Study finds varying disinfection protocols of endodontists & GPs

By DTI

MAJOROS, Spain: A team of researchers from the department of endodontics at Universidade Rey Juan Carlos in Madrid has conducted a study to determine whether there are differences in the disinfection protocols of endodontists and general dentists. The scientists found that endodontists are more likely to keep up to date with protocols published in the literature, whereas general dentists rely on protocols learnt during their dental training.

The study authors sent out an invitation to participate in an online survey to 950 dentists affiliated with the Spanish board of dentistry. The survey consisted of nine questions regarding irrigation and disinfection during root canal therapy. It was completed and submitted by 238 (25.05 per cent) of those invited, divided equally between general dentists and endodontists.

The researchers found no statistically significant differences in the respondents’ first choice of an irrigant solution: sodium hypochlorite. However, they noted the findings showed that general dentists and endodontists follow different and sometimes inadequate disinfection protocols.

ICOI World Congress in Berlin

For more than three decades, the International Congress of Oral Implantologists (ICOI) has drawn dental professionals to various places around the globe each year. This year, the ICOI World Congress will be held in the German capital Berlin from 15 to 17 October.

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Better have breakfast

A study in Japan has found that skipping breakfast equally contributes to the development of bad breath as insufficient tongue hygiene. It recommended to advocate proper tongue coating management together with other healthy lifestyle behaviours, and having breakfast in particular, in adolescents’ health education.

3-D printed MJ implant

In collaboration with medical engineers, oral and maxillofacial surgeons at the University of Melbourne have recently implanted a temporary mandibular joint prosthesis in a young man suffering from a rare congenital jaw deformity. This is the first time a custom-made mandibular joint replacement using 3D printing technology has been performed in Australia.

The patient, Richard Stratton, was born with condylar aplasia, a developmental defect of the mandibular condyle. He was missing a temporary mandibular joint, which resulted in a lack of growth in the left side of his face and a noticeably skew mandible. The conditional also affected jaw motion, chewing capacity and facial aesthetics.

Stratton’s jaw was surgically reconstructed with a new titanium prosthesis. According to the university surgeons, the biomechanical and clinical results look promising. They believe that this technology will help facilitate the research and manufacture of customised high-tech implantable devices in Australia.
statistically significant differences in the protocols used by general dentists and by endodontists in relation to various factors.

These factors included the concentration of sodium hypochlo-rite, the use and type of irrigant applied to remove the smear layer, the use of adjuncts to irrigation, the enlargement of the apical preparation when shaping a necrotic tooth, and the maintenance of apical patency throughout the debridement and shaping procedure.

The study’s findings showed that general dentists and endodontists follow different and sometimes inadequate disinfection protocols. “The results of the survey demonstrated that endodontists keep up to date with protocols published in the literature, whereas general dentists use protocols learnt during their dental training. Both groups of clinicians should be aware of the importance of disinfection techniques and their relationship to treatment outcomes,” the researchers stated.

They pointed out that controlling micro-organisms during root canal treatment—especially in cases with necrotic pulp—is essential to improve treatment outcomes. “Clinicians should update their protocols and also consider referring patients to a specialist when their protocols are based on traditional techniques, especially in those cases with necrotic pulp,” they concluded.

The study, titled “Differences in disinfection protocols for root canal treatments between general dentists and endodontists”, was published in the July issue of the Journal of the American Dental Association.
Bio-Emulation movement continues to grow

By DTI

BERLIN, Germany: On 4 and 5 July, the 2015 Bio-Emulation Colloquium was held in Berlin in Germany. The event, which was organised by the Dental Tribune International team in close collaboration with the Bio-Emulation Group, attracted more than twice the number of participants compared with last year. Overall, more than 300 dentists and dental technicians attended the extensive programme on biomimetics in dentistry, including 16 lectures and 13 workshops.

After the successful première of the Bio-Emulation Colloquium last year in Santorini in Greece, this year’s meeting was held under the theme “Bio-Emulation Colloquium 360°”. Key opinion leaders in adhesive and restorative dentistry educated the participants on methods and techniques to achieve high aesthetic standards and emulate nature using a histotaxonomic approach.

During the sessions, particularly the workshops, attendees had the opportunity to learn more about the mechanical and optical properties of natural teeth and gain knowledge on using existing techniques and materials. A considerable number of workshops were fully booked; for instance, Dr Pascal Magne’s session on dental morphology function and aesthetics was among the most requested.

