Dentsply Sirona: Merger Creates the Dental Solutions Company™

By Dentsply Sirona

YORK, PA USA/AUSTRIA: Dentsply Sirona Inc. (NASDAQ: XRAY) today announced that it has successfully completed the merger of equals between DENTSPLY International Inc. (“Dentsply”) and Sirona Dental Systems, Inc. (“Sirona”). The merger of DENTSPLY, the market leader in dental consumables and Sirona, the market leader in dental technology and equipment, creates the world’s largest and most diversified manufacturer of professional dental products and technologies. Dentsply Sirona will have leading positions and some of the most well-established brands across consumables, equipment, technology, and specialty products to address the needs of dental professionals, specialists and dental labs. Each day, approximately 600,000 dental professionals will...
use a Dentsply Sirona product(s).
With the largest R&D platform in the industry, Dentsply Sirona will develop and support innovative end-to-end clinical solutions that advance patient care.

**Total Solution Provider**

By combining DENTSPLY’s consumables platform with Sirona’s technology and equipment, the new company offers more products and integrated solutions than any other dental organization. Dentsply Sirona is the industry’s largest producer of dental products and labs enabling the treatment of general and specialty procedures including implantology, endodontics, and orthodontics. With the broadest clinical education platform in the industry, the company is driving the adoption of new and approved technology and integrated solutions for more efficient workflows. Customer service and satisfaction will remain a key value to the new company and will be supported by the industry’s largest sales and service infrastructure comprised of direct sales and leading distributors.

Two Innovation Drivers coming together

The merger unites the two leading innovators in dental, each with over 100 years of experience. Combined, Dentsply Sirona will have the largest and strongest R&D platform with over 6,000 experienced scientists and engineers to foster the development of better, safer and faster dental care. With its enhanced commitment to innovation, the company will advance patient care, improve the patient experience and reduce chair time for procedures.

Jeffrey T. Skovin, Chief Executive Officer of Dentsply Sirona comments: “With our merger complete, Dentsply Sirona can now focus its efforts on empowering dental professionals to provide better, safer and faster dental care. As The Dental Solutions CompanyTM, we will drive long-term growth by being uniquely positioned to deliver innovative solutions and support our customers with the broadest product portfolio and the largest sales and service infrastructure in the industry. Dentsply Sirona will continue to be at the forefront of the digitization of dentistry, single visit dentistry and improving clinical outcomes for patients around the world.”

Great results are a combination of the right tools and the right skills. Dentsply Sirona offers the largest clinical education platform in the industry – the goal is to equip dental professionals with everything they need. From the best available products to expert clinical education to support the use of these products and services to improve patient care and treatment outcomes. Brett W. Wise, Executive Chairman of Dentsply Sirona, adds: “This is a transformative day for Dentsply Sirona and the entire dental market. Our unparalleled offering of some of the most trusted brands in consumables, equipment and technology makes Dentsply Sirona the partner of choice to dental professionals and labs today. With an unmatched commitment to investing in research, product development and clinical education, Dentsply Sirona will advance patient care and improve oral health on a global scale for years to come.”

Merger Close

DENTSPLY and Sirona completed their merger on February 29, 2016. Shares of Sirona will be halted from trading prior to the opening of the NASDAQ stock market and will cease trading effective at the close of business today. Under the terms of the merger agreement, Sirona shareholders are entitled to receive 1.843 shares of Dentsply Sirona for each existing Sirona share.

---

**The Intelligent Solution**

Exceptional performance, at an everyday price

Adapts to every patient – just like you!

A cost-efficient and easy-to-use solution made to adapt to your requirements. High image quality in 2D and 3D, with 4 FOV and individual resolution options, including Dose Reduction Technology.

It’s the Gentx way of doing things!

Find your solution, visit: www.kavo.com/gxdp-800

---

**Dentsply Sirona**
Sirona Strasse 1
5071 Wals bei Salzburg, Austria
T +43 (0) 662 2450-588
F +43 (0) 662 2450-540
www.dentsplysirona.com

---

**INGREDIENTS**

- [Dentsply Sirona](https://www.dentsplysirona.com)
- [Kavo](https://www.kavo.com)
SMALL CHANGE.  
BIG DIFFERENCE.

The new imaging plate scanner XIOS Scan completes the intraoral family from Sirona. Whether you’re taking the first steps into the digital world or establishing or updating a fully digital practice, XIOS Scan and XIOS XG Sensors offer perfectly synchronized solutions for every workflow. Enjoy every day. With Sirona.
Efficient & Easy Dentistry
3M Saudi Arabia Roadshow, January, 22-26 2016

By 3M

3M has always been and remains a company which is staying at the forefront of customer education. On January, 22-26 3M Oral Care Solutions Division in Saudi Arabia held a 4-day 3M Health Care Academy Roadshow covering 4 major cities in the country with participation of 2 leading speakers in esthetic dentistry: Dr. Carlos Sabrosa (Brazil) and Dr. Paul Nahas (Lebanon).

The Roadshow started in Jeddah and then continued in Ta’if, Riyadh and Al Khobar. During these 4 days over 850 dentists from both private and governmental clinics in Saudi Arabia attended the event. 3M Company also had an honor to host Dr. Mohammad Al Rafiee, General Director of Dentistry of the Ministry of Health of Saudi Arabia.

The event was designed around Efficient and Easy Dentistry, exposing dentists to the different procedure solutions from 3M which will make dentistry really efficient and easy for them. The program covered posterior restorative procedure solutions, especially focusing on the newly launched Filtek™ Bulk Fill Posterior Restorative material. It also covered different techniques of posterior indirect restorations right from the core buildup, retraction, autopolymerisation, tempoparation and final placement of the restorations with various cements, shedding light on the different solutions that 3M has to offer in this area.

The program consisted of the combination of lectures and hands-on workshops. Dr. Carlos Sabrosa covered Indirect Procedure topic and techniques related to bulk fill composites restorations using either open or close sandwich technique. He also talked about the properties of the materials used, the advantages, indications and the difficulties that dentists may face during the posterior restoration creation.

Knowing that dentists always seek for better materials with easier manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome, Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

At the educational area of the booths doctors could attend rich scientific program consisting of lectures and demo-sessions on the new dental and orthodontic products held by 3M Oral Care Scientific Affairs and Education experts. Dental professionals had opportunity to learn more about fast and efficient posterior restorations with Filtek™ Bulk Fill Posterior Restorative, stress-heating class I and II restorations with new Ketac™ Universal Glass Ionomer material, discover how to create highly esthetic restorations with Style Italia technique using Filtek™ Z250XT nano-composite restorative material, or discuss reliable cementation techniques using variety of RelyX™ cements with Dr. Rasha Ahmed, Scientific Affairs and Education Expert from 3M Gulf.

During the three exhibition days more than 4000 customers visited 3M Oral Care booth. Among them over 350 doctors took part in 10 presentations and live demonstrations. And those doctors who couldn’t attend the event could afterwards watch an interview about 3M educational activities which Dubai TV took by Dr. Rasha Ahmed.

In addition to the exhibition part traditionally 3M held pre- and post-conference workshops for the dentists coming from various countries of Gulf Region. On the February, 5 Dr. Nabil Ouattara (Canada) carried out lecture and workshop for Pediatric dentists and on the February, 5 Dr. Ajay Juneja (UAE) held lecture and workshop on Indirect Aesthetic Veneers.

New 3M Oral Care Products and Solutions at AEEDC 2016

At the educational area of the booths doctors could attend rich scientific program consisting of lectures and demo-sessions on the new dental and orthodontic products held by 3M Oral Care Scientific Affairs and Education experts. Dental professionals had opportunity to learn more about fast and efficient posterior restorations with Filtek™ Bulk Fill Posterior Restorative, stress-heating class I and II restorations with new Ketac™ Universal Glass Ionomer material, discover how to create highly esthetic restorations with Style Italia technique using Filtek™ Z250XT nano-composite restorative material, or discuss reliable cementation techniques using variety of RelyX™ cements with Dr. Rasha Ahmed, Scientific Affairs and Education Expert from 3M Gulf.

High interest of the doctors was also associated by the attendees who told that 3M has to offer in this area. There is a large variety of steps manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome. Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

Efficient & Easy Dentistry, exposing dentists to the different procedure solutions from 3M which will make dentistry really efficient and easy for them. The program covered posterior restorative procedure solutions, especially focusing on the newly launched Filtek™ Bulk Fill Posterior Restorative material. It also covered different techniques of posterior indirect restorations right from the core buildup, retraction, autopolymerisation, tempoparation and final placement of the restorations with various cements, shedding light on the different solutions that 3M has to offer in this area.

The program consisted of the combination of lectures and hands-on workshops. Dr. Carlos Sabrosa covered Indirect Procedure topic and techniques related to bulk fill composites restorations using either open or close sandwich technique. He also talked about the properties of the materials used, the advantages, indications and the difficulties that dentists may face during the posterior restoration creation.

Knowing that dentists always seek for better materials with easier manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome, Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

At the educational area of the booths doctors could attend rich scientific program consisting of lectures and demo-sessions on the new dental and orthodontic products held by 3M Oral Care Scientific Affairs and Education experts. Dental professionals had opportunity to learn more about fast and efficient posterior restorations with Filtek™ Bulk Fill Posterior Restorative, stress-heating class I and II restorations with new Ketac™ Universal Glass Ionomer material, discover how to create highly esthetic restorations with Style Italia technique using Filtek™ Z250XT nano-composite restorative material, or discuss reliable cementation techniques using variety of RelyX™ cements with Dr. Rasha Ahmed, Scientific Affairs and Education Expert from 3M Gulf.

High interest of the doctors was also associated by the attendees who told that 3M has to offer in this area. There is a large variety of steps manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome. Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

Efficient & Easy Dentistry, exposing dentists to the different procedure solutions from 3M which will make dentistry really efficient and easy for them. The program covered posterior restorative procedure solutions, especially focusing on the newly launched Filtek™ Bulk Fill Posterior Restorative material. It also covered different techniques of posterior indirect restorations right from the core buildup, retraction, autopolymerisation, tempoparation and final placement of the restorations with various cements, shedding light on the different solutions that 3M has to offer in this area.

The program consisted of the combination of lectures and hands-on workshops. Dr. Carlos Sabrosa covered Indirect Procedure topic and techniques related to bulk fill composites restorations using either open or close sandwich technique. He also talked about the properties of the materials used, the advantages, indications and the difficulties that dentists may face during the posterior restoration creation.

Knowing that dentists always seek for better materials with easier manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome, Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

At the educational area of the booths doctors could attend rich scientific program consisting of lectures and demo-sessions on the new dental and orthodontic products held by 3M Oral Care Scientific Affairs and Education experts. Dental professionals had opportunity to learn more about fast and efficient posterior restorations with Filtek™ Bulk Fill Posterior Restorative, stress-heating class I and II restorations with new Ketac™ Universal Glass Ionomer material, discover how to create highly esthetic restorations with Style Italia technique using Filtek™ Z250XT nano-composite restorative material, or discuss reliable cementation techniques using variety of RelyX™ cements with Dr. Rasha Ahmed, Scientific Affairs and Education Expert from 3M Gulf.

High interest of the doctors was also associated by the attendees who told that 3M has to offer in this area. There is a large variety of steps manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome. Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

Efficient & Easy Dentistry, exposing dentists to the different procedure solutions from 3M which will make dentistry really efficient and easy for them. The program covered posterior restorative procedure solutions, especially focusing on the newly launched Filtek™ Bulk Fill Posterior Restorative material. It also covered different techniques of posterior indirect restorations right from the core buildup, retraction, autopolymerisation, tempoparation and final placement of the restorations with various cements, shedding light on the different solutions that 3M has to offer in this area.

The program consisted of the combination of lectures and hands-on workshops. Dr. Carlos Sabrosa covered Indirect Procedure topic and techniques related to bulk fill composites restorations using either open or close sandwich technique. He also talked about the properties of the materials used, the advantages, indications and the difficulties that dentists may face during the posterior restoration creation.

Knowing that dentists always seek for better materials with easier manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome, Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

At the educational area of the booths doctors could attend rich scientific program consisting of lectures and demo-sessions on the new dental and orthodontic products held by 3M Oral Care Scientific Affairs and Education experts. Dental professionals had opportunity to learn more about fast and efficient posterior restorations with Filtek™ Bulk Fill Posterior Restorative, stress-heating class I and II restorations with new Ketac™ Universal Glass Ionomer material, discover how to create highly esthetic restorations with Style Italia technique using Filtek™ Z250XT nano-composite restorative material, or discuss reliable cementation techniques using variety of RelyX™ cements with Dr. Rasha Ahmed, Scientific Affairs and Education Expert from 3M Gulf.

High interest of the doctors was also associated by the attendees who told that 3M has to offer in this area. There is a large variety of steps manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome. Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.

Efficient & Easy Dentistry, exposing dentists to the different procedure solutions from 3M which will make dentistry really efficient and easy for them. The program covered posterior restorative procedure solutions, especially focusing on the newly launched Filtek™ Bulk Fill Posterior Restorative material. It also covered different techniques of posterior indirect restorations right from the core buildup, retraction, autopolymerisation, tempoparation and final placement of the restorations with various cements, shedding light on the different solutions that 3M has to offer in this area.

The program consisted of the combination of lectures and hands-on workshops. Dr. Carlos Sabrosa covered Indirect Procedure topic and techniques related to bulk fill composites restorations using either open or close sandwich technique. He also talked about the properties of the materials used, the advantages, indications and the difficulties that dentists may face during the posterior restoration creation.

Knowing that dentists always seek for better materials with easier manipulation, faster hardening, low shrinkage or low stress, combined with an excellent esthetic outcome, Dr. Nahas shared his experience on posterior restorative procedure so that it is easy to apply the use of modern materials. The lecture of Dr. Sabrosa covered different techniques, cements and adhesive cementation.
There are things in life worth sharing … and now, her smile can be one of them. Restore with beautifully strong Filtek™ Z350 XT Universal Restorative—and polish with the Sof-Lex™ Diamond Polishing System. Together, they can produce a diamond paste-like gloss with the convenience of a rubberized system. Oh, don’t be surprised if word of your great work gets around … because she shares everything she thinks is amazing.

www.3MGulf.com/espe
Innovation award for Monobond Etch & Prime
Self-etching glass-ceramic primer impresses thousands of users

By Ivoclar Vivadent

SCHAAN, LIECHTENSTEIN: Monobond Etch & Prime is the first self-etching glass-ceramic primer in the world. First presented at IDS 2015 in Cologne, it has since won over many users how it has received an innovation award.

Ivoclar Vivadent is the first dental manufacturer to develop a material that successfully etches and silanates glass-ceramic surfaces in one single step. It is for this reason that Monobond Etch & Prime is considered an innovation. The primer has enjoyed great popularity on the market since it was introduced because it eliminates the need for etching contact surfaces with unpopular hydrofluoric acid.

Chosen by the dentists’ vote
Several thousand dentists took part in a poll to vote on the most innovative products of the year to be awarded an innovation award launched by a German dental dealer and a dental newspaper. By a wide margin, the participants selected Monobond Etch & Prime for first place in the “Materials and Instruments” category. Just over 20 per cent of the votes cast in this category were given to the Ivoclar Vivadent product. In total, twenty products that were first presented at IDS 2015 were put forward for selection in the different categories.

Meeting customer needs
“We are delighted and proud to see that Monobond Etch & Prime has received several innovation awards so soon after having been launched,” says Armin Ospelt, Head of Global Marketing at Ivoclar Vivadent AG (Liechtenstein). “The awards show us that we meet the requirements of our customers, as has already been demonstrated by the market success of the product.”

Monobond® is a registered trademark of Ivoclar Vivadent AG.
E.M.S. Dental presents
GUIDED BIOFILM THERAPY
during AEEDC in Dubai

By E.M.S.

The Swiss company E.M.S. Electro Medical Systems who is the innovator of Piezon® and AIR-FLOW® technologies and a global leader in dental prophylaxis as well as Guided Biofilm Therapy participated at the 20th edition of AEEDC from 2nd to 4th of February 2016. AEEDC takes place annually in the International Convention and Exhibition Center in Dubai and represents a very important platform within the Gulf and Middle-East countries for E.M.S.

The main focus of E.M.S. during AEEDC was to promote the importance of Biofilm Management with the message “BYE BYE BIOFILM” and its newest product, the AIR-FLOW® powder PLUS, an advanced powder based on erythritol and a very fine particle size of 14 microns which allows treatments both above and below the gingival margin.

After three exhibition days, Hans Obermeier, Area Sales Manager of E.M.S. in the Middle East, was very satisfied with the results of AEEDC.

“Out booth was much better frequented than last year. This clearly shows that the understanding for the importance of professional and regular tooth cleaning is growing in the Gulf and Middle-East counties and that the clinicians are looking for support in education, technologies and protocols to improve their service for the patients.”

Hans Obermeier underlines as well the interest amongst the practitioners of the live-demonstrations of the different E.M.S. products realized by the clinical expert Dr. Neha Dixit which attracted a large audience.

Since September 2015, the company Al Hayat is the exclusive agent of E.M.S. in UAE.

Researchers find varying patterns for sealant treatment recommendation

By DTI

KITAKYUSHU, Japan: Japanese researchers have examined dentist practice patterns regarding the recommendation of dental sealants for treatment and identified characteristics associated with this recommendation. They found that these patterns vary widely. According to the researchers, recommending a sealant was significantly related to the dentist having a greater belief in the effectiveness of caries risk assessment.

In the study, the researchers surveyed 189 dentists recruited from the Japanese Dental Practice-Based Research Network regarding the treatment decision in the case of a 12-year-old patient with a high caries risk via a cross-sectional questionnaire. The participants were presented with a series of clinical photographs of the occlusal surface of a mandibular first molar portraying increasing depths of cavitation.

For the hypothetical scenarios, the dentists’ recommendations of sealants varied from 16 to 26 per cent. Nineteen per cent of the dentists recommended sealants in the absence of dark brown pigmentation. Forty-eight per cent of the dentists recommended sealants to more than 25 per cent of patients aged 6-18. An analysis of the responses suggested that the dentist’s belief in the effectiveness of caries risk assessment was significantly associated with the percentage of patients who would receive sealants.

Dr Naoki Kakudate from Kyushu Dental University first presented the study, titled “Evidence-practice gap for sealant application: Results from a Dental PBRN”, at the 45th Annual Meeting and Exhibition of the American Association for Dental Research, which was held from 16 to 19 March in Los Angeles in the US.

The glow of the art
Checksheets not just for pilots anymore

By Patdi DiCangi, RDH, BS, Judy Ben- dih, RDH, BS

With popularity of the television show "Mad Men," 1960's themes such as war, racism and sexism are remembered, as are once-common habits such as smoking. Women were marketed in the 1960's with their own cigarette brand that had the catch phrase, "You've come a long way, baby." Following release of Smoking and Health, Report of the Advisory Committee to the Surgeon General of the United States, all tobacco-related advertising was banned from TV in 1970. Sit-down dentistry also evolved in the 1960's. "You've come a long way, baby" is gone from advertising, but it remains an accurate slogan when it comes to ergonomics in dentistry. We have come a long way, but for many dental professionals, that's still not far enough.

In 1937, pilots developed the concept of the checklist after planes began crashing. Dental professionals may not be crashing in the literal sense, but many clinicians have been forced into early retirement because of musculoskeletal disorders (MSD) or they continue to try to work through them. By incorporating a check approach similar to that used by pilots, dental professionals can be more productive — and able to practice without pain.

Pain in dentistry

Pain in dentistry is a common fear that keeps patients away from the dental office. This anxiety is common, but has nothing to do with the patient. The individuals having pain in dentistry are the practitioners. It is estimated that more than half of practitioners have some kind of painful musculoskeletal disorder that is work related.

In 2007, the Center for Health Workforce, funded by the American Dental Hygienists' Association (ADHA) conducted a sample survey of licensed dental hygienists about a wide variety of issues, including occupational injury or illness related to their work. It was reported that just more than one-third (33.8 percent) indicated had experienced an occupational injury or illness. Figure 1 shows the types and percentages of occupational injury or illness experienced. More than half (53 percent) used medication to control the discomfort and nearly half (49.5 percent) indicated they had shortened their work hours as a result of their injury or illness.

Ergonomics evolved as a recognized field during World War II. It is the science of adjusting the work environment to the worker. The Occupational Safety and Health Administration (OSHA) has links to ergonomic information. The American Dental Association (ADA) published a book about Ergonomics with suggestions and interventions and in 2011 published Ergonomics for Dental Students. The ADA website has an ergonomics section with links to checklists about specific problems. Even with numerous articles and CE courses (both in person and online) on ergonomics in the five years since the ADHA survey, MSDs continue to escalate. Much of this is because of a hand-me-down mentality in many dental offices.

For the safest flight, pilots use many checksheets. In dentistry, a one-size-fits-all check is not enough to evaluate how we do things because of the wide variety of body types, shapes and preferred work styles. This article will develop checksheets for dental-operator seating, just one of the many parts creating a healthy ergonomic environment.

Checklists help find the way

In the days of early aviation, pilots were crashing because they could not reach the controls. Investigators found it was pilot error as the cause. Pilot error doesn't necessarily mean the pilot did something wrong; it can mean the pilot wasn't familiar with the equipment or the equipment didn't match the pilot. For those who work in a temporary dental situation at multiple offices, ergonomic challenges are huge. When such practitioners walk into an office, trying to match their individual needs to the available equipment is nearly impossible.

Pilot checksheets were developed to match the steps needed for the job. Making sure that everything is done and nothing is overlooked. Checksheets become fundamental to the aviation industry. In a similar way, checksheets should become fundamental to the dental industry.

Two books, "The Checklist Manifesto: How to Get Things Right" by Dr. Atul Gawande, a surgeon, and "Safe Patients, Smart Hospitals" by Dr. Peter Pronovost, discuss checksheets as an effective way to reduce medical errors. These books are not just about the checklist, they are about the culture of medicine and how the checklist can foster better teamwork. Checklists begin to become common in some hospital settings, but not nearly common enough. It takes a change of culture to adopt something that on the surface can seem simple — as a cost strategy for enhancing care.

A recent success story illustrates the difference checksheets can make in medicine. The intensive care unit (ICU) at a hospital is a crucial part of health care delivery and one of the most complex and expensive. The Centers for Disease Control (CDC) reported that nearly every patient admitted to an ICU experiences some type of adverse event, be it his or her stay? Checklists were used in the Michigan Keystone Project to make patient care safer in more than 100 ICUs in Michigan. The project targeted the expensive and potentially lethal catheter-related bloodstream infections that cost $15,000 when a patient contracts one and causes 24,000 deaths per year. The Keystone team made a checklist, measured infection rates — and changed hospital culture. There was a 66 percent reduction in this type of infection statewide, saving more than 1,500 lives and $200 million in the first 18 months of the program. It was the combination of checklists and the culture of teamwork that made the difference.

Race cars and race car drivers can take quite a beating during a race. Both physically and mentally like pilots, race cars drivers and their teams use checksheets. The teamwork of a pit crew during a race is artistry to watch that is fostered by checklists. Steve Knight, once a professional Le Mans race car driver (Figs. 2 and 3) and business turnaround specialist, has taken lessons from racing and brought them to dentistry. His goal is to turn around the world of seating for dental practitioners.

"Seating Risk Assessment Checklist"

Before Knight got into the Le Mans car there were many considerations to be addressed. An impression of the driver's body is taken to ensure a perfect fit into the seat of the race car for optimal performance. This molding created proper leg-stretch to reach the clutch, accelerator and brake; comfort in reaching and holding the steering wheel, and most important, the ability to sit comfortably for long periods of time while driving around the race course. Success for a top-level race car driver is driven by a strict regimen for eating, exercise and nearly all activities of daily life so they can be in top shape physically. It is the total package, including the racing team and pit crew all using checksheets, that creates this success.

The idea of a form-fitting chair for dental practitioners might not be practical, yet think of the possibilities. The patient sits in the chair; ergonomic intervention is made into the treatment rooms with the "Seating Risk Assessment Checklist" shown in Table 1. This check helps to evaluate overall balance. Many professionals have damaged themselves by repeatedly sitting, leaning, stretching and twisting for so many years. As Cindy Purdy, RDH, BS, consulting with Crown Seating recently said to an online group, "Changing stools alone will not treat medical issues, but it can certainly offer benefits for the future."

Recline/incline seating

Passengers are required to sit upright at take-off and landing on any plane (Fig. 4). Most passengers can't wait to hear the announcement that the cruising altitude has been reached so the seats can be leaned back for more comfort. Unfortunately, dental professionals tend to sit in this upright position all day. When seated in this position for long periods of time, practitioners both elongate and shorten different muscle groups in the legs. Humans are not meant to sit completely upright and especially not for a long day in the office.

A more comfortable sitting position for most is in a reclined position (Fig. 5). Think of your comfortable recliner in front of the television after a long day of work or the experience sitting in a first-class seat on a plane. Reclining is so very comfortable. This is the way race car drivers sit, but it's not very practical for treating dental patients.

Drivers are not just reclined position and rotate the torso on its axis to create the inverse position, called an in- clined position) (Fig. 6). Incline is the automatic position created when sitting on a horse or a saddle stool. It is a more balanced position. This balance helps prevent the hips and spine in the proper position. It is de- signed as an open body position that is more comfortable, less harmful and allows for proper lumbar curvature.

Fig. 1. Type of occupational injury or illness experienced by dental hygienists with employment-related injury or illness, 2007. (Chart/Provided by the Center for Health Workforce and Dental Hygienists, ADHA)

Fig. 2. Steve Knight at LeMans. Today, as a business turnaround specialist, Knight brings lessons from racing to dentistry. His goal is to turn around the world of seating for dental hygienists and all dental professionals. (Race photos/Provided by Steve Knight)

Fig. 3. Steve Knight at Laguna Seca in racing. Perfect driver ergonomics is critical. Knight's Goldilocks rule states: "Not too tall, too short, and no matter how much it is adjusted, it is still not just right."

