Pierre Fauchard Academy honours new members

By Versailles Dental Clinic

On 24 February, during the outstanding meeting organised by Dr Dominique Caron, Chairman of the Pierre Fauchard Academy (PFA) for the Gulf Cooperation Council (GCC) and Medical Director of the Versailles Dental Clinic, seven new members from Pakistan and the Asia-Pacific region were inducted to the PFA.

Fellowship in the PFA is by nomination only and is designed to honour past accomplishments in the field of dentistry, and to encourage future productivity. Professional leaders select new members, based on the following criteria: contributions to dental literature, service to the profession of dentistry, and service to the general community that brings credit to dentistry.

An exciting programme designed by Dr Caron was part of the event. Dr Caron himself delivered two lectures during which cutting-edge technologies in dentistry and new methods of enhancing the health of the population were discussed. Representatives from the company, Invisalign, demonstrated the latest iTero intraoral scanner offering a 3D model of the patient’s mouth and a digital result of the orthodontic treatment, all in under five minutes. Additionally, the accelerator that facilitates the remodeling of bone to save 50% of the usual treatment time, was shown.

With support from ResMed’s Narval, the participants in the event could find out more about how to significantly reduce snoring and sleep apnea symptoms and improve their patient’s quality of life. The new fellows with the board of PFA and Dobrina Mollova.

Special thanks to Dr Mohammad Altamash for his renowned support in Pakistan, Dr Armyl Banez, chairman of the Asia-Pacific region, and to the President of the PFA, Professor Richard Sawers. Also, our gratitude goes to Dr Voss who was a delight during the event and Dr Dobrina Mollova, whose outstanding reputation reaches well beyond the United Arab Emirates and GCC countries.

About the Pierre Fauchard Academy

The PFA is named after Pierre Fauchard of France (1678-1761), who is recognised as the “Father of Modern Dentistry” for raising dentistry to a profession. He wrote a book named “Le Chirurgien Dentiste ou Traité des Dents”, which was the first true textbook of dentistry. The Constitution of the PFA laid out a series of objectives honouring Dr Best’s focus on integrity and ethics. An objective adopted by the academy awards distinguished members and role models for their contributions to the field of dentistry.

From a patient to a fan:
Together we make it happen!

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By Dental Tribune MEA / CAPPmea

The second edition of the Annual Health Awards 2018 was held in a glittering ceremony at Grand Hyatt on 26th February 2018, Dubai, UAE. Jointly organized by Dubai Health Authority (DHA) and the Health Magazine, the event was the region’s most comprehensive health awards for the healthcare sector – brought together more than a thousand healthcare leaders from the UAE’s public and private sector.

His Excellency Humaid Al Qutami, Chairman of the Board and Director of DHA presented the awards to 35 winners in 23 categories including public and private sector organizations and individuals as well as 17 legendary dignitaries for their pioneering roles in shaping the healthcare industry of the region. The event was also attended by all the big names in healthcare industries as well as Bollywood film stars like Sanjay Dutt. Dr Thumbay Moideen, the Founder and President of Thumbay Group, was also present. The 35 awardees were selected by a jury headed by Dr Ajit K. Nagpal, from over 200 nominations and applications from both public and private sectors in UAE.

Dr Shallen Verma, Specialist Periodontist and Implantologist, Head of dental department of City Centre Clinic, won the prestigious award for Distinguished Medical Specialist (individual category). He has made the dental fraternity proud by being the only dental specialist in the specialist category to win this award.

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A case study by Dr. Carlos Eduardo Sabrosa, DDS, MSD, DScD featuring 3M™ RelyX™ Ultimate Adhesive Resin Cement.

![Image 1: Initial Situation with a missing tooth in need of endodontic treatment and subsequent crown placement.](image)

**Fig. 1:** Initial Situation with a missing tooth in need of endodontic treatment and subsequent crown placement.

![Image 2: Tooth preparation after post placement and core build-up with a low-shrink composite.](image)

**Fig. 2:** Tooth preparation after post placement and core build-up with a low-shrink composite.

![Image 3: Temporization with 3M™ Protemp™ 4 Temporization Material.](image)

**Fig. 3:** Temporization with 3M™ Protemp™ 4 Temporization Material.

![Image 4: Fabrication of a lithium disilicate crown using IPS e.max® CAD.](image)

**Fig. 4:** Fabrication of a lithium disilicate crown using IPS e.max® CAD.

![Image 5: Tooth preparation after removal of the temporary restoration and mechanical cleaning of the tooth (e.g. pumice paste). Note the healthy gingiva.](image)

**Fig. 5:** Tooth preparation after removal of the temporary restoration and mechanical cleaning of the tooth (e.g. pumice paste).

![Image 6: Apply 3M™ Single Bond Universal Adhesive to the bonding surface rubbing it in for 20 seconds.](image)

**Fig. 6:** Apply 3M™ Single Bond Universal Adhesive to the bonding surface rubbing it in for 20 seconds.

![Image 7: Tack cure for 1-2 seconds. (!) Tip: Do not exceed recommended tack cure time, otherwise clean-up will be difficult.](image)

**Fig. 7:** Tack cure for 1-2 seconds. (!) Tip: Do not exceed recommended tack cure time, otherwise clean-up will be difficult.

![Image 8: Gently air thin adhesive with oil-free air for five seconds until the solvent is evaporated and no more ripples are observed.](image)

**Fig. 8:** Gently air thin adhesive with oil-free air for five seconds until the solvent is evaporated and no more ripples are observed.

![Image 9: Etch the crown with hydrofluoric acid after try in and rinse with water. Air dry with oil-free air.](image)

**Fig. 9:** Etch the crown with hydrofluoric acid after try in and rinse with water.

![Image 10: Apply 3M™ Single Bond Universal Adhesive to the bonding surface rubbing it in for 20 seconds.](image)

**Fig. 10:** Apply 3M™ Single Bond Universal Adhesive to the bonding surface rubbing it in for 20 seconds.

![Image 11: Dispense 3M™ RelyX™ Ultimate Adhesive Resin Cement directly into the crown. Firmly seat the crown under finger pressure.](image)

**Fig. 11:** Dispense 3M™ RelyX™ Ultimate Adhesive Resin Cement directly into the crown. Firmly seat the crown under finger pressure.

![Image 12: Immediate final clinical situation.](image)

**Fig. 12:** Immediate final clinical situation.

![Image 13: Remove excess cement with a scaler (!) Tip: Hold the crown in place.](image)

**Fig. 13:** Remove excess cement with a scaler. (!) Tip: Hold the crown in place.

![Image 14: Light cure for 20 seconds per surface. Finish and polish as needed.](image)

**Fig. 14:** Light cure for 20 seconds per surface. Finish and polish as needed.

![Image 15: 3M Oral Care at AEEDC, Dubai, 2018](image)

**Fig. 15:** 3M Oral Care at AEEDC, Dubai, 2018.

![Image 16: Beautifully healed gingiva after three months.](image)

**Fig. 16:** Beautifully healed gingiva after three months.

### By 3M

**3M Oral Care at AEEDC, Dubai, 2018**

On 6-8th of February 3M Oral Care took part in AEEDC 2018 and welcomed visitors from different countries at the booth to share the most up-to-date scientific information and 3M procedure solutions for dental and orthodontic professionals.

Several Procedure Areas dedicated to Dental and Ortho products were designed to demonstrate the most unique features of 3M products to the visitors.

The Direct Procedure area was equipped with MARC™ patient simulator allowing to provide the real-time analytical feedback for 3M™ Elipar™ DeepCure S curing light performance with the combination of Filtek™ Z350XT Universal nanocomposite or Filtek™ Bulk Fill Posterior Restorative.

The Indirect Procedure area was dedicated to 3M dental cements which dental professionals around the world have relied on for nearly 50 years. And as a visualization of the outstanding performance, 3M™ RelyX™ U200 Self-Adhesive Resin Cement, the world’s most clinically proven self-adhesive resin cement, was selected to demonstrate the bond strength to zirconia using special device with the weight exceeding 20 kg – with no failure in 3 consecutive days!

In the Orthodontic procedure area Clarity™ Advanced ceramic brackets, Victory™ series metal brackets complemented with APC™ Flash-Free adhesive coated appliance solutions, which altogether allow to grow orthodontic practice with esthetics and efficiency, were demonstrated. In the Educational Area doctors could test various dental and orthodontic products and during the live product demonstrations, which were carried by 3M Scientific Affairs and Educational Manager Dr. Rasha Ahmed, they had chance to learn more about the peculiarities of cementation, impressioning and direct procedures.

And at the Interactive photo shooting area visitors enjoyed taking live photos which were instantly shared via email with the participants.

For more details please contact 3M Gulf at www.3MGulf.com/esp.

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For 50 years, and around the world, customers have trusted 3M cements to deliver reliable, predictable results that become the cornerstone of successful practices.

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W&H supports everyday heroes

By W&H

W&H’s new image campaign “From a patient to a fan” will be turning a spotlight on dentists and dental professionals. These everyday heroes ensure their patients are in safe and reliable hands whatever the treatment situation. They show great dedication to their work and time and again manage to put a smile on their patients’ faces, simply because they care. Even the smallest of their patients’ difficulties is a major concern. That’s why they are always gaining new fans and succeed again in making their patients happy.

The new W&H image campaign gives these heroes the recognition they deserve. With a perfect balance of know-how, empathy and technological prowess, they can achieve optimal results. W&H supports the practice team in its daily tasks and, with its innovative product portfolio, is a cornerstone of its success. “The daily challenges faced by the practice team are our motivation. As a solutions provider, our products help ensure that the workflow in the dental practice is as smooth as possible”, states W&H Managing Director Peter Malata.

Single visit dentistry: Solving dentists’ needs

By Dentply-Sirona

Successful dentists are business thinkers and doers. They invest in achieving their treatment goal in the best way possible, thereby also increasing the cost effectiveness of their practice. They also meet patients’ needs using modern treatment methods and, in doing so, secure their competitiveness. Many of these dentists rely on CEREC.

We decided to ask four dentists what is most important to them in daily practice, to see how CEREC can aid them and become the perfect partner for clinical success.

Cost Effective Work

The Need

It’s important to me that the practice is successful in the long term. Success today does not guarantee success tomorrow. I am aware that I have to make investments and safeguard the capacity of my practice and my practice laboratory. In this regard, I want to be convinced that I am using future proof technologies.

Modern dentistry requires a practice with modern equipment – but it has to make sense financially. For all our passion for the job and the desire to continue improving the treatments we give our patients, purchasing modern equipment for the practice and the associated practice laboratory is an investment that has to pay for itself and yield a profit.

CEREC Solving The Need

- Single-visit dentistry is valuable to patients, 50% of patients are prepared to pay more. Two-thirds would consider traveling further, and another two-thirds of patients would even change their dentist. 85% of patients want single-visit dentistry. With CEREC you meet this need.
- You have full quality control of the whole process, from scanning to completed restoration leading to clinically reliable results and no expensive surprises.
- CEREC increases your profits as you manufacture in house!
- CEREC allows you to expand your range of indications: restorations, implantology, and orthodontics – equipping you for the future.

A Modern Practice

The Need

Patients want to know they are being treated with modern methods. Patients react positively when they sense that their dentist is moving with the times, especially in this digital age.

The design of a practice creates more than just an initial impression. Patients feel at ease in a stylish environment and are much more open to treatment proposals, particularly of an aesthetic nature. The design influences the success of the practice.

My patients should be able to trust me in every respect. Trust is created when they can be sure that my manual skills are combined with the latest technology.

CEREC Solving The Need

- With CEREC you can scan, design, mill and place implants all in a single visit. You can map the entire implantology process in your practice and place implants on your own.

Enjoy The Craftsmanship

The Need

Work with skill in a small space. Working with manual dentistry in a space as small as the oral cavity is something of an art. It is very challenging but exciting and i enjoy it.

Further develop your manual dexterity

Dentistry is changing – new materials, new methods, changing patient needs. Continuously exploring and improving my own skills keeps my job exciting.

I value the diversity in my job. Every patient is different and presents the dentist with different tasks. It is good to know if you can give a suitable (treatment) answer to almost every question. It is up to you to keep this up by continuously adding to your treatment spectrum.

CEREC Solving The Need

- With CEREC, you can increase the craftsmanship of your work, making it all the more enjoyable. This enjoyment carries over to your practical and your patients.
- Showcase your own skills in prosthetics. With CEREC, you are responsible for the quality of your results.
- Expand the range of indications with CEREC, for example, in implantology. With CEREC you can scan, design, mill, and place implants in a single visit. You can map the entire implantology process in your practice and place implants on your own.

References
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The success story continues.

By Kulzer

More gain, less pain
One of the most impairing effects on your patients’ daily well-being is hypersensitivity. Sweet or sour dishes, hot or cold morsels – the acute pain is unpleasant and rather blocked out.

For more than 20 years, one drop of GLUMA has been all you need to stop and prevent hypersensitivity. The result is fast and effective, without mixing, curing or repetitive steps. And your patients feel a prompt relief.

Now, based on the well-known GLUMA Desensitizer, we have invented GLUMA Desensitizer PowerGel for you. It allows greater control and accuracy during application. Its unique green colour makes it easy to apply, easy to detect and easy to rinse clean.

GLUMA® Desensitizer – Two styles, one solution against hypersensitivity.

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BEAUTIFIL II LS

By Shofu

Beautifil II LS breaks new ground in direct resin technology with its extremely low polymerization shrinkage and related stress while exhibiting superior aesthetics, optimal mechanical properties, ease of handling and polish, lasting natural lustre and remarkable abrasion resistance for universal application.

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Located in Dubai Healthcare City – the largest healthcare freezone in the world
Tested and Reviewed, Part 1: Philips Sonicare DiamondClean Smart toothbrush

By DTF

When it comes to toothbrushing, consumers and dentists are confronted with such a vast range of choices and new products entering the market on a monthly basis, it becomes difficult to keep track of things. What is the best toothbrush out there? What is currently the most advanced technology? Which toothbrush is worth recommending to patients who want to improve their oral health? This series of reviews aims to answer these questions by evaluating innovations from the world of dentistry.

What’s in the box? The Philips Sonicare DiamondClean Smart toothbrush set includes a toothbrush body, four different brush heads (Premium Plaque Defence, Premium Gum Care, Premium White and TongueCare), a travel case, a Philips-branded glass, an induction charger and the Philips Sonicare app which is compatible with most common smartphones, and can be downloaded from the App Store or Google Play Store, free of charge.

Design, accessories and functionality At first sight, the Philips Sonicare DiamondClean Smart toothbrush convinces with a timeless sleek, smooth and minimalist design. Its white casing, which is completely sealed - apart from the on/off and mode selection buttons - does not appear to collect as much bacteria as competing models might do.

The mode selection button lets patients choose between three brushing intensities (slow, medium and fast) and between five modes (clean, white+, gum health, deep clean+ and tongue care), which are all shown as illuminated symbols on the toothbrush body. Similarly, the battery life is shown as an illuminated symbol at the very bottom of the body. As for the charging options, the toothbrush can be charged via a glass induction charger or a travel case for patients on the go.

Because of its Sonicare technology, the toothbrush appears to be less noisy than other models on the market. Of course, this has no impact on the brushing performance but is something some patients might look out for and is certainly a benefit worth mentioning.

The Philips Sonicare DiamondClean Smart toothbrushes are available in different colours and match accompanying products such as the Philips Sonicare Airfloss.

Philips Sonicare app The Philips Sonicare app was designed to provide patients with personalised coaching for better coverage, reduced scrubbing and ideal pressure. The setup of the Sonicare app is extremely simple. After downloading it onto a smartphone, brushing can start almost immediately. After opening the app, the Smart Brush Head Recognition technology recognises the attached brush head and selects the appropriate mode that goes with the brush. Of course, the patient can manually select a different mode on the toothbrush.

Using the same smart sensor technology, the toothbrush and app exchange data to provide an overall clear picture of the patient’s brushing habits. The integrated location sensor helps avoid missed spots, the scrubbing sensor reduces unnecessary movements for a gentler clean and the pressure sensor gives visual and vibration feedback when too much pressure is applied. Lastly, the app and the toothbrush are synchronised to the brush head lifetime. When a brush head needs replacing, an orange symbol illuminates on the toothbrush body. On the app, patients can see how many sessions are left before the brush head is no longer effective.

A nice feature that might be helpful to patients who need motivation to complete their daily oral healthcare routine regularly is the smart timer and the “goals” section of the app. The patient can choose between four different goals (fresh breath goal, gum health goal, plaque removal goal and whitening goal) that last 21 days each. After each completed goal, the patient gets awarded points.

The smart timer ensures that the recommended brushing time of two minutes or longer is completed. When too much pressure is applied, the app and toothbrush will notify the patient with vibration, visual and audio signals.

CLINICAL EVIDENCE

With the brush head replacement reminder, forgetting to exchange brush heads is a thing of past.

Different goals, for example, the plaque removal goal, can be chosen to improve a certain oral health issue.

Monthly reviews help patients to see progress and improvement.

In this overview, the yellow areas show that some areas were not given enough attention during the brushing session. After the brushing session, a reminder asks if the patient flossed, used mouthwash and cleaned their tongue.

A personalised overview can be used as a guide to give special attention to problematic areas.

We can see how many sessions are left before the brush head is no longer effective.

Visual and vibration feedback when too much pressure is applied.

Giving a hand to oral health.

More gain, less pain.
An oral care system of sonic proportions

The new Philips Sonicare DiamondClean Smart toothbrush

The cleaning, gum care, stain-removing, patient-coaching, habit-forming, confidence-boosting, better check-up complete oral care system.

Smart Sensor Technology
Personalized coaching for better coverage, reduced scrubbing and ideal pressure via the Philips Sonicare app.

Smart Brush Head Recognition Technology
Automatically chooses the optimal mode and intensity level and monitors brush head lifetime.

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Learn more about Philips Sonicare DiamondClean Smart at philips.ae/c-p/HX9924_06/

1. vs. a manual toothbrush  2. vs. a manual toothbrush using a leading whitening toothpaste

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Canal preparation and obturation: An updated view of the two pillars of nonsurgical endodontics

By Dr Ove A. Peters, USA

The ultimate goal of endodontic treatment is the long-term retention in function of teeth with pulpal or periapical pathosis. Depending on the diagnosis, this therapy typically involves the preparation and obturati-
on of all root canals. Both steps are critical to an optimal long-term out-
come. This article is intended to update clinicians on the current under-
standing of best practices in the two pillars of nonsurgical endodontics, canal preparation and obturation, and to highlight strategies for deci-
sion making in both uncomplicated and more difficult endodontic cases.

Prior to initiating therapy, a clin-
ician must establish a diagnosis, take a thorough patient history and conduct clinical tests. Recently, judi-
cious use of cone-beam computed tomography (CBCT) has augmented the clinically available imaging mo-
dalities. Verifying the mental image of canal anatomy goes a long way to promote success in canal prepa-
ration. For example, a missed canal frequency is associated with endo-
dontic failures.1

As most maxillary molars have two canals in the mesiobuccal root, case referral to an endodontist for microscope-supported treatment should be considered. Endodontists are increasingly using CBCT and the operating microscope to diagnose and treat anatomically challenging teeth, such as those with unusual root anatomies, congenital variants or iatrogenic alterations. The endo-
donist specialist, using appropriate strategies, can achieve good out-
comes even in cases with significant challenges (Fig. 1).2

Preparation of
the endodontic space

The goal of canal preparation is to provide adequate access for dis-
festing without making major preparation errors such as perforations, canal transportations, instrument tear-out or excessive removal of tooth structure. The in-
troduction of nickel-titanium (NiTi) instruments to endodontics almost two decades ago3 has resulted in dramatic improvements for success-
ful canal preparation for generalists and specialists. Today there are more than 30 canal preparation systems, however, not every instrument sys-
tem is suitable for every clinician and not all cases lend themselves to rotary preparation.