Over 95 per cent of attendees who took part in a representative evaluation survey said that they would definitely recommend the event to others. They were most satisfied with the choice of speakers and topics in particular.

Many of the participants took advantage of the networking opportunities offered on the two evenings of the meeting. Each day, about 200 people attended the social events.

This year’s colloquium was held at the European School of Management and Technology, a historical site in the centre of Berlin, next to the office of the German Ministry of Foreign Affairs. The building, which has landmark status today, was once the state council building of the former German Democratic Republic. After a lavish refurbishment in 2004 and 2005, it was transformed into the current private business school.

GC Europe was the main sponsor and SHOFU was the official partner. In addition, the colloquium was sponsored by Ivoclar Vivadent and CROIXTURE, and supported by American Dental Systems, anaxdent and Velopex International.

At the closing session in Berlin, members of the Bio-Emulation Group announced that the next colloquium in 2016 will take place in Barcelona in Spain. More details will be made available in due time at www.bioemulationcampus.com.
The rise and fall of mercury

By Anita Vazquez Tibau, USA

When most people hear the word "mercury" most think of the planet. However, there are many products that contain mercury, such as blood pressure cuffs, thermometers, batteries, and CFL light bulbs. There are processes that use mercury and produce mercury pollution, like coal fire plants, artisanal small-scale mining and chloralkali plants. However, the mercury that truly affects the global population is the mercury that is implanted in billions of people's teeth.

Mercury dental fillings commonly referred to as silver fillings or amalgam composites of about 50 per cent mercury, along with other metals.

It is indisputable that mercury in all its forms is toxic. Mercury exposure has been linked to neurological problems such as Alzheimer's or Parkinson's disease. Mercury can also cross the placenta and reach the central nervous system of the foetus during pregnancy. The elemental mercury accumulates in the gastrointestinal tract, oral cavity, lungs, thyroid gland, pituitary gland and other target organs.

Since the United Nations Environmental Programme's Minamata Convention on mercury was finalized, the world has been taking serious action to eliminate products and processes that use or contain mercury. While dental mercury amalgam is listed as a "phased down" product, many countries are taking proactive steps to eradicate its use as soon as possible.

The dentistry industry can no longer ignore the fact that mercury from dental fillings creates an unnecessary risk of exposure, not only to the patients, but also to the dental workers. This can become the litigation in the not too distant future that proves catastrophic for the dental industry, insurance carriers, and governments. Mercury lawsuits can far exceed that of tobacco litigation, or more recently, asbestos legal actions.

Norwegian dental workers who have been injured by mercury due to occupational exposure are now being compensated, in both public and private practices. In fact, the court has reduced the criteria for compensation after the acknowledgement of the original assessment was deemed too strict, therefore allowing for more claims to be considered or re-examined. The legal victory of the dental workers in Norway is being examined in other countries too in order to see what the potential for replicating the case strategy for other dental workers who have been affected by mercury exposure.

A landmark settlement was recently reached in the dental mercury case of long-time activist Freya Koss, who established the Pennsylvania Coalition for Mercury-Free Dentistry. The coalition is a Philadelphia-based consumer advocacy group that aims to educate the public on health, occupational and environmental hazards of dental mercury. Settled quietly in the Supreme Court of the New York State, the dental malpractice suit was based on neurological injuries Koss sustained as a result of the dentist's "Deviation from Standard of Care" during the removal and replacement of an existing mercury amalgam filling. Under court orders, Koss is unable to discuss the terms of the settlement, nor the details of the defendant. However, as the first US case settled in favour of an injured dental mercury patient, she is hopeful that, on some level, a precedent will be set to compensate others who have been injured too and that the use of mercury in dentistry will be banned worldwide.

According to a article published on May 11, 85 per cent of Europeans voted for the removal of mercury amalgam fillings. Michele Rivasi (Greens/EFA), a member of the World Alliance for Mercury Free Dentistry and a member of the European Parliament, with support from the European Environmental Bureau, held a press conference on May 17 to disseminate the results of the consultation that was organized by the European Commission on the implementation of the Minamata Convention on Mercury.