Fig. 4. "Patients, Smart Hospitals" by Dr. Peter Pronovost, states that a checklist can foster better teamwork. A checklist can make patient care safer in more than 100 ICUs in Michigan.

Checklists, not just for pilots anymore...
for the patient to either lay back in chair will not help. It is imperative ed back properly, then arms on the breeze because the patient isn’t seat-
son’s arms are always flapping in the With or without arms stain-causing bacteria.
are new fabrics that control odor and able and/or embarrassing. Asking to breathe. This can be uncomfort-
if there is high humidly in the of-
nes also play a part. Some patient
mCME self instruction program a quick and simple way to meet your continuing education needs. mCME offers you the flexibility to work at your own pace through the material from any location at any time. The content is interactive, drawn from the superb echelon of dental education, and presents a real regional outlook in terms of perspective and subject matter.
Members only membership subscription for mCME: 500 AID One Time article subscription payment, you will receive your membership number and allowing you to start the program.
• Each quiz has to be returned to events@cappmea.com or faxed to:
     • A minimum passing score of 80% must be achieved in order to claim your continuing education credit.
• Membership fees:
  • Validity of the article – 1 months
  • Validity of the subscription – 1 year
  • Collection of Credit hours: You will receive the summary report within 30 days of the expiration month after the expiry date of your membership. For single subscription certificates and summary reports will be sent one month after the publication of the article.
• The questions and critiques published herein have been checked carefully and represent the opinions of the authors. Articles are available on www.cappmea.com after the publication. For more information please contact events@cappmea.com or +1 973 469 6734.

Table 2. Seating Risk Assessment Checklist (Table adapted from the Occupational Safety and Health Administration’s ‘Checklist for Ergonomics Risk Factors’)

<table>
<thead>
<tr>
<th>Question to ask</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the seating fit your body?</td>
<td></td>
</tr>
<tr>
<td>Does the chair have a headrest or support?</td>
<td></td>
</tr>
<tr>
<td>Does the chair have a backrest or support?</td>
<td></td>
</tr>
<tr>
<td>Does the chair have a seat depth?</td>
<td></td>
</tr>
<tr>
<td>Does the chair fit the patient chair?</td>
<td></td>
</tr>
<tr>
<td>Does the company have a seat depth?</td>
<td></td>
</tr>
<tr>
<td>Does the manufacturer offer a headrest?</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Checklist for buying a new chair
Long-term clinical success in the management of compromised intertooth spaces utilizing small-diameter implants

By Paul S. Petrungaro, DDS, MS

Management of edentulous sites in the oral cavity with dental implants has been well documented in dental literature during the past 25 plus years.1-3 Patients seeking tooth replacement for partial or totally edentulous situations have been able to enjoy natural appearing and functional prostheses that are fixed, stable and, in some cases, natural it’s difficult to ascertain a dental implant restoration from a tooth restoration. Using dental implants to replace the natural tooth system in the esthetic zone has also seen an increase in restorative treatment plans and, with the advent and perfection of immediate restoration protocols initially reported in the literature,4-6 achieving natural soft-tissue esthetics around dental implants can be predictable and successful. However, certain clinical situations can complicate or negate the procedure altogether.

One of these complications is insufficient intertooth spacing between natural teeth and, most commonly, with congenitally missing lateral incisors following orthodontic treatment.4 Often as a solution to this, the dentist chooses a removable partial denture or some type of resin-bonded bridge, both of which may not be appealing to younger individuals. In extreme cases, the dentist may elect to proceed with a fixed bridge, which would cause excessive destruction to the natural teeth serving as abutments and, for a young individual, this could be devastating to these teeth during a 40-50 year period, if not sooner.6

To properly form an ovate pontic type emergence profile in the soft tissue, which is required for a fixed bridge to have a natural clinical appearance, consideration must be given to the intertooth edentulous space. This is also very important when choosing dental implants for natural tooth replacement. Wallace, Misch and Salama, et al.4-6 stated that for a normal two-piece implant, the implant should be placed at least 15 mm from the adjacent teeth. As a result, using a 3.5 mm diameter implant, the minimum intertooth space to support interproximal bone and natural soft tissue papillary contours should be 6.5 mm, and with a 3.0 mm diameter implant, 6.0 mm for the edentulous space. Often, the intertooth space in these types of cases is smaller than 6.0 mm. Taking these parameters into account, small-diameter implants (3.0 mm is the smallest from most dental implant manufacturers) should not be used in cases with less than 6.0 mm of intertooth space, to prevent potential tooth root damage, cortical bone loss and unnatural-apparing gingival tissues and papillae.

Small-diameter, or mini, implants were developed more than 20 years ago and, initially, the recommended use was to support temporary removable prostheses during the healing phase for advanced bone grafting procedures and/or conventional implant placement.6-8 Their use was later expanded into immediate conversions of full dentures into implant-supported dentures, support for partially edentulous cases and for anchorage of single tooth implant restorations in compromised intertooth spaces.4-6

Implants are available from 1.8 mm diameter to 2.8 mm diameter and offer a fixed permanent tooth replacement option for patients who otherwise would not be able to have implants placed and restored. Their ease of use and atracumatic placement utilizing a flawless approach, with only one probing procedure, as well as simplistic abutment transfer and provisional construction make the use of these implants in the aforementioned sites a must for the dental implant practice.

The following case report will demonstrate the use of the Dentatus ANEW (Dentatus USA, Ltd, New York, NY) implant for the management of the compromised, congenitally missing lateral incisor in a 17-year-old young woman with a 10-year clinical follow up.

Case report

A 17-year-old, non-smoking female presented for tooth replacement in the congenitally missing maxillary left lateral incisor site (Fig 1). The patient had recently completed orthodontic and general practitioner had agreed to proceed with a fixed bridge, which was the final obtainable result in regard to the remaining intertooth space between the maxillary left central incisor and maxillary left canine (Fig 2).

The resultant intertooth space was less than 3.0 mm, and conventional two-stage implants with abutment options were ruled out. The patient and her parents ruled out conventional tooth-replacement options and chose the minimally invasive procedure, a small-diameter implant, 1.8 mm in diameter, which would allow for natural papillary contours to be developed.

After administration of an appropriate local anesthetic, an ovate pontic contour was created utilizing a football-shaped diamond in the attached, keratinized tissue of the edentulous site (Fig 3). This scalloped-type tissue contour helps in the creation of the natural-appearing papillary contours.

The small-diameter implant chosen, a 1.8 mm x 14 mm Dentatus ANEW Implant was then placed after a single cone of the site with a 1.4 mm needled CEPs to Full depth, within the sculpted tissue emergence profile previously created (Fig 4). Conversion to an esthetic provisional restoration was completed by placing an abutment coping with a delrin retention screw (Dentatus USA, New York, N.Y.). An ion shell provisional crown was then followed out and retrofitted to the abutment coping with flowable composite. The margins of the provisional were corrected and polished at the chairside. The restoration was polished and seated with the set screw from the provisional. The immediate postoperative clinical view is seen in Fig. 5. The immediate postoperative periapical view is seen in Fig 6.

The patient then went through the three-month healing and observation phase prior to construction of a lab-provided provisional clinical image. (Fig 7) One year later, the patient underwent final restoration fabrication at the left lateral incisor site. A 10-year postoperative clinical image is seen in Fig 8 and a 10-year postoperative CT scan of the implant in Fig 9.

Please note the beautiful soft-tissue esthetic result obtained and excellent maintenance of the crestal and lateral contours.

Conclusion

The management of compromised intertooth spaces presents a challenge for the contemporary dental implant team. These spaces have limits on how they can handle and require implants 3.0 mm wide or less, as was demonstrated in the text of this article. Availability of smaller-diameter implants allows patients who normally would have to proceed with a fixed bridge, or resin-bonded bridge, the luxury of dental implants with no preparation and/or reduction to the adjacent natural dentition.

Proper placement procedures and restorative techniques can lead to very esthetic results, allowing for natural tissue contours and emergence profile formation, remissment of the natural tooth.

Acknowledgement

Originally published in Inside Dentistry. © 2014 to AEGIS Publications, LLC. All rights reserved.

Reprinted with permission from the publishers.

References
5) Saadoun AP. Immediate implant placement and temporization in extraction and healing sites. Compend Contin Educ Dent. 2002; 23: 909-123.
**Build healthy habits for life with Philips this World Oral Health Day**

**"It all starts here. Healthy Mouth. Healthy Body."**

**World Oral Health Day 2016 celebrated across Dubai, UAE**

An interview with Dr. Aisha Sultan - President Emirates Dental Society

**By Dental Tribune MEA/CAPPmea**

**DUBAI, UAE:** On 20th of March, the world celebrated World Oral Health Day across the globe with an aim to put the global spotlight on the importance of maintaining good oral health. The awareness campaign is an initiative of the FDI World Dental Federation.

Dubai joined the celebrations spearheaded by the Emirates Dental Society, Emirates Medical Association in cooperation with Philips Sonicare, Baraha Hospital, Department of Tourism and Commerce Marketing and the Ministry of Health.

The organizing partners celebrated the World Oral Health Day (WOHD) at various locations in Dubai, UAE. The event took place during the course of an entire week between 20th and 26th of March 2016. The awareness was based on the initiative of the FDI World Oral Health Day. Furthermore, His Highness Sheikh Mohammed Bin Rashid Al Maktoum, created a so called Ministry of State for Happiness, a first of its kind in the region and one of the few in the world which will have the responsibility to make the citizens of the UAE happy: The Minister of State for Happiness has set goals on how to implement happiness in people’s lives in the country; for both local and non-local citizens. There are certain criteria consisting of 15 tasks that should be implemented to make everyone happy. During this week we are also pleased that the dentists will share this day together with World Oral Health Day.

One of the locations of the celebrations is the Department of Tourism and Commerce Marketing in Dubai.

What is the main focus for Dubai during this special week? Dubai is focusing on an overall healthy society. We are proud of our government for officially announcing 20th of March as ‘The Happiest Day’ in the United Arab Emirates every year which coincides with the World Oral Health Day.

The concept of the celebrations is divided amongst the theme of the activation. The activities lined up for "Healthy mouth” are related to oral health awareness, education and motivation for every person that joins us here today. After the educational part, the visitors will move on to the next station which is the practical part, in order to implement the oral hygiene. We will be explaining how to use the mouth wash and electronic brushes, the visitors will further have the opportunity to practice new brushing techniques explained by professional staff from Philips Sonicare who were also present. For the “Healthy body” part, there is a physical section where the physiotherapist specialists will educate people on a proper, healthy body position. Next, there is a clinical examination, just outside of the building in our mobile dental clinic where each visitor is examined and will receive a form with the recommendations on the follow up treatment (cleaning, filling, etc.).

Another location of the activation will be at the famous Jumeirah Kite Beach on Thursday 24th of March. What will exactly happen there? On Thursday we will relocate to celebrate the World Oral Health Day at Jumeirah Kite Beach. We expect to have a large audience, especially families with children. The children will have the same type of examination and education as the previous location. In addition, free dental screenings, checkups, brushing stations, giveaways and professional consultations on visitor’s teeth will be performed in order to strengthen the importance of Oral Health.

Thank you Dr. Aisha, we wish you and team good luck in the awareness campaign.

As the official media partner of WOHD 2016, Dental Tribune International provided comprehensive coverage of the FDI’s message. Among other activities, the publisher helped promote WOHD 2016 through news articles, banners and advertisements in its various international print publications and on its website, www.dental-tribune.com, including a topic page solely dedicated to WOHD 2016.

**By Philips**

**DUBAI, UAE:** Royal Philips has unit ed with FDI World Dental Federation to celebrate World Oral Health Day (WOHD), March 20th, 2016 and raise awareness of the importance of good oral health and its impact on overall health and wellbeing. Together we will support the 2016 campaign ‘It all starts here. Healthy mouth. Healthy body’.

"World Oral Health Day allows us to engage and encourage people to think about their oral health and understand the positive impact it has on their overall health and wellbeing," said Fjbert van Acht, CEO, Philips Health & Wellness. "Increasing education around the importance of looking after oral health is one of our key goals and we are committed to bringing meaningful innovation to address global societal needs. At Philips, we are actively promoting the link between oral and overall health to help improve people’s lives.”

Through meaningful innovation, Philips launched a connected children’s toothbrush and app, designed to reinforce and help build healthy oral hygiene habits from the outset. With a comprehensive range of oral healthcare solutions, Philips continues to support patients’ oral care needs throughout their lifetime to encourage good oral hygiene routines to help prevent long term health issues.

An example of a Local WOHD activation Philips Sonicare, in collaboration with the Emirates Dental Association, is implementing include free dental screenings and checkups on Kite Beach on March 24. Brushing Stations, prize give aways and professional consultation on consumer’s teeth will help strengthen the importance of Oral Health. They’ll also be school visits in Jordan and an engaging exhibition booths in major malls in Lebanon. Social activations can be found on the Philips Oral Health Care Facebook page, including ‘making the pledge’ to better oral health care for a chance to win Sonicare prizes.

Our efforts don’t stop there and this WOHD we’re making sure people of all ages are motivated to take care of their teeth and mouths. Providing top tips and guidance on how to improve their daily regime, Philips wants patients to make simple changes that lead to broader health benefits that go beyond a healthy smile.

For more information about the Philips Oral Healthcare and World Oral Health Day please visit philips.com/wohd or become a fan on Philips Oral Healthcare Middle East.

Additional information about FDI and World Oral Health Day can be found here: http://www.worldoralhealthday.org/
Ultimate clean. Superior results.

Philips Sonicare DiamondClean removes 7x more plaque than a manual brush¹ and eliminates surface stains to whiten smiles in just one week.² And with accessories like an innovative glass charger for home use and a portable charging case, it’s the jewel of our collection for good reason.

For enquires contact
Castle General Trading
Tel: 0097143328795
or email: cgtdub@emirates.net.ae
Mirror mirror on the wall who has the whitest teeth of all...

By Jordan

The American Dental Association asked consumers what would they most like to improve about their smile, and the reply was whiter teeth. This is in line with the research we have conducted, that shows a clear trend that more consumers are concerned with their teeth’s appearance.

The basic need for clean teeth has evolved into clean and white teeth. Supporting the macro health and beauty trends, consumers want to live better lives that also last longer. Yellow teeth are associated with poor personal hygiene and are also considered a sign of aging.

As we age our teeth naturally become yellower. The outer layer of our enamel gradually breaks down, exposing the under-layer, called dentin, which is naturally yellower than enamel. We can take care of our enamel by brushing with a soft toothbrush, not brushing too hard, and using a toothpaste that is also gentle and kind to our enamel.

Consumers are increasingly aware of stains that build up on their teeth by their diet. How much diet influences teeth stains, differs from market to market, but there is a general awareness around some of the main products that contribute to daily stain build up.

The trend in Norway is that more and more patients are asking their dentists for help when it comes to whitening. Whitening treatments at the dentists are far better than the patient’s mot. Prior to treatment, a check-up will ensure there are no undetected cavi ties if there, these should be filled prior to whitening applications. The treatments are, as a rule, more effec tive and quicker. It is important that the patients are informed that these will not work on crowns, fillings, caps or veneers.

To ensure a good and lasting result it is also important to help them find the most effective routine for maintaining their new white(r) smile. Help your patients keep daily surface stains, sometimes referred to as extrinsic stains, in check.

Most dentists already recommend a soft toothbrush and are positive to gentle formulated whitening toothpastes (most commercial whitening toothpastes contain some level of silica to lift plaque and tar tar during daily brushing sessions). There are also several toothbrushes that have specialized bristles that effectively lift stains.

The number one recommendation from dentists is to encourage their patients to floss once a day. Flossing before brushing will remove food particles and plaque between the teeth (where 30% of cavi ties start) and leave this space clean and receptive to fluoride treatment from the toothpaste. Using a straw could also be recommended if the patient has a high intake of caffein e drinks like coffee, tea, juices or carbonated drinks. Tobacco intake is also one of the worst offenders when it comes to staining teeth. Patients might experience some sensitivity post treatment, so it is also impor tant to advise them on what to do should this happens to them.

Deeper stains, or intrinsic stains, are more difficult to remove. These can be caused by a past injury, use of certain medications and antibiot ics and grey or dull teeth can also be hereditary. Teeth bleaching, using ei ther a hydrogen or carbonate perox ide will help break up these deeper stains into smaller, less colored pie ces that will make the teeth appear brighter and whiter.

Consumers try whitening products because they want whiter(r) teeth. Many consumers are skepti cal to the working power of whitening products. However, they buy them anyway as they feel they have nothing to lose. A whitening toothpaste gives them all the other benefits they need, for example, cavity protection and fresh breath, and on top of that they also get any whitening advantages that they might have missed out on if they choose a prod uct without whitening claims. 27% of all toothpastes launched globally are whitening toothpastes. In compar ison only 20% of toothbrush launches are whitening. These numbers are expected to keep growing, in line with an escalating trend of consumers wanting nice looking white teeth.

References
1. www. ADA.org
2. Needscope, Norway and Sweden 2014
3. Mintel rapport, 2014


By DTI

GENEVA, Switzerland: Every World Oral Health Day (WOHD), which is celebrated annually on 20 March around the world, is held under a new and specific theme. This year’s WOHD will focus on raising awareness of the link between good oral health and overall well-being, with the slogan “It all starts here. Healthy mouth. Healthy body.”

Oral disease affects 3.9 billion people worldwide, with between 60 per cent and 90 per cent of children globally suffering from tooth decay. Yet, poor oral health goes far beyond the initial implications of dental disease and tooth decay; it has been associated with a number of health conditions, such as heart disease, pancreatic cancer, pneumonia and lung disease. In a recent study, 40 per cent of people with serious periodontal disease also reported suffering from an addition al chronic condition.

Despite these links, people are unaware of the long lasting and wide ranging effects of poor oral health. Therefore, WOHD 2016 will shed light on the importance of good oral health in a simple and engaging way, encouraging understanding, that good oral health is fundamentally intertwined with overall well-being.

The WOHD 2016 website, www.worldoralhealthday.org, focuses on communicating that preventing early detection and treatment are key to ensuring the best outcomes and re ducing oral diseases and associated health complications.

A series of dynamic and engaging material, including a global video, trend of consumers, media strat egy and social media content have been designed to inspire people across the world to participate in the WOHD campaign and improve their oral health regime.

Dental professionals, companies and institutions that would like to be involved in this year’s WOHD activities are invited to e-mail WOHD@ fildental.org for a full campaign guide, which is available in English, French and Spanish and includes materials for download, such as poster visuals, social meme designs and information on the WOHD video and smartphone game.
Success with Air-Polishing

Christina Chatfield explains how she has embraced air-polishing for both stain and biofilm removal

By Christina Chatfield, UK

When I opened Dental Health Spa in 2009, I wanted to market something different to the Brighton consumer that other dental practices were not offering, so I invested in two air-polishing units. Was it new? No, it had been around for 30 years, so just about my entire clinical life. In fact, way back in 1999, I had one in my practice, where I had a nurse all the time, but I knew nothing about it other than it tasted foul, was messy and a nightmare to maintain (or so I had heard). No one had shown me how to use it. I had never been taught anything about it during my training at dental school — my boss did not tell me, or indicate to me why I had one. Yet air-polishing is the very thing that I have used to build my practice over the last seven years. All technology evolves, from twin tubs to automatic washing machines, manual toothbrushes to the all singing, oscillating, pulsating and sonic technology we have today. Things improve because my research shows us what we want or need more. It’s about comfort, aesthetics, health and feeling good.

Move forward 30 years with EMS and we can see how the powders have evolved, enhancing comfort, efficiency and the patient experience — and we can see how the powders have developed, enhancing comfort, efficiency and the patient experience.

Some of my patients say their teeth are sensitive. The sensitivity they commonly refer to is from ultrasonic treatment. I am not talking about the patient who needs non-surgical root surface debridement. I am referring to our recall and maintenance patients or people with lots of stain. So, initially we thought of air-polishers just for stain removal. With the latest family of powders, there is no way the larger grain size of classic sodium bicarbonate (at 65 microns) is going to remove the smaller particle erythritol (at 34 microns) means that patient comfort, taste and efficacy are instantly improved. This can be used on both stain and biofilm above and below the gum margin for our routine maintenance patients, with pockets less than 4mm or in the Perio-Flow hand piece for deeper biofilm disruption/removal. We can reduce the bacterial load at every appointment, sub- and supra-gingival, as well as remove stain from the hard to reach places and from dentine, quickly and effectively. No salty taste, no mess — what’s there not to like!

For me, it’s down to two powders. Firstly, Comfort, the new supra-gingival sodium bicarbonate powder from EMS. It has the same efficiency as the previous Classic powder, but more comfortable on the soft tissues with a smaller grain size (40 microns) for the removal of supra-gingival plaque and heavy extrinsic staining with a fresh lemon taste.

And for the whole mouth, the Plus powder, with erythritol, is great both sub- and supra-gingivally. This extra fine particle size of only 14 microns, makes it great to use on all the soft tissues, including the tongue and in pockets, disrupting and killing biofilm and removing stain. This can be used on both dentine and composites too. One powder that does everything and no changing of paste. A nightmare to treat and the softer powder meant that it was not traumatic to any of the soft tissues both supra- and sub-gingivally. A great all round mouth detox, tongue clean and stain removal. First thing I say to my clients as I sit them up before they even look is: ‘How does it feel?’ That feeling of clean, sells the Air-Flow before they have even seen the results, and then it’s the wow factor!

Case studies - The proof is in the pudding

1. Hamish (Figures 1-5): worn lower anterior, dentine exposed, heavily restored and crowned posterior up- and lower dentition, perio good, no calculus, lots of stain.

How would you normally treat him? Prior to Air-Flow Powder Plus, lots of scraping and abrasive polishing paste. A nightmare to treat and how long would it take?

This took 20 minutes, a much more pleasant experience for both Hamish and myself. It is easy to use and the softer powder meant that it was not traumatic to any of the soft tissues both supra- and sub-gingivally. A great all round mouth detox, tongue clean and stain removal. First thing I say to my clients as I sit them up before they even look is: ‘How does it feel?’ That feeling of clean, sells the Air-Flow before they have even seen the results, and then it’s the wow factor!

2. Ben (Figures 6-7) he continued to lose attachment and mobility despite ongoing periodontal treatment. He is an unresponsive, chronic, generalised, severe periodontitis case. He had previously seen a periodontist, had been treated non-surgically, but was reluctant to have any teeth taken out. Ben’s contributing factors are his stress levels, his bruxism, oral hygiene due to poor access and his tolerance to maintenance therapy. He is an ex-smoker, having stopped six years ago. I took Ben to King’s as part of my diploma in periodontology. He had five molar extractions and a further course on non-surgical intervention more than 24 hours under local anaesthetic (LA) and combined antibiotic therapy. I treated Ben in practice with Perio-Flow/Air-Flow, purely for biofilm management. He was assessed at eight weeks and surgical intervention was decided for the upper left quadrant and a Michigan splint to replace his existing soft splint.

At nine months post-treatment, Ben’s tolerance would still be an issue. He is now trusted with Air-Flow sub- and supra-gingival and his pockets remain below 4mm. My anxiety levels used to rise when treating Ben (as did his). He is now on a three monthly maintenance programme, and Air-Flow is our treatment of choice. It is quick, 100% effective and comfortable.

Market your product

Once you have a great product, you need to keep up-to-date and, like anything else, you need to market it. I use radio advertising to market air-polishing and flyers, which I am about to update and introduce Air-Flow as our premium service. We are launching a Spa Plan for both our dental and our hygiene only clients and will be offering this premium service to our Spa Plan members. I bought the Air-Flow Master Piezon, having listened to the lectures at Europerio 7, mainly for my peri-implant patients. I now have two additional hygienists working alongside me. We have the Air-Flow Master Piezon in one of the surger- ies, which means I now need another because we all see the benefits and it is key for developing my Spa Plan client database. I have additional mar- ketin support from Dental Beauty TV that means my website is being updated with fantastic video clips, which in turn improves the Google search engine, and these can also be sent out as a download in newlet- ters.

Hands-on courses are essential to understand how in practical terms to both use and maintain Air-Flow and Perio-Flow. Sharing experiences with other colleagues will help you develop skills and ideas as to how to market them and up sell to your ex- isting clients.

Christina Chatfield
Christina is a clinical director and hygien- ist at Dental Health Spa in Brighton. She qualified as a hygienist in Dundee in 1982.

Figure 1. Before using AIR-FLOW

Figure 2. After using AIR-FLOW

Figure 3. Using the AIR-FLOW

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8
Providing thorough oral hygiene instructions in a clinical setting

By Theodora Little, UK

"iTop" stands for "individually trained oral prophylaxis". You may argue that hygienists deliver this to their patients all the time, right? Unfortunately, with the time constraints placed upon hygienists in the UK, with 30- or 20-minute appointments and many without a nurse, the burning question is, how are we supposed to give patients the essential care, as well as effectively provide thorough oral hygiene instructions?

We mention time and time again that we strive for prevention and that this is key, but unfortunately all there is time for is a scale and polish with a little oral hygiene instruction. We are thus placed in a vicious circle of patients returning for each appointment with the same oral hygiene as before. Habits remain unchanged. At Curaden Dental Clinic, my hygiene appointments last a minimum of 1 hour. Curaden is a Swiss company, so this is something of the norm for it. The company takes great pride in offering high-quality products and services to patients, which is also why we recommend CURAPROX products. It is not just about their vibrant colours, which initially attract attention, naturally, there is more to the products than meets the eye. CURAPROX uses CUREN filaments instead of nylon, and their manual toothbrush contains 3460 filaments—approximately 4,500 more than the average manual toothbrush. All of this is included in iTOP, since they only use the best in their training for dental professionals.

