By Centre For Advanced Professional Practices

Dubai, UAE: May 2015 will mark a significant milestone in the history of the Centre for Advanced Professional Practices (CAPP) in Dubai. CAPP will be celebrating its tenth anniversary of successful continuing dental education not only in the United Arab Emirates but also across the Middle East. Through the hard work of its colleagues, sponsors, partners and supporters, CAPP has been able to establish first-class standards for continuing dental education programmes over the past decade. Participants and followers of CAPP programmes have also helped develop professional training according to the needs of the region with their open feedback.

CAPP is an ADA CERP-recognised provider that specialises in continuing medical and dental education programmes (conferences, hands-on courses, disease control and prevention (CDC) and the Organization for Safety, Asepsis and Prevention, the American Dental Association (ADA) has released information for dental professionals on Ebola virus disease, which is epidemic in West Africa. Among other recommendations, it provides advice on the treatment of patients recently returned from the region. CDC and its partners are currently working to help prevent Ebola and other infectious diseases from being introduced into and spread in the U.S. As of
Procter and Gamble Oral Care renews endorsement partnership with the Lebanese Dental Association in Beirut

By Crest & Oral-B

BEIRUT, Lebanon: During the 24th Beirut International Dental Meeting (BIDM 2014), held under the High Patronage of His Excellency the President of the Lebanese Parliament, Mr. Nabih Berri, a ceremony was organized to announce the renewal of the official partnership between P&G Oral Care and the Lebanese Dental Association, LDA at Biel Convention Center.

“Oral hygiene is a topic that quite often is over looked”

Dr. Ashhad Kazi, Professional & Academic Relations Consultant – AP representing Crest and Oral B commented on the occasion: “The vision of Procter and Gamble Oral Care is to improve oral health of more people in more parts of the world more sustainably. This collaboration on sustaining.”

Dr. Kazi added, “Oral hygiene is a topic that quite often is overlooked”.

Professor Elie Azar Maalouf, President of Lebanese Dental Association (LDA), stressed on the advantages of such a partnership in benefiting the Oral Care segment in Lebanon. He added: “We are specifically thrilled about the unique benefits that this collaboration between the LDA and Crest and Oral B will provide to the retirement fund for dentists in Lebanon.”

The ceremony took place in the presence of the president and members of the Saudi Dental Syndicate, whereby Dr. Kazi presented Professor Maalouf with the newest innovation from Kavo Dental GmbH – KaVo QUATTROcare PLUS spray.

Dr. Kazi added, “Oral hygiene is a topic that quite often is overlooked and not given its due importance in our daily lives, with newer oral care technologies now at our disposal, it can be a game changer in the fight for maintaining good oral health. Crest and Oral B have a long history of high quality research as such, they offer a comprehensive line-up of toothpastes, mouthwashes, toothbrushes and flosses which provide consumers with innovative, targeted solutions designed to meet all general and specific oral care needs.”

With this collaboration for the second term, both Crest and Oral B and the Lebanese-Dental Association will not only be establishing more awareness about the right routine for good oral hygiene and its maintenance, but also providing unique benefits to the retirement funds of dentists in Lebanon.
CEREC Omnicam

POWDER-FREE AND IN NATURAL COLOR.

Scanning with the new CEREC Omnicam combines powder-free ease of handling with natural color reproduction to provide an inspiring treatment experience for the patient. Discover the new simplicity of digital dentistry. Enjoy every day. with Sirona.

Dubai Contact: Sirona Dental Systems Ltd, Dr Amro Adel, Building 49, Suite 304
Dubai Healthcare City, Telephone: +971 4 375 2355, E-Mail: amro.adel@sirona.com

Kuwait Contact: Sirona Dental Systems GmbH, Dr. Mostafa Al. Khouly
Office: +965 2 224 6063, Mobile: +965 9 800 2225
By Sirona

BENSHEIM, Germany: Sirona and the Centre for Advanced Professional Practices (CAPP) organized the first ever “CEREC Desert Fest” with exciting discussions about the newest insight in digital dentistry, real-time demonstrations and an entertaining social program. The event held in Dubai from September 12-13 was aimed at both potential CAD/CAM users and experienced CEREC users.

Sirona presented the CEREC Desert Fest for the first time at The Palace Hotel Downtown Dubai, a beautiful hotel located in the city’s Old Town. More than 200 dental professionals took the chance to share their aspirations for Digital Dentistry and their experience with Sirona’s CAD/CAM system with dental colleagues from all over the world.

In addition to pioneer and future CEREC users, dentists and dental technicians from the UAE, professionals from Bahrain, Egypt, Greece, Iran, Iraq, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan and The Netherlands attended the event.

Volker Vellguth, Vice President Sales Russia, CIS, Middle East and Africa at Sirona: “With the CEREC Desert Fest we wanted to establish and strengthen the connection between our know-how and the experiences of CEREC users in these spectacular surroundings. Professional exchanges are important for the advancement of digital dentistry. We wanted to provide a stage for creative discussions for dental professionals and the more than 200 guests took advantage of this opportunity. We can proudly say that the event was a great success for us and CEREC!”

The guests clearly enjoyed this new and signature networking event. Filled with entertainment, panel shows, real-time CEREC-demonstrations, desert safaris and table clinic presentations in a beautiful Arabian flavored ambiance in the heart of Dubai.

Dr. Daniel Vasquez, San Diego “What a wonderful experience, we had a great time. When I started my presentation I asked how can I bring Dubai to San Diego or San Diego to Dubai; it is simple, I made many new friends and I hope I can stay in the heart of many of the attendees and of course in all of you.”

“Professional exchanges are important for the advancement of digital dentistry.” - Dr. Amro Adel, Area Manager GCC & Pakistan, Country Manager Saudi Arabia, Sirona Dental GmbH

“The guests clearly enjoyed this new signature networking event.”

“The audience was well entertained at the CEREC Desert Fest in Dubai.”

Contact Information

Please visit the event’s website: http://cerecfest.cappmea.com.
Oct. 17, the ADA advises dental professionals of the following:

A person infected with Ebola is not considered contagious until symptoms appear. Owing to the virulent nature of the disease, it is highly unlikely that someone with Ebola symptoms will seek dental care when he or she is severely ill. However, according to CDC and the ADA Division of Science, dental professionals are advised to take a medical history, including a travel history, from their patients with symptoms in whom a viral infection is suspected.

As recommended by the ADA Division of Science, any person within 21 days of returning from the West African countries Liberia, Sierra Leone and Guinea may be at risk of having contacted persons infected with Ebola and may not exhibit symptoms. If this is the case, dental professionals are advised to delay routine dental care of the patient until 21 days have elapsed from their trip. Palliative care for serious oral health conditions, dental infections and dental pain can be provided if necessary after consulting with the patient’s physician and conforming to standard precautions and physical barriers.

In general, providers of dental health care services should continue to follow standard infection control procedures in the clinical setting as described in CDC’s 2005 Guidelines for Infection Control in Dental Health-Care Settings, the organization stated.

Signs and symptoms of Ebola include fever greater than 38.6 C or 101.5 F and severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.

CDC emphasized, “The virus is spread through direct contact with blood and body fluids of an infected person, or with objects, like needles, that have been contaminated with the virus.”
Utilizing the Tempcap abutment with CAD/CAM
Combination of Tempcap, in-office CAD/CAM and e.max allows for final restoration

By Dr. Les Kallman, USA

The E4D in-office CAD/CAM unit (Editorial note: Planmeca E4D Technologies) has been employed in an investigative laboratory study to design and mill an unconventional IPS e.max restoration that would be coupled with the Tempcap as a final implant-supported crown. The combination of the Tempcap, in-office CAD/CAM procedures and IPS e.max allows the clinician to create an immediate final restorative product with ideal characteristics.

The procedure is a simple, efficient and effective solution for the restoration of implants.

Introduction
The temporization of a dental implant following surgery, particularly in the anterior region, is a necessary procedure. The temporization allows for surgical healing, preservation of the gingival architecture and, most important, replacement of a tooth in the edentulous space for patient acceptance. Several techniques for the temporization exist, but the process has proved to be time-consuming and frustrating. The Tempcap abutment and the process for temporization were created to provide a simple yet effective approach. With the advent of CAD/CAM technology and e.max, the potential of the Tempcap to act as a final abutment seemed likely and suitable for investigation.

Background
Following the surgical placement of a dental implant, several requirements must be met to maximize healing and osseointegration of the implant body to bone:
- Minimal forces, if any, should be exerted on the implant body, permitting proper healing and preventing a non-osseous union.
- The gingival architecture must be managed meticulously to prevent contamination, minimizing the risk of peri-implantitis and possible failure.
- There must be sufficient time for the process of osseointegration.
- Temporization and immediate restorations should not violate these factors.

The Tempcap is a healing cap and restorative platform combined. It has an all-metal construction, and it contains two to three retention pins (Fig. 2). Tempcap is available in different widths and heights to accommodate different implant sizes (Fig. 3) and is compatible with existing instrumentation (Fig. 4).

The function of the Tempcap is:
- to allow for optimal gingival healing;
- prevent contamination of the surgical field;
- minimize forces and microvibrations on the implant;
- facilitate the simple yet successful restoration of the implant (Fig. 5).

CAD/CAM stands for computer-aided design and computer-aided manufacturing. CAD enables the individual to digitally capture an image of a prepared tooth or structure and then design an indirect restoration by using software. After the ideal restoration has been produced, the design is then fabricated out of a material by a milling machine. In-office E4D units (Editorial note: Planmeca E4D Technologies) are currently available to allow for immediate chairside fabrication without the use of a commercial laboratory.

IPS e.max (Ivoclar Vivadent) is a relatively new metal-free dental material used in indirect restorations. It is an aesthetic material composed of lithium disilicate and has ideal physical and aesthetic properties, allowing it to be the first choice for CAD/CAM restorations. IPS e.max has strength second only to gold and has the ability of detailed CAM production.

Methodology
The Tempcap was selected and placed on an Ankylos (DENTSPLY Implants) implant body (master cast with soft tissue) (Fig. 6). Digitization was achieved by using an E4D camera (Editorial note: Planmeca E4D Technologies) (Fig. 7), in which several images were captured to compile an accurate image (Figs. 8 & 9). CAD design was used with E4D software (Editorial note: Planmeca E4D Technologies) to determine and delineate margins (Fig. 10).

Tooth design was initiated incorporating several parameters:
- ideal aesthetics and emergence profile (Fig. 11);
- adequate proximal contacts;
- appropriate occlusal scheme;
- material thickness requirements;
- internal surface morphology to adapt to Tempcap;
- design that can be milled via CAM technology.

Numerous design iterations were required to achieve the desired design requirements (Figs. 12–14). IPS e.max was selected for milling (Fig. 15) and was executed by an E4D CAM unit (Editorial note: Planmeca E4D Technologies) (Fig. 16). Milling limitations, such as bar contact and prosthesis fracture, required CAD design modifications. Iterations in CAD/CAM design were carried out until a successful restoration was achieved (Fig. 17).

The unfired IPS e.max crown was tried for fit and aesthetics and then subsequently fired (Fig. 18), resulting in its colour change. The crown was further stained, glazed and fired (Fig. 19).
Insertion, retention and fit. (Fig. 21) was assessed for path of insertion. The body was coupled with a Tempcap abutment with three retention pin projections (Fig. 25). The abutment was digitized with the same methodology as described. An IPS e.max crown was executed and assessed (Figs. 24 & 25).

Discussion
A secondary investigation utilized a more complex Tempcap to assess the limit of the CAD/CAM unit’s capability. A stand-alone Ankylos (DENTSPLY Implants) implant body was coupled with a Tempcap abutment with three retention pin projections (Fig. 25). The abutment was digitized with the same methodology as described. An IPS e.max crown was executed and assessed (Figs. 24 & 25).

Complex units, such as the three-pronged Tempcap may be successfully designed and milled. IPS e.max has the capability to be milled in complex patterns, while still maintaining its structural integrity.

However, further laboratory studies, quantitatively assessing stresses and strains and utilizing a larger sample size, are required to validate the concept. Subsequent clinical investigations are required to assess the clinical significance and viability of the Tempcap with CAD/CAM technology. The potential to fabricate the Tempcap entirely from e.max should also be considered.

Conclusions
In-office CAD/CAM technology can be utilized and manipulated to generate digitized forms beyond the scope of the morphogenesis. CAM manufacturing has limiting factors that must be realized when producing modifed prostheses. CAD modifications must account for these discrepancies. IPS e.max has the ability to be milled in extremely detailed designs. The Tempcap can be optically scanned and digitized in order to design and create a CAD/CAM IPS e.max restoration using E4D technology. The utilization of the Tempcap as a successful provisional abutment has been documented; the utility of the abutment as a simple, efficient and cost-effective component seems promising. These advances simplify the procedure and reduce the cost, ultimately allowing a greater accessibility for both patients and clinicians.

References

About the Author
Dr. Les Kalman, DDS, graduated from the University of Western Ontario with a doctor of dental surgery degree in 1980. He then completed a GPR at the London Health Sciences Center. He has been involved in general dentistry within private practice since 2000. He has served as the chief of dentistry at the Stratford-Middlesex General hospital. In 2011, he transitioned to full-time academics as an assistant professor at the Schulich School of Medicine and Dentistry. Kalman’s research focuses on medical devices, including the Virtual Facebox and the Tempcap. Kalman is also the Director of the Dental Outreach Community Services (DOCS) program, which provides free dentistry within the community. Kalman has authored articles ranging from pediatric impression to immediate implant surgery in both Canadian and American journals. He has been a product evaluator for several companies, including GC America and Clinician’s Choice. Dr. Kalman is the co-owner of Research Driven, a company that deals with intellectual property development. He is a member of the American Society for Forensic Odontology, International Team for Implantology, Academy of Osseointegration, American Academy of Implant Dentistry and the International Congress of Oral Implantology. He has been recognized as an Academic Associate Fellow (AAIF) and Diplomate (DCIOD). In his spare time, Kalman enjoys photography as an accredited MotoGP photographer.

He can be contacted at: lkalman@uwo.ca.
The aesthetic challenge

By Dr. Mohamed El Sayed Hassanien, Egypt

Patient’s satisfaction has always been the main goal of achieving patient dental professionals, particularly with esthetics. As the popularity of aesthetic dentistry increases, a growing number of patients are seeking treatment for augmentation of unesthetic anterior dentition.

Accordingly several treatment options have been proposed to restore the pleasant esthetic appearance that the patients are always seeking.

Based on the conservative approach and minimal invasive dentistry protocols, ceramic laminate veneers have been introduced to satisfy the patients growing esthetic demands.

Many construction techniques have been utilized in the dental market whether directly or indirectly to fabricate ceramic laminate veneers.

CAD/CAM being state of the art dental technology offers lots of merits for both the clinician and the patient. Being a chair side same day procedure, utilizing intra oral scanning avoiding conventional physical impressions, and long-term provisional restorations thus producing an aesthetic all-ceramic restoration with highest degrees of accuracy and precision.

Case presentation

A twelve year girl, medically healthy, denies taking any medications visited my clinic complaining of fractured upper two central incisors Fig. 1 & 2. After clinical and radiographic examination, which revealed complete root formation, two ceramic veneers for both central incisors were proposed as a treatment option to solve her complaint.

Tooth preparation

Tooth preparations were made using the depth-guided diamond wheel no. 018 to indicate the facial reduction amount of 0.4 mm for both teeth. The labial diamond bur no. 016 was used to complete the preparation on the labial surface and precisely reproduce the cervical finish line located just below the free gingival margin Fig. 3.