The results show that Europeans do not want an application of mercury fillings and at least 85 per cent of citizens want to get over with the use of mercury fillings in dentistry as quickly as possible. Rivasi said: "Citizens have expressed a massive demand for amalgam to be removed. The institutions cannot exclude such a pressing appeal. The European Commission must now make every effort to ensure that dental amalgam is removed from the market in accordance with the wish of the people."

Recently, every dental school in North America that teaches the use of mercury silver fillings was sent a legal notice that they were not permitted to expose any student to the Environmental Protection Agency's (EPA) maximum mercury air quality standards promulgated to protect the public, since students are not employees. Many of the schools have mistakenly been using Occupational Health and Safety standards to evaluate exposure levels and at the same time, not complying with any of the other numerous requirements this law states. Failure to comply with EPA standards may be considered tortious conduct, which may potentially render these teaching facilities liable for possible injuries of students who are exposed to mercury.

Similar to mercury thermometers being banned in the US and other countries, mercury use in dentistry is declining fast. The question remains, how soon will mercury be banned completely in dentistry?

Anita Vazquez Tibau has travelled the world for over a decade as a speaker, working with various non-governmental organizations as an international advocate against the use of mercury in dentistry. She is the Executive Director of Californians for Green Dentistry, a grassroots organization that has successfully spearheaded resolutions from the city councils of three California cities asking dental professionals to eliminate the use of mercury in their practices. She has testified at city, state, national and international levels on dental mercury.
With the first World Congress on Controversies in Dentistry (CoDent), Prof. Dov Sydney from USA/Israel and Prof. Mauro Labanca from Italy are aiming to make news by reaching current conclusions to ongoing debates in the field through evidence-based dentistry, as well as expert opinion and speaker-audience discussions. Dental Tribune International had the opportunity to speak with them about their concept, general information overload in dentistry and the upcoming launch of CoDent in Barcelona in Spain in 2016.

Dental Tribune International: Could you briefly introduce your project?
Prof. Dov Sydney: It is called CoDent and it is part of a company called CongressMed, which has developed a model for congresses based on the concept of “Controversies in…”. CongressMed’s education is devoted to addressing controversial medical issues in a debate format. Our role is to bring the concept to the dental field, and this involves defining the first topic, finding the moderators and generally advancing the project. We thought it good to start with implants because it is one of the most difficult issues we are faced with as dentists. In this regard, the first congress will address the topic of controversies in dental implantology and will be held in Barcelona from 3 to 5 November 2016.

What distinguishes this congress concept from other meetings?
Prof. Mauro Labanca: We hope to promote real discussions and interaction between practising physicians and researchers on unresolved pressing clinical issues. We do not want to be a substitute for any other existing meeting. For the first congress, we will be discussing implants, but future topics do not have to be surgical ones. Congresses could address adhesive and restorative dentistry or different kinds of treatments in orthodontics. We are not an academy or a scientific society; we already have so many and we do not want to compete with them. We are doing something totally different.

What will the programme cover?
Prof. Labanca: Right now, we have eight topic modules that we feel are very interesting and will foster debate, as well as greater knowledge at the end of the meeting, hopefully. The programmes are designed to provide an effective forum for debate by allowing ample time for speaker-audience discussion. There are not going to be long presentations by one speaker. Instead, we will have very short addresses of about 10 to 15 minutes during which the speakers will seek to answer a specific question. The result will be that, after approximately 1.5 hours, the audience will have had a summary by some of the most important speakers on that topic.

“There is a general sense of frustration throughout the world”

An interview with CoDent founders Profs. Dov Sydney, USA, and Mauro Labanca, Italy

With the first World Congress on Controversies in Dentistry (CoDent), Prof. Dov Sydney from USA/Israel and Prof. Mauro Labanca from Italy are aiming to make news by reaching current conclusions to ongoing debates in the field through evidence-based dentistry, as well as expert opinion and speaker-audience discussions. Dental Tribune International had the opportunity to speak with them about their concept, general information overload in dentistry and the upcoming launch of CoDent in Barcelona in Spain in 2016.

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A universal composite that acknowledges that anterior and posterior teeth are different

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What impact do you hope to have with this idea?

Prof. Sydney: We expect to make news. Up to now, dental companies have mostly marketed their products in a way they think is most appealing to their target customers, but the individual dentist who is going to buy the products, quite frankly, does not have all the information to make a decision. And even if she or he does have a sense of direction regarding which implant system to choose, he or she is often not totally sure of the optimum selection. Our concept provides an industry. How can a busy and especially non-academic practitioner properly compare all the information that is available? What will we offer is the scientifically accurate information in order to help them interpret the efficacy and applicability of the message they receive from companies.