I suppose many will say I am lucky to be able to offer hour appointments, but as a practice we want the best for our patients. Our practice focus is prevention, and it is necessary to give time to our patients to achieve this. On occasion, the whole hour is used for iTOP training only, with my main emphasis on educating the patient, starting with the basics. I will discuss products in depth with the patient, giving him or her the full knowledge to understand the benefits of these. I will also brush for the patient, not just a few teeth but all four quadrants, so he or she can feel exactly how it is supposed to feel in each area. I will of course then ask the patient to demonstrate toothbrushing to me afterwards. Usually, I will brush my teeth at the same time, as we can also learn from watching others carrying out the same task (and the patient will feel less self-conscious). With flow and interdental brushes, I do the same and will fill out the full-mouth chart for the patient to take home. If size interdental brush is required. Moreover, I will discuss toothpastes and mouthwashes, explaining the advantages and disadvantages, and how to gain the most benefit from them.

You may question why you need iTOP training, since surely you learnt all of these skills at university? You would think that in training to be a hygienist and therapist, the most basic training given would include correct and efficient brushing of teeth. I am somewhat ashamed to say that not once during my time at university did we have intra-oral demonstrations with a manual, electric, sonic or any other toothbrush. Certainly, we had a lecture on the different types of toothbrushing techniques used in the past and the techniques we should use now, and were then told verbally how to use these techniques. We also received slide show lectures from company representatives who left us some samples, but did anyone actually teach me how to brush effectively? How do you really know until you feel? You're just supposed to know, right? Who taught me? My parents? And who taught them? Is it just expected that we should know this basic oral hygiene care? Is it just common knowledge? I think not, as I treat many patients young and old and they still do not know how to brush correctly. I was trained as a hygienist and therapist and I did not know, nor was I shown at university, until I completed iTOP courses.

I have now completed my iTOP beginner and advanced courses and will hopefully attend the teachers' seminar later this year. Going through this programme, I started to realise that correct, effective and thorough toothbrushing is, so it is, an art, and it should not be dismissed so easily. It is also something that should not be rushed; great care and time do need to be taken to change a patient's habits. Of course, many may argue that patients will not want to spend £x amount to receive oral hygiene instructions and that one cannot teach an old dog new tricks. I agree to an extent, however, once one has gained a patient's trust and he or she understands the value of this service, the patient will be more than happy to accept. We all understand how important it is to communicate well with our patients, and this combined with sufficient working time, allowing for iTOP, is one of the greatest factors. Not only am I my patients satisfied, happy and grateful, they are also shocked that they have never had training on how to brush properly. As a hygienist and therapist, I too gain enormous job satisfaction and can honestly say I love what I do.

I would encourage my fellow dental colleagues not to disregard the importance of being taught how to brush correctly until you have had iTOP training. It opened my eyes and made me feel the difference, and now I can pass my oral hygiene knowledge on to my patients, because I believe my service should include more than just cleaning their teeth for them.
Dental Tribune Middle East & Africa Edition  |  2/2016

**Cleanic: Clinical use of a recognised prophylactic paste with Perlite**

**By Dr. Fabio Cosimi D.D.S., Dr. Suzanne Giovannini D.D, I-Ostia Lido, Rome**

Cleanic® prophylactic paste by Kerr has a creamy and smooth consistency. It also has a pleasant fresh taste that is not too strong and is well accepted by the patient.

This creaminess and the clever use of binding agents have made the paste easy to use. Available in a tube, used with both cups and brushes, the paste stays more concentrated on the tooth surface, thereby avoiding the unpleasant sensation caused by coarse particles left in the patient’s mouth. Within a few seconds after application (during the cleaning cycle), Cleanic® paste removes extrinsic discoloration caused by chlorhexidine or stains caused by cigarette smoke.

(If either of these are present in a patient at a recall of 6 months, the application should be repeated).

About 8 seconds after application, the paste automatically starts its polishing action thanks to Perlite technology making the tooth appear smooth and shiny.

After our usual professional oral hygiene procedures (debridement, scaling and root-planning), Cleanic® paste, compared with others on the market, seems to be less apparent in the gingival sulcus.

Pro-Brush™ new generation brushes are very suitable for patients with dental overcrowding or malpositioned teeth. Plastic replaces the traditional metal part and allows the brush to rotate more efficiently. This helps to prevent damage to adjacent teeth.

Pro-Cup® cups have been designed and developed to avoid pastes being splattered as with traditional cups.

**An ideal combination for optimized esthetic success**

**By Dr. Marko Jakovac, DMD, MSc, PhD, Croatia, and Michele Temperani, CDT, Italy**

Modern dentistry is not only concerned with oral hygiene or caries prevalence – wear from attrition, abrasion or erosion is increasingly becoming a subject of concern.

These destructive oral processes are in large measure attributable to stress. Stress can trigger parafunctional habits and lead to gastric reflux and low pH values in saliva.

Additional factors such as bulimia and excessive consumption of soft drinks also come into play.

**Case presentation**

A 30-year-old female patient presented at our practice with pain in the posterior region. She was also satisfied with the esthetic appearance of her anterior teeth (Fig. 1). Considerable erosive loss of tooth structure and gingival inflammation was observed at the preliminary examination (Fig. 2). An initial interview revealed that the patient had been suffering from further damage. The patient wanted her esthetic appearance to be improved.

**Treatment planning**

After careful history taking and a thorough assessment including a radiographic examination, we began to develop a treatment plan. The plan was to rehabilitate the entire dentition from further damage. The patient was also dissatisfied with the esthetic appearance of her anterior teeth (Fig. 1). Considerable erosive loss of tooth structure and gingival inflammation was observed at the preliminary examination (Fig. 2). An initial interview revealed that the patient had been suffering from further damage. The patient wanted her esthetic appearance to be improved.

**Mock-up and initial temporaries**

As provided for in the treatment plan, the dental technician fabricated a diagnostic wax-up to visualize the ideal oral situation. Wax-ups are convenient to assess the feasibility of such complex prosthetic treatments. Duplicate casts were made from the contoured wax-up and silicone matrices were created (Fig. 3). In the first step, the matrices assisted in the construction of the mock-up and, further on, in the fabrication of the baseline temporaries in the patient’s oral cavity. The mock-up was completed on the basis of the wax-up. It was then used to simulate the final outcome on the patient and visualize the inclination of the occlusal plane (Fig. 4). The patient agreed to the treatment plan and we proceeded to implement the necessary surgical measures – i.e. tooth extraction and crown lengthening. It is important to consider the form identified in the wax-up when performing surgical crown lengthening (Fig. 5). Subsequently, the patient underwent periodontal treatment and root canal therapy. Additionally, all existing restorations were replaced.

**Preparation and temporization**

The teeth were prepared in two sessions. At the first session, we prepared the teeth along the gingival margin. Impressions were taken and temporaries fabricated. Generally, preparation is essential to achieve an optimum healing result after surgical crown lengthening and tooth extraction. Since the temporaries should follow the parameters established in the wax-up, we decided to employ CAD/CAM technology for this step.

The wax-up and master models were digitized using a lab scanner (Winland Dental) and the resulting data sets were imported into the milling program (Dolphin). This method allowed us to transfer the shape of the wax-up to the model that contained the tooth preparations. The virtual project is automatically converted into a STL data format and sent electronically to the production system (Fig. 6). The final stage of the production process was implantment and finishing. When carrying out this step, visual aids (loupes, dental microscope) are recommended to achieve accurate results. After completion of the preparation procedure, an impression of the oral situation was taken (Fig. 7).

Jaw relations were established with the help of a bite record. The jaw position was “test driven” during the healing phase when the patient was wearing the temporaries. A special procedure (cross-mounting method) enables the clinician to communicate the jaw relations to the technician without loss of information.

**Procedure**

**Fig. 1: Patient before the treatment: She wanted her esthetic appearance to be improved.**

**Fig. 2: On examination, a substantial loss of tooth structure in the cervical and palatal region was observed.**

**Fig. 3: Mock-up and temporaries were created using a silicone matrix of the wax-up.**

**Fig. 4: Mock-up placed in the patient’s mouth**

**Fig. 5: Situation after surgical crown lengthening**

**Fig. 6: CONT.**
Creating the final restorations

The master models and the models of the most recently modified temporary restorations were scanned and uploaded to the 3Shape software program using the “cross-mounting” method (Figs 9 and 10). Given the level of complexity involved in this case, we preferred to mill the components first from wax to be able to assess the quality of the virtual construction in a conventional fashion. With this inexpensive method, we were able to assess the shape and function of the structures in ‘real life’.

In the present case, we noticed that a few areas had not been properly contoured in the wax. These areas were corrected accordingly.

The corrected STL data were processed in the CAM module and the data required for the milling process imported into the program of the Zenotec mini milling unit. The restoration was then milled from a pre-shaded Zenostar zirconia disc (shade T1) (Fig. 11). We used a conventional press technique in conjunction with IPS e.max Press ingots (shade LT A1) to fabricate the anterior lithium disilicate restorations, providing an additional advantage that should not be underestimated. A consistent color is achieved, irrespective of the skills and experience of the technician.

To ensure an optimum integration of the posterior restorations made of zirconia and the anterior restorations made of lithium disilicate, the vestibular areas of the premolars were layered over with a veneering ceramic (IPS e.max Ceram) (Fig. 12). The crowns and bridges were permanently cemented using the cut-back technique (Fig. 13).

Seating the restorations

CADCAM technology was used to fabricate the posterior crowns and bridges from monolithic zirconia. The occlusal conditions established in the long-term temporaries were accurately taken into account. Prior to seating the final restorations, we checked their accuracy of fit and shade match intraorally using glycine-based try-in pastes (VarioLink® Esthetic Try-In). The crowns and bridges were permanently cemented using the dual-curing luting composite Varilink Esthetic DC. In the mandible, the veneers were luted using the light-curing variant of the same luting composite (Varilink Esthetic LC) in a neutral color. This luting-composite is easy to apply and excess material can be effortlessly removed during the cementation process.

Two weeks after the restorations had been placed, the patient came for another visit to our practice. Pink and white esthetics was harmonously balanced (Figs 14 to 17). This outcome was possible due to the careful adaptation of the treatment to the needs of the patient and the smooth communication between practice and lab.

Conclusion

Successful treatment of young patients with complex treatment needs requires a high degree of accuracy and minimally invasive preparation methods. Full-contour zirconia restorations milled using CAD/CAM strategies provide a straightforward method to achieve accurate restorations, particularly for the posterior region. The success of anterior restorations continues to depend largely on the skills of the technician and on the use of materials with optimum properties, such as the IPS e.max lithium disilicate glass ceramics.

Makro Jakić, DMD, MSc, PhD
Assistant Professor
Department of Fixed Prosthodontics
School of Dental Medicine
University of Zagreb
Gunduliceva 5
1000 Zagreb, Croatia
jakovac@sfzg.hr

Marko Jakić, DMD, MSc, PhD
Assistant Professor
Department of Fixed Prosthodontics
School of Dental Medicine
University of Zagreb
Gunduliceva 5
1000 Zagreb, Croatia
jakovac@sfzg.hr

Michele Temperani, CDT
Laboratorio Odontotecnica Temperani
Via Livorno 54
30142, Venice, Italy

Metal-free Lithium Disilicate
Michele Temperani, CDT
Italy
08-09 May 2016
ICTo, Deira, Dubai, UAE
www.cadcamsoftware.com/icto
Tetric® N-Ceram Bulk Fill
The nano-optimized 4-mm composite

Discover the new time-saving composite

4 mm to success
• Bulk filling is possible due to Ivocerin®, the patented light initiator
• Special filler technology ensures low shrinkage stress
• Esthetic results are achieved quickly and efficiently in the posterior region
Advanced Restorative Techniques and the Full / Partial Mouth Reconstruction - Part 2 Occlusal Concepts

By Prof. Paul Tipton, UK

Most advanced restoration dentistry techniques have changed little over the last 20-30 years, including that of the full mouth reconstruction. However, the impact of new dental materials, such as titanium and zirconia, has had a major influence on aesthetic dentistry and implantology during this time period. As a result, the profession must have an over-reliance on new materials rather than tried and tested techniques. Some fundamental techniques are just as relevant today as they were when I started my Master's degree in conservative dentistry at the Eastman Dental Hospital in 1987.

During the course of this series of articles on advanced restorative techniques, some old techniques will be revisited in light of today’s aesthetic and restorative requirements and some newer concepts will be discussed in greater detail whilst dealing with the overall topic of full mouth reconstruction. This article discusses the topic of occlusion and occlusal concepts.

Gnathology

Stallard first coined the term gnathology defining it as the science that relates to the anatomy, histology, physiology and pathology of the masticatory system. McCollum formed the Gnathological Society in 1926 and is credited with the discovery of the transverse horizontal axis, which formed the basis for the development of the mandibular (condylar) movements when the mandible travels forward along the sagittal plane. McCollum’s definition of the principles of mandibular movements recorded using complex instrumentation in occlusion in fixed prosthodontics has evolved into the five principles of occlusion today:

1. RCP = ICP around RAP
2. Mutually protected occlusion
3. Anterior guidance
4. No non-working side interferences
5. Posterior stability

The early gnathologists studied the recorded tracings made during mandibular movements. When the mandible travels forward along the sagittal plane it is considered a provocative or protrusion. Therefore, protrusion is the movement toward the posterior, and it is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make lateral movements that initially defined retruded axis position (RAP) or centric relation (CR) to the gnathologist. Further investigations led the gnathologists to believe that mandibular movements are governed by the three axes of rotation.

The concept of retruded axis position evolved into a three-dimensional position, resulting in its description as the nearest, upper-mandibular relationship that accurately reproduced border jaw movements and which would then allow the technician to produce the most stable, functional and aesthetic occlusal form for indirect cast restorations. The registration of the horizontal and sagittal movements of patients was believed to allow the maximum cusp height fossae fossae with proper placement of ridges and grooves to enhance stability, function and aesthetics.

Fundamentals of gnathology

The fundamentals of gnathology include the concepts of retruded axis position (centric relation), anterior guidance, occlusal vertical dimension, the incisal guidance, and the relationship of the determinants of mandibular movements recorded using complex instrumentation to the occlusion and fixed prosthodontics. This has evolved into the five principles of occlusion today:

1. RCP = ICP around RAP
2. Mutually protected occlusion
3. Anterior guidance
4. No non-working side interferences
5. Posterior stability

The early gnathologists studied the recorded tracings made during mandibular movements. When the mandible travels forward along the sagittal plane it is considered a provocative or protrusion. Therefore, protrusion is the movement toward the posterior, and it is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make lateral movements that initially defined retruded axis position (RAP) or centric relation (CR) to the gnathologist. Further investigations led the gnathologists to believe that mandibular movements were governed by the three axes of rotation.

The concept of retruded axis position evolved into a three-dimensional position, resulting in its description as the nearest, upper-mandibular relationship that accurately reproduced border jaw movements and which would then allow the technician to produce the most stable, functional and aesthetic occlusal form for indirect cast restorations. The registration of the horizontal and sagittal movements of patients was believed to allow the maximum cusp height fossae fossae with proper placement of ridges and grooves to enhance stability, function and aesthetics.

Fundamentals of gnathology

The fundamentals of gnathology include the concepts of retruded axis position (centric relation), anterior guidance, occlusal vertical dimension, the incisal guidance, and the relationship of the determinants of mandibular movements recorded using complex instrumentation to the occlusion and fixed prosthodontics. This has evolved into the five principles of occlusion today:

1. RCP = ICP around RAP
2. Mutually protected occlusion
3. Anterior guidance
4. No non-working side interferences
5. Posterior stability

The early gnathologists studied the recorded tracings made during mandibular movements. When the mandible travels forward along the sagittal plane it is considered a provocative or protrusion. Therefore, protrusion is the movement toward the posterior, and it is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make lateral movements that initially defined retruded axis position (RAP) or centric relation (CR) to the gnathologist. Further investigations led the gnathologists to believe that mandibular movements were governed by the three axes of rotation.

The concept of retruded axis position evolved into a three-dimensional position, resulting in its description as the nearest, upper-mandibular relationship that accurately reproduced border jaw movements and which would then allow the technician to produce the most stable, functional and aesthetic occlusal form for indirect cast restorations. The registration of the horizontal and sagittal movements of patients was believed to allow the maximum cusp height fossae fossae with proper placement of ridges and grooves to enhance stability, function and aesthetics.

Fundamentals of gnathology

The fundamentals of gnathology include the concepts of retruded axis position (centric relation), anterior guidance, occlusal vertical dimension, the incisal guidance, and the relationship of the determinants of mandibular movements recorded using complex instrumentation to the occlusion and fixed prosthodontics. This has evolved into the five principles of occlusion today:

1. RCP = ICP around RAP
2. Mutually protected occlusion
3. Anterior guidance
4. No non-working side interferences
5. Posterior stability

The early gnathologists studied the recorded tracings made during mandibular movements. When the mandible travels forward along the sagittal plane it is considered a provocative or protrusion. Therefore, protrusion is the movement toward the posterior, and it is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make lateral movements that initially defined retruded axis position (RAP) or centric relation (CR) to the gnathologist. Further investigations led the gnathologists to believe that mandibular movements were governed by the three axes of rotation.

The concept of retruded axis position evolved into a three-dimensional position, resulting in its description as the nearest, upper-mandibular relationship that accurately reproduced border jaw movements and which would then allow the technician to produce the most stable, functional and aesthetic occlusal form for indirect cast restorations. The registration of the horizontal and sagittal movements of patients was believed to allow the maximum cusp height fossae fossae with proper placement of ridges and grooves to enhance stability, function and aesthetics.

Fundamentals of gnathology

The fundamentals of gnathology include the concepts of retruded axis position (centric relation), anterior guidance, occlusal vertical dimension, the incisal guidance, and the relationship of the determinants of mandibular movements recorded using complex instrumentation to the occlusion and fixed prosthodontics. This has evolved into the five principles of occlusion today:

1. RCP = ICP around RAP
2. Mutually protected occlusion
3. Anterior guidance
4. No non-working side interferences
5. Posterior stability

The early gnathologists studied the recorded tracings made during mandibular movements. When the mandible travels forward along the sagittal plane it is considered a provocative or protrusion. Therefore, protrusion is the movement toward the posterior, and it is the most retruded physiologic relation of the mandible to the maxilla to and from the individual can make lateral movements that initially defined retruded axis position (RAP) or centric relation (CR) to the gnathologist. Further investigations led the gnathologists to believe that mandibular movements were governed by the three axes of rotation.

The concept of retruded axis position evolved into a three-dimensional position, resulting in its description as the nearest, upper-mandibular relationship that accurately reproduced border jaw movements and which would then allow the technician to produce the most stable, functional and aesthetic occlusal form for indirect cast restorations. The registration of the horizontal and sagittal movements of patients was believed to allow the maximum cusp height fossae fossae with proper placement of ridges and grooves to enhance stability, function and aesthetics.
Maintain your patients’ confidence and satisfaction with their dentures by helping them overcome daily social, emotional and physical challenges.

Help your patients eat, speak and smile with confidence with the Corega® denture care regime.
Dentine hypersensitivity protection, now in a daily mouthwash

The first Sensodyne mouthwash containing 3% potassium nitrate and fluoride, proven to provide ongoing protection from dentine hypersensitivity with twice-daily rinsing1-5*

*Rinse twice daily after brushing with a fluoride toothpaste.

Figure 21: Anterior crowns left hand view
Figure 22: Upper arch occlusal view
Figure 23: Upper right quadrant with palatal ramps
Figure 24: Upper left quadrant with palatal ramps
Figure 25: Intercuspal position with no anterior contacts
Figure 26: Upper anteriors
Figure 27: Upper anteriors final view
Figure 28: Lower anteriors final view
Figure 29: Full face final view

a flattened fossa-marginal ridge contact with ‘freedom in centric’ anterior guidance and group function in laterotrusion (working) excursion.

Deflective contacts
Though 90% of natural dentitions have a deflective occlusal contact or an occlusal ‘prematurity’ between centric related occlusion (CRO) and centric occlusion (CO), it is usually in the form of a slide that has both a vertical and horizontal component occurring in all three planes. According to Ash and Ramsford, the horizontal ‘long centric’, from centric related occlusion to centric occlusion, should be incorporated into a restorative treatment by means of a post restorative occlusal adjustment.

Dawson illustrates the ‘freedom in centric’ concept within the lingual concavity of the maxillary anterior teeth. He redelinees long centric as ‘freedom to close the mandible either into centric relation or slightly anterior to it without varying the vertical dimension at the anterior teeth’. Additionally, long centric accommodated changes in head position and postural closure (Mosh position).

Gnathology versus PMS
Gnathologists believe that once the condyles are positioned in retruded axis position (centric relation), any movement out of this position should dislocate the posterior segment, thus nullifying any horizontal cusp-fossa area contact.

This belief, combined with the immediate anterior disclusion, forms the basis of a mutually protected occlusion and limits tooth wear. The PMS occlusal scheme, however, encourages multiple occlusal contacts during lateral movements (group function or wide centric) and during protrusive movements (long centric). This may have the effect of increasing tooth wear. It is, therefore, logical that the PMS occlusal scheme recommends that occlusal wear is physiological, not pathological as suggested by gnathologists. The task of adjusting maximum intercuspation contacts in two different positions on an articulator may result in a lack of precision in both positions. However, the maxillotary system has the ability to adapt to various influences and though, in the author’s opinion, the concept of gnathology will produce stable long-term results, some patients may require more freedom in their occlusion and the PMS concepts are not to be dismissed in these patients. Indeed, some PMS concepts such as waxing up the curve of Spee and Monson prior to occlusal rehabilitation are incorporated into every day occlusal practice.

Case study
Patient A was referred to me for a full mouth reconstruction and aesthetic improvements to her smile (Figure 1). Initial impressions, facebow and jaw registration were taken for mounted study models (Figure 4). The study models showed the degree of over-eruption of her anterior segments and disturbances to the occlusal plane (Figures 4-6). Initial diagnostic waxing (Figures 5-6), prototypes (Figures 15 and 16) and pre-gui (Figures 15 and 16) were completed using a lower curve of Spee of a 4° radius (anatomically normal as recommended by the PMS techniques). Initial prototypes were placed with large palatal ramps on the upper anterior teeth to allow anterior tooth contacts and thus an immediate discussion style of occlusal scheme as recommended in the gnathological approach.

During the course of the initial preparation and prototypes and after a period of stabilisation, the patient was struggling to come to terms with the palatal ramps from a speech and comfort point of view. The decision was made to change the occlusal scheme to a PMS ‘freedom in centric’ style approach where initial guidance in both left and right lateral excursions came from posterior teeth until such time as the canines contacted and then took over as canine guidance. In protrusion, a similar long centric was established on posterior teeth so that in protrusive movements the initial guidance was from the posterior teeth until such time as the incisors touched and then took over the further smooth protrusive movements.

This was achieved by using a fully adjustable articulator to complete the restorations (Figures 17 and 18).

Conclusions
The definitive anterior crowns were made of Procera all ceramic (Nobel BioCare) (Figures 19-20). The posterior crowns were constructed of traditional porcelain fused to metal with large flat areas on the palatal cusps for the establishment of both ‘long and wide centric’ (Figures 22-24) as in the new intercuspal position there were no anterior contacts (Figure 25) due to loss of the palatal ramps. The final aesthetic result can be seen in Figures 26 to 29.

Occlusion and the various occlusal concepts have caused – and continue to cause – debate. Whilst the author has been trained throughout his career in the concepts of gnathology, there is no recognition that other occlusal concepts, such as PMS and bilateral balance, may have a part to play in treatment of some patients.

During the rest of this article, the principles of gnathology will be used in the treatment of the partial or full mouth reconstruction.

Acknowledgements
For the writing of this article on advanced restorative techniques, the author would like to thank the following people for their help:

Dr Brannon Hinson, DDS, MMS (IADC) Implantologist – implant surgeon
Dr Andrew Watson, BDS, MSc, specialist in endodontics
Mr Bradley Moore – dental technician, AUS Laboratory, Harrogate.

Veneers, Bonded Crowns and Bridge Hands-on
Prof. Paul Tipton, UK
05 & 07 May 2016
Jumeirah Beach Hotel Dubai, UAE
www.cappmes.com/cadcam11
Two approaches and one goal

State-of-the-art CAD/CAM materials are offering clinicians the possibility of producing certain types of restorations in the dental practice using a semi-direct technique. Ceramic veneers, for example, are easy to fabricate in-office with IPS CAD Multi, without the need for glazing.

**By Dr. Eduardo Mahn, Chile**

Recently developed restorative materials have opened up a myriad of exciting possibilities for dental practitioners. In the restoration of anterior teeth, clinicians have to select the most appropriate material for the case at hand on the basis of specific criteria. In situations where teeth show signs of erosion, abrasion, abfraction or a combination of these phenomena, practitioners will tend towards using ceramics or composite resins, depending on how much intact tooth structure remains available. Traditionally, composites are used for Class III, IV and V defects. However, ceramic veneers are preferred in cases where a large amount of tooth structure is missing or a major change is planned (e.g. smile makeovers).

**The Challenge**

When two central incisors need esthetic enhancement, the choice of approach is not so clear. Irrespective of the material used a minimally invasive route involving very little preparation of the tooth structure can be taken nowadays due to the high strength of modern materials (e.g. lithium disilicate glass ceramics). Nevertheless, it is important to remember that minimal preparation is an option, only if the teeth are properly aligned. As long as the desired changes of the tooth shape and shade are small, preparation can be limited to the enamel.

In many cases, however, orthodontic treatment is needed before the tooth position and/or shape can be optimized by means of restorative procedures. This minimally invasive approach requires the dental practitioner to convince the patient of the necessity of undergoing preliminary orthodontic treatment.