Incisal preparations were made with type two-veneer preparation design ending with a butt joint on the incisal edge and not involving the palatal wrap around.

Finally finishing bur no. 014 was used to finish and smooth all the preparation surfaces Fig. 4.

All teeth preparations were made with loupes of magnification 2.5 X for better precision.

CAD/CAM fabrication steps

In lab SW 4.2.3 was used to scan, design and mill these two veneers.

The case was administrated as two veneers on tooth number 8 and 9; with the bio-generic individual design technique, materials were selected from Ivoclar Vivadent Empress Cad Fig.5.

Intra oral scanning

Sirona Omnicam was used to scan the upper, lower and buccal catalogues to formulate the 3D virtual colored model. Margins were determined for each tooth separately and insertion axis were determined depending on their corresponding path of insertion.

Virtual design

The virtual design was proposed with the SW, both veneers were virtually linked as a group so they were both virtually active. The bio generic variation tool was used to give the best morphological proposal to match with the adjacent teeth. The grid tool was used to show the veneers proportions to ensure that the two veneers showed similar length to width relations Fig.6.

With the two veneers linked, restoration virtual translucency tool was used to check the amount of ceramic extension in relation to the underlying tooth preparation Fig.7.

SW 4.2 showed a new colored model tool, which enables the operator to see both veneers with the same color match for more valid size comparison Fig.8.

Shade matching

Visual shade matching was used for this case. Where the adjacent sound teeth showed A1 shade. Empress Cad blocks bring a Lucite reinforced ceramic material was chosen for this case with a low translucency in order to mimic the adjacent shade of the teeth. Try in stage was done for the patient before glazing to check for proper seating and accuracy of the margins.

Glazing and characterization

Both veneers were seated properly with the object to fix putty material for better handling during glaze and stain process.

Empress Cad paste glaze was the material of choice for glazing the two veneers. In order to match the adjacent teeth. Empress Cad white stain was used on the middle and Incisal areas in a scattered pattern with a thin brush to give the natural white stain effect. Single cycle was used for staining and glazing together Fig.9.

Cementation procedures

- Ceramic veneer surface treatment:
  - HF 4 % Empress etching gel was...
KaVo MASTErSurg LUX Wireless: Redefining the best

By KaVo

With the successful launch of the EXPERTsurg LUX surgical unit and the SURGmatic instruments KaVo recently celebrated its comeback as a main player in the dental surgery field. As one of the world market leaders the dental company now presents another highlight: The MASTErSurg LUX wireless surgical unit. Thereby KaVo confirms its market position as a leading and innovative international dental player.

The new KaVo MASTErSurg now completes the attractive KaVo surgical portfolio and redefines surgical standards. Therewith all dentists and dental surgeons, no matter what their different individual needs are, will find the perfect solution for their surgical work. The KaVo MASTErSurg surgical unit convinces through outstanding comfort. It is offering a wireless foot control, allowing the user a great freedom of movement. The data documentation function supports procedure by real time displaying of the torque and other important digital data and saving it concurrently.

KaVo MASTErSurg makes it real: a customizable surgical unit that adapts to dentists’ and dental surgeons’ individual requirements. E.g., multiple programs, each with up to 10 treatment steps, maximum speed, maximum torque and even more parameters can individually be defined and saved.

The new INTRA LUX S600 LED, one of the lightest and smallest surgical motors in the world, enables to work with high power and precision.

When it comes to performance and comfort, KaVo continues to set the benchmark with the EXPERTsurg and the MASTErSurg controllers, the SURGmatic instruments (now available with hexagon clamping system with optimized head gearing) and the INTRA LUX S600 LED motor. All these components combine to a system for dental surgery that is not only easy to use but that provides save and highly precise tools for dentists and dental surgeons to face their daily challenges.

Nobel Biocare to join Danaher dental business

By Dental Tribune International

ZURICH, Switzerland/CHARLOTTE, N.C., USA: Today, Danaher, a US health care conglomerate of brands from various industries, and Swiss dental manufacturer Nobel Biocare announced that the two companies have entered into a definitive transaction agreement. In order to further expand its global dental business, Danaher has offered to buy Nobel Biocare, which is the second-largest supplier of dental implants worldwide, for CHF2 billion (US$2.1 billion).

As reported by Dental Tribune ONLINE earlier this year, Nobel Biocare confirmed that it had been approached at the end of July by third parties with a potential interest in acquiring the business. Now, the company’s board of directors has unanimously decided to recommend that Nobel Biocare’s shareholders accept the offer, which in-
Concepts, goals and techniques for successful orthognathic surgery

By Dr. Theodore D. Freeland, USA

In this article, you will be introduced to the concepts, goals and techniques needed to diagnosis surgical cases, when surgical cases should be started and how to gain the knowledge needed to create successful results.

We’ll delve into joint status, soft-tissue analysis, surgical treatment objectives, pre-treatment surgical setups and surgical setups. We’ll then follow-up by looking at the concepts of natural head position, the horizontal plane and the true vertical line will be introduced. By the end of this article, you should have:

- An overview of the knowledge needed for successful treatment.
- An introduction into what, where and how to perform successful cases.
- An overview of joint health.
- A summary of the soft-tissue analysis.
- An outline of the surgical treatment objective.
- An overview of diagnostic and surgical setups.

Remember that this article is an introduction only; it’s not intended to teach you how to do surgical cases. Advanced training will be needed to master successful orthognathic surgical cases. So with no further ado, let’s get started.

Functional occlusion

The goal is to obtain functional occlusion. Before treatment, you have to determine if you have an orthodontic surgery case. You don’t want to begin orthodontic treatment with the idea that if orthodontics fails, we will do surgery.

You’ll see in Figures 1–5 that this case involves every facet of dentistry. Changes occurred not only in the facial features, but also in the teeth themselves. It involved orthodontic and orthognathic surgery, but also lengthening the front teeth by the restorative dentist to achieve the natural smile in balance (Figs. 1–2). To this end, we need to look at five areas:

- joint status,
- soft-tissue analysis,
- surgical treatment objective,
- pre-surgical setup/surgical setup technique,
- surgery.

We’ll give you a brief overview of the goals for each of the areas, then do an in-depth look into each of them individually.

Joint status

Starting with the first area, you need to know the joint status. Is the joint healthy, is it degenerating, is there a disc problem? This means you’ll need to apply not only a good clinical exam, but also articulated models that can measure the difference between centric occlusion and centric relation.

Soft-tissue analysis

You’ll need to know how to analyze the soft tissue. You’ll need this because you are looking at everything from a soft-tissue standpoint, or put another way, you’re recording the basic measurements that come from soft tissue, not hard tissue. If you deal with hard tissue only, then you will come up short in the soft tissue. Ignoring the soft tissue will result in a face that’s not improved, just different.

Surgical treatment objective

You need to know how to do a surgical treatment objective. You’ll need to know the technique, and you’ll need to know how to apply it because the surgical treatment objective allows you to treat the face, the occlusion, in a two-dimensional medium.

Pre-surgical setup/surgical setup technique

Once you have established what you’ll need to do from the surgical treatment objective, you will need to do what we call a pre-surgical setup. Otherwise you’ll need to apply the knowledge you’ve gained from the patient, soft-tissue analysis and the surgical treatment objective, and perform a three-dimensional workup to make sure what you have planned will work with the joints, muscles and nervous system.

Surgery

Finally, you need to know surgery. I recommend that the orthodontist be in the operating room so you know what the surgeon is doing, and how the surgery goes. It’s very important to know that the surgeon gets the joints seated in a passive manner. If the joint is stressed, then there’s a good chance that we’ll have some surgical relapse.

Joint status

Joint analysis will include three portions: history, a clinical examination and imaging.

Building a history will be similar to traditional patient assessment. We need to know if there are any family members who exhibit TMJ problems. If yes, then there’s a good chance the patient will develop significant joint issues that will affect the outcome of treatment.

After an oral investigation, a thorough clinical examination of the joints will need to occur. We’ll be on the lookout for any injuries to the mandible. If the patient has had any injury that involves the chin, there’s a good chance that the joint may have been damaged.

Finally, we need to look into any past treatment. Has the patient had orthodontics before? Has the patient had a lot of restorative dentistry? This is important because all of the above have a tendency to affect joint status.

Clinical examination

Next is the clinical examination. Clinical examination includes the following:

- range of motion,
- symmetry of jaw motion,
- palpation,
- auscultation,
- muscle splinting,
- DJI position.

Range of motion should be between 45 mm and 55 mm on opening and includes assessing movement. We’re looking for a symmetrical mandible motion — meaning the chin should not deviate to the left or right on opening — and it should be relatively free of dental interference.

Now check for palpation of the muscles of mastication. If you don’t check the muscles that move the mandible, then there’s a good chance that you’ll miss some sort of functional bite issue. We also listen to the joint with a stethoscope, and we apply some anterior pressure to the disc through external auditory meatus to make sure the disc is functioning properly.

When trying to manipulate the mandible, one can feel the muscles. If the muscles will not let you obtain a centric joint position, then we cannot do a diagnosis because the muscles aren’t holding the condyle out of the socket. This is usually due to some inflammation.

Finally, we’ll check what we call the centric relation position, which you should be able to feel. It should feel solid and the patient should be able to open from this position with relative ease, and there should be no noises.

Imaging

The clinical examination will tell us a lot about the joint status. The use of imaging will help us build our base of case-specific intelligence. We’ll use two types of imaging: MRI and cone beam.
LCBCT

Most of the time, we start with cone beam because it's easy to obtain a 3-D image of the joints. Thanks to the work of Ricketts and Dr Ikeda, we have a way to measure joint position and get an idea of where the condyles basically seated. With cone beam, we can measure the health of the condyles.

In a side-by-side presentation, you will be able to see which side is definitely in a better shape, having a more rounded effect to it. The size of the coronal view is one that shows a definite symmetric outline to it as compared to the other side. The axial view confirms this; you see that the joint is better and has a more dense outline.

Thus, our basic imaging system helps us determine the joint problem, especially as it pertains to orthognathic surgery. If we go to the two-dimensional image created in the cone beam, we can see that the right joint has definitely lost vertical height, and we definitely have a joint space that is excessive (Figs. 4 & 5).

In the coronal view, we can even see that there may be some sort of cyst formation. When you compare the right side to the left side in the coronal view, you get a more traditional image, which is what we’ll look at. However, there have been some changes in the right side that isn’t there, so we’re starting to see a “hand-breaking” effect in the left joint. There are two different joints that are important in determining if we should proceed with any kind of a surgical correction.

In the sagittal view, the right side, the joint looks pretty normal. However, if we look at it in a transverse direction, you'll see less joint space laterally than you do medially, something we see in both the left and right joints (a more lateral joint space). That’s why it’s important that you not only look at a sagittal view, but you also need to look at the coronal view to see if you have a transverse problem occurring in the joints.

Soft-tissue analysis

When we’re trained in orthodontics, we’re trained in hard-tissue analysis, otherwise all of our cephalometric analysis is based on hard structures. If you use hard structure to determine soft-tissue corrections, then you’ll be using the wrong tools for good facial aesthetics. That’s why a soft-tissue analysis is so important.

Using soft-tissue markers with 3-D facial mapping, we are able to diagnose the soft tissue, and we can also relate it to the hard tissue.

In Figure 4, we’ve overlaid the soft tissue on top of the hard tissue. With the markers on, after we convert it to a two-dimensional X-ray, we can see where the sub-pupillar area is, where the cheekbones are and where the alar base is. In addition, you will see a marker that we call a hinge access marker, which comes from establishing the true hinge axis of the patient. There is also a marker that’s placed on the nose that we call the horizontal point.

We are going to analyze everything from a basic coordinate system of a true vertical to an axis horizontal.

The image is orientated from the axis horizontal plane and the true vertical plane, which is based on the patient’s natural head position.

Figure 5 shows how these two corners are at 90 degrees from each other. In this analysis, we’re going to record all of the soft-tissue measurements, both horizontal and vertical, and we’re going to base them on the line that runs through the subnasale (SN). This establishes the true vertical line based on natural head position.

Furthermore, we’re including a few hard-tissue measurements that will tell us about the architecture of the mandible. These come from Ricketts and from the Jarabak analysis. With this analysis, we can cover the basis that we need for orthodontics, but we also can cover what we need in a surgical workup.

We also need a frontal analysis, which is taken from the patient’s face. Most of the frontal workup is done in examining the patient clinically. This enables us to look at the orbital rim, cheekbone, sub-pupill,alar bases, nasal bases and canthi of the eyes.

All of this enables us to assess if we have transverse asymmetries, where the occlusal plane is cantied instead of level. This is especially true with the mandibular plane, which we may also find is canted. This is especially true in cases where there’s a degenerative process happening in one joint.

Head position, profile and frontal analysis

The natural head position is different for each individual patient. This will make the diagnosis recorded in Glabella to the true vertical line different.

To measure how far Glabella is from SN (true vertical line), we first need to establish the patient’s natural head position (Fig. 6). To do so, we have the patient stand in front of a mirror. First, the patient is asked to close his eyes and bob his head up and down three times.

After this is complete, the patient is asked to open his eyes and look himself directly in the eyes in the mirror. After we have established the natural head position, we then use the measure of his eyes and bob his head up and down three times.

This is precisely the kind of case where you should be looking for degenerative joint disease. All of the above enables us to establish the parameters and coordinates we need to analyze the face and occlusion and then apply the correct treatment so the patient will have a functioning stable occlusion with the necessary facial improvements.

Soft-tissue analysis

The treatment objectives are based on the soft tissue. You perform the surgical treatment objective in this order:

1) Establish the position of the upper lip to the true vertical line in a vertical and horizontal manner.

2) Determine what you need to do with the anterior teeth to create the correct upper lip position.

3) Once you established the anterior part of the maxilla, then proceed to the posterior part of the maxilla and determine if you need to do an intrusion or extrusion of the posterior segments to level the occlusal plane.

In most cases where there’s a retrusive chin and a skeletal open-bite, the patient has an occlusal plane, measured from the true vertical line that is somewhere between 102 and 104 degrees. By leveling the occlusal plane, based on the anterior tooth position, you can set the mandible to the maxilla. This will usually balance the lower third of the face. If you still find the chin is too far forward or too far back, you may need to do genioplasty.

In the example case (Fig. 8), we have performed a surgical treatment objective, established the true vertical line and we have our axis-horizontal plane. In this patient, we need to move the anterior teeth up because in the frontal analysis the patient showed too much tooth structure and too much gingival tissue. To fix this, we balance the maxillary anterior teeth based on the upper lip position.

Once we’ve established the correct tooth position in the anterior, we’re able to set up our occlusal plane at 95 degrees, showing us what we need to do with the posterior segment. In the example case, we need to extrude the posterior segment.

Figure 9 shows how we’ve completed the extrusion of the maxillary segment, and we’ve balanced the occlusal plane. The next objective is to place the mandible with the correct overbite. This is not 2 mm but 4 mm. This is because you want to have an adequate overbite to create adequate discusion. In establishing the mandible, you can see in our example how the lower part of the face is placed normally enough with the true vertical line (Fig. 10).

In establishing the surgical treatment objective, we see that we want to place the anterior section in the superior direction and the posterior in the inferior direction. These are all the measurements we need to establish a surgical setup. Hopefully, this is surfaced as a judgment so the patient has a good idea of what needs to be done.