Several key factors have added versa-
tility in this regard, for example, the emergence of special designs such as orifice shapers and mechanized glide path files. Another recent de-
velopment is the application of heat to file is manufactured.

Deeper knowledge of metallurgical properties is desirable for clinicians who want to capitalize on these new alloys. Finally, more recent strategies such as minimally invasive endo-
donics have emerged.4

Basic nickel titanium metallurgy

What makes NiTi so special? It is highly resistant to corrosion and, more importantly, it is highly elastic and fracture-resistant. NiTi exists re-
viusly in two conformations, mar-
tensite and austenite, depending on external tension and ambient tem-
perature. While steel allows 5 percent elastic deformation, NiTi in the austenitic form can withstand defor-
mations of up to 7 percent without permanent damage or plastic deforma-
tion.5 Knowing this is critical for rotary endodontic instruments for two reasons. First, during preparation of canal curves, forces between the canal wall and abrading instru-
ments are smaller with more elastic instruments, hence less preparation errors are likely to occur.

Second, rotation in curved canals will bend instruments once per rotation, which ultimately will lead to hardening and brittle fracture; also known as cycle fatigue. Steel can withstand up to 20 complete bend-
ing cycles, while NiTi can endure up to 1,000 cycles.6

Recently manufacturers have learned to produce NiTi instruments that are in the martensitic state and more flexible than previous files. Figure 2 shows how instrument conditions (austenite vs. martensite) are determined in the cold labora-
tory, using prescribed heating and cooling cycles.7 Heat-treated files with high martensite content typi-
cally do not have a silver metallic shade but are colored due to an ox-
ide layer, such as gold or blue.8

It is important to note that CM files frequently deform; however, with a delicate touch, cutting is adequate and often even superior to con-
ventional NiTi instruments.9 It is imperative for clinicians to refrain themselves prior to using these new instruments to avoid excessive defor-
mation and subsequent instru-
ment fracture.

Preparation strategies

Experimental and clinical evidence suggests that the use of NiTi instru-
ments combined with rotary movement results in improved preparation quality. Specifically, the incidence of file transportation errors is greatly reduced: Canals with wide oval or ribbon-shaped cross-sections present difficulties for rotary instru-
ments and strategies such as cir-
cumferential filing and ultrasonic use should be used in those canals.

Studies found that oscillating instru-
ments recommended for these canals types did not perform as well par-
ticularly in curved canals. Specific instruments developed to address these challenges include the Self-
Adjusting File (SAF) System (Redent-
NOVA, Raan, Israel); TRUShaper® (Dentrotek, Taito, Tokyo, Ok.), and XP Endo® (Brasseler, Savannah, Ga.) However, there is no direct clinical evidence that these instruments lead to better outcomes.

Canal transportation with contem-
porary NiTi rotaries, measured as un-
desirable changes of the canal center seen in cross-sections of natural teeth, is usually very small. This in-
dicates that canal walls are not exces-
sively thinned and apical canal paths are only minimally straightened (Fig. 1), even when preparing curved root canals. While preparation usually removes dentin somewhat preferen-
tially toward the outside of the cur-
vature, current NiTi instruments, includ-
ing reciprocating files, can enlarge the canal path safely while minimizing procedural errors.

Almost all current rotaries are non-
landed, meaning they have sharp cutting edges, cut only once per rotation, and can be used in specific lateral action toward a specific point on the perimeter. This ‘brushing’ ac-
ction allows the clinician to actively change canal paths away from the furcation in the coronal and middle thirds of the root canal, but may cre-
ate apical canal straightening when taken beyond the apical constric-
tion. Circumferential engagement of canal walls by active instruments may lead to a threading in effect, but contemporary rotaries are designed with variable pitch and helical angle to counteract this tendency.

An important design element for all contemporary rotaries is a passive, non-cutting tip that guides the cut-
ting planes to allow for more evenly distributed dentin removal. Rotaries with cutting, active tips such as dedi-
cated retraction files should be used with caution to avoid prepara-
tion errors.

NiTi instrument usage

As a general rule, reciproc instru-
ments are not very resistant to tor-
sal load but are resistant to cyclic fatigue. Conversely, more rigid files can withstand more torque but are susceptible to fatigue. The greater the amount and the more peripheral the distribution of metal in the cross-
section, the stiffer the file.10 Therefore, a file with a greater profile and larger di-
amer is more susceptible to fatigue failure moreover, a canal curvature that is more coronal is more vulner-
able to file fracture.

Instrument handling has been shown to be associated with file frac-
ture. For example, a lower rotational speed (~120 rpm) results in delayed build-up of fatigue11 and reduced incidence of taper lock.12 Material im-
perfections such as microfractures and rolling marks are believed to act as fracture initiation sites.13 Such sur-
face imperfections after manufac-
turing can be removed by electro-
plating but it is unclear if this process extends fatigue life.14

Manufacturers’ recommendations stress that rotaries should be ad-
vanced with very light pressure, however, the recommendations differ with regard to the way NiTi instru-
ments are moved. A typical recom-
dation is to move the instru-
ment into the canal gently in an in-and-out motion for three to four cycles, directed away from the fur-
cation, then withdraw to clean the flutes.

It is difficult to determine exactly the apically exerted force in the clinical setting; experiments have suggested that forces start at about 1 Newton (N) and range up to 5 N.15 Precise torque limits have been discussed as a means to reduce failure. Most clinicians use torque-controlled mo-
tors, which are based on presetting a maximum current for a DC electric power.

To reduce friction, manufacturers recommend the use of gel-
based lubricants in dentin, how-
ever, such lubricants have not been shown to be beneficial and actually may increase torque for radial-landed extractions.3 However, such lubricants have not been shown to be beneficial and actually may increase torque for radial-landed extractions.

Clinical results
While results from in vitro studies on rotary systems are abundant, clinical studies on these instruments are sparse. Comparing NiTi and stainless-steel K-files, Pettiette et al.7 found sparse. Comparing NiTi and stainless-steel K-files, Pettiette et al.7 found less canal transportation and fewer gross preparation errors such as step perforations. Subsequently, using radiographic evaluation of the same patient group, they demonstrated better healing in the NiTi group.18 An earlier outcome study with three rotary preparation paradigms did not show any difference between the three systems with an overall favorable outcome rate of about 87 percent.19

The most consistent clinical results are obtained when the manufacturer’s directions are followed. While these vary by instrument, a set of common rules applies to root canal preparation. Root canal systems are best prepared in the following sequence:

- Analysis of the specific anatomy of the case.
- Canal scouting.
- Coronal modifications:
  - Negotiation to patency
  - Determination of working length
- Glide path preparation.
- Root canal shaping to desired size:
  - Gauging the foramen, apical ad-
- J ugment.

Oblturation of the endodontic space
A well-shaped and cleaned canal system should create the conditions for root peripatetic tissues. On the other hand, this root canal system is inaccessible to the body’s immune sys-
tem and therefore it cannot combat coronal leakage. Accordingly, best practices advise that all root canals should be filled as completely as possible to prevent ingress of nutrients or oral microorganisms. Some of the established techniques for root canal filling provides a definitive coronal, lateral, and apical seal.20

Basic strategies in root canal obturation ideally, root canal fillings should seal all foramina leading to the peri-
odontium, be without voids, adapt to the instrumented canal walls and end at working length. There are various acceptable materials and techniques to obturate root canal systems, including:

- Sealer (cement/paste/resin) only
- Sealer and a single cone of a stiff or flexible Gutta-percha
- Sealer coating combined with warm compaction of core materials.
- Sealer coating combined with carri-
based core materials.

Several of these techniques have shown comparable success rates regarding apical bone fill or healing of the periodontium. Sealer and Gutta-percha may choose from a variety of tech-
niques and approaches that works best for him. The surgeon chooses the directs clinicians toward preparation and dissection of the root canal as the single most important factor in the treatment of endodontic patho-
sis, and no particular sealing tech-
nique can claim superior healing success.21

Current developments in root canal obturation materials
After the introduction of MTA (min-
eral trioxide aggregate) as a mate-
rial for perforation repair and apical surgery more than two decades ago, materials with similar bioactive properties now are available as root canal sealers. Bicoreseal root canal cement (RC-Sealer, Biocore) has clinically acceptable radiopacity and flow.22 Moreover, it is well tolerated in cell culture experiments.23 How-
ever, there is no clinical evidence that using this cement leads to better outcomes. In fact, most research has...
The space created by the spreader is inserted by forming a small, light-tight contact between the spreader cone and the canal walls. Using auxiliary cones longer than the taper of the spreader will prevent the spreader from seating and blocking the filling and should be avoided. The procedure is repeated by inserting several gutta-percha cones into the entire canal. For lateral compaction, electrically heated gutta-percha cones are used to tightly fit to within 5 to 7 mm of the apical constriction.

For both lateral and vertical compaction, similar forms of obturation have the greatest impact on outcomes. The spreader is designed to compress the gutta-percha into the canal and fill the space created by the spreader.

Gutta-percha cones are compared to materials such as glass ionomers, flowable composites, and resin-based materials typically are tissue fluids, zinc oxide eugenol – toxic in the freshly mixed state, but gutta-percha, a sealer or cement secretion into the canal. Gutta-percha materials instead of plastic liners or cements (e.g. glass ionomers, flowable composites, and resin-based materials) are preferred due to its ability to leak and produce voids or sealer pools in the vertical compaction. 

For lateral and vertical compaction, similar forms of obturation have the greatest impact on outcomes. The spreader is designed to compress the gutta-percha into the canal and fill the space created by the spreader.

Radiographic appearance of filled root canal systems Prepared and filled canals should demonstrate a homogenous radiopacity free of voids and filled to working length. The film should be parallel to the canal walls and extend as much as possible into canal irregularities such as in fillings or a canal system. It is difficult to achieve clinically and frequently requires the clinician to use a thermoplastic obturation technique. This complicated procedure may be used if the canal cannot be obturated with the dental operating microscope. 

Other anatomical spaces that may be filled include accessory canals that are most common in the apical 5 mm of the root canal. These may be filled with conventional gutta-percha. Failure to fill these accessory canals may lead to the development of postsurgical small, light-tight contact between the spreader cone and the canal walls. Using auxiliary cones longer than the taper of the spreader will prevent the spreader from seating and blocking the filling and should be avoided. The procedure is repeated by inserting several gutta-percha cones into the entire canal. For lateral compaction, electrically heated gutta-percha cones are used to tightly fit to within 5 to 7 mm of the apical constriction.

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Other anatomical spaces that may be filled include accessory canals that are most common in the apical 5 mm of the root canal. These may be filled with conventional gutta-percha. Failure to fill these accessory canals may lead to the development of postsurgical complications. For lateral compaction, a plastic cone is seated inside the root end material and mineral trioxide aggregate sealer-coated accessory gutta-percha is added and filled to working length. The fill is complete when cement is seen in the depth of the tip of the root, as visible on a radiograph. 

In order to avoid overextension of root filling material into the periapical tissues, specifically in the mandible, the spreader and the excess sealer to flow in a coronal direction. The spreader may be placed on the cone should be close to the coronal reference point for working length determination. When the spreader is inserted, the preselected finger spreader is then slowly inserted alongside the master cone and held with measured apical force for about 30 seconds. During this process, the spreader is pushed out and removed, allowing the spreader to flow in a coronal direction. The spreader should be removed and the canal then reinserted into the canal. 

Evaluation of filled root canal systems Root canals may be filled through various methods, typically using a combination of a cement and a solid filling material. 

The specific obturation material used appears to have a smaller role on endodontically treated teeth, particularly into the area of the inferior alveolar nerve, than the potential for permanent nerve damage. In general, no material is more acceptable, provided that an appropriate material is chosen for the obturation.

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References
The diode laser as an electrosurgery replacement

By Glenn A. van As, Canada

In 2008, Dr. Gordon Christensen wrote an article in JADA comparing the soft tissue cutting abilities of diode lasers to those of electrosurgery (radiosurgery) units. In comparing these two technologies against each other, he found that both dental lasers and the less expensive electrosurgery units have advantages and disadvantages, and he summarized with several key points:

1. Although there was considerable overlap in their uses and both technologies were effective, Christensen found that diode lasers were able to be used around metal (amalgam and gold) as well as with dental implants.
2. He stated that lasers did not harm dental hard tissues (bone) or soft tissues (pulp), and that the clinician could use the laser with less anesthetic, and finally he mentioned that lasers were antimicrobial (antibacterial).
3. The acceptance and use of lasers, especially the diode laser, was increasing in dentistry, and that lasers attract patients because of their recognized and accepted role within the field of medicine (LASIK eye surgery).
4. Electrosurgery units were “far less expensive than diode lasers and the polar units, because of the two wires, eliminating the need for a grounding pad. Bi-electrode to the other, thus eliminating the electrical current flows from one electrode to the other. Thus a diode laser was significant enough to compensate for the additional cost.” There are two basic types of electrosurgical units that can be purchased in dentistry:
   - Monopolar, in which a single electrode exists and the current travels from the unit down a single wire to the surgical site. The patient must be grounded with a pad placed behind the patient’s back (a part of the procedure that many patients may question). Heat is produced when the electrode contacts the tissue, and due to the laser’s ability to create more precise cuts than the monopolar or diode laser.
   - Bipolar, in which two electrodes are placed in very close proximity to each other. Bipolar units are more expensive than diode lasers and the electrical current flows from one electrode to the other, thus eliminating the need for a grounding pad. Bipolar units, because of the two wires, create less of a precise cut than the monopolar or diode laser.

Although electrosurgical units are inexpensive, require no safety glasses and can remove large amounts of tissue quickly, diode lasers have become much more common in dental laboratories in the four years since Christensen’s article was published. The primary reasons for their increased popularity are that diode lasers have a small footprint, are reliable and durable lasers, and are portable. Where a few short years ago, diode lasers could cost in the range of $10,000 to $15,000, they are now cost effective and can be purchased for less than $3,500.

Advantages of the diode laser over electrosurgery

Ability to work around metals intraorally
Diode lasers in the range of 810–1,064 nm are well absorbed in hemoglobin, melanin (pigment) and to some degree water (Fig. 1). These mid infrared dental wavelengths in the absorption spectrum offer the dental clinician the ability to ablate soft tissues precisely while controlling hemostasis, providing the clinician with an excellent view of the surgical site with a reduced reliance on suction. Diode lasers have features that make them attractive as mentioned earlier, but they also have several advantages in function over electrosurgical units (Table 1).

Perhaps the greatest benefit of these lasers is that they allow the clinician to work safely around metals. The literature has shown that monopolar electrosurgery units can accidentally create catastrophic results when touching metal intraorally. Published reports have shown that contact for very short periods of time with the electrode of a monopolar electrosurgical unit can cause both pulpal and periodontal problems, bone loss, severe intraoral burns, airway, and that with three seconds of exposure to a dental implant electrosurgical unit can cause failure of osseointegration and loss of an implant.

In clinical practice, with today’s emphasis on the more esthetically pleasing composite resins and newer porcelains, there are still many metallic materials used intraorally, including cast partial dentures frameworks, gold, amalgam, orthodontic brackets and semi-precious alloys. Diode lasers, unlike their electrosurgical counterparts, show little interaction with metallic objects used intraorally. It is important to remember that due to the laser’s ability to reflect off mirrored surfaces and potentially cause eye damage, that all members of the dental team as well as the patient must wear laser safety glasses for eye protection if they are within the nominal ocular hazard zone (NOHZ) during laser operation.
Various laser wavelengths that are available today can offer the clinician who needs to expose an implant during second-stage surgery an alternative to traditional methodologies. The ability of the diode laser to ablate tissue, at times without the need for local anesthetic, while controlling hemostasis, provides the clinician a great view of the surgical site.

In addition, the diode wavelength, like all laser wavelengths, provides for decontamination of the implant site through its antibacterial actions. Bacterial reduction with the diode laser can lead to an almost sterile operative field (98 percent reduction of bacteria, and herpetic lesions. Research has shown that lasers can be safely used in these situations where soft tissue is safely and quickly removed to allow for ideal cementation of the implant retained crowns onto the abutments (Figs. 7–11).

Reduced need for anesthetic

Monopolar electrourgical units do not have the ability to be used routinely without local anesthetic. In contrast, diode lasers can often be used either with low wattages or in pulsed modes to remove minor to moderate amounts of soft tissue with only topical anesthetics. Although at times this may not seem significant to the clinician, there are many instances where soft tissue acts as a barrier to ideal restorative treatment, and if local anesthetic can be eliminated it becomes a big selling point to patients.

Many patients are looking for alternative anesthetics to local anesthetic, and when the occasion allows for the procedure to be performed at a later date, with the patient being numb, the overwhelming majority of patients are grateful for this. Such situations as laser gingival crown troughing for tissue management around endodontically treated teeth, exposure of partially erupted canines for orthodontic brackets and gingivectomies around moderately sized Class V lesions in geriatric patients are all situations where the author has been able to routinely and consistencty complete soft tissue ablation with only a stronger topical anesthetic. In fact, the literature has shown that a variety of soft-tissue procedures (even frenectomies) can be completed without topical anesthetics8–12 (Figs. 13–16).

Ability to do gingivectomies and crown troughing with less recession

While et al have mentioned that laser gingivectomies are completed with minimal loss of tissue that is not likely to cause damage to bone, cementum or pulp tissue like electrourgical units can. In addition, there is research that suggests that the lateral thermal damage done with lasers is significantly lower than that with electrourgical units.

Ability to photoacoagulate vascular lesions and treat oral lesions

One of the advantages of a diode laser is the ability to treat oral lesions, including recurrent aphthous ulcers (RAU), venous lake lesions of the lips and herpetic lesions. Research has shown that lasers can be safely used to treat these lesions,14–16 and in addition it is possible that if caught early during the prodromal stage that herpetic lesions can be aborted or significantly reduced in terms of length of time they are present.17,18 In addition, it has been the author’s experience that, once treated with the laser, the lesions are often less likely to reappear in the same area. In fact some evidence suggests that herpetic lesions treated in the early stages with the diode laser can cut the healing time in half and extend NOHZ ranges of 40 feet.19,20

Conclusion

The diode laser has become the “soft-tissue handpiece” in many dental offices. The advantages of being able to work around metals including dental implants, a reduced need for anesthetic, a reduced risk of recession postoperatively, the ability to reduce bacterial and even fungal infections.41–44 The excellent antibacterial capabilities make lasers effective and desirable in many areas in the oral cavity where the risk of postoperative infection may be reduced.25,26 The excellent antibacterial units do not possess the same ability to provide bacterial reduction as lasers do. Par- ticular interest is now occurring with the role of lasers in endodontic, peri- odontic and peri-implantitis cases where there is need to reduce bacte- rial loads without such a great reli- ance on antibiotics.