**The Solution**

It is our aim to remove as little of the tooth structure as possible in every case that we treat. With modern materials such as lithium disilicate or leucite-reinforced ceramics, we can confidently press or mill veneers that are as thin as 0.5 mm and even 0.3 mm. One of the main advantages offered by this type of ceramic is its wide range of applications. Until a few years ago, the treatment with indirect restorations required at least two appointments. Ceramic materials such as IPS Empress® CAD allow dental practitioners to produce polychromatic monolithic veneers and crowns in less than one hour without having to glaze them. Nonetheless, many dentists still believe that dental technicians with their well-honed manual skills produce better esthetic results than a machine, and they do not see the need to embrace digital technology. As a result of this point of view and the high acquisition costs of the milling machines some clinicians are reluctant to invest in this technology.

On the basis of the present clinical case study we would like to highlight the following aspects: the importance of having the right treatment plan, the possibilities currently available for the fabrication of veneers, the potential of the press and CAD/CAM techniques and the latest improvements made in the field of cementation.

**Clinical case**

**Patient history**

A thirty-one-year-old female patient came to our office because she was dissatisfied with her anterior teeth. She complained about the misalignment of the upper and lower central incisors (Fig. 1). A detailed clinical examination revealed that the composite restorations in these teeth were defective. As a result of erosion, a considerable amount of tooth structure had been lost. In addition, the misalignment of tooth 21 and 41 in particular was quite obvious. The treatment plan presented to the patient included initial orthodontic treatment followed by minimal preparation of the two central incisors for two ceramic veneers. The patient was subsequently referred to an orthodontist for treatment. Unfortunately, it took more than a year before she presented to the practice again. At this consultation, we were quite surprised to find that the two central incisors had been restored with poorly finished direct composite veneers (Fig. 2). Many clinicians simply underestimate the challenging nature of this type of restoration, and this was a case in point. In addition to preventing any contamination of the working field, the clinician must also accomplish the arduous task of creating an appropriate emergence profile, proper contours and contact areas and producing a suitable micro and macro-texture, and all this within a single appointment.

**The treatment**

The composite veneers had to be removed and replaced with new ones. In this particular case, the advantages of using the indirect technique were obvious. The patient agreed to have two ceramic veneers made for her. For this purpose impressions were taken and a master cast was produced. This working model provided the dental technician with the opportunity to evaluate the situation in detail. He or she has the time to think about possible ways of correcting the misalignment.

Dentists do not have this “luxury” of time when they are treating a patient in the dental chair. They have to finish the restorations as quickly as possible in order to prevent contamination of the treatment field and keep chair time to a minimum for the comfort of the patient. In the present case, an additional hurdle had to be overcome. Any composite material that might have remained on the tooth structure had to be clearly identified and carefully removed without damaging the healthy tooth structure. Transillumination with white LED light came in...
AESTHETICS

Fabrication of the restorations

Two different routes were pursued in the fabrication of the veneers. We instructed our lab technician to make two ceramic veneers using the press technique with IPS e.max® Press (shade HT A1, stained). At the same time, we milled two ceramic veneers with our in-office CAD/CAM machine using an IPS Empress CAD Multi block (shade A1). The veneers made in the dental office were not glazed, just polished (Figs. 6 and 7) and then applied on the prepared teeth.

Placement

Figures 8 and 9 show the try-in pastes (Variolink Esthetic LC) on the prepared teeth. The most suitable composite cement was determined on the basis of two differently coloured pastes. Two extreme options were compared: Lights+ and Warm+. The difference was clearly visible when the pastes were applied. Even though the darker shade (Warm+) matched the natural tooth structure very well, we preferred the lighter shade. This was a typical decision. In most cases, we tend to prefer the lighter version, since it provides a better contrast to the tooth structure and therefore renders the removal of excess cement easier and faster. Before the veneers were seated, retraction cords were placed and the enamel etched; the dentin remained unetched. Adhese® Universal was used as the bonding agent to place the veneers (Figs. 10 and 11). Then the excess luting composite was carefully removed and a glycerine gel (Liquid Strip) was applied (Fig. 12). This gel prevents the formation of an oxygen inhibition layer at the margins. The luting composite was cured with two curing lights (Bluephase® Style) simultaneously and cooled with plenty of water (Fig. 13).

Conclusion

State-of-the-art restorative materials have immense potential. Depending on the particular requirements of the patient and the indication, they allow a suitable treatment option to be found quickly and easily. The case presented here shows that highly esthetic ceramic veneers can be fabricated with minimal effort using in-office equipment (IPS Empress CAD). Nevertheless, pressed ceramic veneers were chosen for this patient, since they offered the possibility of applying stains, through which a very close match to the neighbouring teeth could be attained. In principle, however, highly esthetic results can be achieved with both approaches if the appropriate treatment protocol is followed.

The article was reprinted with permission of Reflect Magazine.
Adopt the TRENDS

SHOFU recognizes the development of new clinical techniques in minimally invasive cosmetic dentistry (MiCD) procedures and is fully committed to support the MiCD movement through the contribution in developing and providing dental professionals with newer aesthetic biocompatible materials to achieve their goals.

For more information, simply contact your nearest Shofu Dealer TODAY!

SHOFU DENTAL ASIA-PACIFIC PTE. LTD.
Tel (65) 6377 2722 Fax (65) 6377 1121 eMail mailbox@shofu.com.sg website www.shofu.com.sg
Intraoral Device for the treatment of Sleep Apnea

By Dr. Luis Gavin, Spain

Bad sleep is the new hokey pokey, threatening the overstimulated, overworked masses with disease and even an early death. Numerous scientific studies from researchers around the world have demonstrated the harmful effects of sleep deprivation on human health. When stress levels go up, people gain weight and forget things. Without shut-eye, the body doesn’t have a chance to produce enough growth hormones to build itself back up.

Sleep Apnea (SA) is a disorder that causes pauses in breathing during sleep that expose the heart to oxygen deprivation. It is common in patients with heart failure (HF) where it is associated with increased risk of hospitalizations and death.

In the treatment of snoring and sleep-disordered breathing the mandibular repositioning devices are an increasingly important instrument.

Its mechanism is based on the advancement of the mandible, which increases the dimensions of the upper airways and the airflow during sleep. Aims of this study was the investigation of the efficiency and tolerability of two types of adjustable devices: one with a screw jaw lateral excursion, opening and jaw protrusion, and TAP, custom made appliances placed in 34 patients (24 men and 10 women), mean age 47 years old, undergoing an ambulatory, uncontrolled sleep screening during one month (placed onto the teeth during sleep).

Key Words
OSAS, sleep apnea, snoring, protrusion

Introduction
The OSA Syndrome (obstructive sleep apnea syndrome) is one of the clinical pictures that play an important role in the chronic diseases. It has been demonstrated that a timely diagnosis and an adequate treatment can decrease neurological consequences and have a favorable effect on the cardiovascular health status of affected patients. Clinically it consists in the obstruction of the air flow during sleep that is caused by a partial or total collapse of the upper airway structures. These respiratory obstructions are accompanied by “snoring” and frequent arousals.

Patient have a number of symptoms: daytime sleepiness and fatigue, due to a restless sleep, morning headache, loss of intellectual capacities and nighttime micturition. Sleep apnea affects approximately 7% of the adult population, but the problem may be underestimated, due to the growing global prevalence of obesity. For decades the continuous positive airway pressure (CPAP) mask has been the treatment option of choice, but its disadvantages, rejection and intolerance on part of the patients complicate the optimization of the therapy and its compliance. This resulted in the necessity of new treatment solutions by an easy and immediate therapeutic way. These systems underwent technological developments in the last years the treatments of choice for patients who suffer from with snoring and mild or moderate sleep apnea.

Why is important the treatment of snoring and sleep apnea? Importance is based on the following reasons:

1. High prevalence in today’s society, as various studies have demonstrated in the last years. There exists an incidence of 28% for snoring, approximately 46% of adults more frequently and 15% habitually. The prevalence of OSA ranges from 6-8% in males and 4-6% in women among the general adult, middle aged population and this numbers increase markedly with age.

2. It represents a problem in two aspects, the social that converts these patients into intolerable bed partners and the more serious clinical impact of significant morbidity. These impacts can reach a noise level of about 78-88dB (equal to the noise of a truck at high speed on a highway). The limit for hearing damages is estimated at an intensity of 75 dB. Snoring disturbs social and family relationships of patients. Its psychological pressure influences both lives, the daily routine of people who snore, as well as the every day life of people, who...
suffer from the noisy consequences causing problems in the partnership.
3. Disordered breathing by sleep is very habitual and, therefore, a constant source of problems regarding health and economic impacts. Poor sleep habits aggravate the impairments of health and quality of life causing countless traffic accidents, lack of accidents and acute medical hospital injuries. The majority of these disorders lead to disturbances in its clinical description, disabling affected patients to drive. In all countries the number of fatal accidents increases constantly. It is the first cause in men aged between 25-35.
4. The access to diagnosis possibilities is the major problem facing the specialists, as only about 6 to 9% of the population with relevant OSA is diagnosed. Clinical researchers seek for diagnostic alternatives to the costly polysomnography that is currently the first diagnosis recommendation (6). The OSA is rarely known to the public. The lack of diagnosis is the main medical home problem to solve. Recent studies show that in only 7% of medical examinations of primary care, explicit references regarding possible sleep disorders are included. This incorrect diagnosis involves fatal consequences because the pathology is ignored by patients that, without being diagnosed, do not know how to justify and cope with the symptoms that they face day to day.

To conclude, school and work absence and the reduced capacity at work also cause economic damages.

Objectives

1. Applying a nocturnal cardio-respiratory and pulse oximetry monitoring (“Apnoealink”) in a qualified “snorer” population evaluating the OSA grade (mild/moderate) and if the patient is a candidate for MAD treatment.
2. Describe the clinical findings of the situation before and after treatment with two types of mandibular advancement devices in a series of adult patients.
3. Comparative analysis of the effectiveness of mandibular advancement devices by means of objective and subjective criteria.
4. Evaluating the possibility of implementing this system as an efficient method for the treatment of mild or moderate OSA and cases that do not tolerate CPAP.

Methodology

Description and subject group selection

The study group consists of 30 snoring adults, with mild/moderate sleep apnea, aged between 36 and 68 years, 8 women and 22 men, who were treated with a mandibular advancement device (MAD).

A complete dental examination was performed to get more detailed information about TMJ and dental and bone structure. It included peri-odontal and dental examination, panoramic radiography and lateral cephalometry, evaluation of the tongue and soft tissues and finally possible occlusion defects.

Inclusion Criteria - Snorers - The patient should have the ability to advance the mandible forward and open it without significant limitations.

Exclusion Criteria - Patients with severe OSA - Patients with rhino-pharyngeal pathology - Inappropriate dentition, periodontal diseases without treatment - Serious problems in the temporomandibular joint (TMJ) - Inefficient protrusion capacity

Methods

1. Cardio-respiratory polygraphy
2. Dental impressions
3. Appointment for adaptation and user instructions

In table 2 the mean values of the revised indices before and after using MADs during one month are compared.

The comparison of the parameters was taken by the Wilcoxon test, as it is about paired and small quantity data. In table 3 the same analysis for MAD 2 is repeated.

As reported in table 2, MADs has decreased the mean value of all indexes, this diminution is statistically significant in all indexes.

Also in the use of MADs, we have assessed a statistically significant improvement of all indices. To compare both MADs we calculated the mean values of the differences between the indices before and after using each MAD. In table 4 the mean values of the differences (index after MAD – index before MAD) for each type of MAD and its comparison with the test of t of Mann-Whitney is reported, it is about two different sample groups, and the group size is relatively small. It can be evaluated that MAD2 achieves a greater reduction of all indices than MAD1, although the only statistically significant parameter (p <0.005) is the EPW.

Conclusions

1) With regards to the medical complications of snoring and OSA and the socio-economic impact of high relevance because the efficiency of mandibular advancement devices in a series of adult patients.
2) Totally advisable for all patients to obtain an objective valuation of the multidisciplinary diagnosis results. The specialist should perform a clinical diagnosis, a prior nocturnal monitoring and, after a period of adaptation, a new clinical valuation and objective and subjective examinations.
3) The experienced specialist dentist in the treatment of sleep apnoea with MADs should select adequate cases, perform a good design and adaptation of the devices and control possible side effects through a regular follow up.

4) We prove the efficiency of the mandibular advancement devices was proven. In both cases the mean values of all indices decreased and MAD2 is an efficient treatment alternative for patients with snoring and mild to moderate sleep apnoea. The severity of the OSA motivates the specialist to get a better knowledge about it and makes him aware of his importance as a public health problem that can be easily diagnosed and treated. Recent studies even demonstrated that the consumption of public resources is 2 times higher in patients with non-treated snoring and OSA than in the population without OSA.7
5) Totally advisable for all patients to obtain an objective valuation of the multidisciplinary diagnosis results. The specialist should perform a clinical diagnosis, a prior nocturnal monitoring and, after a period of adaptation, a new clinical valuation and objective and subjective examinations.

6) The sleep apnoea problem is a sanitary priority of high relevance because the efficiency of mandibular advancement devices for the treatment of snoring and mild to moderate sleep apnoea.

Lateral view vertical dimension opening Lateral view relevant jaw advancement with competent, comfortable tip seal

Frontal view with lateral excursion for patient comfort

Frontal view initial opening, visible screw

Table 2

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Before DAM 2</th>
<th>After DAM 2</th>
<th>P (Wilcoxon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM</td>
<td>7.7</td>
<td>5.17</td>
<td>0.002</td>
</tr>
<tr>
<td>IR</td>
<td>9.12</td>
<td>8.23</td>
<td>0.001</td>
</tr>
<tr>
<td>EPW</td>
<td>3.91</td>
<td>2.93</td>
<td>0.012</td>
</tr>
<tr>
<td>FPW</td>
<td>8.6</td>
<td>6.07</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Table 4

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Difference IAH</th>
<th>Difference IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAM 1</td>
<td>-3.43</td>
<td>-4.17</td>
</tr>
<tr>
<td>DAM 2</td>
<td>-4.23</td>
<td>-4.57</td>
</tr>
<tr>
<td>P</td>
<td>0.333</td>
<td>0.783</td>
</tr>
</tbody>
</table>
The New Frontier of Interceptive Aesthetic Orthodontics

How the simple "3 –Step Smile" can offer far more than you might realize. Dr. Tif Qureshi, discusses how the treatment of mild and moderate crowding has far more than just cosmetic orthodontic objectives.

By Dr. Tif Qureshi, UK

Currently in the market of dentistry it seems as if they are 1000 short-term orthodontic systems out there. The term “cosmetic orthodontics” has been around for a little while but in this article we are going to take an alternative view of what we can achieve. The problem with the term “cosmetic” is that it often suggests things are being done just for visual reasons. This article will argue that in treating mild and moderate crowding cases we are potentially carrying out an interceptive functional treatment.

There have been criticisms from people suggesting that the cosmetic orthodontics and short term orthodontics causes anterior flaring and loss of control of the anterior occlusion. This may be true if there has been no arch evaluation/ planning or space creation strategy. If these things have been carried out then actually the opposite is true, and arguably every better control of the anterior occlusion than in any other form of orthodontics.

This article will also look how simple three-step approach can massively improve the patient’s appearance, their function and intercept the continual crowding life causes more problems without the need to pick up a drill or damage any teeth.

This three-step approach we call the ‘three step smile’ through alignment bleaching and bonding. With the right components carried out at the right time it is possible to make the patient’s own teeth look more beautiful without the need for porcelain veneers or other irreversible procedures.

The most important article in dentistry that the profession seems to miss Br J Orthod. 1990 Aug; 17(3):235-41. Stability and relapse of dental arch alignment.

Little RM
1. Arch length reduces following orthodontic treatment, but also does so in untreated normal occlusions.
2. Arch width measured across the mandibular canine teeth typically reduces post-treatment whether the case was expanded during treat- ment or not. 3. Mandibular anterior crowding during the post-treatment phase is a continuing phenomenon well into the 20-40 age bracket and likely beyond. 4. Third molar absence or presence, impacted or fully erupt- ed, seems to have little effect on the occurrence or degree of relapse. 5. The degree of post-retention anterior crowding is both unpredictable and variable and no pretreatment vari- ables either from clinical findings, casts, or cephalometric radiographs before or after treatment seem to be useful predictors.

This 40 year study is so important...
Conceived by dental educators and designed by world-class Italian designers, the Smily Dental Simulator is a patented and multi-dimensional teaching modality.

Its modular construction addresses space considerations while providing self-contained learning islands for ultimate teacher/student interface. In addition to teaching simulation, the Smily platform incorporates multimedia capabilities that enhance the teaching process and accommodate the growing requirement for audio, video, data processing and image guided technologies: EasyTeach 3D and EasyLearn.

EasyTeach 3D permits the video-transmission of lesson to all connected positions, monitoring in real-time all students. EasyLearn is a revolutionary computerized dental training system. It uses the latest in optic, imaging and simulation technologies to give the dental student the best and most effective training experience available in the world today. As s/he practices procedures, the dental student is provided with case history information about the simulated patient, on-screen visual tracking of the procedure s/he is performing, real-time digital feedback and evaluation of procedures performed.
“Three step smile” alignment bleaching and bonding, with far less risk, better consenting and arguably a far more natural outcome than traditional veneer preparations.”

An Arch evaluation and an occlusal trace is carried out with this reference point in mind using Spacesen software, so that the 3-D setup created by the technician following the exact prescription of the dentist. In this case it was decided that the canines were in an ideal position so we certainly should not be framed on the set up. The curve strictly dictated the position to be achieved (Fig SW trace).

It was discovered when considering the landmark point in looking at a chin up view, that to achieve the ideal upper position, a lower tooth was in the way and would need treatment (Fig)

A full 3-D digital setup was produced by the laboratory based on this curve this was checked by the dentist before going ahead. A 3-D model was then produced 1 year after of the patient. The patient was shown the results possible with the treatment sim- ply made his own teeth look as good as they possibly could, rather than to simply change his appearance and feeling as if someone else’s teeth were in his mouth. More significant is the fact that this could be done by any dentist with the simple “Three step smile” alignment bleaching and bonding, with far less risk, better consenting and arguably a far more natural outcome than traditional veneer preparations. With upper and lower fixed retainers in position canine widths and guidance can also be maintained meaning reduced chance of composite fracture better long term function and better long term aesthetics. The 2 year follow up showed no changes in occlusal contacts or shifts in guidance.

This patient presented originally for mild crowding having relapsed 3 years ago that the upper teeth needed treatment but the lowers were not crowded enough to treat. At the time they were not crowded, but over time as per the findings of Little’s study the teeth have continued to crowd causing the evident result (Fig 1,2).

This patient was treated 10 years ago for mild crowding having relapsed 3 years after comprehensive treatment. There was differential tooth wear already visible and at the 10 years follow up there’s been no irregular wear because the teeth have been held in the correct position. Her teeth were aligned with an Inman Aligner in 4 weeks and fixed retained. The original retainer has remained in place for 10 years. Being a regular patient, in GDP practice, the retainer can be reviewed at correct intervals (Fig 5-7 Lucy)

This patient was only 21 and her crowding was getting worse, as was the differential tooth wear on her lower teeth. Her canine guidance was collapsing and she was slowly moving into group function. Her lower incisors were starting the wear differentially. After aligning her teeth in 9 weeks and fixed retaining, her canine width was increased and held, function returned and 7 years later there has been barely any increase in wear in the lower edges Fig 8 Cara.

Detailed case
This case example will go through the steps needed for the three-step smile, outlined planning and consenting processes involved.

This patient presented originally wanting porcelain veneers. However he was aware of the high costs and that it would involve heavy prepa- ration on his teeth so he decided to consider aligning his teeth. When he was shown the results possible with combined bleaching and bonding the patient decided against veneers altogether.

After a full examination and ortho- dontic assessment, our first step was to decide on a landmark reference tooth. This is a tooth, which is considered aesthetic by the patient and aesthetic and functional to the clinician.

Fig. 7. 10 years after Inman treatment 2015

Fig. 8. Before treatment 2007

Fig. 9. 9 weeks later 2007

Fig. 10. 7 years later

Fig. 11. Before treatment

Fig. 12. 9 weeks later

Fig. 13. 7 years later 2014

Fig. 14. Occlusal view

Fig. 15. Spaceseen through landmark points

Fig. 16. Chin up view before

Fig. 17. Printed model set to spaceseen

Fig. 18. Before treatment

Fig. 19. After 3 step smile

Fig. 20. Occlusal after treatment with retainer

Fig. 21. Before treatment

Fig. 22. 2 year review

Simultaneous bleaching
Towards the last part of treatment bleaching trays were made for the pa- tient started bleaches teeth simulta- neously. Impressions were taken and upper sealed trays were made on the nearly aligned teeth - 6 Day white whitening from Philips was given to the patient with full instruc- tions. He carried out bleaching twice a day for 35 minutes at a time.

At two weeks notice a significant im- provement in the tooth colour. A mockup outline was carried out using flowable composite- and the patient was happy with the pro- posed build-ups, which involved 4 teeth.

Edge Bonding
2 weeks later the edges were perma- nently built using Versa Diamond and a very simple 2-layer reverse tri- angle technique. No preparation was required.

The retainer was fitted on the same day using a jig made on an impres- sion post alignment. This was bond- ed using Versa Flow.

Conclusion
One can see the natural- looking end result of this patient. He was thrilled with the fact that the treatment sim- ply made his own teeth look as good as they possibly could, rather than totally changing his appearance and feeling as if someone else’s teeth were in his mouth. More significant is the fact that this could be done by any dentist with the simple “Three step smile” alignment bleaching and bonding, with far less risk, better consenting and arguably a far more natural outcome than traditional veneer preparations. With upper and lower fixed retainers in position canine widths and guidance can also be maintained meaning reduced chance of composite fracture better long term function and better long term aesthetics.

For life.

...-that in adults with mild or moderate crowding, the arch length will reduce regardless of whether the patient had orthodontics or not.

...rite alignment bleaching and bonding, with far less risk, bet- ter consenting and arguably a far more natural outcome than traditional veneer preparations.

...of composite- and the patient was happy with the pro- posed build-ups, which involved 4 teeth.
“Never stop being curious and open for new things”

An interview with Dr. Gun Norell

By Dental Tribune MEA/CAPPmea

Dental Tribune MEA & CAPPmea spoke with Dr. Gun Norell about Inman Aligner Academy.

“Dr. Gun Norell:

To work as a Dentist in this region has been a wonderful experience but also a great challenge since we have a multicultural population. Everyday I meet patients with different needs and complaints. Some of them need comprehensive multidisciplinary treatments while other patients only need small cosmetic treatments. It is very important to listen carefully and respect every individual patient. This means I continuously have to develop my skills. You have famously become an advocate for minimal invasive dentistry and the Inman Aligner Academy, how were you first exposed to the possibilities behind the Alignment, Bonding and Concept/treatment and why did you start?

First time I heard about Inman Aligner was in the US when I attended a meeting AADT (American Academy for Cosmetic Dentistry) and talked to a Swedish colleague. She told me about the Inman Aligner and the concept with bonding and bonding. This immediately caught my interest so I signed up for next Certification course in London 2001. After the course I couldn’t wait to get back to Dubai and start treating my patients this way. Finally I had the knowledge and the treatment to give my patients a great smile in a fast, safe and predictable way that fits the lifestyle of most people in UAE. As predicted, the Inman Aligner treatment has been a great success from the very beginning and the treatment usually only takes 6-16 week.

With the experience you have in the region, why is minimal invasive dentistry so important for the patients as opposed to invasive dentistry?

Most people want white, straight teeth and a beautiful smile but they are often misaligned and discolor. If you cut these teeth and fit them with veneers you put them into a great risk for further treatments later on. The gum line recede by the time and veneers usually has to be replaced after 10-15 years. Each time you replace the veneers you remove more tooth substance. Therefore veneers should be the last resort.

To align the teeth the minimal invasive way with the Inman Aligner before bleaching and bonding with composite gives you a natural beautiful smile with white and straight teeth for life.

How do you best describe the Inman Aligner as a concept and its integration into the Alignment, Bonding and Bleaching packages?

What has been revolutionary with Inman Aligner is to show how you can combine different kind of treatments in a way that has not been done before and since GP can do all treatment it is available for all patients.

When should dentists use the concept of the Academy and how long can each treatment last before the patient is happy with the results?

IAS training doesn’t stop there; however, a learning continuum has been developed that encourages dentists to carry on refining their practical skills and experience through a range of additional courses, study clubs, workshops and online resources. Full case monitoring is also provided and new users can submit their first completed cases for review and evaluation the online support to achieve full accreditation.

If dentists in the MEA region would like to use the New Concept of IAS, they should first attend the certification course of the Inman Aligner Academy. What exactly happens during the course?

The hands-on course is structured in four different parts: Introduction, philosophy and terminology, applications and movement production of the Inman Aligner system, Bonding and Bleaching concepts and treatment. The hands-on course is structured in four different parts: Introduction, philosophy and terminology, applications and movement production of the Inman Aligner system, Bonding and Bleaching concepts and treatment. The hands-on course is structured in four different parts: Introduction, philosophy and terminology, applications and movement production of the Inman Aligner system, Bonding and Bleaching concepts and treatment. The hands-on course is structured in four different parts: Introduction, philosophy and terminology, applications and movement production of the Inman Aligner system, Bonding and Bleaching concepts and treatment.

When should dentists use the concept of the Academy and how long can each treatment last before the patient is happy with the results?

IAS training doesn’t stop there; however, a learning continuum has been developed that encourages dentists to carry on refining their practical skills and experience through a range of additional courses, study clubs, workshops and online resources. Full case monitoring is also provided and new users can submit their first completed cases for review and evaluation the online support to achieve full accreditation.

If dentists in the MEA region would like to use the New Concept of IAS, they should first attend the certification course of the Inman Aligner Academy. What exactly happens during the course?

