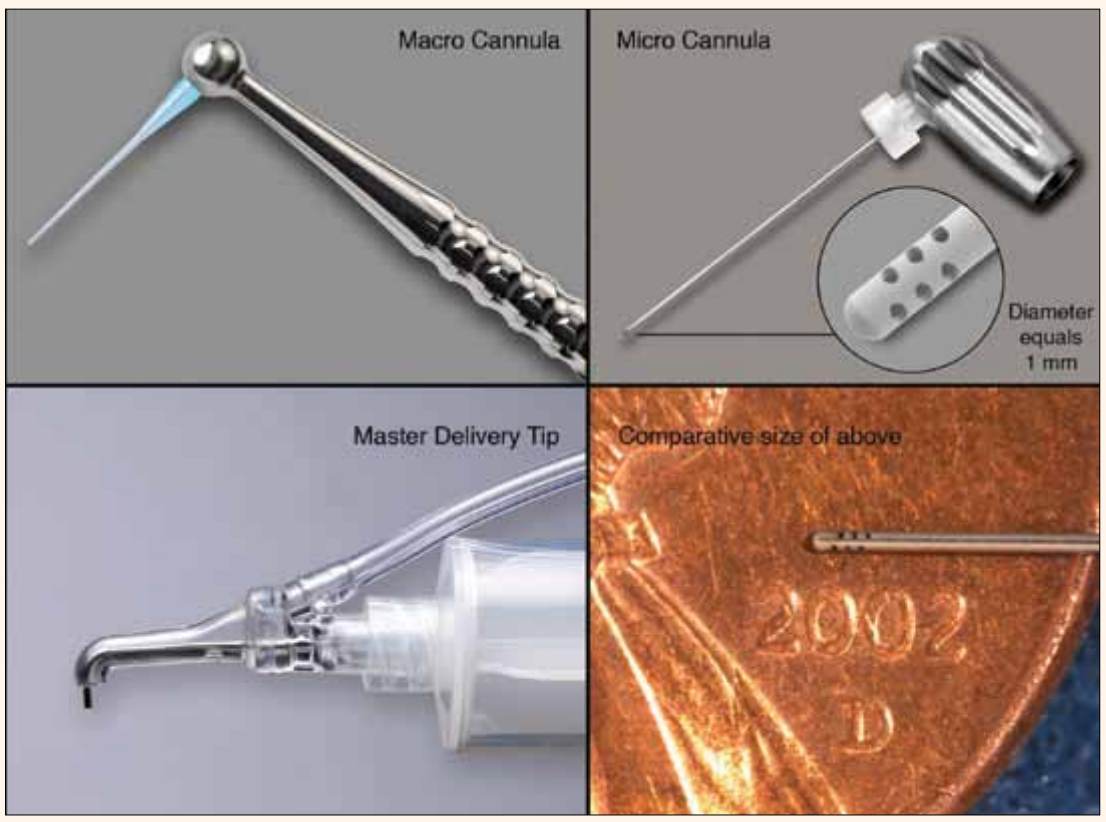

Fig. 3 EndoVac apical negative pressure delivery system (Axis/ SybronEndo, Coppel, Texas)

Fig. 4 After the triple antibiotic paste was inserted into the canal, a temporary restoration was placed

Fig. 5 Blood clot was induced and MTA Angelus (Angelus, Londrina, Brazil) was placed over top, and then the tooth was restored with bonded composite

Fig. 6 Three-month recall reveals excellent longitudinal apical and lateral dentin development

Fig. 7 One-year recall radiograph reveals that definitive endodontics had been completed by the patient's new dentist

consistency and spun down the canal with a lentulo spiral instrument to a depth of 8 mm into the canal. The access cavity was closed with a sterile cotton pellet placed in the chamber and blue Cosmecore (Cosmedent, Chicago) (Fig. 4).

The patient returned three weeks later and was asymptomatic. The access was opened and the canal again flushed with 20 ml of 5.25 percent NaOCl for 15 minutes. It was delivered in the same manner as in the first visit with the master delivery tip and the macro canulae of the EndoVac apical negative pressure delivery system.

The canal appeared clean and dry, with no signs of inflammatory exudate. A #30 K-file was introduced into the canal until vital tissue was felt at a depth of 10 mm into the canal space. It was used to irritate the tissue gently to create some bleeding into the canal. The bleeding was stopped at a level of 5 mm below the level of the CEJ and left for 30 minutes, so that the blood would clot at that level.