You are both dentists. Have you experienced this problem yourselves?

Prof. Labanca: Exactly. When I started with implants many years ago, I had this idea to bring the most important companies together to initiate open and honest debate between them. At that time I probably didn’t have enough cards to play, but now it is the time! The reality dentists are facing today is that companies are approaching them and claiming to have something special and something new. This could be true, but you do not have the means to compare or to confirm whether it is. You could try the products on your patients, but that would not be the right thing to do.

Prof. Sydney: Both of us travel quite a bit. Mauro and I have a global understanding of dentists’ concerns in many parts of the world. There is universally a common sense of frustration regarding the different implant systems. I regard our role as providing a safe, scientifically enabled and controlled environment for implant companies to proactively present the advantages of their systems directly to the end users.

Will there be follow-up documentation after the meeting?

Prof. Sydney: The existing congress model involves a journal issue that is published afterwards and compiled in such a way that it is relevant not only to the event, but also to anybody interested in reading about what was discussed and summarised by creating a permanent and easily-referenced resource.

Prof. Labanca: We are not just trying to look for something different; we have seen that there is a need for this congress. We want to achieve a high level of academic acceptability, as well as accessibility for the general dentist population. That is the balance that we hope will lead to success.

Thank you very much for this interview.

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Crowdfunding campaign for no-drill repair tech

Reminova aims to raise £0.5 million for advanced remineralisation device

By DTI

LONDON, UK: Teeth restored without drilling is the dream of almost every dental patient. A new approach developed in the UK that utilises an electrical current to remineralise the tooth promises exactly that. Reminova, the developer of the technology, has now announced the start of an equity crowdfunding campaign for the UK and the US in an effort to raise £0.5 million to bring it to market.

It will be the first fundraising campaign of its kind to target shareholders in both countries simultaneously. If reached, the sum will be used to expand the company’s development and operational team and to seek strategic partnerships with dental companies interested in selling the technology, Reminova executives said.

Initial clinical studies are also planned.

Reminova expects a potential market for the device of 700,000 dentists worldwide. In a press note released, the company said that individuals who are interested in becoming shareholders will have 60 days to contribute to the project. The minimum investment is £1,000 for those from the UK or Europe and US$5,000 for Americans.

In return, they will help to get rid of drilling in dentistry and transform global dental health.

“With their help and investment, our tooth rebuilding treatment could be available to patients within three years,” predicted Reminova CEO Dr Jeff Wright.

According to Reminova, its technology, first released in 2014, prepares damaged tooth enamel in such a way that the ions of minerals required to remineralise the tooth, such as calcium and phosphate, can be pushed to the deepest parts of lesions faster. This remineralisation process is stimulated by short electronic pulses emitted by a specially developed instrument, which is estimated to cost less than £10,000 once it enters the market.

“With our treatment you can top-up your natural teeth enamel whenever you need, just as you’d service your car when it needs a bit of loving care,” Wright said.

Reminova claims to currently hold or to have applied for 17 patents for the technology, which was first presented to the public in 2014. A King’s College London spin-out, the company is based in Perth in Scotland and managed by tooth decay experts, including Prof. Nigel Pitts and dentist Dr Chris Longbottom.

(From left to right) Reminova founders Prof. Nigel Pitts, Dr Chris Longbottom and Dr Jeff Wright. (Photo David N. Anderson, UK)
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.

A 30-year-old female patient presented at our practice with pain in the posterior region. She was also dissatisfied with the aesthetic appearance of her anterior teeth (Fig. 1). Considerable erosive loss of tooth structure in the cervical and palatal region was observed (Fig. 2). An initial interview revealed that the patient consumed large quantities of soft drinks. On the basis of the clinical findings, we concluded that the woman was suffering from stomach problems with suspected bulimia.

After careful history taking and a thorough assessment including a radiographic evaluation, we began to develop a treatment plan. The plan was to rehabilitate the entire oral cavity to restore all teeth that had been damaged by erosion or tooth decay and to protect the existing dentition from further damage. We aimed at restoring the shape and function of the teeth by raising the vertical dimension of occlusion. Interventions involving such a high level of complexity require both a comprehensive plan outlining in detail every part of the treatment and close collaboration between dentist and dental technician. Following initial examination, an impression and bite record were taken. Portrait imagery and DSD technology (Digital Smile Design) have proven to be highly useful in situations where the dental technician cannot gain an impression of the patient’s oral situation in person.