The hands-on course is structured in four different parts: Introduction, philosophy and terminology, applications and movement production of the Inman Aligner system, Bonding and Bleaching concepts and treatment.
**4D Orthodontics**

From Morphologic Diagnosis to Time Factor

By Dr. Matteo Beretta, Italy and Dr. Nunzio Cirulli, Italy

**Where do we stand now in modern orthodontics?**

New methods of orthodontics take great advantage of digital technologies. They do this by preparing an individual treatment plan for the patient, which addresses his/her complex needs. Such a plan factors matters of biocompatibility and sustainability, which might not be exclusively related to his/her orthodontic problems.

Our research in this area has recently been exploring new scientific grounds that focus on the question of how new technologies could effectively change the way we diagnose and treat the model plan the corresponding treatment. A new player is emerging in the third-dimensional era, the 4D technology!

**A new revolution in ap-plying science?**

What does it mean? Can we talk of a new revolution in modern orthodontics? Where do we stand now in dentistry interested in studying body mechanics? What can these two studies offer orthodontists? How form and function determine diagnosis and prognosis!


“... We are not talking of a revolution...”

Harold D. Kesling further noted, “... In the determination of the treatment planning, the cephalometric film has been used as fundamental preconditions, providing a radiographic survey exceed the risks; a radiography should be done only after an accurate clinical examination and when it offers an effective diagnostic advantage for the patient.”

In this case, an orthopantomography had been done before the treatment, which made no apparent diagnostic contribution to the clinical diagnosis. Should a tele-radiography have been useful in this case?

**What can we learn from past studies?**

In 1999, Harold D. Kesling, in an article published in the American Journal of Orthodontics, entitled “The Diagnostic Setup with Consideration of the Third Dimension,” said:

“... Good orthodontic casts not only provide exact duplicates of every tooth in the mouth, but they also give a fairly accurate pattern of the alveolar base. Since neither the alveolar base nor the tooth sizes can be altered materially, some intelligent rearrangements of the alveolar teeth, as it appears on the model plan, can remove confusion arising from pure speculation by replacing it with concrete objective manipulation. In short, he have just invented the morphologic diagnosis and the diagnostic set up...”

Harold D. Kesling further noted, “... Without dissecting the teeth from the orthodontic models and rearranging them in the most desirable positions on the available specific bases, the orthodontist can only speculate on available options and limitations of the treatment.”

**Dynamics is the branch of mechan-ics interested in studying bod-ies’ motion and its causes or, more clearly, the circumstances that deter-mine or modify it.**

**Orthodontics is gradually evolving towards a more dynamic concept of occlusion, of functional harmony and biomechanical interconnexions.**

Luckily, the progress from the old “static concept” of Class I occlu-sion to the present concept of func-tionally supported occlusions is not completely new to the orthodontists. This is what WJ Thompson wrote in 1979 in his article in Angle Orthodontist entitled “Occlusal Plane and Overbite” (Ref. Angle Orthodontist, 1979 January 49:1-47:55).

Hence, we are not talking of a new concept!

What can these two studies offer orthodontists?

Form and Function, this is what our teachers have taught us to make a correct diagnosis, to set a proper plan of health care and to define the objectives of stability and, above all, the maintainability of the results of our orthodontic treatments.

Let’s see a clinical example of how form and function determine diagnosis and prognosis!

A patient aged 25 was orthodontically treated in the past with fixed orthodontic appliances. He came to our attention due to progressive re-cession of 4.1, increase in sensitivity, and difficulty to maintain proper oral hygiene. The patient has unneccessarily been brought to us for peri-odontal surgery. Upon examination, we discovered severe gingival reces-sion of 4.1 associated with buccal root inclination and traumatic contact with the antagonist for extrusion. It also featured a fixed lower retainer, from 3.2 to 4.2, repeatedly repaired (Figures 1-3).

The old fixed retention previously managed incorrectly has become an active retainer on 4.1 with buccal root torque unchecked. A proper morphologic diagnosis must consider the three-dimensional position of the root in the alveolar bone and not just detect the buccal gingival recession, whose single consideration has already led to a treatment failure.

The treatment plan involved: (a) removing the old retainer and fixing a lingual appliance by self-ligating brackets i TR from 3.4 to 4.4 with the purpose of aligning the lower frontal teeth, (b) correcting the root torque of 4.1, and (c) eliminating the occlusal trauma to allow recovery of an adequate periodontal health conditions and secure maintain-ability. The required correction has been completed in 8 weeks from the removal of the old retainer and the simultaneous bonding of the lingual orthodontic appliance. The buccal gingival recession of 4.1 has improved significantly, only thanks to its repositioning in an appropri-ate periodontal environment, which has also improved the conditions for maintainability. The lingual appliance, very well tolerated by the patient, is maintained as a fixed re-tainer (Figures 4 & 5).

This case, an orthopantomography had been done before the treatment, which made no apparent diagnostic contribution to the clinical diagnosis. Should a tele-radiography have been useful in this case?

**Obviously not! How could we then make any use of tele-radiography?**

In an editorial in the American Journal of Orthodontics, David I. Turpin says:

“... If the intracranial palpation of maxil-lary causes in an 8 year-old child is difficult and there is a reasonable suspicion of a complicated eruption, you should consider doing a tele-radiography!...”

In the same editorial, we found the following recommendations by the British Orthodontic Society:

- a radiography should be done only after an accurate clinical examination and when it offers an effective diagnostic advantage for the patient.
- generally, the advantages of a radiographic survey exceed the risks; - the risk level is justified only when the patient has a health advan-tage with the ALARA dose (ALARA, as low as reasonably achievable) (Ref. Am. J. Orthodontist Dentofacial Or-thopp. 2008;134:577-574).

A review of relevant literature in the University of Oporto, Portugal, published in Progress in Orthodontics in 2013, entitled “Validity of 2D lateral cephalometry in Orthodontics: A Systematic Review, reveals the literature suggests that the lateral cephalometry has been applied without adequate scientific evidence, irrespective of whether it is mandatory for the diagnosis and without regard to its therapeutic ef-ficacy.”

A new method of orthodontics gradually evolves in the determination of the treatment planning, the cephalometric film has been used as fundamental preconditions, providing a radiographic survey exceed the risks; a radiography should be done only after an accurate clinical examination and when it offers an effective diagnostic advantage for the patient. This does nothing more than express numerically what patients’ maxi-lary and cranial bones morphometry provides.

Of course, with study and experience as fundamental ground, wise orthodontists would likely not need those numbers at all. Moreover, could we do the cephalometry without radiation for a pa-
COLGATE TOTAL® PROVIDES PROTECTION* TO 100% OF THE MOUTH’S SURFACES¹

- Regular toothpastes¹ only protect the hard tissue, which is 20% of the mouth²
- The remaining 80% of the mouth is the tongue, cheeks, and gums, which can provide a bacteria reservoir for plaque biofilm recolonization

WHY SETTLE FOR 20% WHEN YOU CAN OFFER PATIENTS PROTECTION TO 100% OF THE MOUTH’S SURFACES?

*In addition to fluoride for cavity protection, Colgate Total® provides 12-hour antibacterial protection for teeth, tongue, cheeks, and gums.
²Defined as non-antibacterial fluoride toothpaste.
What does it mean?
The Digital Disruption is deeply connected to the time that flows and what is happening today, now, beyond what our eyes see and with the time that does not tell us what we have administered after the treatment. It becomes a dynamic concept, where time does not tell us what we have to do with the orthodontic therapy, if we identify the right moment of treatment. The follow up visit is not any longer confined to controls administered after the treatment. It demonstrates how such a change in an established activity and related! Disruption and innovation are interrelated. Is disruption the only way to innovate? According to Professor Clayton Christensen, it is the best way to do so because when digital instruments do the innovation, the result is much better.

From 3D to 4D
Starting by the introral digital scanning of the dental arches, we can obtain virtual models and the occlusal details of a patient can be analysed and measured, without resorting to stone models. This technology was not conceivable at all years ago.

A digital set up of orthodontic movements can be performed on such virtual models to simulate and define treatment objectives, to project appliances and to develop skills how to apply it.

During the treatment, new virtual models can be obtained by further digital scans of the dental arches, which may be superimposed on the initial ones, if desirable. In this way, it is possible also to monitor the progression of the therapy.

In more complex cases requiring morphologic diagnosis, it is possible to superimpose the digital models and the 3D reconstruction of the maxillary bones and the roots obtained from the CBCT. By specific software, one can do a set up that considers the real anatomical limits of the radicular movement, which is named “set up bone safe” (Figures 9-10).

In this case, the virtual tooth of the patient is obtained by mixing the crown derived from the introral scan and the root from the CBCT. In this way, the radicular position in the maxillary bones could also be defined during and at the end of the treatment by repeating the introral scan, without further exposure to X-rays. It is thus possible to monitor the real progression of the orthodontic treatment, respecting the anatomical limits of the patient, evaluating systematically the match to the set up and, if necessary, restructuring it.

The follow up to our cases is not any longer confined to controls administered after the treatment. It becomes a dynamic concept, where time does not tell us what we have to do with the orthodontic therapy, if we identify the right moment of treatment.

Disruption and innovation are interrelated. Is disruption the only way to innovate? According to Professor Clayton Christensen, it is the best way to do so because when digital instruments do the innovation, the result is much better.

CEREC Zirconia: Valued material can now be used chairside

By Dentsply Sirona

Full contour zirconia has become a very popular material in dental offices due to its high flexural strength, bio-compatibility and tissue conserving preparation. Dentsply Sirona CAD/CAM has introduced a world class technology to make the impossible possible: Thanks to an outstanding innovative workflow of data obtained from a traditional cephalometry and a cutaneous cephalometry from a 3D scanning of the patient’s face, without any further radiation.

What is CEREC Zirconia?
CEREC Zirconia is a pre-shaded translucent zirconium oxide available in 10 shades on the basis of the VITA Classic Shade Guide®. The material is milled in an enlarged form and then densely sintered to its final size in the new sintering and grinding unit. CEREC Zirconia material, dentists can now deliver full contour crowns and small bridges made of the full-strength high-quality zirconium oxide in their own practice while the patient waits.

High strength, short manufacturing process
The greatest benefit of CEREC Zirconia is the high flexural strength of the material: it is suitable for individual crowns as well as small bridges and can be processed in thin wall thicknesses. Since these restorations are manufactured in monolithic form, there is no risk of chipping. Another benefit for dentists is that zirconium oxide can be cemented conventionally.

CEREC Zirconia is a pre-shaded translucent zirconium oxide available in 10 shades on the basis of the VITA Classic Shade Guide®. The material is milled in an enlarged form and then densely sintered to its final size in the new sintering and grinding unit. CEREC Zirconia material, dentists can now deliver full contour crowns and small bridges made of the full-strength high-quality zirconium oxide in their own practice while the patient waits.

References
Global Education Development Centre
In collaboration with

SWISS DENTAL ACADEMY

Presents

Prophylaxis Master (1+2) Programs
Includes but not limited to... Important aspects of prophylaxis, Optimal use of the basic instruments, Instrument and equipment maintenance, Supragingival & Subgingival ultrasonic scaling, Cleaning of bifurcations and trifurcations, management of biofilm, Recall - planning and organization, etc. (includes Hands-on & Clinical Cases)

Perio Master Programs
Includes but not limited to... biofilm, Gingivitis and Periodontitis, Co-relationships between Periodontal disease and general health, Motivation & Education, Conventional vs. paradigm shift in prophylaxis protocols, Initial periodontal treatment, Long term maintenance, etc. (includes Hands-on & Clinical Cases)

Implant Maintenance Programs
Includes but not limited to... understanding Implant designs, Etiology, Signs and symptoms, Risk factors, Conventional vs. current technologies for Implant maintenance, Recall sessions & Home Care, etc. (includes Hands-on & Clinical Cases)

<table>
<thead>
<tr>
<th>PROGRAM TITLE</th>
<th>DAY/DATE</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylaxis Master 1 and 2</td>
<td>Friday 11 March 2016</td>
<td>Elzaan Booysen</td>
</tr>
<tr>
<td>Perio Master + Implant Maintenance</td>
<td>Friday 27 May 2016</td>
<td>Elzaan Booysen</td>
</tr>
<tr>
<td>Perio Master + Implant Maintenance</td>
<td>Friday 02 September 2016</td>
<td>Victoria Wilson</td>
</tr>
<tr>
<td>Prophylaxis Master 1 and 2</td>
<td>Friday 04 November 2016</td>
<td>Elzaan Booysen</td>
</tr>
<tr>
<td>Perio Master + Implant Maintenance</td>
<td>Friday 02 December 2016</td>
<td>Victoria Wilson</td>
</tr>
</tbody>
</table>

All Programs are accredited/recognized by HAAD, DHA, MOH

Our Speakers

Elzaan Booysen
University Diploma, Oral Hygiene, University of Pretoria, RSA. Emirates Airlines Dental Clinic, Dubai, UAE, Dental Hygienist. Official Trainer of Swiss Dental Academy. MBA in General Management

Victoria Wilson
Diploma of Dental Therapy - Eastman Dental Hospital. Award for Patient Management Founder Dubai Hygiene Group under Emirates Medical Association. Has many publications & lectures in Hygiene topics.

Unlock your potential...

For Online Registration: http://www.gedc.ae/Courses.aspx
For Direct Contact: +971 50 165 2627 | +971 55 700 9870
The workflow is easy to learn since the CEREC Software 4.4.1 guides the dentist through the entire process, and even sends the sintering and glazing information to the furnace. No programming of the furnace is required – it is all handled automatically by the software. A high-performance material and a specially tailored workflow ensure a simple process and high-quality treatment.

It is obvious that advanced technologies in automobiles, computers and smartphones make our daily lives easier. CEREC is also a technology that further develops a dental practice and can make it well positioned for the future. Especially now, as the system is highly flexible, it enables dentists to expand their offering in implant dentistry and orthodontics.

Dentists can find details about CEREC Zirconia on http://www.cerec.com/Zirconia.
It is important for us to adapt our global projects to the culture in the Middle East

Interview with Dr. Patrick Hescot, former President of the FDI European Regional Organization

By Dental Tribune MEA/CAPPmea

Dental Tribune MEA had the pleasure to interview Dr. Patrick Hescot, President of the FDI World Dental Federation who was present in Dubai last February in order to promote World Oral Health Day and celebrate FDI global partnership with Philips and to promote FDI 2016 in Poznan, Poland later this year (7-10 September). During the exclusive interview, Dr. Hescot shared his passion for prevention including the transfer of expertise to the regional dental societies around the Middle East region.

Dental Tribune MEA/CAPPmea: Dr. Patrick Hescot our pleasure to welcome you to the Philips booth at the AEDC meeting here in Dubai where you are present to promote World Oral Health Day and FDI Annual World Dental Congress, amongst other things. Can you share a little bit about yourself?

Dr. Patrick Hescot: It is my pleasure to be here. First of all, we are here to stress the very importance of the teamwork surrounding the World Oral Health Day and how we can transfer our experience to the regional dental associations and societies. As you may know, before becoming the president of the FDI, I have been involved in the FD work for over 20 years. I was the former president of the FDI European Regional Organization, served on the FDI council since 2007 and was designated President-Elect in 2013. Prevention has been a lifelong hobby of mine and I have had the pleasure to head the prevention campaigns for the French Dental Association in the last 20 years whilst further serving as an advisor to the French Ministry of Health.

FDI and Royal Philips recently signed a global agreement to promote the importance of oral health. Please share your views on the overall partnership and how you plan to transfer this to the Middle East region?

It is a pleasure to work with Philips whom I very much admire. We have welcomed them happily to our group of sponsors and supporters and once again congratulate them for demonstrating their commitment to the cause of global oral health awareness. The upcoming World Oral Health Day is a perfect example of the opportunity to position oral health where it belongs and to demonstrate the importance of prevention. Philips has a great product and I recommend their electric toothbrush as an essential part of maintaining a good oral health standard.

As an advocate of prevention, what is important for good oral health?

The main principle of the FDI has always been to promote oral health. It is important to prevent and maintain good oral health standards and this is what our programs are all about. The treatment stage is already too late, a good oral health lifestyle starts with our children in the schools, the parents, the families, and these are the people we need to educate on proper prevention. We have to create a new process of oral health and this process is about therapeutic education, maintenance and again prevention. We will be presenting this extensively at the upcoming FDI in Poznan where we aim to showcase the new definition of oral health. We welcome all dental professionals to attend the FDI Annual World Dental Congress between 07-10 September 2016 in Poland. The most important for each person is their own self esteem which is greatly affected by their oral health. It is impossible to speak or live a good social life without good oral health.

How is the FDI transferring the knowledge to dentistry in the Middle East?

It is important for us to adapt our global projects to the culture in the Middle East which differs from Europe. Through our trip here in Dubai, we have been able to meet and discuss with various dental societies and associations such as the Qatari, Omani and Saudi Dental Societies the very importance of our programs and how they themselves can carry these out in their own countries. Through the expertise and toolkits the regional dental societies can educate their populations in their respective countries. This is what the World Oral Health Day is all about. It is our duty to provide dentistry in the region with the right tools to get the messages across through promotion with an end goal to improve the oral health of the children and the families.

What is some of the examples of the toolkits for WOHD?

There are various opportunities, in Europe we work a lot at the schools, it is very important to educate children at a young age who will communicate with the parents and the families. Through activations at the schools, events on the streets and within the dental practices there are numerous possibilities for the regional dental associations to campaign for a healthier smile, a healthier life. We have shared our papers, posters, documents and toolkits which are used globally during this global World Oral Health Day. It is a pleasure to see that several countries have gone beyond and organized entire dental weeks in their respective countries.

WOHD benefits all countries. The WOHD benefits all countries. The WOHD benefits all countries. The WOHD benefits all countries. The WOHD benefits all countries. Thank you Dr. Patrick Hescot for your informative feedback. We wish you lots of success at the upcoming congress in Poznan, Poland between 07-10 September 2016.
"Keep your natural smile on because you are beautiful"

An interview with Dr. Rim Bogari owner of Dr. Rim Bogari Dental Center in Bahrain

By Dental Tribune MEA & CAPPmea

Dental Tribune MEA & CAPPmea spoke with Dr. Rim Bogari.

Dental Tribune MEA & CAPPmea: Dr. Rim can you tell us about yourself and your work experience in Bahrain and your Dr. Rim Bogari Dental Center?

Dr. Rim Bogari: My Name is Dr. Rim Bogari. I am from Saudi Arabia. I learned & working in Berlin. I learned the German language and concluded my dentistry degree from the prestigious university of Berfin in Germany. There has always been an artistic side of me including drawing and handcraft, my artistic side was also a major factor in choosing Cosmetic Dentistry, the ability for me to realize the fusion between art and dentistry giving me the uniqueness to start my career and future ambition. Dr. Rim Bogari Dental Centre is just the start of my dreams, it expresses my passion and art fusion in Dentistry. I wanted to create a new level in dentistry, creating my own signature of outstanding quality & service.

What is the look and atmosphere of your clinic? A typical dental Clinic? What is the look and atmosphere of your clinic? A typical dental clinic? What is the look and atmosphere of your clinic? A typical dental clinic?

Dr. Rim Bogari Dental Center is a boutique style Dental Centre with a Parisian flare. It is a place that is so far from your usual dental atmosphere, starting from the entrance where the patients would be exclusively welcomed to the front desk and have their information filled in digitally. Our waiting area is a place where the patient can relax before going into the treatment room, while having a great view starting in the heart of the city centre with relaxing music playing in the background. Our patients will always be offered to drink refreshments before their treatment. Our treatment rooms have a panoramic view looking the main road in the heart of Bahrain. Our Dental Centre is happy to be the first to clinic to have the Porche Design Dental Chair exclusively in our region. Our patients feel different when treated at our Centre and we provide them with all the time needed to listen and understand their needs carefully before we try our best to reach what both parties consider as the best treatment plan. We have built extremely trustful relationships with our patients which are important to us not only during the treatment but also after. Our clients are our guests.

You are the Country Chairperson in the Gulf Region for the European Society of Cosmetic Dentistry (ESCD), how have you taken on this responsibility and what does it involve?

Dr. Rim Bogari: We meet in different countries and offer lectures to our members that would add to their practice rich information through known speakers from all over the world. It is a great responsibility & pleasure to have been delegated the chairmanship for the Gulf region representing mutual values and best practices amongst being part and member of this prestigious society.

How do you see Cosmetic and Aesthetic Dentistry evolving in the future?

Dr. Rim Bogari: Cosmetic Dentistry is becoming the main concentration in Dentistry especially in the last few years through all dental fields with an aim to have a beautiful smile as a final stage in the treatment plan. Cosmetic Dentistry has developed a lot and we see it becoming as minimal invasive or non-invasive as possible. In the past dentists used to practice cosmetic dentistry with a lot of damage to natural teeth. I really like the current and future direction of cosmetic dentistry as it is completely trying to stay as natural as possible and this in my opinion is the hardest part, where we try to keep the personality and the character of the patient whilst enhancing the appearance of the teeth in a very natural and much less invasive way. It is a challenge for us dentists and only a few can master this.

We know you are very active in updating your dental education continuously, what motivates you to constantly stay on the edge of updates, and how do you make time?

Dr. Rim Bogari: I always like to deliver to my patients the best and most advanced treatments available. As dentistry changes from year to year, if we weren’t up to date then I think we are disappointing our patients who have their trust and belief in us. Especially if we are talking about cosmetic or aesthetic dentistry, which is now the talk of the town and has changed a lot especially the last couple of years due to all the advancements in Digital Dentistry. I think we can easily describe it as the era of modern Dentistry. I am a mother with a kid and it is so hard to balance between my work and family life. I will deny that there are days where I cannot see my child especially when I am out of town visiting some courses or conferences, but we all know that building a career is not an easy path.

Will you be attending the upcoming 12th CAD/CAM & Digital Dentistry or 8th Dental Facial Cosmetic INT Conference by CAPPmea in Dubai this year?

Dr. Rim Bogari: Yes I will and I am waiting for that, especially the Dental Facial Cosmetic Conference which has amazing workshops and hands-on courses every year. I think it is one of the best conferences done in Dubai, if not the best.

With such a busy schedule, how do you combine personal life with your work?

Dr. Rim Bogari: It is very hard to balance between both especially for a person like me who just established a Dental Centre and is aiming for much more to grow in the Gulf Region. I could say I think of myself as a woman and I am fully concentrating on my work and how to succeed. The most important thing is to stay healthy and fit, sports and having my own time sometimes is a need. I could say that my family might miss me, but I know in the near future I will be available much more.

Do you read, follow Dental Tribune MEA in the Region?

Dr. Rim Bogari: Of course I do as it is the largest Dental Newspaper in the world containing the latest up to date information for us Dentists. Especially for dentists who are interested in further educations and in being always on the edge of Dentistry. I enjoy reading the articles, I have personally added much value to my personal knowledge from the dental Tribune, thank you for such a great newspaper.

Would you like to share anything else with the readers?

Dr. Rim Bogari: I would like to thank you so much for having me on board. I would like to mention one important note to our readers, nothing competes to the natural beauty of yourself. Even in Cosmetic Dentistry nothing would come close to the beauty of a natural tooth. Dentists should always concentrate on preserving the natural teeth, we have to try and spread this message out and change the concept of what real beauty is like. Being natural is being yourself, even if we are talking about having white teeth, this could also be done in a very natural way. Cosmetic Dentistry is a Dental Art Fusion between your natural teeth, our art and passion, latest technology and science. So keep your natural smile on because you are beautiful!!

Contact Information

Dr. Rim Bogari
Cosmetic Dentist
Gulf Chairperson ESCD
Dr. Rim Bogari Dental Center
+97333009008
+97331700214

The waiting room - a boutique style Dental Centre with a Parisian flare

The Dr. Rim Bogari Dental Center operating room
Vilafortuny Training Centre - “Excellence in dentistry and medical laser applications”

• Continuing Educational Courses Accredited by DHA
• Renowned European and American speakers
• Hands-on training & Live Demonstrations with CPD credits
• Reduced group sizes, maximum 24 participants

Vilafortuny Training Centre offers continuing education courses focused on laser applications for various specialties:

- Diode Laser Course (6 CPD/CME) - Lecture & Live Demo
  - Dr. Kathrine Trelles, D.D.S., MSc, MSc

- EYSGG EYAG Course (6 CPD/CME) - Lecture & Live Demo
  - Dr. Kathrine Trelles, D.D.S., MSc, MSc

EXPECTED DHA ACCREDITATION:

- INCORPORATING DIODE LASER TO DENTAL HYGIENISTS PROFESSIONALS - Lecture & Hands-On
  - Dr. Maria Alexandra Arevalo Barrero, D.D.S., MSc

- Modern Endodontics - Lecture & Hands-On
  - Dr. Alfredo Aragüés, D.D.S., MSc, MSc

- Ultrasound in Endodontics from Access Cavity to Removal of Separated Files - Lecture & Hands-On
  - Prof. Philippe Sleiman, D.D.S., MSc, PhD

- Modern Endodontics - Lecture & Hands-On
  - Prof. Philippe Sleiman, D.D.S., MSc, PhD

- Modern Endodontics - Lecture & Hands-On
  - Prof. Philippe Sleiman, D.D.S., MSc, PhD

- Microsurgical Approach for Root Canal - Lecture & Hands-On
  - Prof. Mark Lin, B.Sc., D.D.S., M.Sc., F.R.C.D.

- A Challenge to Natural Teeth - A Trusted Aesthetics - Lecture & Hands-On
  - Naoki Hayashi, R.D.T.

- Smile Design, Digital Workflow & Emotional Dentistry - Lecture & Hands-On
  - Christian Coachman, C.D.T., D.D.S.