Pre-surgical and surgical setups

The pre-surgical and surgical setups are techniques that do require the clinician’s time. It’s
The importance of cementation:
A veneers case using a new universal cement

By Kerr

E

12 CLINICAL

DENTAL TRIBUNE Middle East & Africa Edition | November-December 2014

12

The importance of cementation:

Cementing veneers is a delicate process with a historical litany of potential problems – color instability, insertion difficulty, handling and cleanup issues, unsatisfactory radiopacity, low translucency after curing, mismatch between try-in gels and final cements, and debonding, to name a few. Cement selection in certain applications necessitates knowledge of the chemistry and physical properties of the particular cement type, and insertion requires an exacting technique for successful clinical results.

This article outlines a veneers case using NX3 Nexus® Third Generation—a new, universal cement from Kerr. The subject is a long-standing patient-of-record with a current radiological and medical chart. This focus is on the steps and techniques implemented at final cementation of the prostheses.

Clinical Case

A female patient in her mid-thirties presented a chief complaint of being unhappy with her smile. An examination of her hard tissues revealed immediate concerns of multiple fractures, hypocalcification, shortened anterior teeth due to wear and an asymmetrical smile line (Figures 1 and 2).

After proposing a first phase treatment plan to restore all of her compromised upper anterior teeth, the patient consented to restoring only teeth numbers 6-11. The patient ultimately qualified for and accepted veneers as the mode of indirect restorative treatment.

Prior to preparation, the tissue around tooth No. 8 was recontoured. Then, the teeth were prepared for pressed ceramic veneers and provisionalized in the standard manner. Occlusal analysis and adjustments were performed over a period of weeks and the veneers were tried in. After the requisite steps were completed preceding insertion and the veneers were finalized, the provisional was removed and the teeth were cleaned (Figure 5).

Exapoxy™ was used for gingival retraction and hemostasis in order to gain cervical access and control bleeding in that area (Figure 4).

The teeth were then etched for 15 seconds with Kerr Gel Elchant, which is composed of 57.5% phosphoric acid (Figure 5), and then rinsed and slightly air-dried. (Note: While a total-etch technique was used, NX3 works with both total-etch and self-etch protocols, adding to the distinctiveness of the product.)

Per manufacturer directions, Optibond Solo™ Plus (Kerr) was brushed onto to the tooth surface for 15 seconds (Figure 6), air-thinned for 5 seconds, and cured for 10 seconds using the L.E. Demetron II curing light (kerry) (Figures 7 and 8).

After etching and bonding, the veneers were cemented using NX3 light-cure cement in the clear shade (Figure 9). The cement was dispensed directly onto the internal surface of the veneer and was expected to ooze from all margins when the veneers were placed onto the prepared teeth. With the choice of either the single-syringe light-cure veneer cement or the dual-syringe dual-cure resin, the light-cure method was used because the veneers were not inordinately thick. NX3 allows veneers to be cemented all at once (as opposed to cementing the centrals first, laterals second, and so on) because of its unique “thixotropic” properties, which enable them to stay where they are placed prior to light-curing. This feature makes adjustments and proper placement easier while decreasing the need to add excess cement to the product the cement proved to be “thixotropic,” the consistence of non-drip paint; the restorations were seated and adjusted before curing with no dripping or dripping. Completion, cure time, ease-of-use and cleanup, color match and optimum retention are some of the attributes necessary when choosing a cement—NX3 met all of these expectations.

References

About the Author
Dr. Mitch Conditt, a 1985 graduate of Baylor College of Dentistry in Dallas, TX, lectures internationally and has published numerous articles reviewing all aspects of restorative and cosmetic dentistry.
Conservative approach to multidisciplinary aesthetic dental treatment

By Kostis Giannakopoulos, Greece

The aesthetic performance of dental restorations has always been a factor of utmost importance in the success or failure of the treatment. Lately, as aesthetic awareness of the population increases and the evolution of dental materials have made new techniques possible, optimal aesthetics can be achieved following less invasive restorative procedures. In many cases, multidisciplinary treatment is necessary so that the best possible outcome is achieved with a minimum degree of compromise between invisiveness and aesthetics. Every complex case should be treated planned by a team of specialists, so that every detail and conclusion from each point of view is taken into account. The restorative dentist usually designs the smile and oversees each phase of the treatment by all other specialists.

Congenitally missing lateral incisors are a common dental problem that can be ethically dealt in three different ways: 1. canine substitution, 2. tooth supported restoration, and 3. implant supported restoration. Tooth auto transplantation (usually premolar) and removable partial dentures are other, less commonly applied treatment options. In the case of only one lateral incisor missing, an additional problem of symmetry is introduced. If the contralateral lateral incisor is congenitally missing and one lateral incisor #12, 2. gingival aesthetic problem that usually exists and needs to be treated is the area of #12 and the missing tooth #22 with diastema between them. The patient mentioned a history of congenitally missing teeth in her family. The chief complaint of the patient was spaces between the teeth and specifically the missing upper left lateral incisor tooth, the irregularly shaped upper right lateral incisor, and the diastema between teeth #11 and 21. Also, she was concerned about asymmetries in her smile and misalignment of her teeth. Finally, the patient stated she would like to have a brighter smile (Figures 1-3).

The dental examination revealed no pathological findings or signs of dental disease. The DMFT was low and the comprehensive periodontal examination was within normal limits. Soft tissue examination resulted in no pathological findings; radiographic bitewing examination revealed no pathological findings as well.

The aesthetic evaluation of her smile resulted in the following issues that would need to be addressed in the treatment plan: 1. peg shaped lateral incisor #12, 2. congenitally missing lateral incisor #22 with diastema between #11 and 21, 3. dental midline transmitted to the right by 4mm, 4. asymmetry between the left and right side, especially in the space between #11-13 and #21-23, 5. gummy smile, especially on the area of #12 and the missing tooth #22, and 6. the gingival zenith was asymmetrical between #11 and 21 (Figures 4-6, Table 1). The occlusion was Class I. The base shade of the teeth was A3 on the upper canines and A3.5 on the upper canines and A4 on the upper incisors with the Vita Classic Shade guide (Vita Zahnfabrik, Bad Sackingen, Germany).

Photographs and alginate impressions were taken in the exam appointment to fabricate study models. Then the team of aesthetic/restorative dentist, orthodontist and periodontist treatment planned the case. The recommended treatment plan was accepted by the patient in favor of the alternative treatment plans.

Orthodontic phase

The orthodontic treatment goals were as follows: 1. intrude #11 to align the incisal edges of the centrals, 2. equalize the spaces between #11-15 and #21-25, 3. transfer the dental midline to the left and 4. correct misalignments and minor rotations in different areas. Some composite resin was bonded on the facial surface of tooth #12 to facilitate bracket placement. The composite was white in shade to

Table 1: Teeth and spaces between them were measured. The proportions of the teeth (length to width ratio) and the arrangement of the spaces are crucial information in treatment planning, especially in patients with a high lip line.

<table>
<thead>
<tr>
<th>Tooth (#)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>9.1</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>21</td>
<td>6</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>22</td>
<td>4</td>
<td>8.2</td>
<td>8.2</td>
</tr>
<tr>
<td>23</td>
<td>4</td>
<td>8.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peg Shaped</th>
<th>Overeruption</th>
<th>Dental midline</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4mm incisally</td>
<td>8.5mm incisally right</td>
</tr>
</tbody>
</table>

Case report

A 22 year old Caucasian female presented to the clinic asking for aesthetic improvement of her smile. The patient was single and a student of law school. The medical history was unremarkable with no pathologies and no known allergic reactions reported to any kind of medication. No medications were taken on a systematic basis by the patient. The dental history was also unremarkable with only preventive and minor operative dentistry interventions and prophylaxis in the past. The patient mentioned a history of congenitally missing teeth in her family.
A multi-disciplinary approach to minimally invasive functional aesthetic dentistry

By Dr. Tif Qureshi

Simple tooth alignment is rapidly becoming accepted as the norm in cases that previously would have been treated with porcelain veneers. However, patients often present with a mix of problems such as previous metal ceramic work, the treatment of which should be integrated as part of the treatment plan. Timing becomes a vital part of the treatment when mixing restorative care, alignment, tooth whitening and occlusal planning. The following case illustrates an effective approach to treatment.

Case report
A patient presented complaining that “his two front teeth [old upper anterior crowns] felt as if they were too large and were always hitting the lower teeth”. In addition, his bite never felt “right” (Figure 1). He also wanted to try to improve the appearance of his teeth. He was aware of what could be done with porcelain veneers, but wanted to try to make the best of his own teeth.

Examination
On inspection, it was clear there were several issues:
1. Occlusion - The irregular alignment of the lowers and the thickness of the upper old crowns were adding to the problem of unbalanced anterior contacts. The back of the crowns, especially the upper left central, were hitting the front of his lower teeth, in particular the lower left central.
2. Thick/esthetics of crowns - The occlusion meant that the upper crowns had been placed quite labially and because they were metal ceramic, made them feel particularly thick. They also appeared rather opaque.
3. Lower crowding - The patient was also keen to improve the aesthetics of the lower teeth as the incisors had an irregular outline. The incisal edges appeared to be of different heights. This was down to the varying anterior-posterior position.
4. Colour - The old crowns had been made at A3/A3.5 and the natural teeth had darkened a little with age.

Treatment plan
A combination of techniques and good timing can make sure we optimize the opportunity for treatment. In this case, the treatment plan was as follows:
1. Remove the two upper crowns and replace them with temporary composite crowns; merory crowns, which could be merely cleaned and treated as conservatively as possible. Temporary crowns, which could be adjusted, were placed (Figure 5). Upper and lower impressions were taken for upper clear aligners and for a lower Inman Aligner. A prescription of the tooth movement using Spacewize™ software was given to the technician so they were aware of exactly where we wanted the teeth to be moved. Spacewize also calculates a figure for the amount of crowding present giving us an idea of the total amount of space that would need correcting and whether the case is suitable for Inman Aligners or not.1

Two weeks later, the patient returned. The Inman Aligner and clear aligner were fitted on the lower and upper teeth respectively. Minimal interproximal reduction (IPR) was started. Despite calculating the amount of crowding present, the IPR is never carried out in one go. Only IPR strips or discs are used. This gives the opportunity to ensure the stripping is far more anatomically respectful than using burs or heavy discs. This massively reduces the risks of excess space formation, gouging or poor contact anatomy. No more than 0.15 mm per contact on the upper and about 0.25 mm of movement was required for the lowers. Inman Aligners are much faster than clear aligners with these kinds of movements. And 2-3 clear aligners can be just as quick with very small movements of 1 mm and less simultaneously.
3. Whiten the teeth (during last phase of alignment).
4. Change the composite temps to all ceramic crowns.
5. Retain the lower arch.
6. Remove the two upper crowns and replace them with temporary composite crowns.
7. Lower crowding - The patient was also keen to improve the aesthetics of the lower teeth as the incisors had an irregular outline. The incisal edges appeared to be of different heights.
This was down to the varying anterior-posterior position.
4. Colour - The old crowns had been made at A3/A3.5 and the natural teeth had darkened a little with age.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Treatment
On the initial appointment the two old crowns were removed (Figure 2). The preps were merely cleaned and treated as conservatively as possible. Temporary crowns, which could be adjusted, were placed (Figure 5). Upper and lower impressions were taken for upper clear aligners and for a lower Inman Aligner. A prescription of the tooth movement using Spacewize™ software was given to the technician so they were aware of exactly where we wanted the teeth to be moved. Spacewize also calculates a figure for the amount of crowding present giving us an idea of the total amount of space that would need correcting and whether the case is suitable for Inman Aligners or not.1

Two weeks later, the patient returned. The Inman Aligner and clear aligner were fitted on the lower and upper teeth respectively. Minimal interproximal reduction (IPR) was started. Despite calculating the amount of crowding present, the IPR is never carried out in one go. Only IPR strips or discs are used. This gives the opportunity to ensure the stripping is far more anatomically respectful than using burs or heavy discs. This massively reduces the risks of excess space formation, gouging or poor contact anatomy. No more than 0.15 mm per contact on the upper and about 0.25 mm of movement was required for the lowers. Inman Aligners are much faster than clear aligners with these kinds of movements. And 2-3 clear aligners can be just as quick with very small movements of 1 mm and less simultaneously.
3. Whiten the teeth (during last phase of alignment).
4. Change the composite temps to all ceramic crowns.
5. Retain the lower arch.
6. Remove the two upper crowns and replace them with temporary composite crowns.
7. Lower crowding - The patient was also keen to improve the aesthetics of the lower teeth as the incisors had an irregular outline. The incisal edges appeared to be of different heights.
This was down to the varying anterior-posterior position.
4. Colour - The old crowns had been made at A3/A3.5 and the natural teeth had darkened a little with age.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Treatment
On the initial appointment the two old crowns were removed (Figure 2). The preps were merely cleaned and treated as conservatively as possible. Temporary crowns, which could be adjusted, were placed (Figure 5). Upper and lower impressions were taken for upper clear aligners and for a lower Inman Aligner. A prescription of the tooth movement using Spacewize™ software was given to the technician so they were aware of exactly where we wanted the teeth to be moved. Spacewize also calculates a figure for the amount of crowding present giving us an idea of the total amount of space that would need correcting and whether the case is suitable for Inman Aligners or not.1

Two weeks later, the patient returned. The Inman Aligner and clear aligner were fitted on the lower and upper teeth respectively. Minimal interproximal reduction (IPR) was started. Despite calculating the amount of crowding present, the IPR is never carried out in one go. Only IPR strips or discs are used. This gives the opportunity to ensure the stripping is far more anatomically respectful than using burs or heavy discs. This massively reduces the risks of excess space formation, gouging or poor contact anatomy. No more than 0.15 mm per contact on the upper and about 0.25 mm of movement was required for the lowers. Inman Aligners are much faster than clear aligners with these kinds of movements. And 2-3 clear aligners can be just as quick with very small movements of 1 mm and less simultaneously.
3. Whiten the teeth (during last phase of alignment).
4. Change the composite temps to all ceramic crowns.
5. Retain the lower arch.

A heavy, not long centric contact was present in MIP, which was causing slight deflection of the central. This meant that the upper central crown had been placed quite labially and because it was metal ceramic, made it feel particularly thick. The difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.

Alternative options
Alternative options were discussed. Fixed braces were discounted because of the cost, the difficulty in simultaneous whitening and added difficulty in having the crowns as temporary crowns through treatment. The patient’s posterior occlusion was also good. Full anterior veneers were discussed, but after the patient understood how simply and quickly the alignment could be done, seemed a completely ridiculous and unethical solution.
The patient was then sent home. The Inman Aligner was worn for 16-20 hours per day with the patient removing it for eating and rest. 20 hours a day is the maximum needed wear and this is intended on patients removing it for eating for 1-2 hours per day with the patient being instructed to not wear the retainer for 2-3 weeks. The temporary crowns were removed and new IPS e.max FHT (Ivoclar Vivadent) crowns were added. The occlusion against the aligned lower teeth was checked. The patient was extremely happy with the end result and felt his teeth looked natural (Figures 6-12).

Discussion
The case is another example of why a progressive form of smile design can be so essential in any case where a patient is looking to improve their smile. At every point, the patient sees their smile improving, first with just one side and then with both. If they are still keen to have full crowns, then at least the teeth are straight and light, so less invasive and more translucent veneers can be used. More often than not, patients prefer a more natural result where we make “their own teeth look as good as they can”. In a case like this with previous metal ceramics, one can see how integrating alignment and whitening can enhance aesthetics and simplify restoration dramatically. This makes a stable and aesthetically pleasing outcome far easier to achieve (Figures 15-17).