After 30 minutes, the presence of the blood clot to approximately 5 mm apical of the CEJ was confirmed. White mineral trioxide aggregate, MTA Angelus was carefully placed over the blood clot and allowed to set for 20 minutes. After confirmation was achieved of its set, a bonded composite was placed and the patient was scheduled for follow-up in three months. Unfortunately, the MTA was placed further apically then would have been preferred (Fig. 5).

At the three-month follow-up appointment, the patient was totally asymptomatic, and the radiograph showed complete resolution of the radiolucency, with closure of the apex and thickening of the dentinal walls. Pulp testing was inconclusive (Fig. 6).

At the one-year follow-up appointment, the radiograph revealed that treatment had been performed on this tooth by another dentist, different from her original dentist who made the initial referral. The new dentist, not familiar with revascularization treatment performed, had entered the root canal space, cleaned it out and obturated it with gutta-percha and sealer. Fortunately, the treatment was successful (Fig. 7).

Conclusion

The future of endodontics is bright as we continue to develop new techniques and technologies that will allow us to perform treatment painlessly and predictably and continue to satisfy one of the main objectives in dentistry — being to retain the natural dentition wherever possible and wherever practical.

References

1. Kakehashi S, Stanley HR, Fitzgerald RJ. The effects of surgical exposures of dental pulps in germ-free and conventional laboratory rats. Oral Surg Oral Med Oral Pathol 1965; 20; 340–349.
2. Moller AJR, Fabricius L Dahlen G, Ohman A, Heyden G. Influence of periapical tissues of indigenous oral bacterial and necrotic pulp tissue in monkeys. Scand J Dent Res 1981; 89; 475–484.
3. Torabinejad M, Pitt Ford TR. Root end filling materials: a review. Endod Dent Traumatol 1996; 12:161–178.
4. Ribeiro DA. Do endodontic compounds induce genetic damage? A comprehensive review. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2008; 105:251–256.
5. Enkel B, Dupas C, Armengol V, et al. Bioactive materials in endodontics. Expert Rev Med Devices 2008; 5:475–494. that is hard tissue conductive (7).
6. Moretton TR, Brown CE Jr, Legan JJ, Kafrawy AH. Tissue reactions after subcutaneous and intraosseous implantation of mineral trioxide aggregate and ethoxybenzoic acid cement, hard tissue inductive, and biocompatible. J Biomed Mater Res 2000; 52:528–533.
7. Torabinejad M, Hong OU, Pitt Ford TR. Physical properties of a new root end filling material. J Endodon 1995; 21; 349–353.
8. Dentsply Tulsa Dental. ProRootTM MTA Root canal repair material; Material safety data sheet (MSDS).
9. Arnaldo Castellucci, MD, DDS. The Use of Mineral Trioxide Aggregate in Clinical and Surgical Endodontics. Dentistry Today, March 2003.
Duarte MA, Demarchi AC, Yamashita JC, Kuga MC, Fraga Sde C. pH and calcium ion release of 2 rootend filling materials. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2003 Mar; 95(3):345–347.

Editorial note:
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The author of numerous publications, Glassman lectures globally on endodontics, is on staff at the University of Toronto, Faculty of Dentistry, in the graduate department of endodontics, and is adjunct professor of dentistry and director of endodontic programming for the University of Technology, Jamaica.

He is a fellow of the Royal College of Dentists of Canada and the endodontic editor for Oral Health dental journal. He maintains a private practice, Endodontic Specialists, in Toronto, Ontario, Canada.

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A new method for direct composite restoration of the posterior teeth

By Prof. Luca Giachetti, MD, DMD, MSc Department of Dentistry, University of Florence, Italy

Introduction

The evolution of composite materials and adhesive techniques has considerably changed the approach to restorations in posterior areas. The advantages of adhesive restorations are not only of an aesthetic nature, but, above all, relate to the possibilities of conserving a greater amount of healthy tissue and "reinforcing" the residual dental structure.

However, to exploit these advantages fully, we need rigorous clinical procedures which can limit what has always been the main flaw of composite materials: the polymerization shrinkage and the resulting stress which is responsible for most clinical failures.