- The Aesthetic and Functional Rehabilitation: Tradition vs. Innovation - Lecture
  - Dr. Mauro Fradeani, D.D.S., MSc

- The Treatment Planning for Successful Full Rehabilitation - A Comprehensive Prosthetic Approach - Lecture & Hands-On
  - Dr. Dario Adolli, D.D.S., C.D.T.

- Predictable Implant Prosthetics - An Intensive Lecture & Hands-On
  - Prof. Stewart Harding, D.D.S., MSc

- "Hey, It Wasn't That Bad" Know Your Anatomy, Improve Your Anaesthesia - Lecture
  - Prof. Salam Hani, D.D.S., MSc

- "The ABC of Managing Medically Compromised Patient - Lecture
  - Prof. Salam Hani, D.D.S., MSc

- "From Advil to Zitromax, A Dental Journey" - Lecture
  - Prof. Salam Hani, D.D.S., MSc

- Composite Artistry - Creating Anterior Masterpieces - Lecture
  - Dr. Newton Fahl, D.D.S.

- Mastering Anterior and Posterior Composite Restorations - A Direct & Indirect Approach to Dental Artistry - Lecture
  - Dr. Newton Fahl, D.D.S.

- The Polychromatic Layering Approach for Creating Anterior Masterpieces with Composite Resins - Lecture & Hands-On
  - Dr. Newton Fahl, D.D.S.

- Achieving Excellence with Anterior Composites - from "Why" to "How To" - Lecture
  - Dr. Newton Fahl, D.D.S.

- Mastering Clinical Photography - Lecture & Hands-On
  - Paul Macleod

  - Junno Endo R.D.T.

- How to Achieve Highly Aesthetic Anterior Restoration with Translucent Multi Colour Layered Zirconia - Lecture & Hands-On
  - Aki Yoshida R.D.T.

- Atrophic Maxilla - Gums - Lecture
  - August Bruguera R.D.T.

- Ceramic Crowns Zirconium or Disilicate?... Standard Colour or Patient? - Lecture
  - August Bruguera R.D.T.

- Course Topics to Be Announced Shortly - Lecture
  - Dr. John Kois D.M.D., M.S.D.

For Inquiries, please contact us at Vilafortuny Training Centre, Al Wasi Road, Villa 7288, Jumeira 3, Dubai, UAE email: cristina.cimpoi@vftdubai.com | Tel: +971(0)502416405 www.vilafortuny.com
Assessing your practice success

By Dr. Ehab Heikal, Egypt

How is practice success determined? This is not an easily answered question. It is virtually impossible to point to one positive practice statistic. Yet in today’s fast-paced world, everyone wants a quick fix. We are programmed to want cut-and-dried solutions and easy answers for everything. Unfortunately, there is no simple equation to measure practice success.

Sometimes it is tempting to view overhead as the barometer of practice success. The overhead is the amount spent to generate a specific sales amount (Fixed costs). It varies from industry to industry, and since reliable data is very rare in our area, thus I will use the example of the average overhead rate in the west. So for example, 40 percent generally is regarded as an ideal overhead percentage for a general practice (It could reach 66% as an ideal in USA). In our area, it could be far lower, it reaches 35% in some cases, yet I will stick to the high measure international measure just for the sake of the example.

So does attaining the ideal overhead ensure success? To answer this question, lets consider and compare three clinic or dental centers’ situations.

**Dental Center A:** has an annual production of $250,000 and overhead of 40 percent. If having the ideal overhead is all that matters, this practice is successful. However, at $100,000, production can be considered decidedly below average.

**Dental Center B:** To address that issue, let us examine dental center B, which has an annual production of $1 million and an overhead of 85 percent. Although the production of this center is extremely high, the overhead is equally high. Should this center be defined as successful? $1 million sounds wonderful. However, appearances can be deceiving. Although the gross revenue measurement may be impressive, the reality of everyday profit creates the same scenario for this dentist as it does for the one in center A. With both having an approximate net profit of $250,000 – $255,000, there is little difference between centers A and B at the end of the day.

**Dental Center C:** Now consider C, with an annual production of $800,000 and a 50 percent overhead. Although this center has an overhead slightly higher than recommended, the overall picture is much better than that for either A or B. It is a good bet that the dentist in C is substantially better off. If center C is managed and operated properly, the dentist will have a fairly low-stress environment with substantially higher profit. The moral of the story: When comparing these three centers, keep in mind that the percentage of overhead is not the only factor to consider. It is only a ratio and always needs to be viewed in context. Despite the excellent overhead of 40 percent, center A with $250,000 in production cannot be deemed as financially successful as center C with $800,000 in production and a 50 percent overhead. The same philosophy must be applied when assessing all areas of the dental center to evaluate opportunities for improvement.

**Key Performance Indicators (KPI’s)**

We often tend to look at only one aspect of the clinic’s performance indicators. Dentists need the total picture to determine the success of their clinic and plan for the future effectively. It is unwise to rely on a single number or statistic. For this reason, you can use key performance indicators (KPIs) to determine the health of your dental office. The following KPIs are among the most crucial for dental practices:

- Production (Total income)
- Profit
- Collections
- Collections/collections ratio
- Number of new patients
- Number of referrals
- Total of accounts receivable (Uncollected payments from patients)
- Average production per patient

The center’s ability to invest in staff, technology, or continuing education also is limited. By all definitions, this center is unsuccessful even though the overhead percentage may be on target. Clearly, overhead is not the true indicator of success, yet magic numbers also are sought elsewhere. Many view production as the only figure that truly matters. High production means a great deal of revenue is generated into the practice; surely, that is a good indicator of success.

The following KPIs are among the most crucial for dental practices:

- Average production per patient
- Average production per new patient

No single number or statistic determines clinic success. A clinic that relies on one statistic to determine the state of the clinic will not achieve an accurate assessment. In today’s increasingly competitive field of dentistry, dentists must consistently analyze and monitor clinic indicators. Dentists who are keenly aware of clinic performance are able to effectively adjust strategies to meet the demands of our ever-changing economic and technological realities and achieve both professional and personal success.

**Dental Tribune Middle East & Africa Edition  |  2/2016**

---

**Good Design Transforms**

Good design is clear, free flowing and honest. It is ubiquitous. It pays attention to the minutest detail.

Good design emphasizes your values and your strengths clearly. It improves your workflow and enhances your productivity.

Good design is tangible and adds exponential value to your brand.

Good design endures. It is holistic and environment-friendly. It is both innovative and traditional. It is all about finding the sweet spot.

Good design is a work of art hanging on museum walls.

Good design is what we do, consistently.

Dental Clinics designed: Delux Dental, The Dubal Dental Centre, Delux Dental & Cosmetic Centre, Dr. David Rosse & Associates 2015, and Sky Clinic Dental-Center JLT, many more designed in MENA region and beyond. Being nominated for awards every year culminating with winning the same, in the Middle East & North Africa Design Awards.

---

Dr. Ehab Heikal
BDS, FICD, MBA, DBA
Practice Management Consultant. He can be contacted at: eheikal@gmail.com

---

Be inspired by our designs. splyce.ae or call +971 4 380 6560 +971 55 771 4596
Sensodyne Repair & Protect

Does more than relieve the pain of dentine hypersensitivity, it can repair and protect your patients’ exposed dentine*

*with twice daily brushing

Going beyond pain relief
This morning your patient just washed away an important sign of gum disease

Include parodontax® toothpaste as part of your recommendations to help stop bleeding gums¹,²

parodontax

References:
parodontax is a registered trade mark of the GlaxoSmithKline group of companies
Usage: Twice daily and not more than three times.

GSK

Avenues Tower, Media City, Dubai, U.A.E.
Tel: +971 4 3979555, fax: +971 3929659, PO Box 23819.
For full information about the product, please refer to the product pack.
For further information, please contact your doctor/healthcare professional.
For reporting any Adverse Event/Efflusion related to GSK product, please contact us on contactus-ma@gsk.com.
Date of Preparation: February 2015.

We value your feedback
Local Arabic: 800647012
All Gulf and Near East countries: +973 16600404
How effective is toothbrushing?

By ADAA

In Western society, toothbrushing was introduced as an oral care habit in the 18th century, and plastic toothbrushes with nylon bristles have been used since the middle of the last century. However, while there are numerous versions of manual toothbrushes on the market, there has been no clear evidence that any specific design is superior to another. Therefore, the choice of toothbrush is mainly a matter of individual preference. Despite daily use, in practice the efficacy of manual brushing is such that it does not appear to result in optimal oral hygiene.


The two best-known databases, Pubmed and Cochrane, were searched for articles that addressed the efficacy of a manual toothbrush following a single brushing exercise. In order for an article to be included in the review, subjects in the study had to be healthy adults who were not wearing an orthodontic appliance or a removable prosthesis, and who had brushed without using ad-

Dental Hygienist Seminar to take place for fourth consecutive year organized by CAPP in Dubai

The event will include education through engagement and exhibition
Coronary heart disease patients with no teeth have nearly double risk of death

Researchers connect levels of tooth loss (due primarily to poor dental hygiene that leads to periodontal disease) with increases of death rates and stroke rate.

By Dental Tribune U.S.

Coronary heart disease patients with no teeth have nearly double the risk of death as those with all of their teeth, according to research recently published in the European Journal of Preventive Cardiology. The study with more than 15,000 patients from 39 countries found that levels of tooth loss were linearly associated with increasing death rates.

"The relationship between dental health, particularly periodontal disease, and cardiovascular disease has received increasing attention over the past 20 years," said lead author Dr. Ola Vedin, cardiologist at Uppsala University Hospital and Uppland Clinical Research Center in Uppsala, Sweden. "However it has been insufficiently studied among patients with established coronary heart disease who are at especially high risk of adverse events and death and in need of intensive prevention measures."

Analysis included 15,456 patients from 39 countries on five continents

This was the first study to prospectively assess the relationship between tooth loss and outcomes in patients with coronary heart disease (CHD). The results are from a subset of the STABILITY trial, which evaluated the effects of the PL-PLA2 inhibitor darapladib versus placebo in patients with CHD.

The analysis included 15,456 patients from 39 countries on five continents from the STABILITY trial. At the beginning of the study, patients completed a questionnaire about lifestyle factors (smoking, physical activity, etc), psychosocial factors and number of teeth in five categories (26-32 considered all teeth remaining), 20-25, 15-19, 1-14 and none.

Patients were followed for an average of 57 years. Associations between tooth loss and outcomes were calculated after adjusting for cardiovascular risk factors and socioeconomic status. The primary outcome was major cardiovascular events (a composite of cardiovascular death, myocardial infarction and stroke). Patients with a high level of tooth loss were older, smokers, female, less active and more likely to have diabetes, higher blood pressure, higher body mass index and lower education.

During follow up there were 1,543 major cardiovascular events, 705 cardiovascular deaths, 1,120 deaths from any cause and 305 strokes. After adjusting for cardiovascular risk factors and socioeconomic status, every increase in category of tooth loss was associated with a 6 percent increased risk of major cardiovascular events, 17 percent increased risk of cardiovascular death, 16 percent increased risk of all-cause death and 24 percent increased risk of stroke.

746 patients had a myocardial infarction during the study

Compared with those with all of their teeth, after adjusting for risk factors and socioeconomic status, patients with no teeth had a 27 percent increased risk of major cardiovascular events, 85 percent increased risk of cardiovascular death, 83 percent increased risk of all-cause death and 67 percent increased risk of stroke.

"The risk increase was linear with the highest risk in those with no remaining teeth," said Vedin. "For example, the risk of cardiovascular death and all-cause death were almost double to those with all teeth remaining. Heart disease and gum disease share many risk factors such as smoking and diabetes, but we adjusted for these in our analysis and found a seemingly independent relationship between the two conditions."

"Many patients in the study had lost teeth so we are not talking about a few individuals here," continued Vedin. "Around 16 percent of patients had no teeth and 27 percent were missing half of their teeth."

During the study period, 746 patients had a myocardial infarction. This was a numerically increased risk of myocardial infarction for every increase in tooth loss, but this was not significant after adjustment for risk factors and socioeconomic status.

"We found no association between number of teeth and risk of myocardial infarction. This was puzzling because we had robust associations with other cardiovascular outcomes, including stroke."

Tooth loss could identify patients who need more prevention efforts

"Gum disease is one of the most common causes of tooth loss. The inflammation from gum disease is thought to trigger the atherosclerotic process and may explain the associations observed in the study. Poor dental hygiene is one of the strongest risk factors for gum disease."

"This was an observational study so we cannot conclude that gum disease directly causes adverse events in heart patients," Vedin said. "But tooth loss could be an easy and inexpensive way to identify patients at higher risk who need more intense prevention efforts. While we can't advise patients to look after their teeth to lower their cardiovascular risk, the positive effects of brushing and flossing are well established. The potential for additional positive effects on cardiovascular health would be a bonus."

References


...reduction of 61%, the most effective toothbrush was one with angled bristles...

In summary, the overall weight-mean plaque score reduction after a single manual brushing exercise was 42%. A sub-analysis of the various brush designs revealed that the most frequently recommended manual toothbrush—one with a ‘Tart- trim’ brush design—numerically reduced plaque fewer than a toothbrush with multi-level bristles. Based on an estimated weighted mean Navy Index plaque score reduction of 61%, the most effective toothbrush was one with angled bristles.

In conclusion, the mean plaque score reduction efficacy following a single brushing exercise being 42% is influenced by the duration of brushing and bristle design. From a practical perspective, if only approximately 40% of the plaque score is reduced this means that there is room for improvement. This could be partly achieved by increasing the awareness of brushes with individually tailored instructions, for example, through their use of disclosing agents and a mirror. Motivating brushes to improve their brushing technique and to brush for a sufficient length of time is also important. In studies where it was possible, an analysis of the influence of brushing was performed and revealed the plaque score was reduced by about 30% after one minute of brushing. With two minutes of brushing, the reduction almost doubled to 4%.

Article published in BMJ, Feb 2013, adapted from article in European Journal of Preventive Cardiology.
COLGATE® SENSITIVE PRO-RELIEF™ WITH PRO-ARGIN™ TECHNOLOGY PROVIDES INSTANT AND LONG-LASTING RELIEF.

Extensive scientific research has shown that Colgate® Sensitive Pro-Relief™ protects against the triggers and causes of sensitivity, and is proven to occlude dentin tubules in 60 seconds.*

Finally, a way to quickly improve your patients’ satisfaction and comfort.

New toothpaste removes four times more plaque than other toothpastes

By DTI

CHICAGO, USA: Microbial biofilms, or dental plaque, on teeth significantly contribute to the development of dental caries, gingivitis and periodontitis, and should therefore be managed through daily brushing and flossing. A recently published study has now shown that a new toothpaste, which contains teal disclosing agents to color and identify plaque build-up on teeth, helps users remove up to four times more plaque than a standard toothpaste does.

In the study, 35 healthy patients aged 18–64 who had all 12 anterior teeth were divided into two groups. At two visits to the University of Illinois at Chicago College of Dentistry over the course of seven to ten days, participants in the first group brushed their teeth with a control toothpaste only. Participants in the experimental group used the control toothpaste at one visit and the Plaque HD toothpaste, which contains an FDA-registered annatto seed extract dye, as well as FD&C Blue No. 1, giving the toothpaste a green color that adheres to intra-oral plaque, at the second visit.

After brushing, participants rinsed with fluorescein solution. The presence of plaque on tooth surfaces was visualized by plaque-bound fluorescein, photographed and digitally quantified to calculate the percentage of remaining plaque. The data analysis showed a statistically significant mean plaque reduction between the initial baseline appointment and the second appointment for the experimental group. While participants in the control group were only able to eliminate about 8 percent more plaque, participants in the experimental group removed over 50 percent more dental plaque compared with the first visit.

“This study demonstrates that brushing with a toothpaste with plaque-indicating dye, combined with proper use instructions, significantly increases plaque removal efficacy,” the researchers concluded.

According to the manufacturer of Plaque HD, the toothpaste incorporates Targetol Technology, which contains all-natural, plant-based disclosing agents, and colors any plaque. Currently Plaque HD is sold through dental and orthodontic offices across the U.S. and on Amazon. It is available in a professional version for $21.00 and a retail version for $14.95.


Study finds high urinary mercury levels in children with amalgam fillings

By DTI

DAEGU, South Korea: Although equivalent alternatives have become available over the past decade, dental amalgam remains in use as a restorative material for dental caries in children in many countries. The safety of dental amalgam, however, is still a controversial issue among experts, as it has been associated with developmental disorders and systemic conditions. A Korean study has recently provided evidence that dental amalgam exposure could affect systemic mercury concentration in children.

In order to assess chronic exposure to elemental mercury, researchers at Kyungpook National University in South Korea evaluated mercury concentrations in urine samples from more than 1,000 children aged 8–12, who also underwent oral examination.

They found that children with more than one amalgam-filled tooth surface exhibited significantly higher urinary mercury concentrations than those with none. The researchers thus concluded that dental amalgam exposure could affect systemic mercury concentration in children.

“A number of studies have indicated that mercury exposure could be involved in problems in early brain development. Mercury has also been associated with adverse health effects relating to the digestive and immune systems, as well as the lungs, kidneys, skin and eyes. Awareness and recognition of these health and environmental implications have led to a ban on the use of dental amalgam in some high-income countries. However, dental amalgam restorations are still taught in the dental curriculum in Southeast Asia. In Myanmar, for example, about 30 per cent of fillings placed are of amalgam.

The study, titled “Dental amalgam exposure can elevate urinary mercury concentrations in children,” was published online on February in the International Dental Journal.
Approximately half of patients experience hypersensitivity following periodontal therapy. The process of periodontal therapy, including scaling and root planning, can expose the sensitive dentine layer, which may trigger pain and discomfort in your patients.

Clearly, addressing dentine hypersensitivity is crucial for providing relief to your patients.

**COLGATE® SENSITIVE PRO-RELIEF™ TOOTHPASTE IS CLINICALLY PROVEN TO TARGET HYPERSENSITIVITY AND RELIEVE PAIN IN SECONDS**

The Pro-Argin™ Technology of Colgate® Sensitive Pro-Relief™ toothpaste physically seals dentine tubules with a plug that contains arginine, calcium carbonate and phosphate. The plug effectively decreases dentine fluid flow, reducing sensitivity and relieving pain in seconds.

**EVIDENCE OF HOW COLGATE® SENSITIVE PRO-RELIEF™ WORKS IS AVAILABLE USING SCANNING ELECTRON MICROSCOPY**

Scanning electron microscopy (SEM) allows for highly magnified viewing of the dentine surface. The images demonstrate how the open dentine tubules are plugged and sealed after application of Colgate® Sensitive Pro-Relief™ toothpaste.

Address the pain and discomfort of hypersensitivity resulting from periodontal therapy by recommending Colgate® Sensitive Pro-Relief™ to your patients – clinically proven to treat hypersensitivity and relieve pain fast.

* References:

* When toothpaste is directly applied to each sensitive tooth for 60 seconds.
CROIXTURE

PROFESSIONAL MEDICAL COUTURE

NEW COLLECTION

EXPERIENCE OUR ENTIRE COLLECTION AT WWW.CROIXTURE.COM
Dentine hypersensitivity protection, now in a daily mouthwash

The first Sensodyne mouthwash containing 3% potassium nitrate and fluoride, proven to provide ongoing protection from dentine hypersensitivity with twice-daily rinsing¹⁻⁵*

*Rinse twice daily after brushing with a fluoride toothpaste.

PRECISION CLEAN BRUSH HEAD PROVIDES

UP TO 5x GREATER REDUCTION
IN PLAQUE BIOFILM ALONG THE GUMLINE

5x

* vs. a regular manual toothbrush

Oral-B, most Dentist Recommended Toothbrush Brand worldwide

continuing the care that starts in your chair
Endodontic imaging mode available from Planmeca

By DTI

Planmeca has introduced a new imaging mode that was developed especially for use in endodontics and in cases dealing with small anatomical details, such as imaging of the ear. The new mode, which produces extremely high-resolution images with a very small voxel size of only 75 μm, is available for all Planmeca ProMax 3D imaging units.

According to Planmeca, the new mode provides clinicians with perfect visualisation of even the smallest anatomical details. Owing to new intelligent noise and artefact removal algorithms, noise-free and crystal-clear images can be produced, the Finnish dental equipment manufacturer said. With Planmeca ARA, for example, artefacts resulting from metal restorations and root fillings in the patient’s mouth that cause shadows and streaks in CBCT images can be removed effectively. In addition, the new Planmeca AINO Adaptive Image Noise Optimiser is intended to reduce noise in CBCT images resulting from a particularly low radiation dose or small voxel size without losing valuable details. The company said that the filter particularly improves image quality in the endodontic mode, where noise is inherent due to the extremely small voxel size. It has also proven useful when used in accordance with the Planmeca Ultra Low Dose protocol, where noise is induced by the particularly low dose.

Planmeca AINO also allows the reduction of exposure values and consequently the radiation dose in all other imaging modes, according to Planmeca.

“... produces extremely high-resolution images with a very small voxel size of only 75 μm...”
Anatomical pin: A clinical case report

By Profs. Frederico dos Reis Goyatá & Orlando Izolani Neto, Brazil

Endodontic treatment of teeth with significant coronal destruction is a very common clinical procedure in the restorative clinical practice. When we are faced with this clinical situation, there will be an eminent need for the use of intra-radicular retainers to obtain greater stability and retention of the restoration to the remaining teeth.[1,2]

The use of an anatomical pin is proposed for the rehabilitation of anterior teeth with extensively compromised root canals and with significant loss of dentine tissue.[3] In this restorative method, in addition to the fibreglass pin, a compound resin is used to model the radicular conduit with the objective of reducing the space that would be filled by the resin cement. In this way, the combination of two restorative materials (pin and compound resin) will serve and behave biomechanically as a replacement of the dentine structure lost.[4]

Anatomical pins have an extremely favourable prognosis in cases of fragile roots due to loss of dentine structure and they contribute significantly to the rehabilitation of the tooth in terms of both restoration function and aesthetics.[5] In addition, the fibreglass pins have a more uniform distribution of tension in the occlusal and radicular regions compared with metal pins.[6] Etching and silanisation of the pins are of the utmost importance for promoting interfacial adherence, especially in the region prepared for the core.[7,8]

This study reports on a clinical case that demonstrates the preparation technique for the anatomical pin, using fibreglass pins and compound resin, in a maxillary central incisor with weakened roots, with the objective of re-establishing the coronal portion of the tooth.

**Case report**
A young male patient came into the integrated dentistry clinic at Universidade Severino Sombra needing restorative treatment of tooth #21. In the clinical and radiographic examination, significant coronal destruction and satisfactory endodontic treatment were noted (Figs. 1–3). Restoration with an anatomical pin was proposed to the patient, in order to recover the function and aesthetics of the tooth and provide for future rehabilitation of the tooth with a full ceramic crown.

First, the decayed tissue was removed from the remaining tooth structure and the fibreglass pin was selected (Exacto # 3, Angelus), as well as the accessory pins (Reforpin, Angelus; Fig. 4). The radicular conduit was isolated with mineral oil and the compound resin was applied (Fill Magic NT Premium, Vigodent/COLTENE) over the remaining tooth with the aid of a #1/2 Suprafill spatula (SS White). After filling of the conduit with resin, the Exacto pin and the pre-silanised accessory pins (Silano, Angelus) were inserted with the application of an adhesive (Fusion-Duralink, Angelus; Figs. 7–9). Next, the initial photoactivation was conducted on the pin and resin for 20 seconds.

Finally, the coronal reconstruction was performed with the previously used compound resin in incremental portions and photoactivation was conducted (Figs. 10 & 11). A marking was made on the most incisal portion of the pins to guide the subsequent cropping of the pins (Fig. 12). The anatomical pin was then removed and the final photoactivation was performed for 40 seconds (Fig. 13). Soon after, the pin was adapted to the remaining coronal structure (Fig. 14).

![Fig. 1](image1.png)
![Fig. 2](image2.png)
![Fig. 3](image3.png)
![Fig. 4](image4.png)

![Fig. 5](image5.png)
![Fig. 6](image6.png)
![Fig. 7](image7.png)
![Fig. 8](image8.png)

![Fig. 9](image9.png)
![Fig. 10](image10.png)
![Fig. 11](image11.png)
![Fig. 12](image12.png)

![Fig. 14](image14.png)
![Fig. 15](image15.png)
![Fig. 16](image16.png)
![Fig. 17](image17.png)

![Fig. 18](image18.png)
![Fig. 19](image19.png)
![Fig. 20](image20.png)
![Fig. 21](image21.png)
After the preparation phase of the anatomical pin and coronal portion of the core with compound resin, preparation for adhesive cementation to the remaining tooth began (Fig. 15). Acid etching of the pin was performed for 30 seconds, and then it was washed and dried. The silane was then applied (Silano) for 20 seconds, as well as the adhesive (Fusion-Duralink) with subsequent photactivation for 20 seconds (Figs. 16–18).

After the anatomical pin had been prepared, acid etching was performed on the remaining tooth for 20 seconds, followed by washing and drying it lightly to leave the dentine moist (Fig. 19). The dentine primer and the adhesive (Fusion-Duralink system) were applied and then photactivated for 20 seconds (Fig. 20).

The cementation was done with auto-polymerisable resin cement, waiting a period of five minutes for the cement to chemically set (Figs. 21 & 22). Once the cementation of the anatomical pin was finished, the adhesive was applied to the coronal portion and photactivated for 20 seconds, and the compound resin was applied in incremental portions for creation of the core (Figs. 23 & 24).

In order to complete the restorative process, the prosthetic preparation of the core was performed for future seating of a full ceramic crown (Fig. 25).

Conclusion
The anatomical pin constituted a clinical alternative for coronal and radicular reconstruction of endodontically treated teeth with significant destruction of dentine. In addition to rehabilitating the tooth, this clinical approach promotes a more balanced distribution of masticatory forces without cement - promising the remaining tooth structure, minimizing the risk of radicular fracture. Moreover, this restorative alternative provides the possibility of an aesthetic result with the use of a metal-free full crown.