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 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.

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, temporization 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 (Wieland Dental) and the resulting data sets superimposed using dental design software (iShape). This method allowed us to transfer the shape of the wax-up to the model that contained the tooth preparations. The virtual model is automatically converted into a STL data format and sent electronically to the program responsible for the CAM process.

In this case, the STL data were imported into the milling program of a Zenotec mini CAD/CAM unit (Wieland Dental) to manufacture temporaries from Telio CAD PMMA material (Fig. 6). Occlusal and functional adjustments were repeatedly performed over the three-month healing period (Fig. 7). After successful healing, the second stage of the preparation process was performed.

The master models were digitised to create the final restorations (Fig. 10). Virtual construction based on the situation created by the long-term temporaries (Fig. 11) was performed over the three-month healing period (Fig. 7). After successful healing, the second stage of the preparation process was performed.
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Impressions for master models were driven during the healing phase of the wound. The jaw position was established with the help of a bite registration of the oral situation. This preparation procedure resulted in the fabrication of individual restorations that should not be underestimated. The careful adaptation of the treatment plans was achieved with the use of CAD/CAM technology. The posterior restorations were manufactured using the press technique with IPS e.max Press lithium disilicate glass-ceramics. These restorations were also customised using IPS e.max Ceram. The final restorations had to be manufactured in such a way that they were faithful to the parameters established in the simulation models.

Creating the final restorations

We used the Zenotec CAD/CAM system and Zenostar zirconia materials (Wieland Dental) to fabricate full-contour crowns and bridges for the premolar and molar regions. The plan was to customise the premolar restorations with IPS e.max Ceram veneering ceramic using the esthetic DC (Variolink Esthetic Try-In). The crowns and bridges were permanently cemented using the dual-curing luting composite Variolink Esthetic DC. In the mandible, the veneers were luted using the light-curing variant of the same luting composite (Variolink Esthetic LC) in a neutral colour. This luting composite is easy to apply and excess material can be effortlessly removed during the cementation process.

Two weeks after the preparations had been placed, the patient came for another visit to our practice. Pink and white aesthetics were harmoniously balanced (Figs. 14–17). 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 minimal 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.

Seating the restorations

After completion of the preparation procedures, an impression of the oral situation was taken and the bite was recorded using the “cross-mounting” method (Figs. 9 & 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 were imported into the program of the Zenotec mini milling unit. The restoration was then milled from a pre-shaded Zenostar zirconia disc in shade T1 (Fig. 11).

It is an advantage of this material that it is supplied in discs that are pre-shaded. Normally, framework shading requires a separate working step to apply metal-oxide based colouring liquids either by an immersion or brush-on technique prior to sintering. In pre-shaded discs, the shades are added to the zirconia powder and homogenised during the industrial production process. The result is a material that demonstrates a highly homogeneous shade. As the need for manual shading is eliminated, time savings can be gained in the fabrication of restorations, providing an additional advantage. Colour consistency is another advantage that should not be underestimated.

A consistent colour 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). We used a conventional press technique in conjunction with IPS e.max Press ingots (shade LT A1) to fabricate the anterior lithium disilicate restorations and then completed the pressed crowns individually using the cut-back technique (Fig. 13).

Fig. 15–17: All-ceramic restorations: integrated harmoniously and undetected into the dentition and facial appearance of the patient.
The Hong Kong Dental Association is proud to present the Hong Kong International Dental Expo and Symposium (HKIDEAS) 2015 which will be held on 7–9 August 2015. It will be a continuation of our commitment to foster advancement and exchange of knowledge and skills in dentistry.

It is now the fifth time we host HKIDEAS since it was launched in 2010. The theme of this year’s Congress is “Shaping the Future of Oral Health.” We are honoured to have attracted once again prominent figures from the field who will deliver stimulating lectures for the three-day scientific programme that will cover the latest trends in various specialties in dentistry, ranging from best clinical practices, aesthetics, implantology to endodontology, periodontology and other areas of interest.

Alongside the scientific programme, the trade exhibition offers a perfect opportunity for manufacturers and dealers to showcase their latest state-of-the-art products and devices to all the participants. We also believe the great diversity of attractions in Hong Kong will impress every participant, giving them memorable and interesting experiences.