Conclusion
In each of our practices, there must literally be hundreds of patients who have issues similar to this gentleman’s complaint. Previously, conventional solutions often placed a barrier to treatment, adding time and cost into what was already an expensive treatment. Most patients just could not be bothered and would live with it. Now, simple anterior alignment can be so much quicker and more cost effective. I’m amazed at the sheer volume of patients who will have treatment like this done if they are suitable. Being able to combine whitening because the aligners are removable is just another bonus so we can capitalize on the patient’s current compliance and get an even better result. Of course, case selection is absolutely vital! Understanding what is treatable and what should be referred to a specialist orthodontist is essential. This means that patients must be fully consulted and understand the risks and disadvantages of not treating any posterior issues if just concentrating on anterior alignment.

Disclosure
Dr Qureshi runs courses with Dr James Russell and Dr Tim Bradstock-Smith and lectures on the Inman Aligner worldwide.

Acknowledgements
The author thanks Inman Aligner Certified laboratory, Pearl Healthcare, Hampton, Victoria; Donal Inman CDT and the Inman Orthodontic Laboratory; Nimrodental Inman Aligner Lab, London; Tony Knight at Knight Dental Design; and Middle East Dental Laboratory, Dubai.

References
make it easier to distinguish and completely remove it after the orthodontics was completed. After treatment, the goals set were completed. As stated previously, the dental team decided to align the incisal edges of #11 and 21 and not intrude further #11 to align the gingival zeniths. This decision was based on the fact that the teeth showed no signs of wear, in which case the worn tooth would be intruded more to be back in its original prewear position and then would be treated restoratively. The goals of the periodontal surgery were: 1. align the gingival zeniths of teeth #11 and 21, 2. gingivectomy with osseous reduction on 12 to reduce as much as possible the gingival display without compromising the long term prognosis of the tooth due to loss of periodontal support, 3. gingivectomy in mostly all the upper teeth to bring the gingival display to a more pleasing appearance. After surgery, a healing period of 8 weeks was recommended by the periodontist before the restorative procedures start (Figures 10, 11). The option of a single implant placement for the missing lateral incisor #12 was rejected before surgery, as an additional bone grafting procedure would be required and this was not accepted by the patient (Figure 12).

Aesthetic/Restorative phase
Six weeks after the periodontal surgery, in office whitening was performed so the patient’s desire for brighter teeth is met (Phillips Zoom, Philips Oral Healthcare, Stamford, USA). The shade of the teeth 10 days after the whitening was completed was A1 for the upper centrals and A2 for the canines (Figure 13).

After proper healing of the periodontal issues was confirmed with the periodontist, tooth #12 was prepared for an all ceramic lithium disilicate crown and teeth #21 and 25 were prepared for an all ceramic lithium disilicate Maryland type all ceramic bridge with wings are fabricated. Temporization was performed with a retraction paste (Astrangent Retraction Paste, 3M ESPE, Seefeld, Germany), a final impression was taken with polyether heavy and light body impression material (Permadyne, 3M ESPE, Seefeld, Germany) on a full arch metal tray. The bite registration was recorded and an alginate impression was taken to fabricate a new ESPE orthodontic retainer in the in-house lab within 1 hour. Oral hygiene and maintenance instructions were given to the patient and a follow up appointment was scheduled after 4 weeks (Figures 15-21).

A multidisciplinary approach in treatment planning and performance, as well as the use of contemporary restorative materials and techniques allow for a conservative, yet very aesthetic final result.

References

The Author would like to thank the Orthodontist, Dr. Evita Ia-kardia and the Periododontist, Dr. Alexis Bakopoulos for their contribution to the treatment of this case.

Contact Information
Dr. Kostis Giammakopoulos
DHS, PhD
Assistant Professor, ARGD Program Director
European University College Dental Health Care Clinic
Ibn Sina Building, No. 27
Block D, 3rd Floor, Office: 302
P.O. Box 35582, Dubai – UAE
Email: Kostis.G@euc.ac.ae

< Page 13
Now, everyone in your dental team can Shoot!

Ultra-Light
SIMPLE
Compact
Accurate

SHOFU Smart Digital EyeSpecial C-II

- 8 Pre-set dental modes with the option of customized settings
- Intuitive one-touch operation and built-in anti-shake
- Large LCD touchscreen with dental cropping grid lines
- Fast auto-focusing capability and excellent depth of field
- Water and chemical resistance
- Uncomplicated photo management system

For more information, simply contact us or your nearest SHOFU dealer.

SHOFU DENTAL ASIA-PACIFIC PTE. LTD.
10 Science Park Road, #03-12 The Alpha Science Park II, Singapore 117684
Tel (65) 6377 2722  Fax (65) 6377 1121  eMail mailbox@shofu.com.sg  website www.shofu.com.sg
workshops and self-instruction programmes). For the past ten years, CAPP has facilitated over 550 continuing education programmes with over 52,000 international participants. With the opening of CAPP Asia in 2012, CAPP’s reach has expanded to the Asia Pacific region and beyond.

In 2012, CAPP joined the global family of 96 publishers by becoming the proud owner of the Dental Tribune Middle East & Africa edition, and has since been delivering six print editions annually to over 20,000 dental professionals in the Middle East and Africa region and has delivered 24 newsletters to more than 41,000 active subscribers. Through its international website, the latest industry news reaches the largest dental community worldwide—an audience of over 650,000 dentists.

CAPP started out in Dubai ten years ago as a centre for professional training. It quickly grew and developed two very important international conferences: the CAD/CAM and Digital Dentistry International Conference and the Dental-Facial Cosmetic International Conference.

Next year, the tenth CAD/CAM and Digital Dentistry International Conference will be celebrated together with the CAPP anniversary. The last decade has been a journey with challenges in keeping pace with the incredibly fast growth of the industry combined with new technologies, particularly in digital dentistry.

Ten years ago, it would have been difficult to imagine the kind of opportunities presently available to change dentistry and improve overall patient care, including diagnostics, planning and treatment, in terms of precision, treatment and healing time, and aesthetics. What has been accomplished in the past ten years has been significant and CAPP would like to thank all of its business partners, sponsors and supporters for together making CAPP the success it is today. CAPP would especially like to acknowledge all who have worked at and continue to be with the CAPP office and share the challenges and passion. Thanks also go to all of the dentists, dental technicians, dental hygienists and dental assistants who have followed us in the decade of rapid development of the dental industry and dental technology.
Qualident Dental Lab

By Qualident

Investing in technology is a costly and time-consuming process. With new developments and advancements nearly every week, as a business it can be hard to keep up and you don't want to shell out hundreds of pounds every time something new is produced – if only there was a way to keep up with market demand without the investment and commitment. We are here to tell you there is a way.

Qualident has been providing the dental community with unsurpassed prosthetic services for over 18 years. We believe there are no short cuts in producing a high quality dental restoration. This means using the best materials, the most talented technicians, and the newest digital technologies.

“Restoration of implants is increasingly more common in dental clinic practice”

Q-Bridge
Restoration of implants is increasingly more common in dental clinic practice. For restorations of implants, Q-Bridge technology had ensures an accurate measurement into the patient mouth by its 3D Oral Scanning technique.

Qualident Laboratory with the help of PicDental had established the perfect solution for immediate loading implant prosthetics with excellent service. Q-Bridge technology had ensures an accurate measurement into the patient mouth by its 3D Oral Scanning technique.

Q-Bridge over Zircon Bar
The use of overdentures with locators has become an integral part of prosthetic treatment. Overdenture restoration provides improved chewing, esthetic, phonetics and comfort for patients that can't adapt dentures. The locator with zircon bar attachment delivers a low attachment profile and superb retention with a self-aligning design.

In addition to the design that offers ease of insertion and removal, customizable levels of retention, low vertical profile, and exceptional durability, its central design feature is its ability to pivot, which increases the resiliency and tolerance for the high mastication forces. During seating with the locator male pivots inside the denture cap, the systems' self-aligning design centers the male of the attachment before engagement. This allows the locator to self-align into place. Once seated, the male remains in static contact with the attachment, while the denture cap enable the full range of rotational movement over the male for the resilient connection of prosthesis.

During seating with the locator male pivots inside the denture cap, the systems’ self-aligning design centers the male of the attachment before engagement. This allows the locator to self-align into place. Once seated, the male remains in static contact with the attachment, while the denture cap enable the full range of rotational movement over the male for the resilient connection of prosthesis.
Are your patients’ dentures truly clean?

Dentures contain surface pores in which microorganisms can colonise. ¹

Corega® cleanser is proven to penetrate the biofilm* and kill microorganisms within hard-to-reach surface pores. ²

SEM images of denture surface.

*In vitro single species biofilm after 5 minutes soak


Date of preparation: June 2014.
Ref: CHSAU/CHPLD/0008/14c
Dear Friends and Colleagues,

November is upon us once again. This year for the sixth consecutive time the amazing Jumeirah Beach Hotel in Dubai will host the Dental Facial Cosmetic International Conference for a two day scientific weekend offering all dental professionals the latest research and developments in the field of Aesthetic Dentistry. The Dental-Facial Cosmetic International Conference has become a vital platform for the success and perception of dentistry in the Middle East region. Yearly over 23 International Key Opinion Leaders who have gathered in Dubai Participants will also have the unique chance to see the latest equipment which will be showcased at the product display made available by the top of the dental industry. We sincerely hope that this meeting will let all delegates with experiences from over 25 International Key Opinion Leaders who have gathered in Dubai Participants will also have the unique chance to see the latest equipment which will be showcased at the product display made available by the top of the dental industry. We sincerely hope that this meeting will let all delegates with experiences from all over the world participate in various fields of Dentistry.

On behalf of Emirates Dental Society, I would like to wish you all a pleasant and enjoyable weekend. Our specialized conferences are evolving into land marks in the field of Continuous Dental Education. We offer a unique blend of Science, Clinical Knowledge, and Cutting Edge Technology in the field of Dentistry and beyond. All of us, organizers, speakers, and sponsors spare no time or effort to put bring to you the best possible solutions for their esthetic needs.

I am sure that this conference will be of the greatest help to develop our knowledge and sharpen our skills in pursuing the goal that we all share, to provide our patients with the best possible solutions for their esthetic needs. We will continue this unsurpassed cooperation to bring to our audience the most recent updates of technology in the dental field with few “surprises” as well.

See you all in the dynamic Emirate of Dubai.

Dr. Aisha Sultan
President Emirates Dental Society
President of the Conference

Dr. Munir Silwadi
President Emirates Dental Society
President of the Conference

Dr. Munir Silwadi
Conference Chairman & Scientific Advisor

WELCOMING

AGENDA

GAME PLAN

PLANMECA

OFFICIAL MEDIA PARTNER

Dental Tribune

Show Edition

Dear Colleagues of the Dental Team,

It is my honor and pleasure to welcome you all to our 6th Dental Facial Cosmetic International Conference.

This 6th edition of our DFCIC features a joint meeting with the American Academy of Implant Dentistry. During this session, the AAD will share with us their vast knowledge and experience as well as the latest in the field of Implant Dentistry.

I am sure that this conference will be of the greatest help to develop our knowledge and sharpen our skills in pursuing the goal that we all share, to provide our patients with the best possible solutions for their esthetic needs.

We will continue this unsurpassed cooperation to bring to our audience the most recent updates of technology in the dental field with few “surprises” as well.

See you all in the dynamic Emirate of Dubai.

Dr. Aisha Sultan
President of the Conference

Dr. Munir Silwadi
Conference Chairman & Scientific Advisor

WELCOMING

AGENDA

GAME PLAN

PLANMECA

OFFICIAL MEDIA PARTNER

Dental Tribune

Show Edition
FRIDAY | 14 NOVEMBER 2014 | CONFERENCE DAY | MAIN AUDITORIUM
08:00 – 09:00  BREAKFAST WITH THE SPONSORS / REGISTRATION

09:00 – 09:45  Dr. Gaetano Paulino, Italy
Adhesive esthetics on anterior and posterior teeth

09:45 – 10:30  Prof. Swaid Sami, Germany
Minor & Major Augmentation in Oral and Maxillofacial Surgery and Implantology: new perspectives with Nanoapatite phosphate cement

10:30 – 10:45  MEET THE SPONSORS / COFFEE BREAK

10:45 – 11:30  Dr. Anton Lakobdanska, Russia
Zirconia vs. glass-ceramics – pros and cons

11:30 – 12:15  Dr. Julian Caplan, UK
In-surgery CAD/CAM Dentistry – Fact or Fiction

12:15 – 13:40  LUNCH / PRAYER TIME

13:40 – 14:15  Dr. Costas Nikolaopoulos, Greece
Simple fast & high quality implant dentistry

14:15 – 15:00  Dr. Pincelli Boglione, Italy
The Landscape of Digital Dentistry

15:00 – 15:45  Dr. Richard John Simonson, USA
Photography – Clinical for Dentistry, and Nature for Hobby

15:45 – 16:00  DISCUSSIONS

16:00 – 16:45  Prof. Carine Mehanna Zogheib, Lebanon
Teeth whitening from A – Z

16:45 – 17:30  Prof. Khalad Bals, KSA
The effect of manufacturing features of rotary NiTi files on their performance: A clinical approach for analysis

17:30 – 18:15  Dr. Gary Severance, USA
Oral Health Management – Between Myth and Reality

18:15 – 18:30  DISCUSSIONS

18:30 – 19:00  POSTER PRESENTATION

Saturday | 15 November 2014 | Conference Day | Main Auditorium

09:00 – 09:45  Dr. James Russell, UK
Access to Aesthetic Dentistry

09:45 – 10:30  Dr. Michael Apa, USA
Anesthesia in interdisciplinary Aesthetic Surgery and Implantology

10:30 – 11:15  Dr. Julian Caplan, UK
The Aesthetics of In-surgery CAD/CAM Dentistry

11:15 – 11:30  MEET THE SPONSORS / COFFEE BREAK

11:30 – 12:15  Dr. Anton Lakobdanska, Russia

12:15 – 13:00  Dr. Marcus Engelschalk, Germany
Double Scan vs. Single Scan – Two different workflows for essential improvement in fixed prosthodontic reconstruction in implantology

13:00 – 14:15  LUNCH / MEET THE SPONSORS

14:15 – 15:00  Dr. Marcus Engelschalk, Germany
The virtual scan in prosthodontics — new workflows for more predictability

15:00 – 15:45  Dr. Petros Yuvanoglou, Greece
The Science & Art of Restoring Immediately Loaded Implants

15:45 – 16:30  Dr. Bjorn Tittel, Germany
Innovative Solutions & Surgery in Aesthetic Dentistry

16:30 – 17:15  Dr. Gary Severance, USA
The Landscape of Digital Dentistry

18:00 – 18:15  DISCUSSIONS

DENTAL HYGIENIST DAY
Jumeirah Beach Hotel, Dubai, UAE
15 November 2014

PART OF 5TH DENTAL FACIAL COSMETIC INTERNATIONAL CONFERENCE
14 – 15 November 2014

09:00 – 09:45  Lecture
Dr. Carine Tabarani, UAE
Lecture
Oral Health Management: Between Myth and Reality

09:45 – 10:30  Lecture
Prof. Mary Rose Pincelli Boglione, Italy
Management of The Orthodontic Patient

10:30 – 11:15  Lecture
Victoria Wilson, Dental Hygiene Therapist, UK
Communication & Implant Maintenance

11:15 – 11:45  Lecture
Prof. Mary Rose Pincelli Boglione, Italy
Polishing will Brighten Your Smile!