Editorial note: A complete list of references is available from the publisher. This article was published in roots – international magazine of endodontology No. 01/2015.

Prof. Frederico dos Reis Goyatá
He is a Level I adjunct professor and co-ordinator of the dentistry programme at Universidade Sórenins Samba in Vassouras in Brazil. He is also co-ordinator of the graduate programmes (improvement and specialisation in prosthetic dentistry) at the Escola de Aperfeiçoamento Profissional (professional development school) of the Associação Brasileira de Odontologia (Brazilian dental association) in Barra Mansa in Brazil.

Prof. Orlando Izolani Neto
He is a professor in the integrated clinic of the dentistry programme at Universidade Sórenins Samba.
Now, everyone in your dental team can SHOOT!

Ultra-Light
SIMPLE Compact
Accurate
Intuitive

SHOFU Smart Digital EyeSpecial C-11
- The only one true dental camera
- 8 automated pre-set dental modes
- Intuitive one-touch operation with built-in anti-shake
- Large LCD touchscreen with on-screen guide
- Fast auto-focusing capability and excellent depth of field
- Water and chemical resistance
- Registration and imprinting of patient ID
- 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 mailbx@shofu.com.sg website www.shofu.com.sg
IPS Style: more beautiful, easier and more comfortable

Ivoclar Vivadent launches a new metal-ceramic system Interview with Martin Frontull and Domenika Diesing, both product managers at Ivoclar Vivadent.

By Ivoclar Vivadent AG

Ivoclar Vivadent is a pioneer in dental ceramics and a global market leader in several product areas. The company has revolutionized the ceramic market over the past decades and created a comprehensive product portfolio. Ivoclar Vivadent has also gained a strong foothold in the field of metal ceramic materials, which have been used as a standard product in dental labs for many years. Although metal-free ceramics of restorations are made of metal-ceramics. Overall, the market figures show a stable global trend for this business segment. All this indicates that metal-ceramics continues to play a relevant role. And will go on to do so in the foreseeable future.

In spite of this, metal-ceramics has seen very little development over the past years. Digital framework manufacturing is increasingly becoming a standard in laboratory procedures, yet the manufacturers of existing metal-ceramic systems that existing systems have never addressed in spite of having been around for 40 years. Examples in this respect are shrinkage and a handling procedure that often is less than straightforward. Another example is esthetics - the number one priority for dental lab work. IPS Style offers improvements in all these aspects.

The basic idea behind IPS Style is to offer users as much freedom as possible in their work - and in their selection of framework materials.

Dental Tribune MEA/CAPPmea: What exactly do you mean by this?

Martin Frontull: IPS Style is compatible with all customary alloys in the indicated CTE range. It is even possible to apply IPS Style without bonding material if a base metal alloy is used. This is an essential feature with regard to compatibility with frameworks that are manufactured using an analog or digital method. It goes without saying that we have also assessed the compatibility of IPS Style with our own alloys. The results have been positive.

Dental Tribune MEA/CAPPmea: What exactly is new or different about IPS Style? What is special about it?

Martin Frontull: IPS Style is the first metal-ceramic material to use patented oxyapatite. Oxyapatite crystals have never been used in a dental ceramic before. This is a world first. Leucite and fluorapatite crystals have largely become established as integral constituents of metal-ceramics. IPS Style complements the known crystals with oxyapatite to create a new ceramic architecture. This imparts the ceramic with tailor-made properties. Leucite controls the expansion and stability of the ceramic. Fluorapatite provides a natural inherent forgiveness, vitality and expression. Oxyapatite crystals fulfill a special function. They have a high capacity for reflecting incident light. This means that they reflect a high amount of light or, the other way round, they do not absorb light. This significantly contributes to the natural visual properties of the restoration and creates a depth effect. Oxyapatite crystals are contained as integral constituents of metal-ceramic materials to use patented oxyapatite.

By varying the content of oxyapatite, the material can be controlled by the manufacturers. The translucency or opacity of the material can be controlled by varying the content of oxyapatite crystals. The material's excellent inherent brightness leads to results that look very natural in their oral setting. They maintain their shade regardless of how many times they are fired.

Optimized shrinkage behaviour and minimized rounding at the edges during firing are further essential aspects that give IPS Style its special edge. Users arrive at the desired result in a short time. The final contours can already be established during the layering procedure before the first firing process. The number of firings is reduced as the need for time-consuming layering procedures, required for corrective firings, is eliminated. The time that the user requires to complete the restoration is reduced accordingly.

Domenika Diesing: In spite of the new combination of crystals, the existing and digitally processed materials have recently been at the focus of public attention, Ivoclar Vivadent is currently introducing a new metal-ceramic: IPS Style. Editor-in-Chief Dan Krammer wanted to find out more about this material. He invited product managers Martin Frontull and Domenika Diesing to a talk with him.

IPS Style: more beautiful, easier and more comfortable

Dental Tribune MEA/CAPPmea: What exactly do you mean by this?

Martin Frontull: IPS Style is compatible with all customary alloys in the indicated CTE range. It is even possible to apply IPS Style without bonding material if a base metal alloy is used. This is an essential feature with regard to compatibility with frameworks that are manufactured using an analog or digital method. It goes without saying that we have also assessed the compatibility of IPS Style with our own alloys. The results have been positive.

Dental Tribune MEA/CAPPmea: What exactly is new or different about IPS Style? What is special about it?

Martin Frontull: IPS Style is the first metal-ceramic material to use patented oxyapatite. Oxyapatite crystals have never been used in a dental ceramic before. This is a world first. Leucite and fluorapatite crystals have largely become established as integral constituents of metal-ceramics. IPS Style complements the known crystals with oxyapatite to create a new ceramic architecture. This imparts the ceramic with tailor-made properties. Leucite controls the expansion and stability of the ceramic. Fluorapatite provides a natural inherent forgiveness, vitality and expression. Oxyapatite crystals fulfill a special function. They have a high capacity for reflecting incident light. This means that they reflect a high amount of light or, the other way round, they do not absorb light. This significantly contributes to the natural visual properties of the restoration and creates a depth effect. Oxyapatite crystals are contained as integral constituents of metal-ceramic materials to use patented oxyapatite.

By varying the content of oxyapatite, the material can be controlled by the manufacturers. The translucency or opacity of the material can be controlled by varying the content of oxyapatite crystals. The material's excellent inherent brightness leads to results that look very natural in their oral setting. They maintain their shade regardless of how many times they are fired.

Optimized shrinkage behaviour and minimized rounding at the edges during firing are further essential aspects that give IPS Style its special edge. Users arrive at the desired result in a short time. The final contours can already be established during the layering procedure before the first firing process. The number of firings is reduced as the need for time-consuming layering procedures, required for corrective firings, is eliminated. The time that the user requires to complete the restoration is reduced accordingly.

Domenika Diesing: In spite of the new combination of crystals, the...
application technique has generally remained the same. The ceramic is used as usual. The materials are easy to contour and offer excellent stability during application. The combination of oxyapatite and fluorapatite crystals, described by my colleague above, imparts the material with its unique optical characteristics. In addition, the system has been designed to offer a large degree of flexibility. It includes components for classic multi-layer techniques and for single-layer techniques. Given the comprehensive selection of materials, IPS Style is a ceramic that offers virtually limitless colour combinations.

Dental Tribune MEA/CAPPmea: Mr Frontull, you said above that IPS Style has been designed with the aim to afford users as much freedom as possible in their work. What do you mean by this?

Martin Frontull: IPS Style does not impose restrictions on users in terms of their preferred working style - all in keeping with our motto "Make it your style!". As mentioned above, the system comprises not only a multitude of materials but also specially designed components for single-layer and multi-layer techniques. This allows users to select those materials from the IPS Style range that match their personal preferences and the given indication. Everything is possible - from fast one-layer applications to highly esthetic layering methods.

Dental Tribune MEA/CAPPmea: What were the special challenges in the development of the new ceramic?

Martin Frontull: The market generally expects to be supplied with innovations, but not in metal-ceramics. Therefore, we had to develop a new product that was so well designed that it would convince users of its benefits straight away when they first see it. Achieving this objective was a challenge. Another task was related to materials science: The effects of the individual constituents of a material cannot always be reliably predicted from the beginning. We had to solve this aspect by carefully approaching the optimum balance. We also had to take into account that the targeted improvement of one property may result in the deterioration of another. Our goal was to take advantage of the benefits of oxyapatite without sacrificing the proven properties of leucite and fluorapatite. In addition, the new metal ceramic should allow low fusing temperatures while exhibiting the top-of-the-range properties of high sintered ceramics. And one more thing: The ceramic had to fit into our existing ceramic concept. In sum, we faced quite a few challenges.

Dental Tribune MEA/CAPPmea: What do technicians need to know before they use IPS Style for the first time?

Martin Frontull: IPS Style is an entirely new material and cannot be compared with existing products. However, the application procedure is the...
same as before. IPS Style can be pro-
cessed in the customary procedure. The
matching powder opaquer, IPS Style Cer- 
amic Powder Opaquer, is easy to apply 
and reliably masks alloy frameworks in 
a single thin coating. The risk for errors is therefore mini-
mized and special training is not re-
quired. The product is easy to handle
and this is true for both the layering
materials and opaquer. IPS Style can be
described best in the following words: more beautiful, easier and more
comfortable.

Dental Tribune MEA/CAPPmea: Who 
is the new metal-ceramic designed for?
Domenika Diesing: For everybody,
from beginner to experienced user.
It is equally suitable for those who

In spite of the fact that metal-ceramics are well known and long established
in the market, they still offer ample scope for optimization. The objective of
how Dr. Veverka has been to realize these optimizations and they have been
incorporated into the new IPS Style.

Dental Tribune MEA/CAPPmea: What do you mean by this? Can you give us more information about IPS Ivocolor?

In spite of the new combination of crystals, the applica-
tion and processing procedure of IPS Style has remained
unchanged. The ceramic materials are handled as before 
and they are easy to shape. They offer considerable stabil-
ity, which is an advantage when applying them.

Fig. 3: The intelligent inLab MC X5 color

card format (98.5 mm) from Dentsply 
Sirona CAD/CAM discs, which is applied consistently to
tools, tool magazine and in the inLab 
CAM software, ensures convenient,
safe processing of discs with the in-
Lab MC X5 laboratory unit.

The inLab MC X5 laboratory unit.

The IPS Style system has been designed with flexibility in mind. It comprises components for both conventional 
and multiple-layer techniques. Users can select those materi-
als that are best suited to their personal preferences and the

Successful Launch of the Dentsply Sirona 
CAD/CAM Disc Line

By Dentsply Sirona

Intelligent CAD/CAM solutions from a single source – Dentsply Sirona CAD/CAM now offers not only the hardware and software for single-source restorations, but the materials as well. The most recent confirmation of this comes from the successful launch of the disc line for the 5-axis inLab MC X5 production

unit. From conventional-sintered zir-
conium oxide to pre-shaded translu-
cent zirconium oxide to transparent
PMMA plastic for surgical guides, the
range of materials ensures high qual-
ity and safety for dental labs.

Bensheim/Salzburg, March 24th, 2016. Dental technicians and inLab MC X5 users all over the world can now use various discs in the stand-

ard format (98.5 mm) from Dentsply
Sirona CAD/CAM. The disc line includes the inCoris ZI disc, a con-
ventional zirconium oxide sintered ceramic for producing frameworks 
or more complex jobs, such as at-
tachments and connecting bars. The
inCoris TCI C disc is just right for those who want pre-shaded, trans-
lucent zirconium oxide. The inCoris
PMMA guide gives labs a transparent
plastic disc for fast and cost ef-
factive in-house production of
surgical guides.

Thus, integrated implant plan-
ing with inLab software SW 15
requires neither a stylus nor a radiographic template to pro-
duce guides. The

The IPS Style system includes not only a wide gamut of 
materials but also special components for single-
and multiple-layer techniques. Users can select those materi-
als that are best suited to their personal preferences and the

The color coding for material classes on the Dentsply Sirona CAD/CAM discs, which is applied consistently to
tools, tool magazine and in the inLab 
CAM software, ensures convenient,
safe processing of discs with the in-
Lab MC X5 laboratory unit.

With the standard format (98.5 
mm), Dentsply Sirona CAD/CAM 
discs can be used not only with the 
inLab MC X5 production unit, but 
with many other production units that are open and suitable for the
disc format as well.

The inCoris PMMA guide, the inCoris
ZI and inCoris TCI C disc - the latter 
two in various heights and colors - are available from specialized deal-
ers. Furthermore, additional discs are being developed, such as the cobalt
chrome sintered metal inCoris CCB.

Visit www.dentsplysirona.com for more information about Dentsply Sirona and its products.

Dentsply Sirona
Sirona Straße 1
5071 Wals bei Salzburg, Austria
T +43 (0) 662 2450-588
www.dentsplysirona.com

In spite of the fact that metal-ceramics are well known and long established
in the market, they still offer ample scope for optimization. The objective of
how Dr. Veverka has been to realize these optimizations and they have been
incorporated into the new IPS Style.

Dental Tribune MEA/CAPPmea: What do you mean by this? Can you give us more information about IPS Ivocolor?

Martin Frontull: IPS Ivocolor is a universal assortment of glazes and

The IPS Style system has been designed with flexibility in mind. It comprises components for both conventional 
and multiple-layer techniques. Users can select those materi-
als that are best suited to their personal preferences and the

indication at hand.

Fig. 3: The intelligent inLab MC XS color 
class concept is also used for Dentsply Si-
rona CAD/CAM discs, tools, tool magazine, and in the inLab CAM software.

Dentsply Sirona
Sirona Straße 1
5071 Wals bei Salzburg, Austria
T +43 (0) 662 2450-588
F +43 (0) 662 2450-540
www.dentsplysirona.com

Dental Tribune MEA/CAPPmea: What conclusions do you draw from this feedback?

Martin Frontull: We have received very positive feedback from our user tests so far. The initial feedback described exactly those points that 
mattered most to us. It confirmed that IPS Style is easy to use, shows low shrinkage and is stable when layered. The esthetic properties have 
been described as outstanding. There is a great interest in this material.

Dental Tribune MEA/CAPPmea: Please describe once again briefly the fea-
tures that make IPS Style so special.

Domenika Diesing: IPS Style combines productivity, product perfor-
mance and esthetics in a single prod-

...and hardly any light is absorbed. This property contrib-
utes significantly to the depth effect of restorations ve-
nered with IPS Style, similar to the depth effect of natural

The IPS Style system has been designed with flexibility in mind. It comprises components for both conventional 
and multiple-layer techniques. Users can select those materi-
als that are best suited to their personal preferences and the

...and hardly any light is absorbed. This property contrib-
utes significantly to the depth effect of restorations ve-
nered with IPS Style, similar to the depth effect of natural

color coding for material classes on the Dentsply Sirona CAD/CAM discs, which is applied consistently to
tools, tool magazine and in the inLab 
CAM software, ensures convenient,
safe processing of discs with the in-
Lab MC X5 laboratory unit.

With the standard format (98.5 
mm), Dentsply Sirona CAD/CAM 
discs can be used not only with the 
inLab MC X5 production unit, but 
with many other production units that are open and suitable for the
disc format as well.

The inCoris PMMA guide, the inCoris
ZI and inCoris TCI C disc - the latter 
two in various heights and colors - are available from specialized deal-
ers. Furthermore, additional discs are being developed, such as the cobalt
chrome sintered metal inCoris CCB.

Visit www.dentsplysirona.com for more information about Dentsply Sirona and its products.

Dentsply Sirona
Sirona Straße 1
5071 Wals bei Salzburg, Austria
T +43 (0) 662 2450-588
F +43 (0) 662 2450-540
www.dentsplysirona.com

Dental Tribune MEA/CAPPmea: Please describe once again briefly the fea-
tures that make IPS Style so special.

Domenika Diesing: IPS Style combines productivity, product perfor-
mance and esthetics in a single prod-

...and hardly any light is absorbed. This property contrib-
utes significantly to the depth effect of restorations ve-
nered with IPS Style, similar to the depth effect of natural

Mesa Dental Alloys: More than 40 Years’ Experience Directly at your Premises

The Italian dental alloys manufacturer is increasing its efforts for its longstanding commitment

By MESA

With over 40 years’ experience and located in Northern Italy, MESA manufactures more than 50 types of CoCr and NiCr based alloys (for PFM, partials/prostheses, crowns & bridges, soldering) and CoCr based discs and bars for CAD/CAM milling.

All products have undergone severe medical tests, comply with ISO standards (ISO 9001: 2008, ISO 13485:2012), are CE-marked and FDA-certified (Operator Number: 10044677).

MESA products are successfully used and distributed throughout the world in comply with the local necessary certifications and authorizations.

Now MESA is committed to work personally with its international partners and is organizing technical trainings on-site. Held by the Senior Dental Technician Daniele Beccalossi with the assistance of dedicated MESA Sales Area Managers, the courses focus on all the main steps to properly use casting alloys in order to obtain the best Porcelain Fuse to Metal results.

Starting from different plaster and resin work solutions for the model preparation, covering all main steps of waxing build-up and pinning, comparing the most used casting methods, explaining the best metal finishing techniques and showing concretely how to proceed with the single steps of porcelain stratification (opaque, dentine, enamel, translucent and stains layers, glazing and finishing), the courses have been met with much success in China, Pakistan, India, Sri Lanka and Cambodia.

In particular the last training held in the Faculty of Dentistry at the International University of Phnom Penh in February 2016 gathered more than 30 participants from 15 different local laboratories.

Daniele Beccalossi praises a long-standing experience as Senior Dental Technician, trainer and demonstrator, having opened his own activity already in 1990 and cooperating as official lecturer for MATCHMAKER CERAMIC by SCHOTTLANDER (UK), GC DENTAL and NORITAKE porcelain (Japan). He has been working with MESA since 2013.

MESA training are not only focused on traditional PFM procedure: during the upcoming 11th edition of DTIM (DENTAL TECHNICIAN INTERNATIONAL MEETING), which will be held in Dubai next May, MESA staff will introduce its CAD/CAM material, CoCr discs and bars.

Mesa has been producing Chrome Cobalt discs for CAD/CAM milling systems for over 10 years. During this period of time, CAD/CAM discs have been supplied in many different materials and shapes, meeting up the continuous changes of the market requirements. At present MESA’s CAD/CAM discs are provided from 6mm up to 30mm height, with 95mm und 98,5mm diameters. Mesa also produces discs on customers’ specifications.

MESA Cobalt Chrome Bars for CAD/CAM processing instead have been specifically designed to the manufacturing of implant abutments. They are available in different Co-Cr based materials, sizes, diameters and lengths. Their specifically designed shape is intended to reduce the milling costs and material scraps typical of discs.
The modern DT&SHOP headquarters

The main messages MESA wishes to communicate through these efforts is its longstanding commitment: the health of the dental technician and the patient.

MESA selects only the best available raw material on the market, carries out severe medical tests (bio-compatibility and corrosion resistance) and guarantees the total absence of any carcinogenic or toxic elements in all of its products, in particular the absence of beryllium. In fact, exposure to beryllium vapor or particles is associated with a number of diseases from contact dermatitis to chronic granulomatous lung disease, this last known as Chronic Beryllium Disease (CBD). Beryllium and some beryllium compounds in vapor and particulate form have been shown to be human carcinogens based on sufficient evidence of carcinogenicity from studies in humans.

Risks from exposure to beryllium result from casting, grinding, polishing and finishing procedures dental laboratory technicians has to be alert.

References
1. American Dental Association (ADA); ADA Positions Policies and Statements: Proper Use of Beryllium Containing-Alloys
2. Occupational Safety & Health Administration (OSHA); Beryllium and Chronic Beryllium Disease

A sneak peek into one of the largest shops for dental laboratories

By Marc Chalupsky, DTI

DT&SHOP, one of the world’s main dental laboratory suppliers, is participating at IDEM Singapore 2016 with a 50 m² booth. Among the many highlights, the company demonstrates its CAD/CAM units and presents the new FINOCAM A5 milling machine for the first time. Dental Tribune Asia Pacific spoke with Eva Maria Roer, CEO of DT&SHOP.

The successful female entrepreneur studied economics in Germany and Canada and is recipient of the Order of Merit of the Federal Republic of Germany, among the country’s highest recognitions.

Dental Tribune: Ms Roer, you have had a long and successful career in dental technology. Why did you decide to work in this segment?
Eva Maria Roer: At first, I just wanted to enter a niche segment. Back in the 1970s, dental technology was not nearly as developed and a relatively small industry. There were no CAD/CAM systems, of course. Today, dental technology is one of the most important and innovative areas within dentistry. The segment has embraced digitisation and used it for the benefit of the patient. The range of crowns, bridges, and partial and complete dentures available is enormous and diverse, as is evident in our shop’s portfolio. In 2003, we had 30,000 products and there are nearly 50,000 items today. The assortment is constantly changing, which means that customer service too has increased throughout the years. At the same time, cheap providers began competing with quality shops like DT&SHOP. However, we responded with courage, determination, perseverance, joy and creativity to achieve our current market position, of which I am most proud.

DT&SHOP is now among the world’s largest service providers and distributors of dental technology. What have been the most important international milestones since the company’s establishment in 1978?
In 1978, we established DT&SHOP with less than US$2,000. We introduced catalogues, then a revolution in the distribution of dental technology. We also attached great importance to equality between women and men and to a high level of customer advisory services. We always intended to develop into a major shop and have pursued this plan without deviating internationally. The German-speaking region was initially important for us. In 1991, we introduced the shop in Switzerland and Austria. With the Maas- tricht Treaty and the founding of the European Union in 1993, we added France, the Netherlands, the UK and Denmark. Today, we export to about 100 countries, have our own subsidiaries and associates in 15 countries, and communicate in many languages. Our customer service is mainly provided from Germany.

In Asia, there are already quite a number of dealers in dental laboratory products. What distinguishes DT&SHOP from these companies?
What services and products can you offer for this region?

Both nationally and internationally, we are a very proficient partner in dental technology. Dental laboratories need distributors that can offer the complete range of dental technology. This is difficult for smaller traders. We can support laboratories with our expertise and sales network. Our service is fast, our range attractively priced and our team consistently competent – with regard to our full assortment including our own brand FINO.

Our head office is in Germany, from where we run our global operations. Every one of our customers, no matter where in the world, experiences our commitment every day. Our employees are specialists and always advise on the latest CAD/CAM technologies and systems. With FINO Digital, we offer comprehensive CAD/CAM systems for laboratories.

Our logistics and shipping centre stands out too owing to its many advantages. All orders are processed promptly owing to an innovative enterprise resource planning system. We have the most comprehensive product range in the segment, and offer a stock availability of over 95 per cent. Most orders are dispatched the same day and quickly reach our customers in Asia. Also, orders are packaged safely using environmentally friendly materials.

Moreover, I am proud of our customer service. Our employees are very competent and speak more than ten languages. We place significant importance on providing expert advice to our clients. Our customers in Asia Pacific value this service very much.

In which countries of the Asian region do you see particular growth potential for your products and services?

I first travelled to Asia in 1992 and have made several trips back to the continent since 1994. In China, there are import barriers, but the market is huge and remains very appealing. In alphabetical order, I consider Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Vietnam to hold good business opportunities.

Thank you very much for the interview.

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

INLABMCX5.COM

The Dental Company

Sirona
Dental Technician Int’l Meeting
6-7 May 2016

Joint meeting with
11th CAD/CAM & Digital Dentistry Int’l Conference

The Art of Craftsmanship

Jumeirah Beach Hotel, Dubai, UAE
By AAID

The American Academy of Implant Dentistry founded in 1991 is the first professional organization in the world dedicated to Implant Dentistry. Its members include general dentists, Oral and Maxillofacial Surgeons, Prosthodontists and others interested in the field of Implant Dentistry. The Academy continues to expand the opportunities for dentists to obtain comprehensive, non-biased curriculum in their scope of practice. The recent launch of the MaxiCourse in Japan after approval brings to the number of MaxiCourses offered around the world. The First Annual AAID MaxiCourse in UAE was offered in 2009 in Abu Dhabi and to date 90 diplomats and Consultants, Specialists and general dental practitioners have graduated from the Program. Currently the AAID Program is in its Eighth Year. The Program consists of 5 modules and each Module is of 6 days with a didactic and Clinical Component with in depth review of surgical and prosthetic protocols based on scientific and evidence based practice. It is a non-commercial, non-sponsored course covering a wide spectrum of implant types and systems. The Eighth Annual Program was accredited by the Health Authority of Abu Dhabi for 2023 CME hours.

MaxiCourses are the preferred means for a doctor to obtain comprehensive foundation in Implant Dentistry says Dr. Robert Schroering, Chair of AAID’s MaxiCourse subcommittee of the Academy’s Education Oversight Committee during his recent visit to the UAE as one of the speakers of Module 5 of the MaxiCourse in Abu Dhabi. The Faculty of the Program, all credentialed by the American Board include Drs. Shankar Iyer (Co-Director), Jaime Lozada, Robert Miller, Alfred Dust, Tatsuya Yuyama, William Locante, Natalie Wong, Stuart Otten Jones, Irfan Kanchwala, Mathew Kattadiyil, Frank Lam, Robert Schering, Amit Vohra, said Dr. Ninette Banday who is the co-Director of the Program in the UAE and also an instructor in the Program. These Top Speakers discuss a broad range of interesting topics that all experience levels can benefit with scientific support. The Program moves from the basics to the advanced level and so in Module 1 all participants review the Anatomy, basic surfacing skills, flap designs along with placing implants on artiﬁcial jaws. This prepares them for and sets the basis for the subsequent clinical sessions where the participants work under direct supervision of the instructors on patients. The ninth batch scheduled to start from August 30th 2016 will allow the participants to place 10 implants as part of the Program. The participants therefore get an opportunity for discussion of actual problems and to ﬁnd solutions which they can apply in their clinical practices. Adding the supervised Clinical sessions both surgical and restorative has further elevated the level of the Program. All the expertise developed in turn beneﬁts the patients the dentists serves.