I sincerely look forward to seeing you at the HKIDEAS 2015. Your participation will make this event another outstanding success.

Growing CAD/CAM abutment adoption vs increasingly popular discount implants

The various countries in the Asia Pacific region are all expected to demonstrate an increasing demand for dental implant treatments as a result of growing consumer awareness, the ageing population, growing accessibility (such as through the National Health Insurance Service coverage in South Korea), as well as greater product availability and other influencing factors. Traditionally, premium implant companies have dominated the dental implant market globally. However, in recent years, discounted implants have become increasingly popular, especially in the Asia Pacific region.

The growth of the discount implant segment will emerge at the expense of the premium segment and as a result is set to limit market growth for dental implant fixtures by lowering the market’s overall average selling price (ASP). In contrast, the final abutment market is set to experience an increasing ASP owing to the growing adoption of CAD/CAM abutments in the place of stock abutments. While commoditisation of stock abutments has greatly depressed the ASP of the final abutment market, growing adoption of CAD/CAM abutments is set to stimulate the final abutment market by pulling the ASP upwards.

Therefore, the dental implant market is set to grow in all four countries included in the Asia Pacific region in this report, namely Australia, South Korea,
Japan and China, despite varying pricing trends.

In the Asia Pacific dental implant market, consumer awareness, cultural tendencies and domestic regulations vary greatly. South Korea represents the most highly developed dental implant market as a result of being home to a number of global leading dental implant companies. This in turn has led to a high level of consumer awareness and ease accessibility to a variety of dental implant products. However, the dental implant market in South Korea is also highly discount dominant and led by domestic implant producer OSSTEM IMPLANT and as a result demonstrated the lowest regional dental implant ASP of USD$6 in 2014.

In contrast, the Australian market remains highly dominated by leading premium implant companies, which collectively hold over 70 per cent of the domestic market. Consequently, Australia demonstrated the highest dental implant fixture ASP in the region at USD$4.5 in 2014. An increasing number of general practitioners are being trained in dental implant procedures in Australia, and general practitioners have been observed to be more cost sensitive relative to specialists. As a result of a growing number of general practitioners in the market, consumer preferences are shifting towards discounted solutions. Discount implant companies from the US and South Korea have recently been gaining market share in Australia. Throughout the forecast period, the premium segment of the market is expected to grow at far lower annual growth rates relative to the discount and value segments in Australia. By 2021, it is expected that discount implants will represent 43 per cent of the overall units in the Australian market.

The Japanese and Chinese markets for dental implants are also dominated by premium companies. In recent years, OSSTEM IMPLANT has had a significant impact on the Chinese market, however, especially as a result of the training programme offered by the company’s Advanced Dental Implant Research and Education Center. All segments of the dental implant market in China are expected to demonstrate double-digit annual growth. However, the discount market is set to grow far more dramatically throughout the forecast period. By 2021, discount implant fixtures are set to represent over 50 per cent of the overall units in the Chinese dental implant market.

The shift towards discount implants in Japan is expected to be far less dramatic, especially owing to cultural barriers that limit the success of Korean dental implant companies. The premium implant segment is expected to remain the dominant dental implant market throughout the forecast period. Unit representation of discount implants is expected to increase slightly from 11.5 per cent currently to 13.6 per cent by 2021.

The growing acceptance of discount implants has been driven by Korean companies. The regional market leader, OSSTEM IMPLANT, held a 21.9 per cent share of the total dental implant market for the Asia Pacific region in 2014. The company has invested significantly in marketing efforts, which has led to the growing popularity of its products. Throughout the forecast period, OSSTEM IMPLANT and other discount implant companies, such as MegaGen, Dentium and Neobiotech, are expected to capitalise on the growing popularity of discount implants. In contrast, premium implant companies, such as Straumann and Nobel Biocare, are expected to face increasing competitive pressures, especially in China and Australia.