VENEERS vs. CROWNS THE CHALLENGE IN SMILE DESIGN
Dr. Edmundo Mahn, Chile
13 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

ESTHETIC IN SAME DAY DENTISTRY (DENTISTS)
Aham Farah, CDT, UAE
13 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

LASER IN MODERN DENTAL PRACTICES
Dr. Manuel Tahir Agna, UAE
13 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

DIRECT VENEERS: THE SHADES DILEMMA
Dr. Edmundo Mahn, Chile
13 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

INDIRECT VENEERS
Dr. Munir Silwadi, UAE
13 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

PERIODONTAL INSTRUMENTATION
Prof. Mary Rose P. Boglione, Italy
14 – 15 November 2014 (09:00 – 16:30)
JBH, Dubai, UAE

FACE AND SMILE ANALYSIS
Dr. Edmundo Mahn, Chile
15 November 2014 (15:30 – 19:30)
JBH, Dubai, UAE

ESTHETIC IN ONE LAYER METAL CERAMIC & COMPOSITE GINGIVA
Aham Farah, CDT, UAE
15 – 16 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

INDIRECT VENEERS
Dr. Munir Silwadi, UAE
16 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

VENEERS vs. CROWNS THE CHALLENGE IN SMILE DESIGN
Dr. Edmundo Mahn, Chile
16 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE

LASER IN ESTHETIC DENTISTRY
Dr. Munir Tahir Agna, UAE
16 November 2014 (09:00 – 17:30)
JBH, Dubai, UAE
### Instructions:
1. Exchange Business Cards with Company - Ask for Stamp in return
2. Find out the Main Product
3. Complete the Gameplan with products & stamps
4. Submit your contact details to the reception
Planmeca Romexis® software offers a completely integrated and digital workflow for modern implantology. From intraoral scanning to easy prosthetic design and realistic implant libraries, the most sophisticated implant planning tools are just a few mouse clicks away.

- All the scanned and design data for prosthetic works is immediately available and can be mapped with the patient’s CBCT data
- Use crown library or patient-specific crown from CAD system
- Verify the implant plan with verification tool
- Order surgical guide directly from the software
- Share data easily with partners through Planmeca Romexis® Cloud image transfer service

Find more info and your local dealer
www.planmeca.com
In ‘bleeding on probing’ trials over 4 weeks, parodontax® demonstrated significant effects in reducing bleeding gums by 22% (p<0.01)

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

Adapted from Saxer et al 1994. All interdental spaces from 6+ to 6- were tested at baseline and 4 weeks for bleeding on probing on the right side (buccal) and left side (lingual). Findings were recorded as 0=no bleeding; 1=slight/isolated bleeding; 2=marked bleeding. Mean scores were determined. N=22. Baseline values [Mean SD]: Control (fluoride-containing toothpaste) group 24.75 (6.34); parodontax® group 25.40 (6.80). After 4 weeks: Control (fluoride-containing toothpaste) group 26.00 (9.14); parodontax® group 19.80 (7.38). *parodontax® vs control p<0.05.
By Robert Pauley, USA

Case Overview
Our office received a frantic phone call from the mother of one of our twelve-year-old patients, who stated that her daughter fell while in P.E. class and broke a front tooth. We advised her to bring her daughter to the office as soon as possible. Immediately after her arrival a periapical radiograph of tooth #9 and extraoral photographs were obtained (Fig. 1). Upon clinical examination and review of the digital radiograph, I saw tooth #9 was horizontally fractured at the middle third. There was no pulp exposure evident, but the tooth did have a pinkish tint on the lingual. No mobility was noted and no periapical changes or root fractures were obvious at this time. The new American Association of Endodontists guidelines recommend taking one occlusal and two periapical radiographs with different lateral angulations for all dental injuries, including crown fractures. If cone beam computed tomography is available, it should be considered to reveal the extension and direction of the fracture.1

Dr. Edward Mills in his presentation on Site Development and Implant Protocol Based on Etiology of Tooth Loss refers to a similar traumatic injury in which CT images revealed not only a root fracture within the bone but a fracture of the lingual plate.2 Dr. Mills summarized that jaw growth and development of the alveolar ridge because the osseointegrated implant acts as an ankylosed tooth. At a focus conference on Advanced Dental Implant Studies, Dr. Mills summarized that jaw growth in a young adolescent patient may compromise the outcome of the oral rehabilitation using an implant supported prosthesis even if implants successfully integrated. After presentation of the treatment plan and discussion of risks, benefits, options, and alternatives; the parents and patient elected to restore tooth #9 with a CAD/CAM crown. The parents understand this crown will likely need to be replaced once she reaches adulthood for the best cosmetic appearance, as her teeth and face will change with further growth and development.

The patient’s treatment options were: 1) do nothing; 2) restore with a composite restoration, realizing that this would have a questionable long-term prognosis due to size of fracture; 3) restore with a CAD/CAM milled crown. The patient and her parents were advised that cases where teeth have been injured traumatically such as in this case, one might experience a post traumatic irreversible pulpitis at a period of time beyond the initial trauma. In some cases, this condition may be treated by endodontic treatment and crown restorations but in other cases root resorption may take place precipitating the loss of the teeth. These teeth will be monitored every 6 months over several years with periapical radiographs. Every appropriate effort to maintain the tooth in place and avoid the need of an implant until the patient reaches maturity. Dental implants in adolescent patients may affect vertical growth and development of the alveolar ridge because the osseointegrated implant acts as an ankylosed tooth. At a focus conference on Advanced Dental Implant Studies, Dr. Mills summarized that jaw growth in a young adolescent patient may compromise the outcome of the oral rehabilitation using an implant supported prosthesis even if implants successfully integrated. After presentation of the treatment plan and discussion of risks, benefits, options, and alternatives; the parents and patient elected to restore tooth #9 with a CAD/CAM crown.

Treatment Plan
The patient’s treatment options were: 1) do nothing; 2) restore with a composite restoration, realizing that this would have a questionable long-term prognosis due to size of fracture; 3) restore with a CAD/CAM milled crown. The patient and her parents were advised that cases where teeth have been injured traumatically such as in this case, one might experience a post traumatic irreversible pulpitis at a period of time beyond the initial trauma. In some cases, this condition may be treated by endodontic treatment and crown restorations but in other cases root resorption may take place precipitating the loss of the teeth. These teeth will be monitored every 6 months over several years with periapical radiographs. Every appropriate effort to maintain the tooth in place and avoid the need of an implant until the patient reaches maturity. Dental implants in adolescent patients may affect vertical growth and development of the alveolar ridge because the osseointegrated implant acts as an ankylosed tooth. At a focus conference on Advanced Dental Implant Studies, Dr. Mills summarized that jaw growth in a young adolescent patient may compromise the outcome of the oral rehabilitation using an implant supported prosthesis even if implants successfully integrated. After presentation of the treatment plan and discussion of risks, benefits, options, and alternatives; the parents and patient elected to restore tooth #9 with a CAD/CAM crown.

The parents understand this crown will likely need to be replaced once she reaches adulthood for the best cosmetic appearance, as her teeth and face will change with further growth and development.

Tooth #9 was anesthetized and prepared for a ceramic crown. I utilized the CS 5000 intraoral scanner to scan the prepared maxillary anterior quadrant and the opposing mandibular anterior quadrant as well as obtain a bite registration (Figs 5, 6). CS Restore software was then utilized to design the anterior crown (Figs. 5-7). The CS 5000 milled the crown from an Ivo-
Porcelain laminate veneers – avoiding complications

By DCDM

Dental Veneering is the process of covering the facial surfaces of teeth by using various types of dental materials. Most commonly used are porcelain veneers which are thin shells of porcelain that are shaped like the outer layer of the teeth and are used to cover the teeth, aiming to enhance their appearance.

Many celebrities opt for this esthetic treatment to achieve what may seem like a picture-perfect smile. This may lead people to a false expectation that everyone is a good candidate for veneers. However, from a dental clinician's perspective, preparing and planning for veneers is very challenging, and if proper analysis of the patient and proper techniques in preparing the teeth are not used, multiple complications can occur. These include gingival inflammation, chipping and breaking or even complete de-bonding of the veneers.

To decide whether a patient is a good candidate for veneers many factors should first be assessed; the condition of the patient's teeth, habits, periodontal condition and most importantly the patient’s expectations and willingness to maintain their veneers after they are placed.

We should start by analysis of the teeth. This involves assessing their shape and proportion; diastemas, and analysis of the occlusion. Regarding shape and dimension, there should be sufficient tooth structure to retain the veneer, otherwise the longevity can be severely affected.

In teeth with small surface areas such as lower incisors, or teeth with multiple cavities and fillings which decrease the available surface for bonding, there is an increased chance of the early displacement of the veneer. In such cases a full crown may offer a better long term option (H.Seeral Cobet et al, 2009).

In terms of diastemas, if these are too large veneers can only partly reduce the space, otherwise gingival inflammation and/or recession can occur due to the bulkiness of the veneer (Weisgold and Cohen, 1981). Additionally, a tooth which is unnaturally close to or a gap to other teeth as is common in patients with an edge-to-edge occlusion which can lead to chipping and breaking of the veneers. Care must also be taken in patients with missing posterior teeth, as this increases the loading on the anterior teeth. Patients' habits like the gripping habit, night-time grinding or heavily clenching, often related to stress, or even biting or chewing on fingernails or objects like pens, create high horizontal forces impacting on survival of the veneers at a rate 8 times higher than patients who don’t have such habits. Such forces can readily lead to fracture, chipping or total de-bonding of the veneer. We should also consider the patient's high consumption of dark or acidic foods as well as smoking habits which can lead to dark stains around the margins of the veneers (Fig 1). Since patients with dark stained teeth will often consider veneers as a solution, habits should be identified changed after veneer placement to maintain the esthetics of their veneers (Beier et al, 2012).

Marginal stains can be minimized changed after veneer placement to the last key point of gingival health. Veneers should not be prepared on bleeding inflamed gingiva, which indicates poor oral hygiene. If this is done, complications which arise include placing the veneer margin too deep due to gingival enlargement, and bleeding during preparation and bonding leading to poor marginal seal and marginal staining after veneer placement. Eventually gingival recession or worsening inflammation will result. Good oral hygiene and gingival health should be achieved before veneers are started. All of these factors need to be considered during the initial assessment to avoid complications.

Additional complications can arise during the preparation of teeth. There are two common approaches to placing porcelain veneers, one is done without altering the natural teeth - bonding the porcelain veneers to un-prepared teeth. This might seem a conservative choice avoiding alteration to tooth surfaces, but it inevitably creates a bulky over-contoured appearance and increases the risk of the veneer de-bonding and gingival complications. Alternatively teeth are prepared for veneers by changing external contour, removing less than a millimetre of the facial surfaces and around 2 mms of the incisal edges, thus porcelain replaces the tooth structure removed, ensuring the porcelain is seated properly onto the tooth with enough bulk of porcelain at the edge to minimize chances of chipping and breaking. Studies have shown that the overall success and survival of porcelain veneers over a 20 year period concluded that the estimated survival rate over a 5 year period is at 95%, at 8 years is 94%; at 10 years is 89% and at 20 years is 85% (Beier et al, 2012). It should be noted that these were veneers placed after adequate tooth preparation.

The clinician must consider all these factors before choosing to place veneers if complications are to be minimised and patient satisfaction achieved.

References are available from the authors.

About the Author

Dr. Nadia Tufaneri is a second year resident at Dubai College of Dental Medicine (DCDM), Prosthodontic MSc. Program. Located in Dubai Healthcare City (DHCC).

Prof. Crawford Bain is the Director of the Periodontics MSc. Programme at Dubai College of Dental Medicine (DCDM).

Figure 1. A significant staining of the veneer margins as a result of smoking and high coffee consumption.

Dubai Dental Clinic provides comprehensive treatment in all specialized dental needs including:

Orthodontics | Periodontal Treatment | Esthetic Dentistry
Dental Implants | Crowns | Pediatric Dentistry | Root Canals
Oral Surgery | Teeth Whitening

For more information or to make an appointment call us on 800-DENTAL (800-313621) or 04 424 8777

Dubai Healthcare City, Building 34, Ground Floor
Clinic hours are Saturday to Wednesday from 9:00 a.m. to 6:00 p.m.

www.dcdm.ac.ae

Dubai College of Dental Medicine
Case report surgical correction of a class III malocclusion in an adult

By Dr. Fabien Depardieu

This case report describes a successful orthognathic treatment of a skeletal Class III malocclusion with mandibular prognathism in an adult individual. The patient with Class III malocclusion, having mandibular excess in sagittal and vertical plane was treated with orthodontics, lateral sagittal split osteotomy. The surgical-orthodontic combination has resulted in near-normal skeletal, dental and soft tissue relationship, with marked improvement in the facial esthetics in turn, has helped the patient to improve the self-confidence level. The interdisciplinary approach is the treatment of choice in most of the skeletal malocclusions (1).

Keywords: Class III malocclusion, decompensation, Orthognathic-Surgery, Bilateral sagittal split osteotomy, prognathism, surgical orthodontic treatment.

Introduction

The Skeletal Class III malocclusion is characterized by mandibular prognathism, maxillary deficiency or both. Clinically, these patients exhibit a concave facial profile, a retrusive nasomaxillary area and a prominent lower third of the face. The lower lip is often protruded relative to the upper lip. The upper arch is usually narrower than the lower, and the overjet and overbite can range from reduced to reverse.

The effect of environmental factors and oral function on the etiological factors of a Class III malocclusion is not completely understood. However, there is a definite familial and racial tendency to mandibular prognathism. For many Class III malocclusions, surgical correction can be the best alternative. Depending on the amount of skeletal discrepancy, surgical correction may consist of mandibular setback, maxillary advancement or a combination of mandibular and maxillary procedures. After surgical correction of the skeletal discrepancy, the occlusion is usually finished orthodontically to a Class I relationship. However, if surgical treatment is not performed, and the final molar relationship is Class III or Class I, there are challenges specific to the static and functional Class III occlusion that must be considered. Sometimes a Class III relationship is caused by a forward shift of the mandible to avoid incisal interferences. This is a pseudo-Class III malocclusion. In these cases, it is important to establish the inter-occlusal relationship with the teeth in the retruded contact position.

In this paper, the surgical orthodontic treatment of a young adult patient with a Class III malocclusion is illustrated.

Diagnostic and Etiology

The patient was a 28 year-old man who had a Class III facial type and slight crowding with a complete Class III relationship. His chief complaint was an esthetic facial and un-even bite. His medical history showed no contraindication for orthodontic therapy and orthognathic treatment. No one in his direct family had a skeletal Class III features.

The pretreatment extra-oral photographs showed symmetric facial structures (Fig 1). The patient had a concave profile, a decreased nasolabial angle and a protrusive lower lip. The pretreatment extra-oral photographs showed symmetric facial structures (Fig 1). The patient had a concave profile, a decreased nasolabial angle and a protrusive lower lip. The intra-oral photographs (Fig 2) showed a Class III occlusion on each side with an anterior crossbite and without apparent crowding. Overjet was -2.0 mm, and overbite was -3.5 mm. His maxillary anterior teeth were prognathic, with inadequate display when smiling. The mandibular dental midline was deviated 2.5 mm to the right, although the maxillary dental midline was coincident with the facial midline. There were no signs or symptoms of temporomandibular joint dysfunction. Mandibular movements, such as maximal opening and lateral and anterior displacement were within normal limits. No deviation and pain were discovered during the border movement of the mandible.