The Program fulﬁlls the educational requirements for the Examination for Associate Fellow Membership Examination for the American Academy of Implant Dentistry. In several parts of the world the Associate Fellowship or Fellowship of the AAID is an acknowledged credential that represents quality training in Implantology and skills in the Art and Science of Implant Dentistry. To obtain these credentials our participants have to take the AAID examinations which involves a written Examination – the Part 1 and an Oral/Case Examination which is clinically oriented, the Part 2. The Part 1 the written part can be taken at several Prometric Centers in Abu Dhabi and Al Ain and also in other centers in the Middle East Region. For the Part 2, previously participants had to travel to Chicago, but now since last two years they can take it in Dubai and the next Part 2 Examination is scheduled in May 2016. The Faculty are now working to start an advanced Bone grafting and a Soft tissue Management Course that is scheduled to start from August 2016 to further the clinical skills of the MaxiCourse alumni.

The AAID Foundation also awards Research Grants to help members continue dental implant specific research work. Recently $62,000 was awarded to three researchers that brings the amount awarded by the Foundation to over $700,000 over the past few years since the inception of the Endowment Fund.

The AAID is making every effort to make implant education more accessible and beneﬁcial to the participants ensuring comprehensive training programs in implant dentistry. For the MaxiCourse Asia additional information can be obtained online at www.maxicourseasia.com or by emailing Dr. Ninette Banday at dmibanday@yahoo.com.

A UNIQUE OPPORTUNITY DENTAL IMPLANTOLOGY
In Fulfillment of the Educational Requirement for the Examination for Associate Fellow Membership for the American Academy

The AAID is attending 11th CAD/CAM & Digital Int’l Conference and 8th Dental Facial Cosmetic Int’l Conference

Pre-Registration is Mandatory as it is a Limited Participation Program.
For further information and registration details visit website: www.maxicourseasia.com or e-mail Dr. Ninette Banday at dmibanday@yahoo.com

Participants are required to do rigorous hands on session on models, surgical and lamb jaw in Module 1 before the clinical sessions in Modules 2, 3, 4 & 5

The Ninth Annual American Academy of Implant Dentistry MaxiCourse®- UAE 2016 – 2017 Starts August 30

MaxiCourse® Advantage:
- Discussion of actual problems and to find solutions which they can apply in their clinical practices.
- Comprehensive, non-biased curriculum in their scope of practice.
- Accredited by the Health Authority of Abu Dhabi for 2023 CME hours.

MaxiCourse®- UAE 2016 – 2017

Module 1: August 30th- September 4th 2016
Module 2: November 3rd – 8th 2016
Module 3: February 27th – 2nd March 2017
Module 4: April 23rd – May 13th 2017
Module 5: Dates to be announced

Registration:
Pre-Registration is Mandatory as it is a Limited Participation Program.
For further information and registration details visit website: www.maxicourseasia.com or e-mail Dr. Ninette Banday, Coordinator AAID-MaxiCourse UAE at dmibanday@yahoo.com.
Treatment of Peri-Implantitis with the Picasso Diode Laser

A long-term follow-up after debridement and grafting

By Gregori M. Kurtzman, DDS, MAGD, Markus Weitz, DDS, Ron Kaminer, DDS, Daniel D. Gober, DDS

The prevalence of peri-implant complications is rising significantly as implant treatment increases. Periodontal disease associated with implants can range from gingival inflammation in the absence of bone loss to significant bone loss and mobility of the fixture. The latter can occur when the disease process is not identified early in the process or a “watch and wait” attitude is taken.

Figure 5: Periapical radiograph taken margin.

Figure 1. Fistula present at the distal of the maxillary right canine drilling on the buccal of the upper right canine. The fistula was located distal to the canine midline in close proximity to the gingival margin (Figure 6). A gutta-percha cone was inserted into the fistula to trace the orifice point of the draining infection and a radiograph was taken. It was determined that the fistula traced to the apical of the implant situated at site No. 6. Implants had been placed and restored for teeth Nos. 3 through 7 several years previously. The implant was identified as a Brånemark Mark III RP (Nobel Biocare, www.nobelbiocare.com) at site Nos. 4 through 6, and a NobelReplace (Nobel Biocare) at site No. 7. A radiograph was taken to evaluate the underlying osseous structure around the implant, which demonstrated radiolucency associated with the apical of implant No. 6 and minimal buccal bone loss with thread exposure under the soft tissue on implant No. 7. Clinically, no recession was noted and no implant mobility was detected.

Case Presentation

A 64-year-old male patient presented in June 2010 with a fistula draining on the buccal of the upper right canine. The fistula was noted down the entire length to the apical. A gutta-percha cone was inserted into the fistula to trace the orifice point of the draining infection and a radiograph was taken. It was determined that the fistula traced to the apical of the implant situated at site No. 6. Implants had been placed and restored for teeth Nos. 3 through 7 several years previously. The implant was identified as a Brånemark Mark III RP (Nobel Biocare, www.nobelbiocare.com) at site Nos. 4 through 6, and a NobelReplace (Nobel Biocare) at site No. 7. A radiograph was taken to evaluate the underlying osseous structure around the implant, which demonstrated radiolucency associated with the apical of implant No. 6 and minimal buccal bone loss with thread exposure under the soft tissue.

Figure 5: Periapical radiograph taken margin.

Figure 2. Initial radiographic presentation demonstrating a large radiolucency around the apical half of the implant at site No. 6. Figure 3: Following a full-thickness flap and removal of the granulation tissue with the Picasso diode laser, a lack of buccal bone is noted down the entire length to the apical. Figure 4. Osseous graft material was placed into the defect that had been cleaned with the Picasso diode laser and built out to the proper contour for the buccal plate.

The patient was informed of the gingival issues and the available options, including removal of the ailing implant, grafting the site, and placing and restoring a new implant after an appropriate healing period. The other option would be elevating a flap, cleaning out any granulation tissue, and treating the site with a diode laser and graft to replace any lost bone.

He was also informed that the latter option meant that the site would need to be evaluated once entered and there was a possibility that the implant would need to be explanted should it exhibit mobility following debridement. The patient chose peri-implantitis repair.

Prophylactic antibiotics (0.5 g amoxicillin) were given orally 1 hour prior to the initiation of treatment. A local anesthetic (Septodont, www.septodont.com) was administered for local anesthesia on the buccal and palatal of the treatment area. A horizontal incision was made from the distal of the first premolar to the mesial of the lateral incisor several millimeters apical to the gingival margin to limit post-treatment recession potential. A vertical releasing incision was made at the mesial and distal aspect of the horizontal incision and a full-thickness flap was elevated.

When flap elevation was complete, a flap was elevated to the apical of the implant. Additionally, some dehiscence was noted on the buccal of implant No. 5 with threads minimally covered with bone over the apical half of the implant.

Site No. 7 presented with 35% to 50% of the threads circumferentially denuded of bone with complete soft tissue coverage.

A hand instrument was utilized to remove any gross granulation tissue adherent to the bone and exposed implant threads (Figure 5).

An activated 300-μm diode tip on the Picasso laser (JADE Lasers, www.jadelasers.com) set at 15 W in continuous mode was used to remove any residual granulation tissue on the exposed threads at the defect and sterilize the defect area.14 The diode’s fiber tip was placed into a physical contact with the implant surface to remove any residual granulation tissue and sterilize the area of any bacteria that contributed to the peri-implantitis, leaving clean threads.

Following debridement and sterilization, several points in the osseous walls were created.

Geistlich BioOss® (Geistlich Pharma North America Inc., www.geistlich-usa.com), a bovine bioocompatible porous bone mineral substrate, was packed into the defect around the implant and allowed to absorb blood from the surrounding tissue to form a coagulated mass.

The bone graft was built out buccally to create a new buccal plate covering the entire implant below the crestal level (Figure 7). A piece of resorbable membrane (Os鑫® Plus, OraPharma, Inc, www.orapharma.com) was trimmed to overlap the osseous graft and end on native bone and was placed over the graft under the flap. The flap was repositioned and secured with nine interrupted sutures using 3-0 to achieve primary closure. A radiograph was taken to document the bone fill of the osseous graft (Figure 8). Hemostasis was confirmed and the patient dismissed. A prescription for 240 mg (Merck & Co, Inc, www.merck.com) was given with the instructions to use as directed until finished. Additionally, a prescription was given for DoloKid® (Merck & Co, Inc, www.merck.com) 500 mg for pain to be taken twice daily for the initial 3 days post-surgically. The patient returned after 1 week for suture removal and indicated no significant postoperative discomfort. The site appeared to be healing normally and he was ap- pointed for a follow-up to check healing. At the next postoperative visit, the site appeared healed with a lack of inflammation and the patient was placed on periodontal recall alterna- tive with his general dentist office.

At 5 years post peri-implantitis treatment, cone-beam computed tomography (CBCT) was used to evaluate the long-term status of the repaired area. The cross-section view at the right maxillary canine demonstrated that the grafted buccal plate remained at the position completely covering the implant with no sign of further infection noted (Figures 6 and 7). A periapical radiograph confirmed osseointegration (Figure 8).

Discussion

Managing peri-implantitis can be a challenge. As this case illustrates, bone loss may be progressing for an extended period of time before the clinician becomes aware of it. Treatment requires a surgical approach to remove any subgingival tissue that has replaced bone overlaying the implant to achieve any success.

The benefit of the Picasso diode laser is the fiber can be extended into hard-to-reach areas around the implant to achieve better sterilization and debridement without the need to remove additional bone for access, which would be necessary if only de- bridement with surgical hand instru- ments was utilized.

Traditional methods have re- ported mixed results in removing all of the granulation tissue from the exposed implant threads without altering or gouging the implant’s surface or coating. A pulsed Er:YAG laser has also been reported to cause implant surface alteration.

Scanning electron microscope analysis has demonstrated no dam-
age or alteration of titanium surfaces from a diode laser, regardless of the power setting. No visible difference between lasered and non-lased titanium surfaces after irradiation has been reported, ensuring that the result yields the best surface guided tissue regeneration compared to either mechanical debridement or a Er:YAG laser.

Success in peri-implantitis treatment is strongly linked to the ability to eliminate the bacteria in the site that could hamper regeneration. This becomes more critical with implants that have been surface treated. Treated implant surfaces exhibit micro roughness that are advantageous for initial integration, but also will harbor bacteria when peri-implantitis has occurred. Removal of bacteria in these micro irregularities is difficult by mechanical means.

The diode laser has the ability to decontaminate the exposed surface and threads without any negative effects.

**Conclusion**

The key to successful peri-implantitis treatment is early identification to limit bone loss from inflammation and infection. The diode laser is a powerful adjunct to treating periimplantitis, allowing better access to eliminate more granulation tissue than when only mechanical means are utilized. This case demonstrates that the protocol can provide long-term predictable results showing 5-year maintenance of the grafted area and an absence of inflammation over that time.

**Acknowledgement**

Treatment for the case presented was performed by Dr. Markus Weitz.

**References**

1. Authors, the reviewer requested an additional reference for this statement. Can you please provide one?


3. Authors, the reviewer requested an additional reference for this statement. Can you please provide one? Perhaps Dörtbudak O?

The full list of references is available from the publisher.

**Multidisciplinary approach**
Six days of lectures and continuing education in dentistry

By Dental Tribune MEA/CAPPmea

Dubai, UAE: From 4 to 9 May 2016, the Centre for Advanced Professional Practices (CAPP) will be hosting its 11th annual CAD/CAM and Digital Dentistry International Conference, which will be held on 6 and 7 May at the symbolic Jumeirah Beach Hotel in Dubai. In addition, the Dental Technician International Meeting will take place parallel to the conference.

About the conference

The 11th CAD/CAM and Digital Dentistry International Conference is a two-day event targeted at addressing the business and educational needs of independent dental professionals. Prior to and after the conference, hands-on courses on various multidisciplinary topics will be available.

Participants will have the opportunity to meet other dental professionals from all over the world during educational sessions led by industry experts and earn continuing education credits. Furthermore, attendees will have face-to-face business opportunities with representatives of leading dental manufacturers at the dental exhibition at Jumeirah Beach Hotel.

The conference features

- Accredited scientific dental education sessions focused on digital and aesthetic dentistry
- Accredited scientific digital technology education sessions for dental technicians
- Pre- and post-conference hands-on courses by industry experts on multidisciplinary topics
- Poster presentations
- Extensive exhibition focused on the latest digital and esthetic dentistry technologies
- Educational sessions with industry experts
- Face-to-face appointments with suppliers of your choice
- Networking opportunities with industry peers and supplier representatives
- Unparalleled social programme.

Scientific programme

This year’s scientific programme once again features prominent international speakers, including: Prof. Jan-Frederik Guth, Germany Dr. Michael Dieter, Switzerland Dr. Çağlı Tökoğlu, Turkey Prof. Jihad Abdallah, Lebanon Dr. Marijoe Besek, Switzerland Mr. Yaraí Kaufmann-Insson, CDT, Switzerland Michele Temperani, CDT, Italy Dr. Matteo Beretta, Italy Dr. Nunzio Cirrilli, Italy Dr. Guillaume Jourdan, France Dr. Jan Paulsen, Denmark Dr. H.Q. Quevri, UK Prof. Paul Tipton, UK Dr. Kiril Dimov, Bulgaria Dr. Eduardo Maheu, Chile Assoc. Prof. Joseph Sabbagh, Lebanon Dr. Mazin Sibawi, UAE Aiham Farah, CDT, Syria John Philipp, Canada Yamen Chaban, TSS, CDT, Germany Maffei Simone, Italy Dr. Munir Silwadi, UAE Dr. Tif Qureshi, UK Assoc. Prof. Joseph Sabbagh, Lebanon Christopher Adams, Denmark Clemens Schwerin, MIT Germany. Dental Technician International Meeting

The Dental Technicians International Meeting has arisen from CAPP’s Dental Technician Sessions over the last eight years. These were targeted not only at dental laboratory owners and dental technicians, but also at the entire dental technology profession The Dental Technician International Meeting will cover the latest groundbreaking topics focused on the needs of the dental technology profession. The meeting will be held on 6 and 7 May at the Meydan Auditorium in the Jumeirah Beach Hotel conference centre. Over 200 dental technicians, clinical dental technicians, laboratory owners and other visitors are expected to attend.

The DTIM will combine invigorating sessions with cases, debates, discussions and various hands-on opportunities. The two-day scientific programme includes world renowned dental technician speakers such as Michele Temperani, CDT (Italy), Varik Kaufmann-Insson, CDT (Switzerland), Yamen Chaban, TSS, CDT (Germany), John Philipp (Canada), Maffei Simone (Italy) and Aiham Farah, CDT (Syria). Participants will become energized by new knowledge and insight that will have an immediate impact on their work in the lab. The meeting will further serve as a networking bridge between dental technicians, dentists and dental industry creating interesting debates on clinical cases and the pros and cons of the latest dental technologies available.

Round Table Clinic Trainings will be hosted by the sponsors and the industry’s most respected speakers. Regardless of specialisation, the participants will enjoy and learn during the trainings. They will have a chance to attend numerous presentations split in smaller groups, having a chance to ask questions immediately and receive personal treatment from the presenters.

Who should attend?

Over 2,000 international participants interested in the fields of digital dental technologies are expected to attend the CAD/CAM and Digital Dentistry Conference in order to learn more about digital dentistry, minimally invasive treatments, digital esthetic approaches, digital smile design and clinical experience. Interaction with industry partners will be one of the greatest benefits of the Dubai conference. The substantial opportunities for networking are aimed at bridging the gap between clinical knowledge and technical industry experience in the field of dentistry.

Participants can already take advantage of the early bird registration and special room rates at the exclusive Jumeirah Beach Hotel. Further information is available at www.cappmea.com/cadcam11 and www.cappmea.com/dtim.

CAPPmea
Mobile: +971 50 2793711
Telephone: +971 4 3684883
FAX: +971 4 3684883
E-mail: events@cappmea.com
Web: www.cappmea.com
**11th CAD/CAM & Digital Dentistry Int’l Conference**

**FRIDAY 06 MAY 2016 | GROUND FLOOR - MAIN CONFERENCE ROOM**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>BREAKFAST WITH THE SPONSORS</td>
</tr>
<tr>
<td>09:00 - 09:45</td>
<td>Prof. Jan-Frederik Gith, Germany</td>
</tr>
<tr>
<td>09:45 - 10:30</td>
<td>Asst. Prof. Dr. Cagdas Kisaoglu, Turkey</td>
</tr>
<tr>
<td>10:30 - 10:45</td>
<td>MEET THE SPONSORS</td>
</tr>
<tr>
<td>10:45 - 11:30</td>
<td>Dr. Michael Dieter, Switzerland</td>
</tr>
<tr>
<td>11:30 - 12:15</td>
<td>Dr. Tif Qureshi, IAA, UK</td>
</tr>
<tr>
<td>12:15 - 14:00</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:00 - 14:45</td>
<td>Dr. Jan Paulics, Denmark</td>
</tr>
<tr>
<td>14:45 - 15:30</td>
<td>Dr. Mario J. Besek, Switzerland</td>
</tr>
<tr>
<td>15:30 - 16:15</td>
<td>Vanik Kaufmann-Jinoian, CDT, Switzerland</td>
</tr>
<tr>
<td>16:15 - 17:00</td>
<td>Dr. Kird Dinos, Bulgaria</td>
</tr>
<tr>
<td>17:00 - 17:45</td>
<td>Dr. Eduardo Malan, Chile</td>
</tr>
<tr>
<td>17:45 - 18:00</td>
<td>DISCUSSIONS WITH THE SPEAKERS</td>
</tr>
</tbody>
</table>

**SATURDAY 07 MAY 2016 | GROUND FLOOR - MAIN CONFERENCE ROOM**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>BREAKFAST WITH THE SPONSORS</td>
</tr>
<tr>
<td>09:00 - 09:45</td>
<td>Vanik Kaufmann-Jinoian, CDT, Switzerland</td>
</tr>
<tr>
<td>09:45 - 10:30</td>
<td>Dr. Guillaume Jouamy, France</td>
</tr>
<tr>
<td>10:30 - 11:15</td>
<td>Dr. Michael Dieter, Switzerland</td>
</tr>
<tr>
<td>11:15 - 11:30</td>
<td>MEET THE SPONSORS</td>
</tr>
<tr>
<td>11:30 - 12:15</td>
<td>Asst. Prof. Dr. Cagdas Kisaoglu, Turkey</td>
</tr>
<tr>
<td>12:15 - 13:00</td>
<td>Prof. Jihad Abdallah, Lebanon</td>
</tr>
<tr>
<td>13:00 - 14:15</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:30 - 15:15</td>
<td>Dr. Nuzzio Carulli &amp; Dr. Matteo Benetta, Italy</td>
</tr>
<tr>
<td>15:00 - 15:45</td>
<td>Dr. Jan Paulics, Denmark</td>
</tr>
<tr>
<td>15:45 - 16:30</td>
<td>Assoc. Prof. Joseph Sabbath, Lebanon</td>
</tr>
<tr>
<td>16:30 - 17:15</td>
<td>DISCUSSIONS WITH THE SPEAKERS</td>
</tr>
</tbody>
</table>

**Dental Technician Int’l Meeting**

**FRIDAY 06 MAY 2016 | FIRST FLOOR - MEYANA AUDITORIUM**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>BREAKFAST WITH THE SPONSORS</td>
</tr>
<tr>
<td>09:00 - 09:40</td>
<td>Yamen Chaban, TSS, CDT, Germany</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td>Christopher Adamou, Denmark</td>
</tr>
<tr>
<td>10:20 - 10:40</td>
<td>MEET THE SPONSORS</td>
</tr>
<tr>
<td>10:40 - 11:20</td>
<td>Michele Temporani, CDT, Italy</td>
</tr>
<tr>
<td>11:20 - 12:00</td>
<td>Alham Farih, CDT, Italy</td>
</tr>
<tr>
<td>12:00 - 12:15</td>
<td>DISCUSSIONS WITH THE SPEAKERS</td>
</tr>
<tr>
<td>12:15 - 14:00</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:00 - 14:40</td>
<td>John Philipp, Canada</td>
</tr>
<tr>
<td>14:40 - 15:20</td>
<td>Alham Farih, CDT, Syria</td>
</tr>
<tr>
<td>15:20 - 16:00</td>
<td>Michele Temporani, CDT, Italy</td>
</tr>
<tr>
<td>16:00 - 16:45</td>
<td>PANNEL DISCUSSIONS WITH ALL THE SPEAKERS ON STAGE</td>
</tr>
<tr>
<td>16:45 - 18:00</td>
<td>FREE ACCESS TO THE MAIN EXHIBITION (GROUND FLOOR)</td>
</tr>
</tbody>
</table>

**SATURDAY 07 MAY 2016 | FIRST FLOOR - MEYANA AUDITORIUM**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>BREAKFAST WITH THE SPONSORS</td>
</tr>
<tr>
<td>09:00 - 09:40</td>
<td>Clemens Schwerin, MDT, Germany</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td>Matteo Simone, Italy</td>
</tr>
<tr>
<td>10:20 - 11:00</td>
<td>Vanik Kaufmann-Jinoian, CDT, Switzerland</td>
</tr>
<tr>
<td>11:00 - 11:30</td>
<td>PANNEL DISCUSSIONS WITH ALL THE SPEAKERS ON STAGE</td>
</tr>
<tr>
<td>11:30 - 12:00</td>
<td>FREE ACCESS TO THE MAIN EXHIBITION</td>
</tr>
<tr>
<td>12:00 - 13:30</td>
<td>LUNCH</td>
</tr>
</tbody>
</table>

**ROUND TABLE CLINIC TRAININGS** (Company Demonstration)

- **TABLE 1 DEUGENT**
  - SESSION A 13:30 - 14:45
  - SESSION B 15:00 - 16:15
  - SESSION C 16:30 - 17:45

- **TABLE 2 MESA ITALIA**
  - SESSION A 13:30 - 14:45
  - SESSION B 15:00 - 16:15
  - SESSION C 16:30 - 17:45

- **TABLE 3 ZIRKONZAHN**
  - SESSION A 13:30 - 14:45
  - SESSION B 15:00 - 16:15
  - SESSION C 16:30 - 17:45

- **TABLE 4 SSHAPE**
  - SESSION A 13:30 - 14:45
  - SESSION B 15:00 - 16:15
  - SESSION C 16:30 - 17:45

- **TABLE 5 GC**
  - SESSION A 13:30 - 14:45
  - SESSION B 15:00 - 16:15
  - SESSION C 16:30 - 17:45

**ROUND TABLE CLINIC TRAININGS** – 5 table clinics will operate simultaneously on 07 May from 13:30 - 18:00 with a rotation of three groups for each table. The trainings will be held in small groups (10 seats available per session) in order to have the highest impact. Outstanding Dental Technicians will present various topics of great interest to the dental technicians. Participants will have the opportunity to interact immediately and ask their personal questions of interest. The practical demonstrations will, at the same time, provide inspiration and offer means of trouble shooting.
### HANDS-ON COURSES

**Wednesday / 04 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Veneers Vs Crowns: the Challenge in Smile Design</td>
</tr>
</tbody>
</table>

**Thursday / 05 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Munir Silwadi, UAE</td>
<td>Indirect Veneers</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Direct Veneers: the Shades Dilemma</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Prof. Paul Tipton, UK</td>
<td>Veneers, Bonded Crowns and Bridge Design</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Yemen Chaban, TSS, CDT Germany</td>
<td>Cercon TCT (True Color Technology) - Individual and Standard Approach to Fast and Esthetic Zirconium Restorations</td>
</tr>
</tbody>
</table>

**Friday / 06 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Non-Prep-Veneers and Modified Non-Prep-Veneers</td>
</tr>
</tbody>
</table>

**Saturday / 07 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Prof. Paul Tipton, UK</td>
<td>Veneers, Bonded Crowns and Bridge Design</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Modern Preparation and Cementation for Inlays, Onlays and Occlusal Veneers</td>
</tr>
<tr>
<td>11:30 - 18:30</td>
<td>Dr. Guillaume Jouanny, France</td>
<td>Bioceramic Materials in Endodontology</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>John Philipp, Canada</td>
<td>Design needs good software</td>
</tr>
</tbody>
</table>

**Sunday / 08 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Tif Qureshi, IA, UK</td>
<td>The New Concept of Alignment, Bleaching and Bonding (Inman Aligner) - CERTIFICATION</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Munir Silwadi, UAE</td>
<td>Indirect Inlays, Onlays &amp; Partial Crowns</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Advanced Anterior Composite (Direct Veneer and Diastema Closure)</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Michele Temperani, CDT, Italy</td>
<td>Master in metal-free IPS e.max® lithium disilicate</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Non-Prep-Veneers and Modified Non-Prep-Veneers</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Michele Temperani, CDT, Italy</td>
<td>Master in metal-free IPS e.max® lithium disilicate</td>
</tr>
</tbody>
</table>

**Monday / 09 May 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Instructor</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>Dr. Eduardo Mahn, Chile</td>
<td>Advanced Anterior Composite (Direct Veneer and Diastema Closure)</td>
</tr>
<tr>
<td>09:00 - 18:00</td>
<td>Michele Temperani, CDT, Italy</td>
<td>Master in metal-free IPS e.max® lithium disilicate</td>
</tr>
</tbody>
</table>
Planmeca Romexis® is the only dental software platform in the world to combine CAD/CAM work and all imaging data. Take advantage the software’s advanced specialist tools and create a new standard of care for patients.

Find more info and your local dealer
www.planmeca.com