Although more research is needed on how the bacterial capabilities of the diode laser might be benefici- al in these areas, there is no doubt that all lasers can help healing through decreasing the risk of infec- tion through laser light alone (Figs. 23–25). In addition, growing research has demonstrated that the risk of high bacterial loads in periodontal pockets and in particular in endo-dontic situations may be reduced by lasers.

This latest research has implications for improving traditional meth- odologies locally where used, and in helping to reduce the potential greater systemic health risks gener- ally. The role of lasers continues to be researched today, but present re- search has shown that diode lasers can be safely used within root canals with minimal fear of developing iatrogenic complications when con- servative settings are used.45–48

References

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Fig. 22: Two-week healing of lesion on lip is complete.

Fig. 23: Diode direct pulp cap to lower bacteria count on MO cavity preparation.

Fig. 24: Diode laser in gingival sulcus lowering bacteria count (image of diode pulse captured with video camera on operating microscope — typically the im- age is not visible to the human eye).

Fig. 25: Diode laser used to reduce bacterial counts inside a DB canal of upper right second molar after completion of instrumentation and prior to obtura- tion of the canals.
Award-winning products showcased at Dubai dental show

By Beverly Hills Formula

Beverly Hills Formula oral hygiene experts showcased their latest range of teeth whitening products at this year’s Dubai Dental Show, including their award-winning Perfect White Black mouthwash and Precious Pearl Enamel remineralising toothpaste. Throughout the three-day International Dental Conference & Arab Dental Exhibition (AEEDC) at the Dubai International Convention Centre, the Beverly Hills Formula team met with worldwide industry experts and dental professionals, introducing their award-winning brand.

It was at AEEDC last year that Beverly Hills Formula (BHF) launched their Professional White range, which includes: Black Pearl whitening toothpaste, Pink Pearl Sensitive whitening toothpaste, award-winning Precious Pearl Enamel remineralising toothpaste and Fresh Pearl mouthwash. In addition to these, they introduced their first Professional White teeth whitening kit consisting of strips and a whitening pen which will help people achieve a whiter smile, safely and easily in their own home using proven whitening ingredients.

At the show, Chris also revealed future plans for the brand: “New product development is underway with a Perfect White Gold mouthwash, which follows on from the huge success of our award-winning Perfect White Black mouthwash. And a new Professional Gold toothpaste will be launched that contains real gold particles, as with the Perfect White Gold toothpaste, which helps provide that little extra opulence for our sophisticated consumers in the Middle East. We’re also planning to bring out a supe- rior charcoal and multi-coloured toothbrushes, therefore helping to provide a more effective clean with less abrasivity.

Other BHF products include Perfect White Black toothpaste containing activated charcoal and was the first ever black whitening toothpaste to hit UK shelves. The latest edition to the Perfect White range was Perfect White Gold which contains real gold particles that provides a high performance whitening boost as well as giving teeth a deep clean. Professional White Black Pearl toothpaste works by using Activated Charcoal combined with professional whitening ingredient Phthalimido-Peroxycaproleic Acid (PAP) to help remove surface and deep stains without harming the enamel and is safe for daily use. Pink Pearl toothpaste contains Hydroxyapatite and Potassium Nitrate to provide rapid sensitivity action. Fresh Pearl mouthwash contains chlorhexidine and xylitol to combat bad breath and neutralises the pH balance in the mouth to protect against acid attacks and plaque and keeps enamel strong to help prevent cavities. In addition, Tetrasodium Pyrophosphate and Tetrapotassium Pyrophosphate helps restore the colour of your teeth enamel to a natural white colour.

Beverly Hills Formula stand at the Dubai Dental Show

Chris also explained the reason for their longevity in a highly competitive market demonstrated by the number of brands exhibiting at the Dental Show which grows year-on-year. “Beverly Hills Formula’s success and survival in the oral hygiene market comes down to a number of factors. Firstly, we’re front runners in terms of new product development. Secondly, our teeth whitening products are safe to use at home with proven stain removal and low abrasivity which have been independently and clinically tested. And the simple fact that Beverly Hills Formula has been around for 20 years and won several industry awards over the years is testament to how good our products are.”

Award-winning Precious Pearl Enamel remineralising toothpaste won independent industry acclaim after winning Best New Oral Beauty Product at the Pure Beauty Awards in 2017. Part of BHF’s new Professional White range, this toothpaste contains Hydroxyapatite that’s scientifically proven to form new protective layers, making teeth smoother and brighter by repairing micro-erosions and strengthening the enamel. Also, Perfect White Black mouthwash received the Best New Personal Care Product at the prestigious Groomer Awards in London in 2016 that recognises and rewards the UK’s largest and leading consumer brands.
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The performance of ICDAS-II using low-powered magnification with light-emitting diode headlight and alternating current impedance spectroscopy device for detection of occlusal caries on primary molars

By Prof Timucin Ari and Prof Nilgun Ari, UK

It is well established that caries levels in industrialized nations have decreased over the last few decades with the greatest reductions occurring on the smooth and approximal surfaces. Because of the complex occlusal anatomy, more sensitive and reproducible diagnostic tools for precise caries detection in children are needed. Visual examination still is the most commonly used method for detecting dental caries, but various studies showed problems for sensitivity and reproducibility problems. A standardized scoring system, International Caries Detection and Assessment System (ICDAS-II), has been developed for clinical practice and research to overcome these problems. A complimentary approach to visual examination is to use visual aids such as low-powered magnification (dental loupes) and special headlights mounted on them. These visual aids became popular among dentists to improve precision of visual examination and for ergonomics reasons. Advances in caries research led novel technologies to help dentists in the diagnosis of early lesions. ACIS device (Cariscan PRO, Dundee, Scotland) is one of the recent examples of the novel technologies. This device relies on the application of a small alternating electrical signal (undetectable by the patient) through the tooth while monitoring the response at the sensor. By changing frequency of the applied signal, a spectrum is captured which provides valuable insights into the physical and chemical properties of the tooth. The result is displayed on the LCD screen and the color LED-display that enables dental professionals to evaluate the depth of the carious lesion. Pediatric dentistry, with its small operating field and its demands for universal skills and precision, is particularly suited to the use of novel technologies and visual aids.

Therefore the aim of this study was to compare in vitro the diagnostic performance of low-powered magnification (LPM) with mounted LED headlight illumination using ICDAS-II criteria and AC Impedence Spectroscopy device, on occlusal surfaces of primary molars.

Materials and Methods

Prior to undertaking the study, ethical approval was granted by Western University Research Ethics Board for Health Sciences Research (File no. 101093). Eighteen recently extracted second primary molars (N = 18) were selected for this in vitro study. Extracted teeth were kept in 1% neutral buffered formalin immediately following extraction. Only teeth with sound to incipient lesions were selected, teeth with occlusal restorations, occlusal fissure sealants, and hypoplastic pits were excluded from this study. Prior to examinations, each tooth surface was cleaned with pumice and water slurry to remove any debris and rinsed thoroughly in sterile water. The teeth were mounted to impression putty (VP Mix Putty, Henry Schein Inc., USA) in order to mimic intraoral anatomical position for mixed dentition.

The details of each score for ICDAS-II examination and ACIS device instructions were discussed. Examiners were calibrated by a training exercise on both techniques followed by discussion to consensus of any uncertainties.

In order to assess intra- and interexaminer reproducibility, 15 primary molars (7 primary 1st molars and 8 primary 2nd molars) that were not included in the present study were examined on two separate occasions with two weeks interval by both examiners. All examinations were conducted under standard conditions in dental surgery, with conventional dental light (A-dec CR, USA) and a 1:1 ratio. The teeth were positioned 40 cm from examiner’s eyes and kept in standard examination units unless when dined for ICDAS-II examination. One site on each tooth was selected on the occlusal surface, and examiners were guided by black and white photographs printed on draft quality paper containing a dot on the test site to allow the precise assessment of the same area. The examinations were first carried out with custom made dental loupes (2.5x magnification) with mounted LED headlight (Univet Optical Technologies, Italy) and then AC Impedance Spectroscopy device (Cariscan PRO, Dundee, Scotland) on separate occasions.

After all examinations were completed, the roots of the teeth were resected just apical to the cementum-enamel junction prior to histological examination. A marker was placed on the mesial cervical area of each tooth, and nail varnish was applied to this mesial groove to aid identification of tooth surfaces and therefore orientation after sectioning. To obtain the histological sections, each tooth was immersed in orthodontic resin (Caulk Orthodontic Resin, Dentsply, USA) and allowed to set into blocks (18 individual blocks), with approximately 1 cm to one side. Each mounted block was then serially sectioned in a longitudinal buccolingual direction with a water-cooled diamond disc on a thin sectioning machine (Gillings Hamos, NY, USA). Each section was approximately 90 microm thick, and based on visible caries location the cuts were done approximately every 200 microns. The sections were separated from the block and numbered for examination. After sectioning the grooves and artifacts left by the diamond disc were polished with 600, 1200, and 2400 grade aluminium oxide (Al2O3) in:

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria used in the Downer histological examination [12]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No enamel demineralisation at a narrow surface zone of opacity (edge phenomenon)</td>
</tr>
<tr>
<td>1</td>
<td>Enamel demineralisation limited to the outer 50% of the enamel layer</td>
</tr>
<tr>
<td>2</td>
<td>Demineralisation involving the inner 50% of the enamel, up to the enamel-dentine junction</td>
</tr>
<tr>
<td>3</td>
<td>Demineralisation involving the outer 50% of the dentine</td>
</tr>
<tr>
<td>4</td>
<td>Demineralisation involving the inner 50% of the dentine</td>
</tr>
</tbody>
</table>

Table 1. Criteria used in the histological examination [12]

<table>
<thead>
<tr>
<th>AC Impedance Spectroscopy</th>
<th>Low powered magnification + LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examiner 1</td>
<td>0.6286</td>
</tr>
<tr>
<td>Examiner 2</td>
<td>0.6372</td>
</tr>
<tr>
<td>Examiner 1 vs Examiner 2</td>
<td>0.6473</td>
</tr>
</tbody>
</table>

Table 2. Intra- and interexaminer reproducibility (weighted kappa)
BRILLIANT EverGlow®
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For each examiner, the relationships between both the ACIS and histological scoring system (Downer) were assessed using the Spearman rank correlation. Data obtained from these measurements were used to calculate sensitivity and specificity at the Dt diagnostic threshold and gold standard. The use of a gold standard is a prerequisite in assessing the receiver operating characteristic (ROC) curve. This analysis involves a plot of sensitivity and “specificity” for a given cut-off value of a diagnostically test. Since this study is focusing on early detection of carious lesions, we select Dt level as diagonistics threshold. Using these sensitivity and specificity values, an AUC ROC curve (AUC) was carried out for each examiner and method. The performance of each method for AUC was interpreted using the following classification: 0.50–0.60 poor, 0.60–0.70 fair, 0.70–0.80 good, and 0.90–1.0 excellent. For this research, the McNemar test was used to compare the specificity, sensitivity, and inter-examiner between examiners and examinations.

### Results

A total of 18 teeth were examined with both methods by two examiners and by histology. Table 2 shows intra- and inter-examiner reproducibility analysis. The degree of intranet examiner reproducibility for ACIS device was good. The weighted kappa values for intra- and inter-examiner reproducibility were 0.72 and 0.71, respectively. For ICDA-II using LPMLED were good to excellent (Table 2).

### Discussion

Occlusal surfaces account for the majority of new carious lesions, affecting both permanent and primary teeth, and the main cause of tooth loss among children.

### Conclusions

Within the limitations of this in situ study, the current results proved that the use of low-powered magnification (2.5x) and LED headlight illumination using ICDA-II criterion successfully improved the accuracy of examination.
Certificate & Diploma in Restorative Aesthetic Dentistry

From British Academy of Restorative Dentistry

DUBAI 2018-2020

Certificate  | 4 Modules  | 15 Days
---|---|---
Module 1  | 04-06 October 2018  | Prof. Paul Tipton, Dr. Adam Toft & Dr. Ash Rayeral
Treatment Planning in Advanced Restorative Dentistry | The Principles of Occlusion in Advanced Restorative Dentistry | Tooth Preparation in Advanced Restorative Dentistry with Prof. Paul Tipton, Dr. Adam Toft & Dr. Ash Rayeral

Module 2  | 14-17 November 2018  | Prof. Paul Tipton & Dr. Adam Toft & Dr. Matthew Holkof & Dr. Ash Rayeral
Minimally Invasive Veneer Preparations | Master the Art of Composites Part 1 - Adhesion Composites & Anterior Composite Restorations | Master the Art of Composites Part 2 - Composite Veneers | Master the Art Composites Part 3 - Posterior Composites

Module 3  | February 2019  | Prof. Paul Tipton & Prof. James Prihchard & Dr. Adam Toft & Dr. Ash Rayeral
Enhance Your Expertise in Endo Part 1 & Part 2 | Occlusal Examination | Emax & Zirconia Anterior Restorations

Module 4  | May 2019  | Prof. Paul Tipton & Dr. Malcolm Riley & Dr. Adam Toft & Dr. Ash Rayeral
Bridge Design | Aesthetic Perio Connective Tissue Grafting | Aesthetic Perio Crown Lengthening | Modern Post and Core Techniques

Diploma  | 4 Modules  | 15 Days
---|---|---
Module 5  | October 2019  | Prof. Paul Tipton & Dr James Russell & Dr. Adam Toft & Dr. Ash Rayeral
Bridge Preparation Techniques | Articulator selection in Restorative Dentistry | Porcelain Inlays & Onlays | Veneer Cementation Techniques Practical

Module 6  | November 2019  | Prof. Paul Tipton, Prof. Goran Urde & Mr. Bill Sharpling & Dr. Adam Toft

Module 7  | February 2020  | Prof. Paul Tipton & Prof. Edward Lynch & Dr. Adam Toft & Dr. Ash Rayeral
TMD, It’s Diagnosis and Treatment | Gold and Zirconia Posterior Crown and Partial Crown Prep Techniques | Minimally Invasive Dentistry | Adhesive Bridge Preparation Techniques

Module 8  | May 2020  | Prof. Paul Tipton & Dr. James Russell & Dr. Adam Toft & Dr. Ash Rayeral
Digital Dentistry Workflow | Orthodontics and Restorative Interface | AM: Occlusion 3 Seminar, Treatment of the Worn Dentition, Vertical Dimension and Facial Aesthetics Lectures | PM: Exams

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Non-ablative melanin depigmentation of gingiva

By Dr Kenneth Luk, Hong Kong

Melanin depigmentation of gingiva using various laser wavelengths have been reported for over ten years.1–5 Layer by layer, the mucosa is ablated to the basal layer of the epithelium where the melanocytes are located. The use of lasers have been compared with the use of scalpel and diamond bur (Fig. 1).6–9 By incorporating the optical properties and absorption characteristics of 810 nm, together with specific power parameters, a non-ablative technique was developed (Fig. 2).10, 11 Another similar non-ablative technique described as microcoagulation was also reported using a 20 W 980 nm diode laser.12 The 445 nm blue wavelength was introduced in the dental market in 2015. By using 320 µm uninitiated fiber delivering 1 W continuous wave of 445 nm, the same non-ablative procedure and result can also be realised.

Background with non-ablative technique

Diode laser at 810 nm is poorly absorbed in water, but it is well absorbed by pigment such as haemoglobin and melanin. The use of high power, short pulse duration, concentrated the thermal energy on the surface over deep tissue thermal conduction with lower power and long pulse.13, 14 The author has used the 810 nm wavelength (elexxion claros 810 nm diode laser, elexxion AG, Singen, Germany) with the power parameters of 30 W, 20 kHz, 16 µsec giving an average power of 12 W. Under local anaesthesia, a non-initiated 600 µm fiber was used. The fiber was placed at a distance of 2 mm to 5 mm from the pigmented mucosa. Coagulation can be observed with immediate effect upon irradiation. A constant movement must be performed in order to avoid thermal damage deep into the tissue. Water irrigation can be used as coolant.
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during the treatment. There is no surface ablation of the pigmented mucosa but rather the haemoglobin and melanin absorbing the laser energy (Fig. 2). This technique (Figs. 3–6) showed a treatment time of two minutes compared to the ablative technique time up to 30 minutes in an area of first premolar to first premolar of one dental arch. The wavelength of 445 nm is much better absorbed by melanin and haemoglobin than 810 nm (Fig. 7). Hence, a much lower power density may be used to produce the same effect.

Case outline
A 26-year-old female patient of Chinese ancestry presented with melanin pigmentation of the labial gingiva was diagnosed. Depigmentation on the upper arch using 810 nm at 30 W, 20 kHz, 16 µsec was carried out. Eight years post-op showed mild relapse of pigmentation, but the patient was satisfied with the cosmetic appearance (Figs. 3–6). She now wanted the melanin pigment on her lower anterior segment to be removed (Fig. 8).

Material and method
SIRR Laser Blue (Dentsply Sirona) with an emission wavelength of 445 nm was used at 1 W, cw delivered through a 320 µm fiber.

Procedure
Depigmentation technique is the same as described with the 810 nm wavelength (above). Under local anaesthesia, a non-initiated 320 µm fiber delivers the energy at a distance of 2 mm to the pigmented area with constant movement. Immediate change to pink colour without surface ablation of the pigmented mucosa was observed. The procedure took approximately 40 seconds to complete between lower left and right canine region.

Results
In this case, the mucosa turns pink without any signs of surface mucosal ablation except one spot between teeth 31, 32 (Fig. 9). Sub-surface coagulation of blood vessels gave a pink coloured appearance. There was very mild post-op discomfort for about one hour after loss of the anaesthetic effect. No analgesics were required as the discomfort feeling disappeared fast.

Laser peeling of mucosa between 31 and 41 was noted during photograph taking at one day post-op review (Figs. 10 and 11). The three day post-op photo taken by the patient showed that the laser peel disappeared with new gingival mucosa formation (Fig. 12). Two weeks post-op showed complete recovery of the gingival mucosa without melanin pigmentation (Fig. 13).

Discussion
There has not been much information on this new wavelength. From Fig. 7, the absorption coefficient for haemoglobin is estimated at 7 x 10²/cm–1 and 10⁷/cm–1 for melanin. Penetration depth for haemoglobin and melanin with 810 nm are 2 mm and 0.1 mm respectively. Furthermore, scattering curve showed higher tissue scattering effect with 445 nm than 810 nm.

In comparison with the NIR diode lasers, the absorption of collagen and scattering increases in the blue light spectrum. In view of the above together with high absorption of haemoglobin and melanin to 445 nm, 1 W cw was used. Power density of 88 W/cm² (Fig. 14) delivering at 88 J/cm² fluence at a 2 mm distance was calculated. Although the power density of 1,697 W/cm² (Fig. 15) delivering 543 J/cm² fluence used by 810 nm is higher than 445 nm delivered, the eight years post-op showed stable gingival contour with no recession (Fig. 6).

The understanding of the optical properties of the wavelength, power parameters and laser tissue interaction are important information for the clinician to achieve the desired treatment outcome.

Conclusion
The use of 1 W cw 445 nm blue diode laser is effective in non-ablative depigmentation of oral mucosa. This non-ablative technique provides immediate aesthetic result with very mild post procedure time.