A cephalogram and a panoramic radiograph were taken before treatment. The cephalometric analysis and its tracing showed that the mandible protruded relative to the cranial base (SNB angle, 82; ANB angle -3). The panoramic radiograph showed no other abnormal signs. After the analysis of the photographs, the casts and radiographs, it was decided to approach his problems as a skeletal Class III malocclusion with an anterior crossbite and a lower deviated midline.

Treatment Objectives

The treatment objectives were to obtain a harmonious facial profile by decreasing the protrusion of the mandible, improve the occlusion, including correction of the anterior crossbite, establishment of ideal overjet and overbite, achievement of a functional molar relationship; and place the dental midlines in the middle of the patient’s face. We planned:

- To set back the mandible to correct the prognathism and the midline deviation.
- To relieve the proclined maxillary incisor position and to relieve the dental compensations.
- To relieve the dental compensations by straightening the mandibular incisors to an upper-right position over basal bone.

Treatment Alternatives

The first alternative was combined surgical and orthodontic treatment with extraction of 4 premolars. Through the retraction of the mandibular anterior teeth, the anterior crossbite and Class III molar relationships would be corrected and the concave facial profile would be camouflaged. Nevertheless, the mandibular incisors were not suitable for much distal movement because of the thin trabecular bone in the mandibular anterior area that could damage the periodontal tissues by gingival recession, fenestration or dehiscence.

The second alternative was combined surgical and orthodontic treatment. The anterior crossbite would be corrected with a single-jaw surgery; a mandibular setback. The concave profile would be improved.
as well, it was decided to extract the upper second premolars to relieve the dental compensations by repositioning the upper incisors.

The third alternative was to correct the class III malocclusion by miniscrew-assisted mandibular dentition distalization. However we decided that the skeletal problem was too excessive and required orthognathic surgery.

After we discussed the three alternatives with the patient, he chose the second option.

Treatment Progress
The preoperative orthodontic preparation began on December 2011. Before the levelling and alignment procedures (4), the maxillary second premolars were extracted to decompensate the maxillary incisor inclination and to reduce the acute nasolabial angle.

Pre-adjusted 0.022-in edgewise brackets were bonded to all teeth. The preoperative orthodontic treatment was achieved in 12 months, ending with 0.018 x 0.025 stainless steel surgical archwires for the maxillary and mandibular arches.

The orthognathic surgery involved a set back of the mandible with a bilateral sagittal split osteotomy. This was performed to improve the mandibular projection and establish the Angle Class I canine position with ideal overjet and overbite.

After the surgery, the patient was placed in intermaxillary fixation for 2 weeks. Two months after surgery, finishing was performed with maxillary and mandibular 0.018 x 0.022-in titanium-molybdenum alloy archwires. The appliances were removed after 16 months of active treatment.

Bonded lingual retainers were delivered with instructions to wear them full time for two weeks and then night time.

Treatment Results
The post-treatment photographs (Fig. 5) showed that facial aesthetics were improved, and ideal occlusion was achieved with proper overjet and overbite. The maxillary dental midlines coincided with the facial and mandibular midlines.

The occlusion was finished to a therapeutic Class II.

Discussion
The decision for surgical orthodontic treatment for this patient was based on the fact that his primary concern was his facial profile. Before the single-jaw surgery: a mandibular setback, preoperative orthodontic treatment, including decompensation of the malocclusion, is necessary.

The dental decompensation we performed was intended to retract the proclined maxillary incisors to a normal axial inclination. Lack of optimal dental decompensation compromises the quality and quantity of an orthodontic correction. The patient’s teeth were decompensated by extracting the upper second premolars and levelling the mandibular arch. This phase was achieved in 12 months.

Conclusion
This case report describes the surgical orthodontic treatment of a young adult man with dental and skeletal class III relationships. The orthognathic treatment was the best option for achieving an acceptable occlusion and a good esthetic result.

An experienced multidisciplinary team approach ensures a satisfactory outcome. Presurgical orthodontics removes all the dental compensations and suggests the extent of the skeletal discrepancy. Normal skeletal base relationship is achieved by osteotomy and setback of the prognathic mandible, postsurgical orthodontics guides the normal occlusal re-establishment by correcting any emerging dental discrepancies.

References
Dental implant competitors shake things up amidst economic uncertainty

By Kristina Vidug, USA

In 2015, the global dental implant market—composed of the sale of dental implant fixtures, final abutments and other devices—was valued at over US$5.7 billion. The European market, valued at nearly one-third of the global market at close to US$1.2 billion, contracted through 2014, as uncertain economic conditions continued to reduce procedure volumes and as more low-cost competitors entered the market, driving down prices. These factors hampered the expected economic recovery and resumption of growth projected for 2015. As a result, the dental implant market will continue its decline before stabilising in 2015. Only then will the European market slowly begin to recover. Factors such as low gross domestic product growth and high unemployment continue to render dental implant procedures—which are primarily paid out of pocket by patients—cost prohibitive, while alternatives, such as bridges and dentures, that are perceived as more affordable will represent attractive options.

Dental implants were invented in Sweden; as a result, it is not surprising that a great number of premium manufacturers are based in Continental Europe. In the past, premium manufacturers, such as Straumann and DENTSPLY Implants, were able to rely on their long-standing reputations in the market and the high quality of their products to command higher prices than did some of their competitors.

More recently, however, some of the premium competitors have employed strategies to appeal to increasingly cost-conscious consumers. For instance, Straumann has reduced the price of its titanium implants by 15 per cent in Austria, Germany and Switzerland. While the price change only came into effect in the first quarter of this year, the strategy appears to have been effective because the company reported a 6 per cent rise in first-quarter revenue compared with a 6 per cent decrease in the same period last year.

The price reduction has come at a perfect time: while economic conditions begin to slowly improve, consumers are still extremely price sensitive. These price cuts therefore allow dental professionals to offer premium implant products to their patients at a reduced rate.

Straumann’s price reduction is not its only foray into the value market. In the first quarter of this year, the company purchased US$30 million worth of bonds from low-cost South Korean dental implant manufacturer MegaGen. The investment, which will be converted to shares in 2016, will help bolster Straumann’s revenue while allowing it to participate in both the premium and value segments, thus appealing to a wide range of practitioners and patients alike.

Straumann is not the only company shaking things up in the world of dental implants. Zimmer Dental recently announced its acquisition of rival Biomet. While both companies are better known for their orthopaedic products, they are fairly significant competitors in the dental industry as well. Lay-offs are not uncommon when companies merge, especially when the companies in question offer the same types of products. This can have a negative impact on sales in the short term, as the newly conjoined companies’ sale force decreases, leading clients to switch to other competitors.

However, this will not be the case with the Zimmer-Biomet merger, at least not in the short term, as the sales teams from both companies are expected to be retained through the merger. The cost of retaining both sales teams has been estimated at US$400 million. While the effect of this acquisition on the market remains to be seen, the fact that the sales force will not be decreasing bodes well for the newly merged companies, likely resulting in an increased market share in the dental implant segment.

There is discussion of merger and acquisition activity among other companies in the segment too, with Nobel Biocare reportedly in talks to sell to private equity firms and strategic buyers. While these talks are still in the very early stages, what is certain is that there has been a great deal of activity in the competitive landscape in the past several years.

This, combined with the aforementioned economic factors, is turning the market—once stable and mature into a dynamic, action-filled space. With the dental implant market set to rebound in Europe and with revenues expanding in other countries—particularly in the rapidly developing BBIC and Middle Eastern markets—the global industry is poised for even further change, and the competitive landscape could look entirely different a few years from now.
Same Day Dental Implants® & Teeth: A Surgical & Prostho Protocol

By Costa Nikolopoulos Oral & Maxillofacial Surgeon (S.A.) & Petros Yurovitchy Prosthodontist (U.S.A.)

The original Branemark protocol advocated the use of a two stage surgical approach where the turned (smooth) implants were buried for several months under the mucosa. With the advent of surface enhanced and tapered implants the protocol later evolved into a one stage approach.

Several clinicians then proceeded to immediately load these one stage implants with good success provided good primary stability (more than 45Ncm) was achieved at time of implant placement and provided micro movements could be limited to 100μm. Ampel reports have been published on immediate loading of dental implants showing an initial unloaded period of 5–6 months is not necessary.

From a patient’s point of view the reduction of treatment time between implant placement & installation of a functional prosthesis leads to increased patient satisfaction & treatment acceptance. The surgical protocol later evolved to immediately load these one stage implants with good stability if the available bone permits. This usually results in adequate primary stability of 45Ncm at immediate loading. If 45Ncm insertion torque is not achieved then the implant should be removed and further bone preparation a 1mm wider implant is placed. In order to achieve this protocol the following were undertaken:

1. Implant length & diameter
2. Implant length & diameter
3. Implant distribution
4. Patient’s age
5. Patient’s finances (cost to benefit ratio)

Prosthetic Protocol

The prosthetic protocol of Same Day Dental Implants & Teeth is focused and designed around the patient’s needs. It’s fast, efficient and doesn’t compromise quality. The patients are never left without teeth for more than six hours. As a result treatment acceptance is high.

High treatment acceptance and patient satisfaction are the most important advantages of immediate loading and immediate function.

Surgical Protocol

The surgical protocol of immediate loading of dental implants with same day teeth is based on the following:

1. Avoid Bone Grafts
2. Preoperative Preparation
3. Primary stability at implant level. An implant with an implant stability > 120, 24 or even 50° so that the case can be screw retained.

Screw retention is an absolute requirement for biological reasons (to avoid risk of inflammation due to excess cement) as well as the ease of handling of immediate loading in a surgical environment.

Bone registration is started prior to extraction of all the teeth in the implant site as the multi-unit abutment is placed at time of surgery or alternatively two screws are inserted and assessed with a 15mm or 20mm peri-implant probe placed into the extraction socket walls is performed with the probe (Fig 12) and this is completed by good vision with magnifying loops and light illumination.

In healed sites where possible the “punch” technique is used.

Alternatively minimal flaps are raised where indicated. This flapless/punch technique/ minimal flap approach results in minimal or no soft tissue change thereby allowing the restorative dental/prosthodontist to proceed with the provisional acrylic screw retained teeth in the same day and permanent ceramic screw retained teeth in 1 week in the case of multiple implants.

In the case of the single implant the permanent full Zirconia screw retained crown can be delivered in 6 hours on the same day.

Prior to abutment placement, the multi-unit abutments (Fig 10). After abutment placement, healing caps are then placed on the multi-unit abutments (Fig 11). Healing caps are then placed on the multi-unit abutments (Fig 11).

The reduction of treatment time between implant placement & installation of a functional prosthesis leads to increased patient satisfaction & treatment acceptance. This is in line with Prof. P.I. The surgical protocol of immediate loading of dental implants showing an initial unloaded period of 5–6 months is not necessary.

In edentulous cases 4 to 6 implants are immediately loaded after healing and immediate function. The remaining extractions are performed all at once prior to implant placement but are rather one at a time followed by implant placement so that the silicone key can direct the implant surgeon (Fig 7).

It is very often necessary to use an implant with a build in angle of 12°, 24° or even 50° so that the case can be screw retained.

Screw retention is an absolute requirement for biological reasons (to avoid risk of inflammation due to excess cement) as well as the ease of handling of immediate loading in a surgical environment.

By prepping the extraction site of 45Ncm which can be achieved by using a surface enhanced tapered implant design to enhance lateral compression of bone.

By underprepping, high insertion torque and primary stability can be achieved even in cases of decreased bone density such as is often the case in maxillary alveolar bone and as well as in osteoporotic patients. Primary stability can easily be measured during implant placement with a torque wrench (Fig 4).

If 45Ncm insertion torque is not achieved, the implant should be removed and without further bone preparation a 1mm wider implant is placed. One Abutment One Time

After bone milling to remove any interfering bone, other implant cases transmucosal multi-unit abutments are placed on the implants and torqued to 45Ncm at the time of surgery. These abutments are placed and screwed into a “clean” implant platform with no interfering bone or soft tissue and are never removed for routine cleaning.

Scientific research shows less bone loss, better bone levels and peri-implant soft tissues when the transmucosal abutments are placed at time of surgery and never removed (Fig 9).

The mucosa is then replaced and an impression is taken and six acrylic teeth are fabricated with an increased patient resistance to extraction molar socket being enhanced and tapered implants placed into immediate extraction socket walls is performed with the probe (Fig 12) and this is completed by good vision with magnifying loops and light illumination.

In healed sites where possible the “punch” technique is used (Fig 15).

Alternatively minimal flaps are raised where indicated. This flapless/punch technique/minimal flap approach results in minimal or no soft tissue change thereby allowing the restorative dental/prosthodontist to proceed with the provisional acrylic screw retained teeth in the same day and permanent ceramic screw retained teeth in 1 week in the case of multiple implants.

In the case of the single implant the permanent full Zirconia screw retained crown can be delivered in 6 hours on the same day.

Number of Implants

In edentulous cases 4 to 6 implants are immediately loaded and provided good primary stability (≥45Ncm) are immediately loaded with screw retained teeth.

For single implant cases, the final all ceramic screw retained crown is fabricated and delivered to the patient within six hours. For multiple implants cases, temporary screw retained acrylic teeth are fabricated within six hours and a full ceramic/zirconia screw retained crown can be delivered one week later.

Timing of Immediate Loading Dental implants either should be loaded the earliest possible (never exceed ten days after primary stability) or alternatively two months after placement.

This is because the so-called initial instability (mechanical stability) that an implant has, starts to drop gradually and the implants become more resistant to failure if forces are applied. Fortunately, simultaneously a “secondary stability” (Osseointegration) starts to build up. The sum of the two “stabilities” which is demonstrated on the stability graph (Fig 15), gives us the “total stability”. As a golden rule implants ideally should never be disturbed during the “stability dip” period.

Preoperative Preparation

In order to achieve this protocol preoperative screening and detailed surgical and prosth-
Fig. 25. Adaptation of the final prosthesis onto the种植区 soft tissues, two months after surgery.

Fig. 26. Final Full Contour ZIRCONIA prosthesis on implants.

Fig. 27. Same Day Dental Implants® & Teeth with Angled and Wide implants.

Fig. 28. Preoperative and implant impressions, bite registrations and silicone keys, right after surgery.

Fig. 29. Periapical x-ray, verifying perfect fit of the all ceramic crown onto the implant.

Fig. 30. Periapical x-ray, verifying perfect fit of the all ceramic crown onto the implant.

Fig. 31. The Mutually Protected Occlusion.

Fig. 32. The Interior Custom Made Guiding Table.

Fig. 33. The Passive Abutment.

Dental Tribune Middle East & Africa Edition | November-December 2014

Implant treatment planning is imperative. Fitting the prosthetic point of view, each patient’s smile, mouth and occlusion are evaluated with the help of photos and videos (dynamic picture). Impressions are taken and the diagnostic models are mounted. If needed, the digital smile design (ISD) (Fig. 17) concept is used in order to proceed with a diagnostic wax-up. From the waxed models, “silicone keys” of bucal/lingual surfaces of the teeth, are fabricated, which will be used during the surgery to guide the implant placement.

Impression During Surgery
An impression of the implants is taken during the surgery, either at implant level for single implants or at abutment level for multiple implants. It’s imperative to make sure that the impression copings are seat ed all the way onto the implants (periapical x-rays can be used for verification).

For multiple implants, the open tray technique is recommended with the use of very hard additions and silicon impression material.