Manufacturers have focused their efforts on producing materials which are ever easier to use and which, at the same time, are able to minimise their associated problems.

The recent introduction of the SonicFill™ System follows this direction. SonicFill combines the attributes of a low viscosity composite and a universal composite. By activating the composite with sonic energy, it is possible to fill the cavity and adapt the low viscosity material easily, and then compact and model it while the composite changes its consistency until it reaches a higher viscosity.

The manufacturer claims that it has the advantages of being:

Fast: working time is reduced; it is possible to carry out single increments to an individual maximum thickness of 5 mm.

Reliable: reduced shrinkage and good adaptability to the cavity walls due to the low initial viscosity.

Easy: it is possible to deliver the material using a small-diameter cannula and foot switch control. We present a clinical case below in which direct restorations have been produced with SonicFill on 3 elements of the 1° quadrant.

Clinical Case

Male patient, with an acceptable level of oral hygiene. In the maxillary right posterior quadrant, several deteriorated amalgam restorations are present with signs of marginal infiltration compatible with the age of the restorations, and signs of wear and tear in the zones of interocclusal contact. Tooth 1.5 hasprimary decay on the distal aspect of the tooth. The treatment plan was to replace the old amalgam restorations and to treat the primary caries with direct composites.

1. Initial case: 1.6 old amalgam with mesial-caries to be replaced, 1.5 primary distal decay, 1.4 old amalgam to be replaced

2. Isolation of the operative area with a rubberdam stabilised with a universal SoftClamp

3. Clinical situation after removal of the amalgam restorations. The contiguous elements are protected with metallic matrices before the marginal ridges are broken down

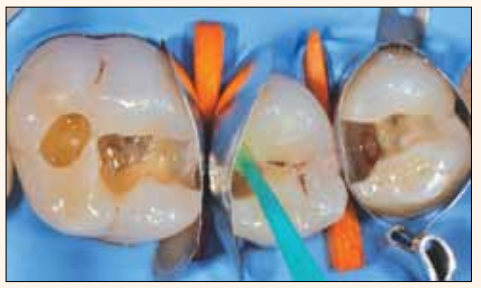
4. Access to the approximal carious lesions

5. Cavity cleaning, removal of demineralized tissue

6. Finishing of the margins with SonicSys inserts

7. Sectional metallic matrices contraposed on 1.6 and 1.5 stabilized with a wooden wedge, MetaFix All-in-One matrix stabilized with a wooden wedge on 1.4

8. Matrices in situ, the adaption at the level of the cervical floor can be seen



9. Application of the Self-Etch OptiBond XTR – Primer Adhesive System

10. Application of the Self-Etch OptiBond XTR – Bonding Adhesive System

11. Application of a thin layer of low viscosity Premise Flowable composite

12. Complete filling of the OM cavity of 1.6 with the SonicFill composite

13. Adaption of the material in the cavity with the CompoRoller oval tipped instrument and modelling with the point shaped tip

14. Application of the SonicFill composite in the occlusal distal cavity to the oblique ridge

15. Modelling the SonicFill composite with a Suter DD1-DD2 instrument

16. Restoration of the OD cavity of the 1.5 with SonicFill in a single application

17. Restoration of the OD cavity of the 1.4 with SonicFill in a single application

18. Characterization of the fissures with Kolor + Plus Brown

19. Restorations after finishing

20. Completed restorations after occlusion-check-up

21. Check-up at 1 week

Conclusion

The possibility of filling cavities to a depth of up to 5 mm with a single delivery effectively speeds up the work of performing composite restorations. The SonicFill composite presents good marginal adaption and is non-sticky. Once the sonic vibrations stop, it takes on an ideal consistency for modelling, and easily maintains the imposed shape. From an aesthetic point of view it is perhaps a little translucent to allow a greater depth of polymerization; however, it is possible to apply Kolor Plus®tints to make the restoration look natural. Ultimately, if the long-term controls show that the integrity of the margins is maintained, we will actually be able to confirm that we have accomplished a significant step towards simplifying direct restoration procedures with composite materials in posterior areas.

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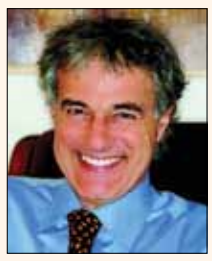
Contact Information



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