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

Dr Luk reports no potential conflicts of interest.
Certificate & Diploma in Clinical Endodontics

From British Academy of Restorative Dentistry

DUBAI 2018-2019

Certificate  |  3 Modules  |  12 Days
---|---|---
Module 1  |  22-25 February 2018  |  Fundamental of Endodontics
Programme outline: Introduction to contemporary endodontics. Understanding of instrument design and its effect on prevention of iatrogenic errors.
Handson: Hand filing and lateral compaction techniques.

Module 2  |  26-29 April 2018 (4 days)  |  Aetiology and Diagnosis of Endodontic Disease
Programme outline: Microbiology of endodontic disease and its relationship with the host immune response.
Handson: Rotary NiTi and advanced thermoplastic obturation techniques.

Module 3  |  16-19 August 2018 (4 days)  |  Traumatic Injury, Pain and Its Management
Programme outline: Emergency endodontics and diagnosis in depth. Odontogenic and non-odontogenic pain. Diagnosis and management.
Handson: Rotary NiTi and thermoplastic obturation techniques.

Diploma  |  3 Modules  |  12 Days
---|---|---
Module 4  |  November 2018 (4 days)  |  Dental Resorption and Pattern of Tooth Fracture & Implant Prosthodontics
Programme outline: Understanding advanced endodontic problems. Handling endodontic failure alternatives related to implants.
Handson: Reciprocating NiTi and Carrier based thermoplastic obturation techniques & Implant prosthetic and surgery on phantom heads

Module 5  |  February 2019 (4 days)  |  Restoration of Endodontically Treated Teeth
Handson: Placement of core restorations and post retained restorations.

Module 6  |  May 2019 (4 days)  |  Management of Endodontic Failure
Programme outline: Endodontic retreatment, surgical endodontics.

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Advantages of using Dentsply Sirona’s SDR® Plus in Paediatric Dentistry

By Dentsply Sirona

Bulk-fill materials have been developed to facilitate filling to be placed quickly and reliably with a single layer of up to 4mm thickness. The flowable bulk-fill material SDR® Plus, which excels by virtue of its extremely low shrinkage stress, has been available since 2012. Since 2014 it is also approved for Class I and II deciduous tooth fillings in the posterior region without an additional capping layer. This extension of indications is a major benefit for the practitioner — especially in paediatric dentistry.

Bulk-fill materials are ideal for deciduous teeth, where the focus is on rapid application and reliability of the materials used. The time saving in filling placement is a crucial advantage, both in regular treatment of children, as well as in the treatment of children under general anaesthesia. The reduced abrasion resistance of flowable bulk-fill materials is compatible with the natural deciduous tooth abrasion and so is not to be viewed as a disadvantage in the wear phase of primary dentition. The development of new shades (A1, A2, and A3) and the increased wear resistance in SDR® Plus, also provide dentists with additional aesthetic options whilst maintaining the durability required.

Patient cases

Three cases treating deciduous teeth (Class I and II) in the posterior region using SDR® Plus are presented below.

Treatment of a 9-year-old boy with hemophilia A

A 9-year-old boy with severe hemophilia A presented a carious lesion on the upper left deciduous molar (Fig. 3). Following excavation and preparation of the cavity margin, the AutoMatrix® system was applied (Fig. 2), which could be replaced with Dentsply Sirona’s new sectional Matrix System (Palodent® V3). An all-in-one universal adhesive (PrimeBond universal™) was applied and light-cured. SDR® Plus was applied directly with its Compula® Tips. Here it is important that the metal caries area is placed on the proximal cavity floor and is extracted while continuously extruding the low-viscosity material. The entire cavity was filled in one single increment and then light-cured for 20 seconds. As it was possible to ensure reliable contamination control using dental rolls and four-handed working, a rubber dam was not used, which was an advantage taking into account the boy’s medical history as a hemophiliac. This excluded potential traumatization of the gingiva from the rubber dam clasps. Finally, the filling was finished with a fine diamond bur (Fig. 9) and the Enhance® finishing and polishing system.

Treatment of a 5-year-old girl

A 5-year-old girl with a former history as a hemophiliac. The reduced abrasion resistance of children under general anaesthesia, as well as in the treatment of children, as well as in the treatment of children under general anaesthesia is to keep the anaesthesia time as short as possible. That is why the use of dependable and quick-to-apply materials is recommended. In total, the 4-year-old boy had 12 primary teeth to be treated, of which 9 were filled and 3 had to be extracted. The posterior fillings were carried out with SDR® Plus, whereas the front teeth were restored with the ceramic X-Sphere®TTM. In the course of general anaesthesia treatment, the cuspal tooth 64 was excavated (Fig. 12).

Excavation was performed as previously described and conditioning also used an all-in-one adhesive. Following finishing and polishing, the filling covered the occlusal surface, as well as the palatal surface of the tooth (Fig. 13).

Conclusion

Bulk-fill materials are ideal for deciduous teeth, where rapid application is a crucial advantage, both in regular treatment of children, as well as in the treatment of children under general anaesthesia. With SDR® Plus, dentists can bulk-fill up to 4mm deep to perform faster, easier Class I and II procedures without affecting the durability and longevity of the restoration. The new shades and increased wear resistance also provide dentists with additional aesthetic options for creating Class V and Class II restorations when the restoration is visible.

For more information or to request a demo, please contact your local Dentsply Sirona representative.

References


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The complete package for
chairside restorations in one appointment

By Carestream

Before the introduction of the super-
market in the UK in the 1940s, shop-
ners had to separately visit specialty
stores in the high street one at a time,
such as the butchers, the bakers, the
chemist, and so on. This was both
time-consuming and inefficient.
Fortunately, with the subsequent ex-
pansion in the amount of supermar-
ket space available, it became possi-
able to obtain a wide range of food and household items,
or even a complete service (e.g. an
optician), in one location. The ad-
vantages of supermarkets, which
offer a full service in one place, over
independent shops is that they are
more convenient for the consumer
in terms of both time and efficiency.

The benefits of a complete
dental service in-house

These advantages can also apply to
healthcare providers. Indeed, there
is some evidence that patients in healthcare
settings prefer to obtain a
full service in one place. For example,
one study that examined whether
patients’ views of quality of care
were influenced by the scope of the
service offered in one location found
that patients perceive better quality
care, especially in terms of accessi-
bility and continuity, when practices
act as a one-stop shop.1

This finding suggests that all types
of healthcare services, including
dentistry, can benefit from provid-
ing a complete service within the
practice. In addition to being liked by
the patients, this also has several ad-
vantages for the dentist. Taking
the example of providing restorations
in-house, the benefits for the prac-
tice include being able to provide a
faster service, improved workflow
efficiency, the elimination of logisti-
cal problems (e.g. delays in receiving
restorations back from laboratories),
more choice in designing restora-
tions and being involved in every
stage of the process.

A full chairside system

Being able to complete the resto-
ration process in-house works best
when all of the necessary equipment
is located chairside, as this reduces
the time and effort required from
the dentist as well as the patient. One
system that does enable the entire
restoration process to be completed
chairside is Carestream Dental’s CS
Solutions. CS Solutions is a complete
integrated system that contains the
options to scan, design and mill in
the practice. It enables dentists to
provide crowns, inlays or veneers in
a single appointment.

CS Solutions is an innovative CAD/
CAM restorations portfolio, which
is composed of the CS 9000 3D and
CS 9400 CEREC unit, CS soft scan
intraradial scanner, CS Restore software,
CS 3000 high-precision milling ma-
chine and CS Connect online portal.
Based on a single scan, design and
mill workflow, it makes restorative
treatment in the practice accessible and
more efficient.

Flexibility to suit your prac-
tice

One of the advantages of CS Solu-
tions over closed systems is that it
is an open system, which means
that there is the flexibility to choose

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References
1. Schafer WLA, Boerma WGW, Schellevis FG, Giesnewege PP. GP prac-
tices as a one-stop shop: how do patients perceive the quality of care? A
cross-sectional study in thirty-four countries. Health Serv Res 2017;29
doi: 10.1111/1475-6773.12754

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and Facebook
The new W&H image campaign: ‘From a patient to a fan’

By W&H

You could describe them as every- day heroes: the dentists and dental professionals who, through their dedication, professional skill or simply a friendly smile, manage to transform a dental appointment into a positive event. They do this simply because they care and want to make sure their patients feel comfortable. It is precisely this aspect that will be the focus of W&H’s new image campaign ‘From a patient to a fan’, which will shine a spotlight not on the company itself, but on dentists and their teams. We interviewed Anita Thallinger, W&H’s Marketing Director, about the background, objectives and challenges of the new advertising campaign.

In February 2018, the new W&H image campaign will be launched on the global dental market. What objectives did you set yourself for the new campaign?

Anita Thallinger: One of our objectives was, of course, to draw the attention of the world of dentistry to W&H, and to make ourselves stand out from the competition in the long term by way of the new image campaign. But we also wanted to show dentists and their practice teams that W&H is there for them as a solutions provider and does its utmost to support them in overcoming their day-to-day challenges.

As mentioned in the introduction, W&H’s new image campaign ‘From a patient to a fan’ will not be focussing on the company itself, but on dentists and their teams. Why did you opt for this approach in your campaign?

W&H aims to serve our customers, i.e. dentists and their practice teams, to know that W&H values their work, their dedication and their skills. As a manufacturer of innovative dental solutions, it is our aim to provide users with products that bring added value when used. As the practice team need to give patients their unique attention throughout the entire treatment process, W&H sees that its primary task as optimising and facilitating the workflow. Our innovative products are not only highly valued, they are also intuitive, reliable and above all precise in their functionality. Our intention is to support dentists and their teams and offer them products that meet these requirements.

This campaign features smiling dentists and patients, happy faces. What makes your current campaign different from that of your competitors?

Anita Thallinger: It’s true, compared to the previous campaign, the new image campaign seems at first glance to be going down a very traditional route. However, W&H is known for its slightly tongue-in-cheek advertisements. You’ll notice this in the current campaign if you take a closer look at the name tags of the dentists portrayed.

If someone is exceptionally good at something, or becomes synonymous with something, they become the epitome of it, thereby gaining fans. W&H is using this approach in the new campaign: in the eyes of patients, the dentists pictured in the advertisements become Dr Phil Good, Dr X. Pert, Dr I. Novotar, Dr S. Mile, Dr T. Trust or Dr Sue Pentar, and thus become the living embodiment of trust, well-being, expertise, happiness or innovative spirit.

During production of the campaign, you did not resort to using conventional models, but instead used colleagues from your own company. Why did you opt for this approach, and how did your colleagues feel about the photo shoot?

At W&H, the concept of selflessness plays an important role. Our employees are in contact with at least one area of dentistry every day. They enjoy the change of perspective and putting themselves in our customers’ shoes. For the photo shoot itself, we were able to find three dentists in Salzburg who offered up their modern facilities as a set.

The dentists and their assistants were also on hand to offer advice during production – that’s why the images look so authentic. I think the fun that all the participants had in the process is evident from the emotion in the pictures.

Have you already received some initial feedback on the image campaign from your customers and partners? What has the response been like?

We carried out a survey involving around 100 dentists during the development phase. The concept in itself, the idea with the name tags and many other aspects were put to the test, and received excellent feedback across the board. So we’re looking forward to an exciting 2018.

Thank you very much for taking the time to answer our questions.

Children with tooth ache see pharmacist or emergency doctor rather than dentist

By DTI

LONDON, UK: In England, dentists are often not the first person to see a child suffering from oral pain, a survey published in The BMJ has confirmed. Instead, the majority of parents in the country heavily rely on pharmacies and non-dental health services, like accident and emergency departments, to help address their children’s emergency dental problems.

Conducted by researchers at the Institute of Dentistry at Queen Mary University of London, the study looked at data collected from over 900 pharmacies in and around London from November 2016 to January 2017. According to the results, two-thirds of parents had requested pain medications for their children owing to dental problems. Of those, only every third child with oral pain had seen a dentist before visiting the pharmacy, while almost every third had presented to a non-dental health professional, such as a general medical practitioner

Although many parents had sought help during weekends, when dental health services were not available, the figures show a clear underuse of dental services in the country, the researchers explained. They said that the annual costs for the use of non-dental services, amounted to £173,288, which translates to £2.3 million of preventable costs for the NHS when replicated to all pharmacies in England.

“Children with oral pain need to see a dentist for a definitive diagnosis and to treat any tooth decay,” said lead researcher Dr Vanessa Muirhead, clinical senior lecturer at the Institute of Dentistry. “Not treating a decayed tooth can result in more pain, abscesses and possible damage to children’s permanent teeth.”

“These children had not only failed to see a dentist before their pharmacy visit, they had seen GPs and a range of other health professionals outside dentistry. This inappropriate and overseer of multiple health services including A & E is costing the NHS a substantial amount of money at a time when reducing waste is a government priority,” she added.

According to 2016 statistics, only 58 per cent of children in England and 49 per cent of children in London had visited a dentist that year, even though dental care is free for under-11s and NHS guidelines recommend dental visits at least every year for children.

The study, titled “Children’s toothache is becoming more than just a business: Where do parents go when their children have oral pain in London, England: A cross-sectional analysis”, was published in The BMJ Open on 28 February 2018. ©
Certificate & Diploma in Clinical Implantology

From British Academy of Dental Implantology & British Academy of Restorative Dentistry

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Programme Director of Implantology
Postgraduate Education Faculty of Odontology, Malmo University

Prof. Paul Tipton, UK
Specialist in Prosthodontology
President, British Academy of Restorative Dentistry

Prof. Anwa Al Alsayed, Saudi Arabia
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Prof. Dr. med. dent. Urs Bigger, Switzerland
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Prof. Giovanni Tudesco Solvi, Switzerland
Vice Chairman and Graduate Program Director, University of Bern

Dr. Ninette Banday, UAE/USA
Specialist Restorative Dentist & Implantologist

DUBAI 2018-2019

Certificate  |  3 Modules  |  12 Days

Module 1  |  31 Jan – 03 Feb 2018 (4 days)  |  Basics of Implantology
Programme outline: implant market, osseointegration, treatment alternatives, treatment planning and patient selection, basic surgical techniques and protocols. Hands-on training: surgical techniques and medico-legal aspects to implant dentistry.

Module 2  |  29 Mar – 01 Apr 2018 (4 days)  |  Treatment Planning and Surgical Treatment
Programme outline: implant design, radiographic techniques, implant surgery, implant specific treatment planning. Basic practice management.

Module 3  |  26–29 July 2018 (4 days)  |  Restorative Aspects of Implantology
Programme outline: restorative techniques, prosthetic hands-on training, patient treatment, follow-up and oral hygiene, complications to avoid and treat. In depth practice management.

Diploma  |  3 Modules  |  12 Days

Module 4  |  11-14 October 2018 (4 days)  |  Immediate and Early Loading Concepts and Treatment of the Resorbed Jaw
Programme outline: tooth now concept, immediate and early loading concepts from single tooth to fully edentulous patients, severely resorbed jaws, sinus lift and ridge splitting techniques, hands-on training and live patient surgical treatment.

Module 5  |  06-09 December 2018 (4 days)  |  Medical Compromised Patient and Soft and Hard Tissue Management  |  Esthetic and Restorative Challenging Patient
Programme outline: medications related osteonecrosis, GBR techniques, soft tissue management, implant aesthetics, ceramics and implants.

Module 6  |  28-31 March 2019 (4 days)  |  Rare Complications and Techniques
Programme outline: rare complications, combination implants and teeth, live patient treatment, written and oral examination and case presentations.

15 Straumann Implants & Lab Work Included  |  Live Treatment Hands-On (40%)  |  168 CME Available
Dentistry has finally arrived in the digital age

An interview with Patrick Thurm, Vice President Technology, Global Prosthetic Solutions, Henry Schein

Four years ago, we met here at the EAO congress to discuss the introduction of the ConnectDental platform. How has the dental landscape changed since then, in your opinion?

In the last four years, we have seen increasing penetration of digital technology in both dental laboratories and practices. These technologies are now used across the whole field of dentistry, not only by implantologists and increasingly orthodontists but also by general practitioners. Of course, their integration is being realised at different paces, but we are seeing increasing network- ing with open systems gaining more and more market share. This is having a positive impact on penetration, which is exactly what we predicted four years ago.

We no longer speak of technologies, but of integration and solutions. The International Dental Show this year clearly showed that dentistry has finally arrived in the digital age, and all large providers of materials and technologies have adjusted their portfolio to be able to contribute to this growing field.

With the ever-growing number of solutions, entering the field can be overwhelming. How does ConnectDental provide orientation?

For us, this is the main role of Henry Schein ConnectDental. The platform helps to preslect, choose and connect products to support dentists in their efforts to offer new treatment concepts and achieve higher patient satisfaction. Meanwhile, 3D printing has also finally arrived in dentistry. In this field, we are now offering complete solutions with implant planning software that allow practices and laboratories to produce surgical guides together, which means that they no longer have to rely on external providers. This way, they can provide a service that is much closer to the patient. There are actually implantologists working with surgical guides for every implant they place.

Digital dentistry offers amazing possibilities and the ConnectDental platform makes best use of them, either as a Chairside solution in combination with Dentify’s iTero CEREC or as a solution using an intraoral scanner and the services of a laboratory, for which we work closely with 3Shape and other leading manufacturers of digital impression solutions. That is also the reason we no longer call it an open system but of integration and solutions.

Where do you see the future of ConnectDental?

As trusted advisers, we are committed to helping dental professionals to successfully integrate digital technology into every step of their clinical workflows. Therefore, we will continuously extend the Connect-Dental platform further. On the technology side, we always try to have the best solutions in our portfolio. Since we are a global company, we are certainly positioned very well in this field and are able to include any new trend in our system through partnerships with every important provider. Within Henry Schein, we work closely with our affiliates CAMLOG and Biohorizons in implantology, and other divisions of the company, such as Henry Schein Orthodontics. We also collaborate with leading clinicians, clinics, laboratories and universities to develop excellent solutions.

Education too is a major focus and we invest a great deal of resources in this area. So there is plenty more to come...
How is technology changing dental recruitment?

By Luke Arnold, UK

Before the advent of professional networking sites like LinkedIn and social media platforms such as Facebook and Twitter, specialist recruiters relied heavily on their network of contacts and market knowledge to find a shortlist of suitable candidates. While this is still the case today, online platforms have opened the door to a whole new world of potential candidates, making it easier to discover both existing and emerging talent that may have otherwise remained unknown.

At the click of a button, recruiters and employers alike can now sift through a pool of candidates quickly by accessing their profiles. Professionals can also be contacted directly through messenger applications and by phone, meaning a wide variety of potential candidates can be reached—including passive applicants, which as we know make up a large proportion of the talent pool.

For candidates, LinkedIn can act as a “shopfront”, allowing them to demonstrate their career achievements and skills and to promote themselves to a wide range of potential employers.

Between online job sites and networking/social platforms, it is now much easier to advertise vacant positions and hiring intentions, and in a much richer way too, owing to the use of multimedia. Indeed, unlike traditional media that focuses purely on the job role, modern advertising can incorporate mediums such as vox pops or videos of staff and the workplace to tell the story of an organisation. The only drawback to the introduction of these broadcasting platforms is that, for some active applicants, having access to that amount of information can sometimes make it more difficult to narrow down the job search and that is where companies like Dental Elite offer help.