At the end of each surgery, preoperative impressions, impressions of the implants and bite registration are provided to the dental lab (Fig. 18). The dental technician mounts the implant models and starts the fabrication of the implant prosthesis.

Single Implant Reconstruction For single implant cases the permanent, screw retained, all ceramic zirconia teeth are fabricated immediately with the use of prefabricated zirconia cores (Fig. 19). They are available in different sizes and shapes, according to the prosthetic platform of the implant in use and the available prosthetic space, between the adjacent teeth.
While the patient is waiting in the recovery room, the dental technician grinds and shapes the zirconia core and eventually bakes the porcelain on it. Four to six hours later the permanent tooth is placed into the mouth of the patient. The use of the prosthetic screw is threaded down to 45Ncm. A periapical x-ray helps to verify the perfect fit (Fig. 30) on to the implant (Fig. 20). Occlusion is checked and verified with the help of 9x thick “schimshott” articulating paper. The prosthetic access hole is obturated with an acrylic impervious filling (tellap cone opposite composite resin) to allow easy access for retrievability in the future but simultaneously excellent esthetics.

Two months later upon maturation of the soft tissues and osseointegration, an additional x-ray is taken and if needed modifications are made to the prosthesis.

Multiple Implants Reconstruction
1) Temporary Teeth For multi unit implant cases (three unit bridges to full mouth reconstructions), the temporary screw retainers are fabricated by the in house dental lab within five to six hours and are delivered to the patient on the same day.
Providing the temporary teeth immediately isn’t only a great service to the patient but is also the best “diagnostic tool” for the corrective dentist to record all necessary information for the fabrication of the permanent teeth. If needed modifications are easily made to the acrylic teeth either directly in the mouth or in the dental lab. The patient should be evaluated for esthetics, phonetics and occlusion. Midline, plane of occlusion and buccal corridors are established. The “S” and “F” sounds are checked. The occlusal scheme is adjusted. For extensive cases the “mutually protected occlusion” (Fig. 23) is established which means that in centric occlusion, all teeth are touching but the posterior teeth have slightly heavier contacts compared to the anterior and on lateral and protrusive excursive movements the anterior teeth are touching/guiding and there are no posterior “working” or “non working” interferences (anterior guidance). X-rays are taken in order to verify the passive fit of the prosthesis.

Once all necessary modifications are made and the patient is satisfied, we need to convey all newly established parameters to the dental technician. This is achieved by:
1) taking photos and videos to record the esthetic result, in the mouth and
2) using the so-called “Clinical Remounting Procedure”, in the laboratory. Alginate impressions and bite registration are taken from the temporary teeth, which are removed from the mouth and remounted again on the articula tor. From the newly remounted temporary teeth the dental technician fabricates:
1) a series of silicon keys which will guide him to fabricate the permanent teeth and
2) an “Anterior Custom Made Guiding Table” (Fig. 22) which will allow him to reproduce the occlusal scheme of the temporary teeth to the permanent teeth.

Twenty minutes later the tempora ry teeth are placed again in the mouth of the patient and the occlusion is checked and if necessary the patient is instructed not to bite hard onto the acrylic teeth and the dental technician is informed.
2) Permanent Teeth Fabrication

With the help of:
1) the interchangeable implant and temporary models,
2) the silicon keys,
3) the anterior custom made guiding table, iv) the photos and v) the videos starts to fabricate immediately the permanent screw retained porcelain teeth.

The permanent teeth need to be ready in one week’s time and should have perfect fit onto the implants. This is one of the most important prerequisites for optimal implant longevity.

The material of choice, used by our dental lab, for the past 20 years, is porcelain fused to metal. The fabrication of the metal ceramic prosthesis involves a series of technique sensitive procedures, inevitably in each step, small “5 dimensional inaccuracies” are introduced into the fabrication. The sum of these inaccuracies is never zero. As a result, at the end of the fabrication procedure, the final prosthesis will never have a perfect fit onto the implants.

The use of the “Passive Abutment” (Fig. 25), which is a tita

nium machine-cut interfacial component/cylinder, offsets all the 5D inaccuracies, provided that the implant model is accurate. The passive abutment is cemented by the dental technician onto the fitting surface of the prosthesis, in the lab. The master implant model is used as a blueprint for the cementation. Based on our experience over the past 15 years of using passive abutments, the metal try in procedure is not needed, thus speeding up the fabrication of the final prosthesis. (place of the permanent teeth in the mouth)

The ‘Passive Abutments’ are utilized to eliminate zirconia to titanium wear problems.

Even though zirconia is a techni que sensitive material, the first results (one year) are very promising. However, only time will tell, if zirconia will be the material of choice. The advancements in digital impressions and CAD/CAM technology will further reduce the manufacturing time but most importantly will increase the accuracy and quality of the dental prostheses.

Conclusion
By using tapered angled implants as well as wide immediate molar replacements in implants in a prosthetically driven fashion it is possible in most cases to avoid bone grafts, achieve high primary stability and treat patients with implants and passively fitting, screw retained teeth all in one day (Fig. 27).

This revolution in treatment time, immediate function and cost saving leads to high patient satisfaction and implant acceptance by patients.

Contact Information
Dr. Konstantinos Ntotsouris DDS, PhD
20677 E US 1, Palm Beach Gardens, FL 33410
Phone: (561) 626-2100
Email: info@ntotsourisdentistry.com
Website: www.ntotsourisdentistry.com

Fig. 17. Before/After Digitally Designed Smile
Fig. 18. Preoperative and implant impressions, bite registrations and silicone keys, right after surgery.

CAD/CAM Advancements
Recently in order to eliminate this problem, at SameDay Dental Implant® Clinic, CAD/CAM full contour zirconia screw retained implants prostheses are used in selected patients (Fig. 26). Only the front 6 teeth are placed (buccal) with porcelain to optimize esthetics and passive abutments (titanium) are utilized to eliminate zirconia to titanium wear problems.

Recently in order to eliminate this problem, an advancement in the prosthetic world is CAD/CAM technology which is allowing us to fabricate prostheses which are completely digital. This advancement is providing clinicians with the opportunity to increase the accuracy and quality of the prostheses.

Complications
The main disadvantage of the prosthodontic complications are porcelain fractures/chipping. These are easily repaired by removing the teeth and relaying the porcelain.
Intra-bone GPS
Navigating the Future of Dental Implants!

IRIS-100
Implant Real-time Imaging System

- Real-time monitoring of drill position in a CT environment
- Ability to confirm positioning and parallelism with Virtual implants
- Avoids excessive radiation dosages to the patient
- Faster recovery with less trauma
- Safe and reliable results
- Educational versions available
Beirut International Dental Meeting 2014

Dr. Mohamed Hassanien
B.D.S – M.D.S – P.H.D
Fixed Prosthodontics dept.
Faculty of Dentistry – Cairo University
I.S.C.D Certified Cerec Trainer

By Dental Tribune MEA

Under the high patronage of his Excellency the President of the Parliament of Lebanon Mr. Nabih Berry, Lebanese Dental Association known by its yearly BIDM (Beirut International Dental Meeting) has organized the 24th BIDM 2014 in collaboration with the Saudi Dental Society at BIEL in Beirut on 11-15 September 2014.

Pre-congress courses and workshops took place on September 10 at “USJ” - University St. Joseph - Faculty of Dentistry which was managed by Professor Ghassan Yared and Professor Carina Mehanna, under the supervision of Prof. Nada Naaman, Dean of Faculty of Dentistry.

On the first day of the event the attendees witnessed the ribbon-cutting ceremony followed by a tour of the exhibition exploring the latest dental technologies, equipment and services displayed by numerous key industry leaders and dental manufacturers.

The BIDM 2014 not only opened the doors to open-discussions and learning for the region but allowed the participants to build their skills and use the opportunity for networking by up-to-date knowledge and sharing experiences in the application of technology throughout the event.

President of Lebanese Dental Association, Prof. Elie Maalouf discussed during the opening ceremony: “With the theme ‘Planning for the Future’ we encourage all Lebanese living in Lebanon and abroad, as well as all Arab and foreign dentists to attend this highly regarded meeting, in an effort to plan for a better future, not just scientifically, but culturally and politically.”

Prof. Maalouf further announced, “We should all denounce terrorism and extremist behavior. Attending this meeting and especially in this dire time will tell the world that we are strong together and will show them that no matter how hard they try to separate us we will always find a platform to meet. Lebanon is a small country but it has always reflected to the world a sense of modern civilization and openness to all cultures and religions. Lebanon does not tolerate extremist behavior and will not allow negative media to taint its reputation. Holding ambitious annual dental meetings with world renowned international and local speakers will show the world that we are competing with first world countries regarding scientific achievements”.

By Dental Tribune MEA

Under the high patronage of his Excellency Mr. Nabih Berry, Lebanese Dental Association known by its yearly BIDM (Beirut International Dental Meeting) has organized the 24th BIDM 2014 in collaboration with the Saudi Dental Society at BIEL in Beirut on 11-15 September 2014.

Pre-congress courses and workshops took place on September 10 at “USJ” - University St. Joseph - Faculty of Dentistry which was managed by Professor Ghassan Yared and Professor Carina Mehanna, under the supervision of Prof. Nada Naaman, Dean of Faculty of Dentistry.

On the first day of the event the attendees witnessed the ribbon-cutting ceremony followed by a tour of the exhibition exploring the latest dental technologies, equipment and services displayed by numerous key industry leaders and dental manufacturers.

The BIDM 2014 not only opened the doors to open-discussions and learning for the region but allowed the participants to build their skills and use the opportunity for networking by up-to-date knowledge and sharing experiences in the application of technology throughout the event.

President of Lebanese Dental Association, Prof. Elie Maalouf discussed during the opening ceremony: “With the theme ‘Planning for the Future’ we encourage all Lebanese living in Lebanon and abroad, as well as all Arab and foreign dentists to attend this highly regarded meeting, in an effort to plan for a better future, not just scientifically, but culturally and politically.”

Prof. Maalouf further announced, “We should all denounce terrorism and extremist behavior. Attending this meeting and especially in this dire time will tell the world that we are strong together and will show them that no matter how hard they try to separate us we will always find a platform to meet. Lebanon is a small country but it has always reflected to the world a sense of modern civilization and openness to all cultures and religions. Lebanon does not tolerate extremist behavior and will not allow negative media to taint its reputation. Holding ambitious annual dental meetings with world renowned international and local speakers will show the world that we are competing with first world countries regarding scientific achievements”.

< Page 8

used to etch the fitting surface of each veneer for 60 seconds as recommended by the manufacturers to obtain a clean ceramic surface for durable bonding.

Empress ceramic primer Monobond-S was used as a silane-coupling agent for one minute and then air dried for five seconds according to the manufacturers instructions. One layer of Excite bonding agent was applied on the fitting surface of each veneer for 60 seconds then air thinned for 5 seconds Fig 10.

Tooth structure surface treatment:

Transparent strips were used on the proximal surface of adjacent teeth to avoid etching effect. Phosphoric acid 35 % was used to etch the enamel margins of the tooth preparations for 30 seconds and 15 seconds for the dentin areas. Copious air water spray was used to remove the acid for 20 seconds. One layer of Excite bonding agent was applied on the tooth structure and air thinned for five seconds. LED light curing unit was used for curing.

Vario-link Veneer light activated resin cement was used for cementation of the two laminate veneers. Optra Sticks were used for holding the labial surface of the veneer for better handling processes during cementation. Initial polymerization was made and excess cement was removed with a sharp tip of a probe. Dental floss was used to ensure that there is no trapped cement in between the embrasures. Final polymerization was completed.

Intra oral proximal strips were used for better smooth proximal margins Fig.11.

“They are always looking for ways to improve their skills and use the opportunity for networking by up-to-date knowledge and sharing experiences in the application of technology throughout the event. President of Lebanese Dental Association, Prof. Elie Maalouf discussed during the opening ceremony: “With the theme ‘Planning for the Future’ we encourage all Lebanese living in Lebanon and abroad, as well as all Arab and foreign dentists to attend this highly regarded meeting, in an effort to plan for a better future, not just scientifically, but culturally and politically.”

Prof. Maalouf further announced, “We should all denounce terrorism and extremist behavior. Attending this meeting and especially in this dire time will tell the world that we are strong together and will show them that no matter how hard they try to separate us we will always find a platform to meet. Lebanon is a small country but it has always reflected to the world a sense of modern civilization and openness to all cultures and religions. Lebanon does not tolerate extremist behavior and will not allow negative media to taint its reputation. Holding ambitious annual dental meetings with world renowned international and local speakers will show the world that we are competing with first world countries regarding scientific achievements”.

< Page 8

used to etch the fitting surface of each veneer for 60 seconds as recommended by the manufacturers to obtain a clean ceramic surface for durable bonding.

Empress ceramic primer Monobond-S was used as a silane-coupling agent for one minute and then air dried for five seconds according to the manufacturers instructions. One layer of Excite bonding agent was applied on the fitting surface of each veneer for 60 seconds then air thinned for 5 seconds Fig 10.

Tooth structure surface treatment:

Transparent strips were used on the proximal surface of adjacent teeth to avoid etching effect. Phosphoric acid 35 % was used to etch the enamel margins of the tooth preparations for 30 seconds and 15 seconds for the dentin areas. Copious air water spray was used to remove the acid for 20 seconds. One layer of Excite bonding agent was applied on the tooth structure and air thinned for five seconds. LED light curing unit was used for curing.

Vario-link Veneer light activated resin cement was used for cementation of the two laminate veneers. Optra Sticks were used for holding the labial surface of the veneer for better handling processes during cementation. Initial polymerization was made and excess cement was removed with a sharp tip of a probe. Dental floss was used to ensure that there is no trapped cement in between the embrasures. Final polymerization was completed.

Intra oral proximal strips were used for better smooth proximal margins Fig.11.
The general secretary of LDA, Dr Walid Khattar further declared during the ceremony: “Efforts exerted leading to this conference were colossal, we did very important team work as council members, committee members, professional and competent employees, to accomplish this conference. I hope that you will benefit from interesting scientific topics aiding therefore to dental medicine a new scientific cornerstone.”

The conference further proved to be a vital platform for the participants to share ideas, explore the potential of new advances in technology and foster closer ties.

The scientific conference brought together more than 2,500 dentists registered to the event program from Lebanon and the region and more than 1000 have been registered as visitors to the exhibition area.

This year, despite the difficult situation in the region, the event gathered 36 highly esteemed guest speakers from 16 countries around the world (USA, India, France, Germany, United Kingdom, Italy, Bulgaria, Libya, Greece, Spain, Lithuania, and from the Arab countries Kuwait, Sultanate of Oman, Egypt, Kingdom of Bahrain and KSA) in addition to an interesting panel of Lebanese talented lecturers will attempt to clarify during 3 exciting days some of the most important issues and dilemmas arousing today. They highlighted on areas of ongoing developments and frontiers of research challenges in treatment planning, clinical performance and sustainable measures that are essential for a long-term treatment success.

The event came to a conclusion with 13 lucky draws sponsored by Lebanese Dental Association during the closing ceremony.

Overall, The BIDM 2014 was a resounding success with nothing but positive feedback from the visitors.