**Emphasis on CAD/CAM**

In the dental implant market, the final abutment market is undergoing an opposing pricing trend relative to dental implant fixture. CAD/CAM abutments are being increasingly utilised in the place of cheaply produced stock abutments. CAD/CAM development has been relatively rapid in the Asia Pacific region in recent years. A growing number of CAD/CAM milling centres have emerged to produce CAD/CAM abutments for the dental implant market. The overall region is set to demonstrate significant growth in the CAD/CAM segment for final abutments. In contrast to the dental implant fixture market, where discount products are gaining share, the overall final abutment market is set to demonstrate an increasing ASP CAD/CAM. Final abutments are relatively more expensive than stock abutments, which have traditionally dominated the market. The shift towards CAD/CAM abutments is set to be most significant in China. For the overall region, units of CAD/CAM abutments are set to grow at a compound annual growth rate of 22.1 per cent. By 2021, CAD/CAM abutments are forecast to represent 31.6 per cent of the overall abutment units in Asia Pacific.

**Conclusion**

Overall, the dental implant market, including fixtures and abutments, is set to grow at a compound annual growth rate of 11.5 per cent for the Asia Pacific region. The unit growth will far outweigh the ASP effects, and the dental implant market will grow to reach a higher penetration ratio for the overall Asia Pacific region.
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Registration: Hall 5F&G Concourse, Level 5, Phase 1, HKCEC
Exhibition: Hall 5G, Level 5, Phase 1, HKCEC

*The floor plan is subjected to change without prior notice.*
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The floor plan and exhibitors list are subject to change. Last update was 22 July, 2015.
Friday, 7 August

9:30–10:30
Periodontal medicine: A New Frontier for Periodontology,
Hall 5F (Parallel Session A)
Speaker: Prof. Mark Bartold

Photodynamic Therapy for Periodontitis,
Hall 5G (Parallel Session B)
Speaker: Prof. Michael Wilson

10:30–11:15
Break

11:15–12:45
Managing Dental Hypersensitivity to Improve Quality of Life,
Hall 5F (Parallel Session A)
Speaker: Prof. Liang-jiu Seow

Towards Functional Foods for Oral Health Care: Isolation,
Identification and Evaluation of Food Components with Anti-caries and/or Anti-gingivitis Activities,
Hall 5G (Parallel Session B)
Speaker: Prof. Michael Wilson

12:45–14:15
Lunch Break

14:15–16:15
Simplifying Root Canal Preparation — The Next Generation,
Meeting Room
Speaker: Dr. Patrick Tseng

16:30–18:00
Implant in the Aesthetic Zone — Socket Preservation, Staged Approach or Immediate Implants?,
Hall 5F (Parallel Session A)
Speaker: Prof. Bilal Al-Nawas

Dentist Role in Snoring and Sleep Apnea,
Hall 5G (Parallel Session B)
Speaker: Dr. Derek Mahony

Saturday, 8 August

9:30–10:30
Local and General Risk Factors for Implant Failure — Prevention of Early and Late Complications,
Hall 5F (Parallel Session A)
Speaker: Prof. Bilal Al-Nawas

Conservative, conventional and unconventional endodontics,
Hall 5G (Parallel Session B)
Speaker: Dr. Patrick Tseng

10:30–11:15
Break

11:30–12:45
Augmentation procedures: Simple and predictable?
Hall 5G (Parallel Session A)
Speaker: Prof. Bilal Al-Nawas

Conservative, conventional and unconventional endodontics,
Hall 5G (Parallel Session B)
Speaker: Prof. Bilal Al-Nawas

12:45–14:15
Lunch Break

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Break

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Dentist Role in Snoring and Sleep Apnea,
Hall 5G (Parallel Session B)
Speaker: Dr. Derek Mahony

Sunday, 9 August

9:00–10:00
Meeting the Challenges of Infection Prevention and Infection Control in Clinical Dentistry,
Hall 5F (Parallel Session A)
Speaker: Prof. Laurence Walsh

10:30–11:15
Break

11:15–12:45
Meeting the Challenges of Infection Prevention and Infection Control in Clinical Dentistry,
Hall 5F (Parallel Session A)
Speaker: Prof. Laurence Walsh

12:45–14:15
Lunch Break

14:15–15:45
Clinical Challenges and Solutions,
Hall 5F (Parallel Session A)
Speakers: Dr. Jeffrey Chang, George Polokos & Edmond Pow

15:45–16:30
Implant Treatment of the Periodontally Compromised Patient,
Hall 5F (Parallel Session A)
Speaker: Prof. Saso Ivanovski

16:30–18:00
Implant Treatment of the Periodontally Compromised Patient,
Hall 5F (Parallel Session A)
Speaker: Prof. Saso Ivanovski
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