In addition to social and professional networking platforms, technological tools such as Skype and FaceTime are becoming increasingly more useful for recruiters during the initial stages of the interview process. For obvious reasons, being able to screen a potential candidate “face to face” without having to actually meet in person can be extremely time efficient and is far more insightful than having a phone conversation. This can be particularly helpful in the beginning when trying to whittle down candidates to a short list and for feeding back information to the client.

The other plus point to modern technology is that recruiters are now able to access a greater level of data and e-mails on the move and at home. This not only affords greater flexibility for recruitment agencies, but also provides a more convenient service to candidates who may prefer to communicate outside of normal office hours.

The downside of technology, of course, is that employers are able to access far more personal information about applicants than was possible before. As their findings could influence their final decision, it is important to maintain a professional online presence at all times, even on personal accounts on sites like Facebook. Altogether, the advent of digital technology has had a profound effect on recruitment. By effectively using the most up-to-date technologies available, employers are better placed to find the ideal candidate, and jobseekers are more likely to find a position that suits their clinical skills and personal preferences. As for agencies like Dental Elite that specialise in dental recruitment, technology will no doubt continue to play a key role in the hiring process over the coming years.

(IS YOUR DENTAL LAB HOLDING YOU BACK?)

Manual/Digital wax ups
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Middle East Dental Laboratory | Middle East Dental Laboratory
Dental experts on CAD/CAM, digital dentistry and 3D Printing to lecture in Dubai

The 13th CAD/CAM & Digital Dentistry Conference & Exhibition to be held by CAPP (Centre for Advanced Professional Practices) in May 2018 in Dubai, CAD/CAM. Digital dentistry and 3D Printing will be in the spotlight for the thirteenth year in a row. CAPP will be hosting an event that will join the Digital Orthodontic Symposium (04-05 May) as well as Dental Technician International Meeting (04-05 May). The event will be spread over two days and will take place at the Madinat Jumeirah Conference Centre, Dubai, UAE.

The international speakers will share and discuss their experiences, expertise and knowledge on the 04 and 05 May. The featured experts will offer insights into their daily practical work at the event, delegates will not only have the opportunity to witness top-class presentations by some of the leaders in dentistry, but they will also be able to exchange ideas, communicate and connect with experts and colleagues from all over the world. Dr. Munir Silwadi will host the 13th CAD/CAM & Digital Dentistry Conference.

The following speakers have been invited to the event to show case their expertise:
- Dr. Roberto Molinari, Italy: Esthetic Digital Process: Lab-Side Protocols
- Dr. Francesco Garini, Italy: How In- travisal Scanners Changed my Practice
- Prof. Khalid Balto, KSA: Digitalized Endodontics: Clinical Applications and Beyond
- Prof. Ross Heaton, UK: Improving Planning and Predictability Using Digital Workflows in Ortho restorative Cases
- Eric Berger, DT, France: Aesthetic Restorations CAD/CAM: Indication and Selection of Materials

Dr. Munir Silwadi, UAE: “Indirect Invisalign Aligner”
- Dr. Eduardo Mahn, Chile: “The Direct Invasive Way of Doing Veneers”
- Dr. Richard W. H. Pollock, UK: Design Possibilities of Customized Restorations
- Dr. Jürgen Feierabend, MDT, Germany: Improving Patient Care Through Modern Technology
- Dr. Jakob Zwaan, The Netherlands: Innovative Protocols and Products in Digital Dentistry
- Prof. Daniel Weinmeier, The Netherlands: 3D Printing in the Full Digital Workflow
- Dr. Roberto Molinari, Italy: Esthetic Digital Process: Chairside Protocols
- Ahlam Farah, CDT, Syria: With 100 Million Restorations Globally: Still To Learn About It
- Dr. Pawel Sliwa-Paskiewicz, Poland: Digital Prosthodontics: Planning & Scanning Full Protocol and Case Reviews
- Dr. Jan Paulics, Denmark: New ways to engage your patients and get treatment acceptance for implant surgery and guided prosthetics
- Dr. Amer Beradja, France: Introduction to a new 3D concept in vestibular orthodontic treatment thanks to the innovations in materials and digital tool
- Dr. Khalid Hazem Attya, Egypt: The Role of CBCT in evaluating Carrier’s Motion Appliance
- Filip De Meyer, Belgium: Sintered Blocks: 3D Printing in the Dental Laboratory
- Ahlam Farah, CDT, Syria: The Knows and How’s of Flawless Lab-Fabricated Dental Restorations
- Eric Berger, France: Aesthetic Realization with VITA: Cut Back on VITA Block
- Rik Jacobs, The Netherlands: 3D Printing on the Edge of Convenion
- Christopher Adamus, Denmark: Design Possibilities of Customized Abutments when making using Dental CAD/CAM System
- Dr. Richard W. H. Pollock, UK: 10,000 CAD-CAM restorations: an overview of maximising CAD-CAM technology
- Laky Khmob, South Korea: Making Virtual Patient for Digital Dentistry & Clinical Use of Surgical Guide

FREE CME Training
This year’s exhibition will feature two dedicated training zones with over 30 Free CME Training Sessions where dental professionals will have free attendance and earn free CME. The CME Educational Sessions will be provided by the world-leading dental manufacturers who will bring to Dubai the experts in digital dentistry, implantology, orthodontics, prosthodontics and more.

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- Most cases are completed in 6-16 weeks depending on the complexity of the case.
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King’s College London appoints Dubai-based Institute of Medical Aesthetics to jointly enhance skills of GDPs

By King’s College London

King’s College London Dental Institute, ranked 2nd in the world for Dentistry (QS World University Rankings 2018), has made considerable progress in introducing its world-class education to the region by announcing a joint venture on two unique courses with Institute of Medical Aesthetics in Dubai.

Aiming to enhance the skills of GDPs performing minor oral surgical procedures at their own practices, the two upcoming courses, which include a Minor Oral Surgery course, are expected to contribute to reducing the number of patients referred to hospitals, by helping GDPs acquire the skills to deliver these often simple procedures at their own practices.

Excellent clinicians, outstanding UK teachers and exceptional facilities are involved with this initiative which reiterates Dubai’s commitment to become an internationally recognized hub for quality health-care and education.

Bill Sharpling, Associate Dean for Continuing Professional Development (CPD) and Director of the London Dental Education Centre (LDEC) at King’s, is delighted that this initiative with the Institute of Medical Aesthetics has come to fruition.

Mr Sharpling says “We look forward to working with IMA and running 2 jointly organised courses in 2018. These 2 and 3 day CPD courses, taking place in Healthcare City, will enable dental professionals from the Emirates and surrounding regions to see how King’s delivers its dental education. We’ve identified Dubai as an important centre to hold our training and currently also teach some cohorts of our distance learning, master’s courses here, giving students convenience and flexibility. We are delighted to have further opportunity to provide positive learning experiences and demonstrate the quality of education that underpins our short courses and our master’s degrees available in all aspects of restorative dentistry.”

Dr. Dilshad, CEO of the Avivo group of companies, says “IMA’s joint venture with King’s College London is in keeping with IMA’s educational mission to extend international standards in the region, in medical fields that are in high demand. This venture also reaffirms IMA’s large portfolio of courses which are now ranging from aesthetic medicine and dentistry to aesthetic surgery and anti-aging medicine. We are delighted to have the opportunity to represent King’s clinical and teaching excellence, and believe that the 2 short courses in oral surgery and aesthetic dentistry offered will be of unmatched standards.”

The first course in the series is set for April 21-23 in Dubai with an aim to plan for minor oral surgery procedures, avoid surgical complications and complex dento alveolar procedures associated with Dental Implantology.

For more information, contact ima@imadubai.com.

By King’s College London

The Manual of Clinical Procedures in Dentistry comprehensively explains the core procedures in dentistry, how to do them, and the rationale that underpins them. Full of useful and easy to access information, it acts as a compendium of practical procedures in primary dental care, supporting students and dental practitioners in their daily professional and academic lives.

Edited by former Dean of King’s College London’s Dental Institute, Emeritus Professor Naim Wilson, and King’s Specialist in Restorative Dentistry, Professor Stephen Dunne, the publication is a definitive manual covering everything you need to know about the core procedures in dentistry.

With contributions from a vast number of academics at King’s, the Manual of Clinical Procedures in Dentistry is an invaluable text for dental students and new graduates, as well as a definitive guide for the whole dental team.

- Provides step-by-step guidance on procedures in primary dental care.
- Comprehensive coverage of all dental disciplines, from endodontics to orthodontics.

King’s College London academics produce definitive guide on the core procedures in dentistry

By King’s College London

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- Nature Rebuilding - Two natural pedo shades for more precise color matching and increased parent satisfaction
- Ultimate Durability - Far exceeds the longevity required until primary tooth exfoliation... without the need for ongoing repairs
- Tested, and Tested Again - Backed by NuSmile’s thorough research and testing for strength, fracture resistance, wear and more

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**Product Name:** Lisi Press ingots

**Description:**
The unique pressable Lithium Disilicate Glass Ceramic: GC Initial LiSi Press perfectly suits the most natural, lifelike aesthetics – press for a beautiful smile.

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Distributor: Scorpios International LLC  
Product Name: Vintage LD – The Better Lithium Disilicate  
Description:  
- Outstanding aesthetics for life-like, bespoke restorations  
- Predictable & flexible system that offers cost-effective, time-saving & customized solutions  
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Understanding sonic-powered irrigation

By Dr Vittorio Franco, Italy

Thoroughly irrigating the entire root canal system—including isthmi and lateral canals—is important for success of endodontic treatment. Research has shown that sonic activation of irrigants offers significant improvement in cleaning efficacy, since it removes considerably more debris and smear layer than needle irrigation. Besides cleaner root canals, it increases the effectiveness of disinfectant solutions to support long-term success. We spoke with leading Italian endodontist Dr Vittorio Franco about his daily irrigation protocol, passion for endodontics and experience with EDDY, a sonic-powered irrigation tip.

What do you like most about endodontics?

Nothing is clearly visible in endodontics, so one has to constantly adapt one’s strategy. In the end, one must discover the anatomy, understand the difference between one’s imagination and reality, and find a good treatment solution. Many recent dental studies have confirmed the importance of retaining the natural dentition and thus of endodontics as opposed to implantology. Now is the right time to be an endodontist. We now have more possibilities for preserving natural teeth and that is a wonderful thing.

Why is proper rinsing so important, and how can one see when the canal has been cleaned properly?

I think that the cleaning of the canal is the most important aspect of an endodontic procedure. Of the three major steps, shaping and obturation are less important than eliminating bacteria from the root canal. The main purpose of endodontic treatment is to clean the canal. Otherwise, root canals can become a good environment for bacteria to grow in. If the dentist retains vital tissue that will then become necrotic, it will facilitate bacterial growth. The main reason for retreatment is the presence of an infection due to poor cleaning in the first place.

There are many published studies on the time required for proper irrigation. We have many variables to consider—contact time, refreshment of the solution, amount of tissue/bacteria, volume, temperature, shear stress and so on—so we cannot standardise this process and final result. There are studies that say one needs 30 minutes to achieve the complete elimination of bacteria, but they did not consider activation possibilities. If you ask me how I decide when irrigation has been sufficient, from my point of view, the only clinical way to determine whether the irrigating solution is working is from seeing bubbles in the solution. That means that the solution is reacting with something inside the root canal system—obviously if there is no communication like a large foramen or perforation.

If bubbles stop being produced, the clinician can stop cleaning the canal.
because the sodium hypochlorite is probably no longer reacting. There may still be something inside the canal, but the solution has achieved its best result. That would be my only suggestion.

What is your irrigation protocol?
I start with 5 per cent sodium hypochlorite, which I use for the entire shaping procedure. At the end, I use 17 per cent EDTA, activate it and remove it quickly. Then I use sodium hypochlorite again and activate it up to four times depending on the case. For necrotic cases, I wait until I see the reaction of the irrigant and the substrate. After removal of the sodium hypochlorite, I use 95 per cent ethanol to dry the canal. I do not use citric acid and chlorhexidine, but prefer EDTA to remove the smear layer.

How did you activate the irrigant before you began using EDDY?
I tried all activation tools before EDDY, as irrigation activation has been one of my favourite methods ever since I was introduced to it. Before EDDY, I used passive ultrasonic activation and still use it sometimes in my Italian practice. Now, I use EDDY for most of my cases.

How important is it to have a flexible tip?
EDDY is quite different from passive ultrasonic tips. With EDDY, one can combine two different things. First, one has an activation protocol that some studies have shown is at least as good as passive ultrasonic activation. Second, one has a gentle mechanical action on the canal walls. This is why I love EDDY. One can work on the wall and the shear stress seems to be impressive when using it. It is also very safe.

What do you think about the polyamide material from which EDDY is made?
It works very well. It is a very good material for working after shaping, as one cannot damage the canal wall. Also, the possibility of tip fracture is low if one works inside the canal.

How did you learn about EDDY?
I tried everything in terms of activation. The manufacturer asked me to test it before its impending launch in Italy and I was happy to do so. At first, I tried it with great care—and it instantly proved to be effective. I inspected the walls of the canal and was impressed by the level of the cleanliness of the walls. With EDDY, one can work in all canals, and sometimes I like to work only with the tip in large and wide canals. I do not use a shaping instrument, but just one file for length determination and then continue with EDDY. One can also remove debris and the smear layer easily by activating the solution through the device. Every practitioner will appreciate how EDDY works under the microscope.

Endo Non-surgical and Surgical Retreatment (Management of Endodontic Failure)

Dr. Antonis Chaniotis, Greece

**PRICE:** 4,400 AED (1198 USD)

**CONTACT:** Email: events@cappmea.com; Mob: +971 50 2793711

**TIME & LOCATION:**
Thursday - Friday, 05 - 06 July 2018
CAPP Training Institute, Dubai, UAE

**COURSE OUTLINE:**
DAY 1 - To understand the rational behind non surgical retreatment approaches and the etiology of initial root canal treatment failures. To present an evidence based framework for the safe and effective disassembly of non obturation and obturation materials.

DAY 2 - To understand the factors related to the long term outcome of non surgical endodontic retreatment and to develop a rational diagnostic and decision making framework. To appreciate the importance of magnification and illumination for the management of complicated non surgical retreatment cases.

Endo Micro Surgical Retreatment (Management of Endodontic Failure)

Prof. James Prichard, UK

**PRICE:** 4,400 AED (1198 USD)

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**TIME & LOCATION:**
Saturday - Sunday, 07 - 08 July 2018
CAPP Training Institute, Dubai, UAE

**COURSE AIMS:**
DAY 1 - To understand the rational behind micro surgical retreatment approaches and acquire basic surgical knowledge.

DAY 2 - To understand the importance of magnification in endodontic microsurgery and acquire basic micro surgical skills.
Single Visit Endodontic Treatment for Calcified Lower Centrals

By Dr Mostafa Anwar, Egypt

Single visit root canal treatment (RCT) is becoming more popular and achievable among patients nowadays. Lots of reasons lie behind, such as new advances in tools and devices used for RCT, advanced techniques in activation of irrigation for proper disinfection, decreasing incidence of post-operative pain, lack of time due to work responsibilities by patients who can’t come several times, an economically efficient solution for both dentist and patient, among others. This leads to a high demand for single visit treatment which is becoming a trend among patients, especially professionals. This case report shows how single visit treatment can be done easily, even in complex cases, as long as the proper tools, devices and equipment are available.

First Contact with the Patient

A 57 years old female came to our dental clinic seeking for a smile makeover due to protruded upper and anterior teeth. The patient was advised to opt for orthodontic treatment at first, but refused due to special reasons. The patient decided to go for aesthetic treatment, which will be crowning the upper and lower anterior teeth. After performing a smile analysis and reviewing the required radiographs, the prosthodontist referred the case to my clinic for doing RCT of the lower anterior teeth. An IOPA radiograph (Fig. 1) was taken using CD-Relite by FONA for the lower anterior region, but focusing on the lowers central which seems to be the challenging case here, not to mention that the patient had a shallow floor of the mouth. Note that there is a Type III root canal morphology, according to Vertucci’s classification (1 canal coronally then 2 canals creating dentin island, then rejoined to a single canal in the apical third of the canal), as shown in the figure, where this configuration will be noticed later in tooth 31.

Endodontic Treatment

Before starting this treatment, it was planned that the Lower Lateral and Canines will be done first, then continue the treatment, leaving the lower two centrals for the last stage. This decision was confirmed during the access cavity step, where the two canals showed calcification at the cervical third and no canal negotiation could be done; as illustrated in Figures 2 and 3 with the help of a clear radiograph.

Using Univer Loupes of Magnification x1, it was again confirmed that these two teeth will need more steps for RCT, so now the case was confirmed radiographically and clinically under magnification. The decision was taken and RCT was done for the lower laterals and canines on both sides using 2shape files by Micro Moto for mechanical preparation and using a standard rinse protocol of 3% NaOCl, 17% EDTA and 2% CHX, with activation of irrigation using passive ultrasonic irrigation.

Once the RCT of the above mentioned teeth was done, negotiating the canals of the lower centrals started. Newtonian ultrasonic device by Acteon and ET20 tip were used to locate the calcified canals and explore the floor of the pulp chamber but there was still no sign of the canal, although the tip was nearly 3 mm below the cervical line. So, I decided to go for canal negotiation guided by radiograph, where I take VDS X-ray with a differently-sized sharp explorers placed in 2 different directions (Labial and Lingual) to decide where the ultrasonic tip will be directed. As the rubber dam was already in place, it was challenging to know if the proposed direction of the ultrasonic tip is in the right path or not, due to the superimposition of the clamp on the tip of the explorer. Here, I decided to remove the clamp while keeping the rubber dam sheet in place, tied by dental floss for better radiographic interpretation, as shown in Figures 4 and 5.

Now, the procedure became easier. According to the radiograph taken (Fig. 5), I found that I have to trough in the middle, between the tips of the two sharp explorers. Morethrobbing was done and the canals were negotiated and prepared, using 3Dshape rotary system till F2 size (Fig. 6). IOPA X-ray showing the mechanical preparation of the canals, the type III canals of each mandibular central joined and became a single canal. Then a master core X-ray was taken before the obturation step and the clamp was put back in place, as shown in Figure 6.

In the next step, the teeth were ready for obturation, which was done using TotalFill bioceramic sealer by FGK and gutta-percha cones of size K3/0.06. After obturation, a post-operative radiograph was taken to confirm the quality of the RCT, as shown in Figures 7-8.

Result

The patient had her RCT of the lower anterior teeth completed in a single visit. Analyses were prescribed for the patient in case of post-operative flare up. Then, she was referred to the prosthodontist who will further complete the treatment plan. She was satisfied with the RCT and was happy that all teeth were done in such a short time.

Conclusion

This clinical case shows that if we have enough knowledge of the latest dentals and advanced equipment, we can provide our patients the required treatment in one visit, even in the complex cases that would otherwise require multiple appointments.

CD-Relite helped diagnose the case correctly first, allowing to go through the next steps of the RCT quickly and smoothly. Moreover, the tools provided in the FONA imaging software aided in getting more enhanced images with minimal radiation dose, especially in this case where many radiographs were taken for diagnosis and treatment.