The courses this year covered a variety of topics including: Endodontology, restorative dentistry, pedodontontology, laser in dentistry, Surgery and implant loading. Each course received specific continuing education hours in collaboration with CAPP (Center for Advanced Professional Practices) which is an ADA CERP recognized provider.
E Xcept from Saliva and Oral Health: An Essential Overview for the Healthcare Professional

By Michael Edgar, Colin Davies & Denis O’Mullane and contributed to by Mahbhav Navazesh


The presence of saliva is vital to the maintenance of healthy hard (teeth) and soft (mucosa) oral tissues. Severe reduction of salivary output not only results in a rapid deterioration of oral health but also has a detrimental impact on the quality of life for the sufferer.

An understanding of saliva and its role in oral health helps to provide new insights into how oral health care professionals of the problems arising when the quantity or quality of saliva is decreased; this awareness and understanding is important to the diagnosis, management and treatment of the condition.

There is an extensive body of research on saliva and its salivary fluid. It has been used to indicate an individual’s susceptibility to developing caries, it has also been used to indicate various physiological and pathological changes which are mirrored in saliva. One of the major benefits of saliva as a diagnostic fluid is that it is easily available for research and analysis. It can be used to monitor the presence and levels of harmful bacteria (oral microorganisms and ions).

The following article provides an overview of oral complications associated with salivary gland dysfunction, physiology, diagnosis, clinical implications and management of xerostomia.

Xerostomia and Salivary Gland Hypofunction

Saliva plays a significant role in the maintenance of oral-pharyngeal health. Subjective complaints of a dry mouth (xerostomia) and objective evidence of diminished salivary output (salivary gland hypofunction) are common conditions, particularly in medically compromised older adults. They can result in impaired food and beverage intake, a sump of oral disorders, and diminished host defence and communication. Persistent salivary gland hypofunction can produce permanent oral and pharyngeal disorders and impair a person’s quality of life.1

Global estimates of xerostomia and salivary gland hypofunction are difficult to ascertain due to varying study design, definition and diagnostic usage of the term xerostomia and salivary gland hypofunction interchangingly, utilisation of different diagnostic criteria and saliva collection methods, and small sample sizes. However, overall, the prevalence of xerostomia and salivary gland hypofunction increases with age and affects approximately 30% of adults aged 65 years and older.2

There are multiple causes of xerostomia and salivary gland hypofunction, the most common associated with age-related decline, which is difficult, however, to estimate the true prevalence of xerostomia in adults taking age-related decline. The prevalence of xerostomia is nearly 100% among patients with autoimmune xerostomia affecting between 14-1% of older adults. Estimates of the prevalence of xerostomia in adult ambulatory and nursing home populations range from 16-72%.3  Combining the prevalence of xerostomia associated with age with the percentage of adults with these conditions who complain of xerostomia, the authors mentioned general estimate of approximately 50% xerostomia prevalence taking adults 65 years and older.

Approximately 80% of all persons over age 65 have at least one chronic condition and 50% have at least two. Hypertension is the most prevalent of these chronic conditions, followed by arthritis and cancer.4 Many of the oral-pharyngeal conditions that develop as a result of xerostomia can potentially lead to increased restorations. Edentulous individuals who are using removable prostheses have diminished denture retention, which can lead to a loss of chewing, swallowing, speech, and nutritional intake. Denture-bearing patients, the first signs of atheromatous candidiasis and traumatic and painful lesions due to tissues trauma.

Dysphagia

Dysphagia is the difficulty or inability to swallow food or liquid. It can range from mild to severe and can result from a variety of causes, including oral or pharyngeal abnormalities, neurological conditions, and certain medications. Dysphagia can lead to malnutrition, dehydration, and an increased risk of aspiration pneumonia.

Saliva Collection

The collection of saliva is used to determine salivary flow rates, which serve as an index of glandular function and as a diagnostic tool for identifying oral complications associated with xerostomia. There are various methods of saliva collection, including whole saliva, stimulated whole saliva, stimulated parotid saliva, and stimulated mixed saliva.

Whole saliva is collected by instructing the patient to expectorate all saliva into a pre-weighed container. The person is instructed to chew the wax or paraffin and expectorate the remaining saliva into the container. The volume is recorded gravimetrically and expressed as ml/min.

Stimulated whole saliva flow rates of about 0.5 ml/min are also considered to be suggestive of salivary hypofunction. The most appropriate technique for collecting this form of saliva is with the use of a standard piece of paraffin that the patient is asked to chew against a gum base (typically 1-2 g). A test tube or similar container with a small volume of saliva is weighed prior to saliva collection. The person is instructed to swallow all saliva that may be in the mouth before the saliva collection begins. The first minutes of saliva gathered are discarded, and only all saliva into the pre-weighted container placed under the chin at each 60 second interval is collected. The person is instructed to expectorate the remaining saliva into the container and the collection is completed. The volume is recorded gravimetrically, and expressed as ml/min.

Values below 45% of normal levels can be used as a sign of salivary gland hypofunction. It is also generally accepted that when salivary flow rates are decreased by about 50%, patients will begin to experience xerostomia.5  The best way is simply to monitor a patient’s salivary function, as caries is not an isolated event but one that is determined by whether there are demonstrable changes.6

Clinical implications of xerostomia and salivary gland hypofunction

Dental caries and dental erosion

One of the most common oral conditions that develop as a result of xerostomia and salivary gland hypofunction is dental caries. In the presence of persistently high levels of plaque, the enamel becomes demineralized. The rate of erosion is lower than the rate of enamel remineralization, which is normally greater numbers of caries-associated bacteria that can lead to dental erosion. With deficient saliva, the mouth is left open to the harmful effects of these bacteria leading to an oral environment conducive to microbial colonization with caries-associated microorganisms and enamel demineralization. Therefore, the primary dental problem in patients with salivary gland hypofunction is dental caries, with less risk (but greater than that for healthy individuals) for developing gingival and periodontal problems.

Impaired quality of life

Many of the oral-pharyngeal sequelae of salivary gland hypofunction and chronic xerostomia lead to an impaired quality of life. Dental and pharyngeal symptoms can result from the inability of the salivary system to restore oral pH towards neutral levels. Dental caries and fissure caries and fungal infections may be more likely to develop traumatic dental injuries, and periodontal disease. Constriction, pain sensation and disfigurement of teeth, particularly in medically compromised patients. Desiccated and fragile oral mucosal tissues are particularly in interproximal regions and beneath denture surfaces and can cause gingivitis. Long-standing gingivitis may develop into periodontal disease, so patients with chronic hyposecretion are at risk for developing gingival and periodontal problems.

62 ORAL HEALTH

DENTAL TRIBUNE Middle East & Africa Edition | November-December 2014

Excerpt from Saliva and Oral Health: An Essential Overview for the Healthcare Professional
Management of xerostomia and salivary gland hypofunction

The initial step in the management of xerostomia is the establishment of a diagnosis. This frequently involves a multidisciplinary team of health care providers who communicate effectively, since many patients have concomitant medical conditions and frequently experience complications of polypharmacy. The second step is scheduling frequent oral health evaluations due to the high prevalence of oral complications.

Maintenance of proper oral hygiene and hydration (water is the drink of choice) are helpful. Several habits, such as smoking, mouth breathing, and consumption of caffeine containing beverages, have been shown to increase the risk of xerostomia. Limiting or stopping these habits may provide direct oral care benefits, as it promotes a strong flow of stimulated saliva.


Underwriting costs for this Saliva and Oral Health edition were provided by Dr. Michael Dodds and The Wrigley Company.

References

Robert Pauley, Jr., DMD
Dr. Pauley has been practicing dentistry in the Atlanta area since graduating from the University of Kentucky College of Dentistry in 1988. Currently enrolled in the Advanced Dental Implant Studies, Dr. Pauley is an Associate Fellow of the American Academy of Implant Dentistry and a Fellow of the International Congress of Oral Implantologists.

Would you like to know more?
Visit us on the web at www.carestreamdental.com or call 800.944.6365.

About the Author
Robert Pauley, Jr, DMD
Dr. Pauley has been practicing dentistry in the Atlanta area since graduating from the University of Kentucky College of Dentistry in 1988. Currently enrolled in the Advanced Dental Implant Studies, Dr. Pauley is an Associate Fellow of the American Academy of Implant Dentistry and a Fellow of the International Congress of Oral Implantologists.

Would you like to know more? Visit us on the web at www.carestreamdental.com or call 800.944.6365.
New 3Shape advisory board develops plan to improve patient care

By Dental Tribune International

COPENHAGEN, Denmark: 3Shape, a global provider of digital 3-D solutions for dental laboratories and dental clinics, has formed a dental advisory board made up of 12 prominent dental professionals from around the world. The new board will provide the company with insight and direction in digital technology and product development, as well as help the company move towards its goal of improving dental patient care.

“The 3Shape Dental Advisory Board provides 3Shape with a unique opportunity to work with the dental industry’s top digital experts to develop our technology and solutions and better answer real needs for dentists. Our goal is to improve patient care. Working alongside these industry leaders brings us one step closer to this,” said Flemming Thorsup, President and CEO of 3Shape.

The group met for the first time earlier this month in Copenhagen. Leading digital dentistry advocate and practitioner Dr. Jonathan Ferencz from the US chaired the two-day meeting. The advisory board developed a four-point plan to achieve the following objectives: (1) to share best practices in the use of digital technologies; (2) to define actual needs for better dentistry based on cases and experience; (5) to support the research and development of and innovation in dental technologies; and (4) to promote education and awareness of digital dentistry.

All board members are respected leaders in the use of digital dental solutions and intra-oral scanning. Members work with a variety of the digital dental systems available on the market and not necessarily 3Shape’s own 3-D scanners and CAD/CAM software.

“The way dentists care for patients has changed dramatically over the past few years, with digital technology driving much of this change. Digital workflows enable dental professionals to work more efficiently and accurately, with digital case handling now in many cases surpassing analogue treatment in quality. The creation of the board will serve to improve patient care even further and strengthen 3Shape’s reputation as an industry leader. At the two-day meeting we got a sense of 3Shape’s passion not only from their willingness to listen to the expertise and insight of the professionals gathered, but also from their commitment to taking action and applying our recommendations to create better solutions and improve patient care,” said Ferencz.

The 3Shape Dental Advisory Board comprises 11 dentists and one dental laboratory owner. Board members are from Australia, Brazil, Denmark, France, South Korea, Spain, Switzerland and the US. Plans for the board include biannual meetings to ensure the success of the four-point plan, as well as to assess both the industry and 3Shape product development.

Ferencz likened support for 3Shape in the industry to that of IT giant Apple: “I think there is a passion that users have for 3Shape that is analogous to the passion that Apple users have for their products. 3Shape is driven by innovation much the same as Apple. And like Apple, they make products that are more useful, beneficial and incidentally, look cool too.”
Interview: “The Emirates Clinic is unique”

By Dental Tribune MEA

Dubai, UAE: The Emirates Group provides in-house medical and dental services for eligible staff members and their families via its own Emirates Clinic, located at the famous Sheikh Zayed Road in Dubai, UAE.

Dental Tribune MEA had the pleasure of interviewing the Vice President of the Dental Clinic Services, Dr. Brendan James Carr to find out more about the Emirates Dental Clinic Services and its uniqueness. The dental team comprises of dentists, dental hygienists and dental nurses who provide the highest standards of dental care for company staff and their dependents on a routine and emergency basis. Supported by dental hygienists and surgery assistants, dentists not only monitor dental health across the Group, but also participate in preventative dental programs and/or education for employees.

Dental Tribune MEA: Dr. Brendan Carr, thank you for your time. Could you share with us your background and the road to becoming VP at the Dental Clinic Services in Dubai?

Dr. Brendan Carr: I graduated from Glasgow University in 1998 and worked in the NHS for 3 years before accepting a position in a large private practice in the Gold Coast Australia. After working and living in Australia for 4 years I took up a position in a private practice in West London for a further 3 years. I moved to Dubai in 2009 having been very fortunate to be selected for a position in the Emirates Airline dental clinic which has been a great move and a clinic that I thoroughly enjoy working in. I took on the role as VP of the clinic in March 2015 and am very fortunate to have an excellent team working with me to provide high quality dental care to our eligible patient base.

What makes the Emirates Dental Clinic Services so unique in comparison with the hundreds of clinics in UAE?

The Emirates Clinic is unique in the way that we solely look after eligible staff and their dependents of the Emirates Group and no one else. This includes our team of over 5500 pilots. We need to ensure that this important group are dentally fit and most importantly, fit to fly. The dental treatment for all our patients is covered under the company’s generous insurance scheme. In addition our dentists are all salaried and as a result patients have the confidence that whatever treatment we recommend is done so with their best interests at heart and with no commercial motivation. The clinic has been open now for 19 years and in that time has grown from 2 dentists and 7 hygienists in order to support the expansion of the airline over the years with the aim of providing ethical, quality dental care in a safe environment as its core philosophy. Our clinic has also been internationally accredited by the Australian Council on Health Care Standards (ACHS), which assesses the quality and safety of health care provided by clinics and hospitals.

How do you assess the level of dental medical services and awareness in UAE?

There is no doubt that the awareness of the importance of dental health is improving in the UAE and that the regulatory bodies such as the DHA are striving to ensure that all dental professionals within the UAE are following required standards. In the 5 years I have lived in Dubai, I am more aware of dental health promotions taking place and products being advertised. I believe much work is still required to make people aware of the links that smoking, diabetes and heart disease have with dental health.

What is your impression of the Dental Industry Market and its fast development especially in Digital Dentistry?

In the past 10 years there has been a dramatic increase in the amount of new products and technologies coming into the market and it can often be a challenge keeping up with all of these developments. I am of the opinion that as with all industries, we should embrace new technologies that will improve the service that we provide for our patients and the working environment we work in. The digitalization of equipment whether be with radiograph systems or CAD/CAM scanners is becoming more and more an integral part of the dental surgery. It is clear that when feedback has been provided to the manufacturers of problems being faced with new technology, this feedback is being listened to so as to improve the functionality of this technology. I am of the belief that the digital technology available nowadays justifies the investment required by dental clinics.

How do you and your staff keep up to date with the latest developments in Dentistry?

All of our staff are required to meet both the DHA continuing professional development standards and the CPD requirements of their home countries regulatory bodies. In order to achieve this we attend conferences and seminars both locally and overseas. We also have subscriptions to dental journals from around the world which we share within the group. We also take advantage of online CPD articles and reports.

What would you say is your dental philosophy? The message you would like to give to your patients?

My dental philosophy is to aim to provide high quality, ethical dental care in a caring way that encourages patients to be regular attenders to ensure that all their dental needs are met.

Is there anything else you would like to add?

I would like to take the opportunity to thank you for your interest in our clinic and team and for the work you do in promoting dental education both locally and globally.

Contact Information

For more information visit:
http://www.inibsa.com

Inibsa: the specialists in dental anaesthesia

Dr. Brendan Carr - Vice President at The Emirates Dental Clinic in Dubai

Inibsa Dental is a pharmaceutical company with over 65 years’ experience in the R&D and production of dental anaesthetics. With a production capacity of over 150 million cartridges a year, Inibsa Dental is positioned in its own right amongst the world’s leading manufacturers.

Inibsa Dental has the right anaesthetic to suit every patient. In their daily practice, dentists face a wide range of pathologies and patients. It is important to choose the appropriate anaesthetic for each treatment and patient considering factors such as the need for postoperative pain control, the required haemostasis, the risk of postoperative self-inflicted injuries and any contraindications to the selected local anaesthetic. Inibsa Dental provides a complete range of drugs to deliver safe, convenient and effective anaesthesia for every type of dental procedure and patient.

Inibsa Dental’s local anaesthetics are aesthetically manufactured, silicone-coated and have latex-free rubber components to ensure a smooth and painless injection.