The New Swiss Endo Academy Training Centre

FKG Dentaire is proud to announce the opening of its new Training Centre in Dubai

By FKG Dentaire

FKG Dentaire SA (La Chaux-de-Fonds, Switzerland), leader in innovation and production of high tech rotary Ni-Ti systems, is highly committed in continuously combining in worldwide Continuing Education Ni-Ti systems, more particularly to 3D Ni-Ti treatments range: the XP-Endo® sequence.

The centre of the Swiss Endo Academy in Dubai has been inaugurated on February 5, just before the AEEDC congress, in the presence of the top management of the mother company and the entire staff team of FKG Dentaire.

By Dr Mostafa Anwar, Egypt

Assistant Lecturer of Endodontics – The British University in Egypt Certified Healthcare & Hospital Management Specialist-AUC

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Rotary vs Reciprocation: “How Do I Choose?”

By Dr John West, USA

As a practicing endodontist and a clinical endodontic educator for more than 30 years, the most frequent question I am asked about technique is: “Is it predictable?” While every dentist wants his or her endodontic treatment to be easier, more efficient, simpler, and profitable, in the end, it is predictability that trumps all considerations.

When I am asked the question “Rotary vs Reciprocation: How Do I Choose?” my answer is “Rotary and Reciprocation,” because the predictability of both methods is similar; they are just different in sequence, purpose, and motion. This article should help to explain these critical distinctions of Rotary vs Reciprocation so that the clinician is aware of these differences, understands his or her options, and makes the best choice for his or her particular practice and patient needs. It is an invitation to be self-educated about your best way to produce endodontic preparations that can be easily obturated.

The Greatest Variable

In all of dentistry, the greatest variable is always the clinician. While product and operatory infrastructure play a significant role, the answer to rotary vs reciprocation depends mostly on technique, and technique depends on the clinician’s skill, care, and judgment.

Q: How Do I Choose?
A: Take the Challenge

Here is a simple and revealing test for each clinician to determine his or her preferred “Rotary vs Reciprocation” choice. Speak to your local Dentsply Sirona sales representative and explain to them that you want to do this “challenge” test: Purchase enough Rotary files (ProTaper Next® or ProTaper Gold™) and enough Reciprocation files (WaveOne® Gold) to treat 10 endodontic patients with Rotary and 10 endodontic patients with Reciprocation. You could treat every other patient alternately with Rotary and Reciprocation, or you could treat 10 patients in a row with Rotary and then 10 with Reciprocation. Reverse the order if you prefer. You can use this same telltale test for comparison with your current preferred system.

Take good notes about what worked and did not work. Your answer for Rotary vs Reciprocation will be right in front of you!

Closing Comments

Using predictability as your critical benchmark distinction, your own testing will reveal your best choice of “Rotary vs Reciprocation.” The result: clinical confidence, consistency, and control. The marketplace has actually already answered the question of Rotary vs Reciprocation. The market’s answer: “Rotary and Reciprocation.” Those clinicians who have done their own in-house, controlled homework and testing will be happy with their answers. Now it’s your turn!

Dr. West is a co-inventor of the ProTaper® and WaveOne® Gold endodontic shaping systems.

References

http://www.dentistrytoday.com/articles/63-articlessmagazine/Endodontics/orof-rotar  

Dr. John West, USA

Founder and Director of the Center for Endodontics, Dr. John West, is recognized as one of world’s premier educators in clinical & interdisciplinary endodontics.
A case study using Dentsply Sirona’s Celtra® Press System

Aesthetic rehabilitation of the anterior mandible after tooth loss due to periodontal disease

By Dentsply Sirona

Tooth loss in the anterior mandibular region can be a challenging situation for dentists and dental technicians tasked to provide an aesthetically pleasing prosthodontic rehabilitation. For reasons of stability, a solid, torsion-resistant framework is a must in these cases. Metal frameworks have the drawback that thinner ceramic veneer layers may yield aesthetically less satisfactory results. Monolithic zirconia frameworks usually do not meet the aesthetic requirements of the dentist and patient in these situations. However, care must be taken to ensure sufficient strength even for delicate bridges to achieve satisfactory long-term results.

The case described here was treated with the new Celtra® Press pressable ceramic system. This outstanding system combines high strength with brilliant aesthetics and is ideally suited for demanding cases such as this one.

Case report

The patient first presented in December 2015 with no systemic conditions, except that the patient was allergic to penicillin. A few years earlier she had been diagnosed with periodontitis, in the course of which tooth #24 had become mobile and had had to be extracted. Prosthetic rehabilitation was performed at another dentist with an adhesive bridge from tooth #23 to tooth #25. This bridge had loosened several times and had to be re-bonded at regular intervals. There was a ceramic implant at site #24, and all four quadrants included posterior teeth with ceramic inlays or partial crowns as well as composite fillings. Horizontal bone loss due to persistent chronic periodontal disease in the posterior region was evident radiographically.

The patient requested an aesthetic, durable and stable restoration for teeth #23 to #25 and rejected an implant-supported crown at site #24. Having presented several alternative types of bridge restorations, the patient and dentist opted for a bridge made of a highly translucent all-ceramic material. As this case required both excellent aesthetics and high strength, we decided to use the Celtra® Press high-strength ceramic system.

The shade of the teeth was taken and the teeth were prepared under infiltration anesthesia, followed by taking impressions and by recording the habitual occlusion. The prepared teeth received a temporary acrylic resin restoration (Figs. 1 to 4).

In the dental laboratory, a saw-cut method was created and the preparation margins defined cleanly and precisely with the aid of a microscope (Fig. 5). The casts were scanned in the virtual articulator and the data imported into the CAD software. Thanks to the highly precise definition of the preparation margins, the software recognized them with 100% accuracy and integrated the data within fractions of a second (Figs. 6 and 7). The models were placed in the virtual articulator (Fig. 8) and were placed in the virtual articulator.

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The case was then treated with the Celtra® Press system, which combines high strength and stability with aesthetic performance (Figs. 9 to 20). The framework was invested with Celtra® Press Investment (Fig. 15) and sintered in the press furnace (Fig. 16). The case was then finished and polished to provide an aesthetically pleasing prosthodontic rehabilitation.
to examine their relationship with the TMJ and a bridge was designed on-screen with due regard to articulation and occlusal relationships, something that presented a special challenge due to the end-to-end occlusion (Figs. 8 and 9). Finally, the bridge framework was reduced by 0.5 mm in preparation for the cut-back and layering technique, and the contours were finished (Figs. 10 and 11). The framework was milled completely in Cercon® base wax for the cut-back and layering technique (Fig. 12). In the present case, we produced two bridge frameworks to test the simple spruing technique that uses only a single sprue for the pressing procedure (Figs. 13 and 14). Celtra® Press Investment, specially developed for this new pressable-ceramic system, is characterised by very low viscosity, making it easy to pour into the investment ring and assuring a precise flow around the fine details of the object (Fig. 15). After setting, a 6 g Celtra® Press pellet was placed on the muffle, which was then introduced into the pressing furnace.

Divesting after pressing proved to be very easy and was achieved simply by removing excess investment compound and sandblasting. One of the main advantages of Celtra® Press and Celtra® Press Investment is that virtually no reaction layer is present on the object after sandblasting, completely eliminating the acid-etching step with hydrofluoric acid (Figs. 17 and 18). After sandblasting, the framework exhibited a perfect surface without any reaction layer, all details of the objects had been reproduced meticulously (Fig. 19). No finishing was required beyond cutting off the sprue.

The initial fit of the framework was excellent (Figs. 20 and 21). The outstanding aesthetic properties manifested themselves when transmitting light through the Celtra® matrix on the cast (Fig. 22). The framework was veneered with dentins and enamels in two firing cycles (Figs. 23 to 27). Both the fitting of the bridge and its aesthetic appearance were as impressive on the master cast as they appeared intraorally during the try-in (Figs. 28 to 30). Both the patient and attending dentist were amazed at the result.

Summary
The case presented here describes the rehabilitation of an aesthetically compromised mandibular anterior tooth that had been lost to periodontal disease, with a delicate bridge design. This had become necessary because the patient had rejected implantological treatment followed by a single-crown restoration.

The inherent challenge in the situation was to create a restoration of excellent aesthetic quality while at the same time ensuring sufficient strength to guarantee a stable result for many years. This balancing act was successfully achieved with the new pressable-ceramic system Celtra® Press, because this zirconia-reinforced lithium silicate offers exceptional material properties not found in conventional lithium disilicates.

This new material with its clear translucence combines superior aesthetics with a strength that nevertheless exceeds 500 MPa — a value that no other lithium silicate can top. The result of the treatment was thrilling for the dentist and the patient alike.

For more information on how the Celtra® Press System can benefit your lab, please contact your local Dentsply Sirona representative.
Achieving more with less
Wafer-thin and brilliantly shaded: lab fabricated non-prep veneers for correcting misaligned teeth

By Carola Wohlgenannt, MDT, Austria

Lab-fabricated non-prep veneers made it possible to sidestep orthodontic treatment in the clinical case presented in this report. Despite the limited space available, brilliant shade dynamics were achieved with the help of specially shaded Enamel and Effect materials (IPS e.max Ceram Selection).

"Less is more". However, using less is often difficult. In view of the high demand for minimally invasive restorations, dental technicians are presented with new challenges in many cases. The extent of the preparation is often reduced to minimize the invasiveness of the treatment, leaving only limited space for the fabrication of an esthetically pleasing, functional restoration. Such situations necessitate adequate ceramic materials and experience to reproduce the subtle interplay of shades seen in natural teeth. While previously various ceramic powders had to be combined with each other to create the required mixture, this procedure has now been simplified with the introduction of new ceramic materials. IPS e.max® Ceram Selection are specially shaded Enamel and Effect materials with brilliant shades and natural-looking optical properties. The range comprises twelve shades that are divided into three groups. The six Special Enamel shades are designed to produce lustrous translucency effects in the enamel area. The three Light Reflector Effect materials have light-reflecting capabilities and are suitable for areas where a high brightness value is desired.

The three Light Absorber materials with light-absorbing properties are used to increase the in-depth effect. With this variation in materials, imitating natural teeth with individual characteristics is much easier than before. The range of possibilities is particularly convenient in cases where space is limited, such as in very thin restorations (e.g. veneers).

Clinical case
The approximately 40-year-old patient wanted the position of her teeth corrected (Fig. 1). She consulted her dentist with regard to this treatment because of the expected costs, the long treatment time and the limitations during therapy. An orthodontist had recommended the extraction of a tooth in the lower jaw and to provide the basis for orthodontic treatment. All of this was out of question for the patient. She also emphasized that no tooth structure should be removed for the esthetic correction.

Treatment plan and mock-up
The possibilities of an esthetic improvement in the upper jaw were discussed. In particular, teeth 11 and 13 were responsible for the unevenness in the dental arch. The teeth were inclined from the axis towards the palatal. The idea was to use two ceramic non-prep veneers to correct the misalignment and achieve harmony in the dental arch. With the help of a study model, the ideal tooth position was established in wax (Fig. 2) and then converted into "fast and easy" resin veneers (mock-up). The first impression after the placement of the mock-up was positive. There was a strong aha effect. The patient agreed to the treatment. The existing chalky spot on tooth 21 was masked with composite in the dental practice.

Challenge: reproducing the shade of the natural tooth
The shape and morphology of the veneers were defined by the mock-up.

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The shape and morphology of the veneers were defined by the mock-up.
Creating the veneers

Rifai's dies for teeth 13 and 11 were created with the help of the master model (Fig. 6). The dies were then soaked in water to prevent them from drawing moisture from the ceramic materials during the layering procedure (Fig. 7). The veneers were built up in layers in accordance with the shape defined by the mock-up (Fig. 8). No dentin material was used. The colour-intensive effect of the shade "cream" was used for the dentin core replacement. The other Effect shades selected served to bring out the warm-translucent interplay of shades. It did not take long to build up the veneers in ceramic. However, the esthetic appearance of a restoration is not determined by the shade effect alone. Subtle, noticeably surface structures can underline the natural appearance of a restoration. Adequate time and attention was therefore dedicated to designing the surface morphology of the veneers. At the final firing, the ceramic surfaces were slightly smoothed and, once fired, refined by mechanical polishing. Polishing was carried out carefully by hand. Figure 9 shows that the teeth were successfully brought into alignment with the adjacent teeth to create a harmonious appearance. An initial evaluation in the dental lab showed that the veneers demonstrated a natural interplay of shades in spite of the thin material thickness (Fig. 10). However, the effect in the mouth will ultimately decide the success of the restoration.

Seating the restoration and final result

An essential aspect for the success of veneers is the cementation procedure. No matter how brilliant the ceramic materials are and how skilfully the work of the dental technician is, if the shade of the adhesive cementation material is not chosen correctly, the joy of the "new smile" will be short-lived. VarioLink® II luting composite in shade neutral was selected to emphasize the bluish translucent areas along the marginal ridges (Fig. 5). The enamel shade "aphrodisiac" should lend warmth to the incisal, enhance the translucency and heighten the chroma. In addition, the slightly greyish but still warm enamelling shade "quartz" was chosen.

In principle, such challenges can only be met if the dental technician understands the light-optical properties of natural teeth and is able to use appropriate ceramic materials. The procedure demonstrated in this report eliminated the need for dental technicians to mix the individual materials themselves. Suitable materials in the ideal shade could be applied "directly from the lab". In this way, the balancing act between maximum esthetics and minimum invasive-ness was successfully and reliably accomplished.

Carola Wohlgenannt, MDT
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By Dental Tribune MEA / CAPpmea

Executive Director of the FDI World Dental Federation, Enzo Bondioni, hails from Switzerland. He has a background in finance, fundraising, advocacy, organisational capacity building and congress, and experience in managing and leading multi-million-dollar projects and making them sustainable and profitable. Dental Tribune Middle East and Africa spoke with Bondioni about the FDI and the importance of partnerships with companies like Philips during World Oral Health Day 2018.

The FDI is a federation of international dental associations and other professional organisations. We have more than 200 members in 130 countries.

How do you view the partnership between the FDI and Philips?

Philips is a key ally in helping us ensure the success of World Oral Health Day. By working together, we can disseminate oral health messages to many more people globally on 20 March.

Philips is in a unique position to help us raise the visibility and understanding of oral health issues across their networks, and we have seen through their World Oral Health Day activation efforts over the past two years, that they are fully committed to improving oral health habits through meaningful action. At the FDI, we find this type of support instrumental in helping us achieve optimal oral health for all.

Why is partnership with companies like Philips important for the FDI?

As leaders in the corporate world, companies like Philips have access to an international community of diverse stakeholders. They can help by spreading the World Oral Health Day messages and distributing the materials amongst their businesses, employees and customers, and at the same time show that they are committed to improving the health of the people who touch their business every day.

World Oral Health Day provides a great platform through which our global partners can build brand equity. It is also an excellent opportunity for them to further leverage their investment by conducting their own aligned activities according to their business objectives.

What are your hopes for the approaching World Oral Health Day on 20 March?

This World Oral Health Day, we hope that people all over the world will say ‘alibi’ and ‘think mouth, think health’. This is the theme of this year’s campaign, and it is prompting people to make the connection between their oral health and their general health and well-being. A healthy mouth and a healthy body go hand in hand, so we want people to recognise the close association between the two, and the impact that one has on the other.

On 20 March, we encourage people everywhere to commit to prevention and to control their risk factors. We encourage oral health professionals to commit to educating their patients on the positive impact that protecting their oral health has on their general health, and we encourage policymakers to understand their oral health challenges and launch policies that address oral disease at a local, regional and national level.
The government of Dubai has set a very high priority for oral health

By Dental Tribune MEA / CAPPmea

Dental Tribune MEA & CAPPmea had a pleasure to ask Dr Shiamaa Shihab Al Mashhadani from Dubai Health Authority (DHA) several questions about approaching World Oral Health Day 2018. World Oral Health Day (WOHD) is celebrated every year on 20 March. It is an international day to celebrate the benefits of a healthy mouth and to promote worldwide awareness of the issues around oral health and the importance of oral hygiene to looking after everyone old and young.

Why are partnerships with companies like Philips important for Dubai Health Authority? The DHA and the strategic stakeholders have common goals of ethics, integrity and value to help improve oral health and oral health literacy in the population. The DHA ideally provides prevention and promotion messages and programs to the public, however it is essential for strategic stakeholders to play an important role in emphasizing the prevention of disease and promotion of oral health in conjunction with government entities. They can help to develop local solutions for local needs, thus helping to tackle local oral health problems. The unity of goals and resources help pave the way for a more integrated health promotion services.

What are your hopes for the approaching World Oral Health Day on 20 March? We always plan each year to celebrate world oral health day in a creative, innovative and entertaining way this year is no different, we have special international oral health advocates and many related activities. The celebration of WOHD is an important tool to raise awareness about the importance of the oral health in relation to general health including the link to many non-communicable diseases in schools, community centers and the general public. The oral cavity is not separate from the body and it affects the body as whole. The FXF launched the theme for WOHD to concentrate on understanding the mouth and body connection and how good oral habits can control general health risk factors.

What is the relation between oral health and general health? As I said, the mouth is a mirror of the body. If we have any problems periodontal disease, dental caries they all originate from bacteria. Bacteria travel into the bloodstream and the effects can range from diabetes to heart disease. Many oral health problems are related to many systemic problems in the body, if we solve these problems, we will have good results in general health.

How does the Dubai Health Authority contribute to the promotion of oral health? The Dubai Health authority strategy for 2016-2021 has set a very high priority for oral health. It is fifth on the list of many health related programs. We have a very well structured oral health program which covers every aspect of oral health including school students community and public awareness of oral health with emphasis on elderly and people of determination, policies, guidelines and protocols that will improve oral health of the population of Dubai.

Thank you for the interview.

Paediatric Oral Health Care grows into success

By Sunstar Europe SA

Paediatric dentistry is where the seeds of optimal oral health are planted. In recent years, the provision of paediatric dental care has been steadily growing, but working with children can be challenging. In this article, James D. Nickman, DDS, president of the AAPD, describes the past few years as “exciting times” for paediatric dentistry. He sees growth in the profession, with the number of practitioners growing and the increasing problem population increasing each year. He characterizes paediatric practitioners as a young and diverse population. Demand for paediatric dental care, Nickman believes, is driven mainly but not only by parents seeking the best treatment for their children.

Products help fuel growth One of the defining characteristics of paediatric care, according to Nickman, is that it advocates prevention. Fluoride remains key to caries-prevention efforts, and products, such as professionally applied fluoride varnish, have increased patient compliance. Likewise, Nickman adds, silver diamine fluoride is helpful in treating infants and younger children because it allows oral health professionals to medically manage the disease until the children are better able to tolerate treatment. Advancements in restorative materials have improved the aesthetics of treatment among children. The use of laser technology to treat caries, remove bone, or treat hard and soft tissue is also growing among paediatric dental practices, with such benefits reported as reductions in post-operative infection, reduced anxiety for patients due to decreased noise level, and less need for anesthesia.

The dental market has developed a variety of products designed to appeal to children such as manual toothbrushes featuring kid-friendly motifs that include bright colours and patterns, and friendly monster characters for ages 2 and older. Toothpastes, too, have been tailored to the paediatric population, and include fun flavours.

Oral health literacy and safe practice above all In many cases, children depend on a parent or caregiver to provide self-care and it is important to keep instructions simple. In addition, care plans should be developed and discussed in a culturally appropriate manner whenever possible. Part of making that treatment optimal, is for practitioners to spend the time necessary to communicate the needs of the child and options for treatment in understandable language. Children and their parents may historically have dreaded visiting the dental office, but advances in products and practice methods are overcoming the barriers that once separated young children from vital treatment. Despite the challenges this trend will present, it provides an opportunity for the dental profession to showcase its strengths and lead generations of patients on the path to optimal oral health.

References

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**Maurizio Tonetti: Prevention makes excellent economic sense for the dentist**

By DTI / Prof. Maurizio Tonetti

Lack of compliance from patients cannot remain an excuse for giving up, says Prof. Tonetti, editor of the Journal of Clinical Periodontology and co-author of a Perio Focus green paper, which is used by the FDI World Congress to call for prevention, diagnosis and treatment. If you call for prevention, diagnosis and intervention at all stages of life, these four pillars will form the framework for discussing clinical cases during the Silver Wave Symposium at IDEM.

There is a global phenomenon of population ageing on an unprecedented scale. What is the implication for dentistry? By DTI

In your Perio Focus green paper, “Impact of the global burden of periodontal diseases on health, nutrition and wellbeing of marketed and mandible,” you call for prevention, diagnosis and treatment. Why do you recommend this threefold approach to periodontal diseases? More than 750 million people suffer from severe forms of periodontitis, where the disease has taken a more sinister form of it. With such a widespread prevalence of this disease, we need a multi-pronged approach to treat it, which includes:

- **a)** Prevention, to ensure that fewer people develop the disease. We should consider the common risk factor approach for the prevention of chronic non-communicable diseases, as suggested by the World Health Organization (WHO), with one critical addition: we must include oral hygiene as one of the virtuous behaviours (along with not smoking, eating well, controlling weight and exercise) Prevention requires the implementation of appropriate preventive oral education, in addition to the effective management of gingivitis, which dental professionals need to play a critical role in providing. In addition, more needs to be done by governments in this regard.

- **b)** Diagnosis, since we think that early detection and early management will lessen the economic burden of treating periodontal disease. We suggest an alliance with the patient to aid early detection with self-assessment and early professional screening and a full periodontal examination. In addition, it is critical that dental professionals communicate the message that gingival bleeding is not normal and requires professional attention.

- **c)** Treatment, which for dentists is the obvious step. The problem is that we know how to treat this disease and we have all the tools to do this. However, because access is missing access to the best evidence-based treatment difficult—and I am not only talking about money! A complex mix of misunderstandings, incorrect health messages delivered by healthcare providers and ineffective oral health products, faulty reimbursement systems and a historical focus on the restorative dentistry are proving to be formidable barriers.

- **d)** Sanita, which we need to rethink what we are doing.
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* When toothpaste is directly applied to each sensitive tooth for 60 seconds.
† Containing 5% potassium nitrate and 1450 ppm fluoride as sodium fluoride.
‡ Containing 1450 ppm fluoride as MFP.
References:

INSTANT AIR BLAST SENSITIVITY RELIEF IN VIVO

Ayad et al. 2009b, Mississauga, Canada

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* p < 0.05 compared to baseline
• p < 0.05 compared to control
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Implant Restorations with CEREC

By Dr Simon Chard, United Kingdom

Dental implants are a fantastic addi-
tion to the repertoire of any restora-
tive dentist and allow us to provide a tooth replacement in a way that minimises damage to remaining dentition. The restoration of dental implants requires a sound knowl-
edge of restorative dentistry, pro-
thodontics and periodontology.

Traditionally, this has been carried out with an analogue impression taken with an impression coping either via an open or closed tray im-
pression technique. A skilled techni-
cian then fabricates this restoration over a 2- to 3-week period. The time and skill required for these restora-
tions both from the clinician and technician command high fees for the patient.

This case report highlights a novel method of restoring implants utilis-
ing the modern advances in digital intraoral scanning and chairside milling. It illustrates how an aesthetic single implant retained crown can be provided chairside without the need for analogue impressions (Figs. 1 & 2: Pre-operative condition).

Following a discussion of the options for replacement of LR6, the patient elected for an implant retained so-
lution. A MegaGen AnyRidge 4 x 10 mm implant was placed utilising a surgical guide for position of the pilot hole. An immediate tempo-
rary crown was fabricated using the MegaGen fuse abutment and DMG Luxatemp. A silicone index of the di-
agnostic wax-up was fabricated and the temporary crown was polished and taken out of occlusion while the implant fully integrated (Fig. 3).

Following 3 months of integration, the patient attended the practice for the restoration of the implant with a definite crown. During this period, the soft tissue had been given time to mature and a beautiful molar soft tissue profile had formed (Figs. 4 & 5).

Traditionally, capturing the detail of this soft tissue profile with analogue methods is complicated and time consuming; however, utilising a digi-
tal intraoral scan (CEREC Omnicam) a “gingival mask scan” can be taken to accurately replicate this soft tissue and use it to guide the subgingival emergence profile of the restoration (Fig. 6).

Following removal of the temporary crown, a TiBase was placed into the fixture head and a scan body used as a reference point for the scanning of the implant (Figs. 7 & 8).

Following digital intraoral scanning (DIOS) of the opposing arch, working...
ZrO₂ is a highly biocompatible material needed to osseointegrate and withstand masticatory force without fracturing.

Zirconia is a metal with the atomic number 40. Zirconium dioxide (ZrO₂) or Zirconia is a ceramic material without any metal properties. It is electrochemically inert, causing no galvanic or electro current passage. It is electrochemically inert causing no galvanizing or electro current passage.

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By Sofia Karapataki, Greece

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Zirconia is a metal with the atomic number 40. Zirconium dioxide (ZrO₂) or Zirconia is a ceramic material without any metal properties. It is electrochemically inert, causing no galvanic or electro current passage. It is electrochemically inert causing no galvanizing or electro current passage.
Degradation rates at room or body temperature of Y-TZP ceramics are currently not available, and accelerated degradation at increased temperature (50°C to 100°C) are the only basis for extrapolating an estimate of the transformation rate and, hence, of the product lifetime. This approach refers to the titanium-yttria under temperature transformation following the same Arhenius-like trend down to room temperature. Unfortunately, such extrapolation could lead to a significant error in estimating remaining body temperature life. Still this is the method that is used in vivo. A study by Preis et al. (2014) examined 36 zirconia implants of four different brands and found that the number of cycles of the implant system is the same for all systems. They suggested that in vivo studies are needed to investigate the effect of mastication force on the extent of LTD and the influence of surface changes such as delamination of the grains on surrounding hard- and soft-tissue.

Still a certain degree of transformation from tetragonal to monoclinic phase can actually improve the mechanical properties of Y-TZP. Under stress, i.e., at the tip of a crack, the Y-TZP undergoes a phase transformation from tetragonal to monoclinic phase. This phase transformation results in a 3 to 4 per cent volumetric expansion inducing a compressive stress in the area of the crack and theoretically prevents crack propagation. An implant which exhibits phase transformation in case of microcracks and high forces is desirable. Still it is not sure whether the already existing microcracks that are produced in vitro, during handling (e.g.) during mastication or parafunctional activities, don't propagate, leading to a possible fracture.

One- vs two-piece zirconia implants

Zirconia appears in two varieties, one- or two-piece implants offer the absence of a microgap between implant and abutment which seems to be beneficial. The surgical placement of the implant may though not always meet the prosthetic requirements and angulated abutments in order to correct the implant’s position, is a common challenge. Secondary corrections of the shape by grinding must be avoided, as this severely decreases the fracture strength of zirconia. Protection by use of splints is also required, though not always possible. So, two-piece implants were designed. Designing a zirconium implant to be compatible with different materials and should simplify surgical and prosthetic steps for the future. Size limitations should be considered, in order to produce an implant that is not prone to fractures. A clinical study by Cahill et al. (2021) showed a marked tendency of one-piece implants with a narrow diameter (3.5 mm) to fracture, with a percentage that reached 91 per cent of the fractured implants. Threads and shape of implants should be designed according to the need, in order to avoid the risk of creating microcracks during implantation. The implant head, if positioned at the gingival level or even higher, could diminish the need for a second surgery; as well as bypass the bacterial growth in the gap between implant and abutment. The decision of choosing between a one- and a two-piece implant could be influenced by the design of the implant, the available space to be installed, and the prosthetic rehabilitation that follows.

Implant-abutment connection

Connection of the abutment with the implant is performed by three steps: either by screwing, cementing, or even as a combination of both. When screwing, the material of the abutment and the connecting screw is of crucial importance for the implant to be intact. As a consequence from titanium knowledge, screwing an abutment made from the same material as the implant is a “natural” step. Screw in zirconia makes the screw impossible to exist. This connection cannot occur in zirconia, as it will not react with the material of the implant. Therefore, it is possible to form a ceramic-to-ceramic connection. In case of cement fracture, one should estimate the consequence of removing the abutment screw. A recent in vitro study by Preis et al. (2014) created a cement fracture of different implant connection. It was investigated in six groups of different two-piece zirconia implant systems. In group 1, the abutments were cemented with a commercially available organic and metal-free screw in zirconia implant. In group 2, the abutments were cemented with a carbon fibre reinforced polymer screw on an alumina-toughened zirconia implant. For the group 1 and group 2, the screw-retained abutments were screwed with titanium screws on tetragonal zirconia polycrystals (TZP). A standard screw-retained titanium implant served as the control. The bonded zirconia system and the titanium reference survived without any failures. Screw-retained zirconia systems showed fractures of abutments and/or implants, partly combined with screw fracture/loosening. Concerning the abutment/implant region around the screw, it is clear that the connecting design is crucial for clinical success.

Additionally, a study by Neumann et al. (2014) compared the fracture resistance of different implant connection. Screw tests made of titanium, polyetheretherketone (PEEK) and 30 per cent carbon fibre-reinforced PEEK using an external hexagonal implant/ABT connection type. Internal hexagonal titanium abutments were fixed to implants using different styles. Group 1, polyetheretherketone screws (group 2), and 30 per cent carbon fibre-reinforced PEEK screws. They found that the titanium screws had higher fracture resistance, compared with PEEK and 30 per cent carbon fibre-reinforced PEEK screws.

Screw connections are available on the market, but cementation on the other hand could be a simpler and less time-consuming procedure as it is also shown in the study by Brilli et al. (2014). It is easier to the dentist’s basic education, resembles the procedure of cementing a post in natural endodontically treated teeth and requires no extra instruments. A combination of both screwing and cementation though, could make the procedure more complicated. More studies are required to determine the proper abutment material, cementation method and procedure.

The restorations that will be used together with their limitations should be studied. Mostly fixed prosthetics on single crowns or small bridges have been presented. The fracture resistance of two-piece zirconia and titanium implant prototypes under forces representative of a period of five years of clinical loading was tested, during and after a 28-day in vitro experiment by Kohal et al. (2009). In this experiment the crowns had no influence on the fracture strength of the zirconia implants. Still, in certain cases such as treating a patient with parafunc- tional chewing, a softer prosthetic material could be a wise choice. The need for further investigation on removable prosthetics on zirconia implants should be kept in mind, too.
of implants. The prevalence of peri-implantitis according to the review of Zitzmann and Berglund (2008) varies between 12 and 43 per cent of implant sites.26 Many aetiological factors have been implicated, bacterial contamination among them. In peri-implantitis, the lesion extended apical to the pocket epithelium contains large proportions of plasma cells and lymphocytes but also PMN cells and macrophages in high numbers.27,28 Peri-implantitis though has hardly been reported on zirconia implants. Zirconia demonstrates a low affinity to bacterial plaque, small amounts of inflammatory infiltrate and good soft tissue integration. These properties might lower the risk for peri-implant diseases.27 This hypothesis is strengthened by the results of the study conducted by Nascimento et al. (2004), where cast and polished titanium were presented with the highest incidence and total count of bacteria, while zirconia showed the lowest.29

Rosenberg et al. (1990) claimed distinct differences between bacterial profiles of infected and overloaded titanium implants.27 The latter were characterised by the absence of mobile rods, spirochetes and classical periodontopathogens, along with a predominance of Gram-positive organisms, similar to what is observed in periodontal health. These observations were supported by Quirynen and Listgarten in 1990.27 Failures of zirconia implants due to bacteria should be differentiated against those of technical reasons and the microbota should be investigated. It should be kept in mind that bacterial cells have a net negative charge on the cell wall, although the magnitude of this charge varies from strain to strain. Especially on the Gram-negative bacteria, LPS as a major component of their cell membrane increases even more the negative charge.28 Titanium is also negatively charged, thus acting repulsively to bacteria. This could be one of the reasons of success of titanium implantation in a contaminated environment. Zirconia though has no electric charge. Depending on the roughness and the hydrophilic surface of every zirconia implant system, contamination may be easier to occur and this could be a reason of early failure when zirconia is implanted in a contaminated environment. Studies are needed to clarify whether the latter could affect the osteocongruence result and what is the relative danger against those of technical reasons.

**Conclusion**

Intolerance to titanium and genetic predisposition to inflammation has been introduced as an additional and independent risk factor (Odds Ratio 12 and Odds Ratio 6 respectively) for peri-implantitis.30 The authors propose a direct effect of the released microparticles of titanium on the immunological mechanism of the body that could possibly initiate peri-implantitis. Zirconia particles on the other hand have no effect on the release of TNF-α.30 Titanium microparticles are released as a result of friction, electromechanical corrosion, or the synergistic effect of both and can either be taken up by macrophages, remain in the intercellular space near the releasing site, or systemically migrate in organs such as liver, spleen and lung, as Olmedo et al. (2003 and 2002) found.30,31

Same group of authors made a long-term evaluation of the distribution, destination, and potential risk of both TiO2 and ZrO2 microparticles, in an animal study.30 They evaluated:

(a) the presence of particles in blood cells and liver and lung tissue,
(b) Ti and Zr deposit quantitation,
(c) oxidant-antioxidant balance in tissues and
(d) O2− generation in alveolar macrophages.

Ti and Zr particles were detected in blood mononuclear cells and in organ parenchyma. At equal doses and times post administration, Ti content in organs was consistently higher than Zr content. Ti elicited a significant increase in O2− generation in the lung compared to Zr. The consumption of antioxidant enzymes was greater in the Ti than in the Zr group.

These particles might lower the risk of failure and thus act as another advantage of zirconia.30,31

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Introducing Dr. Naif Almosa - Chairman of the Digital Orthodontics Symposium Dubai

Interview with Dr. Naif Almosa, Chairman of Department of Paediatric Dentistry and Orthodontics, Assistant Professor and Consultant in Orthodontics at King Saud University, Riyadh, Saudi Arabia.

Dr. Naif Almosa, Chairman, Department of Paediatric Dentistry and Orthodontics, Assistant Professor and Consultant in Orthodontics at King Saud University, Riyadh, KSA

By Dental Tribune MEA / CAPPmea

Dr. Naif Almosa, please if you can give us some insights into your background of life, work and education hailing from Saudi Arabia.

Dr. Naif Almosa was born in November 1981, married and father of three angels. I received the bachelor's degree of dental science from King Saud University (KSU) in 2006 and completed the internship program in 2007. After this I joined the orthodontic residency program at Gothenburg University in 2009 and gained the National Swedish Board of Orthodontics in 2010. I started the PhD program while I was resident in the clinical program in 2010 and completed my PhD degree in April 2014. In May 2014, I returned to Saudi Arabia and joined the department of Paediatric Dentistry and Orthodontics at KSU. In September 2014, I was assigned to be the Director of Internship Program until the summer of 2017. In April 2017, the Rector of the University assigned me as the Chairman of Paediatric Dentistry and Orthodontic department to present day.

As an active member and ambassador for the Saudi Orthodontic Society, how important is it to stay continuously up to date as an Orthodontist? Very important in Orthodontics, there is no excuse to stop learning. Technology is very fast in coming up with new discoveries so it is up to us to keep pace and combine it into our clinical practice. I can never emphasize enough how much we need to take advantage of the information that is readily available to us.

Orthodontics is growing to be an industry-driven specialty, and I strongly believe that as professionals we have to be updated and gain more insight and critical thinking in the face of all these new products and technology, that are the national scientific meetings, workshops, and international conferences.

What are some of the activities organized by the Saudi Orthodontic Society? What are the benefits of the members and why should non-members register? The Saudi Orthodontic Society (SOS) is now in its 12th year, and we have held a fair number of conferences, annual and semi-annual meetings, workshops, etc. Always with the end goal of excellence in the orthodontic field, we have invited speakers from different parts of the world to bring to us their experience and knowledge. Being a member of the SOS, you get the opportunity to be around peers and stay up to date in orthodontics. In my opinion, to learn from and interact with these colleagues would be enough incentive for non-members to register. Surely, if you go through our website, the SOS members do have the added benefit of preferential rates on some activities as well as access to specific journals.

You are now part of the faculty at College of Dentistry, King Saud University. Could you share more information on the Orthodontics programme being run by the college? In the KSU Ortho program, we are actively engaged in the education of undergraduate students consistent with the development of competency in general dentistry. The department offers didactic, pre-clinical and clinical experiences in paediatric dentistry and orthodontics integral to comprehensive patient care. We also offer post-graduate programs for specialty training in Paediatric Dentistry, and Orthodontics. This is a 36-month program leading to a Master’s degree. In addition, three years ago, we started the Doctorate program in both specialties, Peds and Ortho. The doctorate program is a four years full time program, which includes didactic, clinical, and research activity where the students must write a thesis at the end of the program under supervision of our unique faculty members.

Orthodontics in the Middle East is evolving at a rapid pace. I believe that it is improving with the increasing addition of new orthodontists who have been graduated from different schools around the world. We are also seeing more companies being established here that are enhancing innovation in digital orthodontics, and of course, we are now able to have global collaborations through e-learning and scientific meetings in different parts of GCC. I must admit that we are still lacking a more comprehensive educational program for our patients in GCC, especially with regards to the importance of oral hygiene and how it impacts orthodontic treatment. Unfortunately, most of the parents in our region have no idea when is the proper time for their kids to visit the orthodontist, because in some cases, this usually results to very a serious and more complicated treatment procedure when their children are already grown-up.

Digital Dentistry is slowly taking over the dental profession, even in Orthodontics. How do you see the future of dentistry, orthodontics and the implementation of digital technology into your working profession?

Digital dentistry has revolutionized dentistry. There are unlimited possibilities. Profound orthodontics has notably seen a lot of progress with its rapid integration of the digital process like the CAD/CAM, and in radiology, there’s the cone beam computer tomography. Orthodontics, with its multidisciplinary needs, has been a bit slower, but digital photography, CAD/CAM, laser and intra-oral scanners have brought about so much progress. Again, even with all the ease that technology is bringing to our practice, adequate training is still very much a requirement. Never stop learning. Digital Dentistry will save time, enhance patient comfort, allow more accurate impressions and show patients creative treatment plan options moving away from the old notion that the dental clinic is “a place to be feared”, changing into “a place to be experienced”.

We appreciate your valuable insights and wish you the very best in your future endeavours.
The orthodontic patient - From hell to heaven

Tabitha Acret explains how Guided Biofilm Therapy has revolutionised how she treats orthodontic patients

By E.M.S

If you're anything like me, my heart would sink a little when I would see that a teenage patient in active orthodontics was booked to see me. Who would walk through the door? Would it be a mouth full of food debris stuck in what looked like molten orthodontic brackets and profusely bleeding gums? Would I see impossible to reach staining around the brackets, trying to use a prophy handpiece and pluggy prophylactic paste to remove tenacious sticky mature plaque from modules and on the gingival side of the bracket. As I frantically worked away, I would be loathing the patient in the chair, blood, sweat and tears from both of us going into the appointment with a lacklustre result!

I used to loathe this type of patient, not just because I could find enough food in their brackets to feed a small gerbil but because I was never satisfied with the results I'd achieved after I'd finished their clean. Far too often, I felt under pressure to get their teeth cleaned in the "child" timed appointment slot, never feeling like I had removed everything. I was always feeling frustrated trying to manoeuvre my ultrasonic tip around brackets, trying to use a prophylactic paste to remove tenacious sticky mature plaque from modules and on the gingival side of the bracket. As I frantically worked away, I would be loathing the patient in the chair, blood, sweat and tears from both of us going into the appointment with a lacklustre result!

Good oral hygiene vital for orthodontic patients

Good oral hygiene is paramount to successful orthodontic treatments. Without good oral hygiene, a patient's outcome will be compromised. This was frustrating me.

Fig. 1: AIRFLOW in action on orthodontic brackets

In a journal article by Lovrov S, et al (2007), it was shown that "Despite improvements in materials and preventive efforts, orthodontic treatments continue to carry considerable risk of enamel demineralisation. Each patient's prophylactic efforts, including fluoride use are of paramount importance in preventing white spot lesions". In another article, by Ren, et al (2014), it showed that "high treatment demand and the occurrence of biofilm related complications requiring professional care, make orthodontic treatments a potential public health threat". Knowing how important it is that the professional clean be good and all biofilm be removed just added to my stress. I knew that I could never remove all the biofilm and that there would be areas around the brackets my ultrasonic or prophylactic cup just couldn't get to. Then, if you add in the mix that the patient already has some demineralisation of the enamel where the ultrasonic couldn't be used, then the frustration and difficulty of the appointment just doubled again.

In search of a better solution

Combining all of the above problems made me want a better solution. I want to provide my patients with the best treatment possible and don't I want my patients leaving their appointments with biofilm still trapped in modules. Initially discovering success with AIRFLOW® (EMS) for implant patients, I was interested in what I could offer my orthodontic patients.

Fig. 2: The 8 steps of the Guided Biofilm Therapy compass

What I discovered is that by using AIRFLOW in combination with Guided Biofilm Therapy, I was getting amazing results. If you had asked me before AIRFLOW to plaque disclose my ortho patients, I may have thought you were either crazy or you hated me. Before AIRFLOW, I didn't want to plaque disclose my patients who have orthodontic appliances as I would have provided proof of the areas where I left biofilm behind because I couldn't get to it. I know plaque disclose every single one of my patients as part of the “8 steps” of the Guided Biofilm Therapy protocol.

Guided Biofilm Therapy

By using the Guided Biofilm Therapy protocol, you achieve predictable biofilm removal with 100% and 950 degree accessibility. It's safe and effective around the sulcus, there is no change in the surface of the appliance and not only is it more comfortable for the patient with better results, I am happy!

I feel so much happier with my results not only at the time of the appointment but because the long term benefits for the patient in terms of motivation and education are so much better. Not only do my patients and I see better results, but it is also clinically proven that using a plaque disclosing solution to guide biofilm removal shows better outcomes for the patient. In Botti et al 2010; Busendorf et al 2016; and Viorica et al 2009; all confirm higher efficiency in professional prophylaxis when done with the use of a disclosing agent.

In the study by Viorica et al, Dental Plaque - Classification, Formation and Identification, it was shown that "dental plaque diagnosis using coloured solutions is one of the easiest and fastest ways to diagnose..."
More than cleaning brackets

The are two other key reasons why following the Guided Biofilm Therapy protocol is impressive for orthodontic patients as well as routinely in all prophylaxis procedures. The first is the long term health of the enamel and gingiva. By using AIRFLOW technology combined with AIRFLOW PLUS powder, I know that I am providing the least damage to the patients enamel and orthodontic appliances. In a clinical comparison of the efficacy and efficiency of two professional prophylaxis procedures in orthodontic patients, Ramaglia et al show that “in orthodontic patients, use of AIRFLOW polishing is a lot safer, efficient and effective to remove stains and dental plaque in comparison to rubber cups and pumice”.

The second great thing was that I now had time to finish within the appointment time. I wasn’t feeling so under the “pump”. I used to find that I was always running late in these appointments and now I was finishing easily within the time allocated. In effects of an air-powder polishing system on orthodontically bracketed and banded teeth, Barnes et al show that “Air polishing around brackets and banded teeth, Effects of an air-powder polishing system on orthodontically bracketed and banded teeth was not only effective but time efficient. There were no detrimental effects to any composite material or cement in comparison to rubber cup and pumice.”

Conclusion

By using Guided Biofilm Therapy with AIRFLOW technology combined with appropriate home OHI instruc-
tions and motivation, I am providing the best treatments possible for my patients. I love Guided Biofilm Therapy, it’s changed my attitude toward treatment, my treatment results and my patients’ long term outcomes. Guided Biofilm Therapy is evidence-based dentistry, it is the new standard of care we should all be looking to reach.

For information on EMS and Guided Biofilm Therapy, visit www.ems-dental.com and follow EMS Australia and New Zealand on Facebook - Facebook.com/emsauzn. To test drive this revolutionary protocol in your practice today, book a free in-practice Guided Biofilm Therapy demonstration by emailing info@ems-australia.com or call 0405 993 869.

Fig. 3a-c: Top to bottom: Initial situation; after disclosing; and after Guided Biofilm Therapy.

References

Efficient Bonding Protocol for the Insignia® Custom Bracket System

By Dr. Angle Lee, Dr. Chris Chang & Dr. W. Eugene Roberts, Taiwan

Insignia® (Ormco, Glendora, CA) is a computer-assisted design and manufacturing (CAD/CAM) process for producing a specific fixed appliance system to treat a malocclusion. Custom brackets and archwires to achieve the prescribed alignment are produced by a reverse engineering process, based on the digital setup of final intermaxillary occlusion. Precise placement of each bracket is critical for producing a threedimensional (3D) alignment to efficiently accommodate the final rectangular finishing wire, with no need for detailing adjustments. Positioning jigs for each bracket are fabricated to assist the clinician in accurately bonding or rebonding the prescribed custom attachment on each tooth. The purpose of this report is to describe a standardized protocol for efficiently placing the custom appliance in the prescribed position. All orthodontic supplies and auxiliaries described in this article were produced by the same manufacturer (Ormco, Glendora, CA), unless otherwise stated.

Preparation for Bonding

Prior to the installation appointment, the clinician and assistant(s) should inspect the following items in the patient’s kit box (Fig. 1):

1. Custom prescription brackets with well-fitted application jigs (Fig. 1c). The brackets for each quadrant are packed together.
2. Six upper and six lower custom archwires with labels (Fig. 1d).
3. A setup of individual replacement archwires with labels (Fig. 1e-f): The first and second molars have brackets already loaded.
4. Case paperwork (Fig. 1g). Clinicians are alerted to anticipated bracket interference with occlusion, that requires bite-turbo or other composite buildup on the occlusal surface to open the bite. If there is substantial crowding, some brackets may be designated for placement later in treatment.

Clinical tip: The custom-fit group jigs should be dry fitted to dental casts of the malocclusion for two reasons: (1) check the bonding positions, (2) determine if there is any jig interference when adjacent brackets are properly positioned (Fig. 2).

Bonding Process

1. Tray Arrangement: Place the jigs and bonding instruments in the desired order, usually in the progression that they are used (Fig. 3). The arrangement may vary according to the desired tray position relative to the patient, and the handedness of the clinician and assistant.

2. Isolation Procedure: Begin moisture control by placing dry aids on the cheek mucosa to isolate the soft tissue. Super absorbent pads are used between lower molars and the tongue to control saliva secretion by the sublingual glands. An OptiView® lip and cheek retractor is positioned to provide a clear view of the entire oral cavity including the buccal surfaces of the molars (Fig. 4).

3. Step-by-Step Protocol:
   (1) Dry fit the group jigs to the initial casts to identify any problems in sequentially positioning the bondable pads on each tooth.
   (2) Apply etching gel for 30 seconds to each tooth and air dry.
   (3) Rinse thoroughly with water spray for a minimum of 5 seconds per tooth and air dry.
   (4) Apply the bonding agent (Ortho Solo®) onto all teeth to be bonded. No air-drying or light curing step is required.
   (5) Apply a thin coat of adhesive to each bracket pad with an application instrument such as LiquidSteel Poly-Fill Plasmas® (Carl Martin, Solingen, Germany).
   (6) Use cotton tweezers to grip the jig.
   (7) Roll the jigs from the lingual cup or incisal edge to the facial surface, and apply pressure from a 45-degree angle (yellow arrow). Use a microbrush dipped with bonding agent to clean off excess adhesive. Spray the jig-bracket assembly with water. Use a tungsten plier to release the jig from the brackets on the mesial and the distal surfaces, and then by rolling it gently to the lingual (yellow curved arrow) to remove the jig(s) from the upper (11) and lower (12) arches.

Fig. 2: Group jigs are placed on dental casts to check the fit. (a) interference (yellow arrow). It follows that the lower left 1st premolar and 1st molar group jig must be removed before applying the group jig to bond the lower left canine and adjacent incisors.

Fig. 3: Ensure bonding instruments are laid out in the desired order: (a) mirror and cotton tweezers, (b) custom prescription brackets with custom fit placement jigs, (c) dry aids and super absorbent pads, (d) scaler, Weingart plier and filling instrument, (e) lip and cheek retractor, (f) bonding agent, etching-gel, microbrushes, (g) adhesives and uni-dose applicator. See text for details.

Fig. 4: Compared to conventional retraction (left), an OptiView® lip and cheek retractor (right) is more comfortable for the patient, and improves intra-oral visibility.

Fig. 5: Insignia® bonding procedures are organized into a step-by-step protocol: (1) dry fit the group jigs, (2) apply etching-gel, (3) rinse, spray, and dry, (4) use etched surfaces with the bonding agent (primer), (5) apply a thin layer of adhesive resin to each bonding pad with a filling instrument, (6) use cotton tweezers to grip the jigs, (7) rotate the pad and jig from the lingual cup or incisal edge to the facial surface, and apply pressure from a 45-degree angle (yellow arrow). (8) use a microbrush dipped with bonding agent to clean off excess adhesive. (9) spray the jig-bracket assembly with water. (10) use a tungsten plier to release the jig from the brackets on the mesial and the distal surfaces, and then by rolling it gently to the lingual (yellow curved arrow) to remove the jig(s) from the upper (11) and lower (12) arches.

Fig. 6: Insignia® bonding procedures are organized into a step-by-step protocol: (1) dry fit the group jigs, (2) apply etching-gel, (3) rinse, spray, and dry, (4) use etched surfaces with the bonding agent (primer), (5) apply a thin layer of adhesive resin to each bonding pad with a filling instrument, (6) use cotton tweezers to grip the jigs, (7) rotate the pad and jig from the lingual cup or incisal edge to the facial surface, and apply pressure from a 45-degree angle (yellow arrow). (8) use a microbrush dipped with bonding agent to clean off excess adhesive. (9) spray the jig-bracket assembly with water. (10) use a tungsten plier to release the jig from the brackets on the mesial and the distal surfaces, and then by rolling it gently to the lingual (yellow curved arrow) to remove the jig(s) from the upper (11) and lower (12) arches.
Avoiding common problems in tooth extractions

By Dr Kamis Ghaballah, UAE

The last two decades have seen sig- nificant advances in restorative tech- niques and materials for dentistry. This has been achieved through community- based preventive measures that aim to reduce the incidence of car- iology, which result in many patients living with functional teeth for a longer period. Extraction of teeth forms the considerable bulk of the workload in oral surgeries owing to the increased presentation of patients with ad- vanced dental disease, the presence of symptomatic impacted teeth, such as third molars, and the need to extract teeth for orthodontic or orthognathic treatment.

The extraction of teeth varies greatly based on the type of patient who is undergoing the procedure. For ex- ample, in young patients with cavities, care must be taken to ensure good oral hygiene, and in older patients with comorbidities and on a com- plex combination of medications as compared with young healthy individuals. The procedure complicated and require much more preparation with modifications dur- ing and after patient management.

Additionally, extractions can range from a simple, fully erupted tooth with favourable morphology to mul- tiple, impacted teeth with challenging morphology. Local anatomy, such as tooth prox- imity to the nerve, maxillary sinus and tuberosity, also plays a signifi- cant role. These variations usually dictate who is to perform the extrac- tion, as many general practitioners do not have the necessary skills to perform dental extraction in individuals re- garded as healthy patients and may not be comfortable operating on medically complex patients.

Complex extraction cases have been linked to a higher rate of postop- erative complications. Therefore, a cautious and systematic approach should be adopted that includes a detailed preoperative assessment to predict the potential difficulties that might arise during extraction.

The documentation of all complicat- ing risk factors along with their pos- sible postoperative morbidity is crucial and should be included in the patient record. In the following article, other useful tips will be pro- vided that are not usually included in traditional textbooks or lecture notes to help general practitioners to perform safer extractions.

Dental Care

During clinical examination, it has been proven useful to observe the patient’s build. Tall and muscular in- dividuals tend to have a long ramus with a higher mandibular foramen, and this increases the possibility of failure of the inferior dental nerve. Block procedure if the former is not taken into account when deter- mining the height of the injection site. This can be aided by tracing the in- ferior dental canal (IDC) to the man- dibular foramen in the preoperative panoramic radiograph. The teeth of such individuals also have a higher potential of injury to the IDN can be collec- tively categorized into two main sets. The first is the preoperative precau- tion, which should include critical assess- ment of the need to extract the third molar, clinical examination and radiographic investigation, and the second is intra-operative measures, including proper selection of local anaesthetic agent, the injection tech- nique, modification of the surgical procedure and measures to reduce the degree of potential injury to the nerve.

Injury to the IDN may occur from compression of the nerve, either indirectly by forces transmitted by the root and surrounding bone during el- evation or directly by surgical instruments, such as elevators. The nerve may also be transected by rotary instruments or during ex- traction of a tooth whose roots are notched or perforated by the IDN. The risk factors for IDN injury dur- ing extraction of LM3 are shown in Table I.

Preoperative radiographic investiga- tions may include intra oral images, such as occlusal radiographs, pano- ramic views of the jaws, and conven- tional CT or CBCT scans. It should be noted that the risk predicting signs in radiographs only indicate that there is an increased risk of nerve damage associated with the extraction of the corresponding third molar. However, they cannot actually prevent the nerve injury if the teeth is to be extracted. The effective strategies that may avoid or minimise the risk of injury to the IDN can be collec- tively categorized into two main sets. The first is the preoperative precau- tion, which should include critical assess- ment of the need to extract the third molar, clinical examination and radiographic investigation, and the second is intra-operative measures, including proper selection of local anaesthetic agent, the injection tech- nique, modification of the surgical procedure and measures to reduce the degree of potential injury to the nerve.

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at the inferior dental nerve block procedure. Therefore, it is crucial that the operator achieve optimal pain control with minimal episodes of injection with minimal doses of anaesthetic agent.

The surgery should be planned ac-
cording to the information obtained from the preoperative assessment process. The procedure itself should aim to minimise the manipulation around the IDC. Both should include the carefully planned access, tooth sectioning and elevation techniques. In many scenarios, the extraction of the whole tooth may carry an unava-
ravable risk of injury to the nerve, therefore intentional retention of parts of the tooth was proposed via a planned procedure introduced around 20 years ago called coro-
nectomy. This is the removal of the crown of a tooth, leaving the root in situ. It is merely adopted to avoid or minimise damage to the IDN. The rate of complications after coronect-
omy is comparable to that observed after surgical extraction, except with a significantly low incidence of in-
jury to the IDN.

It should be noted that both sec-
tioning and coronectomy can be performed with a shorter incision, as the amount of bone removal re-
quired is minimal, thus minimising the postoperative morbidity. How-
ever, it cannot be performed in all cases in which the LM3 is close to the IDC and is certainly contra-indicated when the LM4 is decayed or its roots are associated with a pathology and should be considered with caution in severely inclined meso-angular and horizontal impaction cases. The author does not recommend

If the stripping and elevation of the lingual flap with the intention of protecting the lingual nerve, as

these may increase the risk of dam-
aging the lingual nerve. It should be emphasised that incision may not extend beyond the distobuccal as-
pect of the tooth. The other impor-
tant aspect of the dental extraction
procedure is the future replacement of the tooth to be extracted. The cur-
rent trend of tooth replacement for both functional and aesthetic rea-
sions is the placement of dental im-
plants. The success of this treatment
largely depends on the availability of healthy bone in sufficient volume. Therefore, it is crucial for the dental practitioner not to compromise the
alveolar bone during extraction of the teeth. Changes in the alveolar
bone ridge after an extraction are inevitable. After all dental extrac-
tions, bone height and width always undergo dimensional changes. Bone
does not regenerate above the level of the alveolar crest, that is, its height will not increase during healing. The

buccal plate tends to shrink, shifting the crest of the alveolar ridge buccal side, and often forms a concavity. Such changes are proportional to the amount of trauma to the soft-

and hard-tissue during the extraction.

An additional unfavourable change that may take place is the moulding of the bone formed to fill up the extraction socket owing to lack of functional stimulation. The presence of poorly remodelled alveolar bone may compromise the stability and function of the future implant. Furthermore, studies show that bone that is remodelled by peri-implant osteoclasts within the alveolar ridge and hence greater resorption and shrinkage are seen after the classical surgical or the tra-
matic extraction of teeth.

The preservation of alveolar bone for future implant placement may be achieved by avoiding unnecessary bone removal and stripping of the periotem during surgery, as well as performing a surgical alveolar bone preservation procedure. Bone
removal can be largely avoided or minimised through modification of the traditional extraction technique.

The first such modification is the use of dental periotomes and luxato-
mors to gently strip the periodontal ligament fibres and widen the socket without causing cracks or fracture of the cortical plates, as commonly encountered when using dental forceps or the bulky elevators. The use of such gentle instruments also
eliminates the need for elevation of the mucoperiosteal tissue. However, it should be noted that the safe use of these instruments requires adequate training and should be encouraged during undergraduate clinics. Cleft stabilisation through light packing of the socket with collagen sponges may help to minimise clot dislodg-
m, as well as accelerate the heal-

ing process and bone regeneration.

The second strategy is the alveolar bone preservation procedure. This includes packing the extraction socket with different fillers, such as osteoinductive or osteoconductive materials, like autogenous, natural or synthetic bone grafting materi-
als that support the alveolar socket walls, thus preventing their collapse and shrinkage. It should be noted that this intervention can only slow down the post-extraction changes to improve the success of the dental implant, but cannot stop them alto-
gather.

Finally, post-extraction care should include an explanation of the heal-
ing process and potential symptoms encountered after such procedures. The prescription of medications should be limited to non-steroidal anti-inflammatory drugs in most cases and indigent use of antibiot-
ics or socket dressing should be avoided.

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