Australia: Oral health at stake in federal election
Health experts demand better access to public dental services

HONG KONG/LEIPZIG, Germany: Health experts in Australia have argued all political parties to make oral health a greater priority in the upcoming federal election. In a statement released by the National Oral Health Alliance, a non-governmental body comprised of several dental and health organisations, they also called for the development of a sustainable dental workforce to allow people better access to oral health-care services.

Currently, Australians who are in need of public dental health-care services have to wait for long periods before they receive treatment. In some parts of the country, patients have to wait between one to two years. As a consequence, figures suggest that one in three Australians decide to delay or avoid dental treatment altogether.

The incumbent Labor Party led by Prime Minister Julia Gillard has claimed to have delivered more than 850,000 dental check-ups to teenagers under 18, more than 850,000 dental patients have to receive treatment. In some parts of the country, patients have to wait between one to two years. As a consequence, figures suggest that one in three Australians decide to delay or avoid dental treatment altogether.

The incumbent Labor Party led by Prime Minister Julia Gillard claimed to have delivered more than 850,000 dental check-ups to teenagers under the 2008 Medicare Teen Dental Plan, but failed to implement a new universal dental scheme as promised in the 2007 federal election. Their US$53 billion scheme called DeniCare, developed by the National Health and Hospitals Reform Commission, has been opposed by the Coalition members in the Senate in favour of Medicare, an existing dental care scheme for patients with chronic conditions introduced by opposition leader Tony Abbott in 2007, when he was Minister for Health and Ageing. Labour recently established a taskforce to investigate dentists’ compliance with the Medicare scheme, which they say found that a substantial number of them failed to comply with the requirements.

Malpractice bill dismissed by Thai doctors

Medical and dental professionals in Thailand are opposing a new law that aims to give victims the right to sue without having to go to court. In a public letter to Prime Minister Abhisit Vejjajiva, doctors and dentists stated that the committee that developed the law did not make people smile.

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Dental markets in France and the US are worldwide leaders in the adoption of digital sensors, according to a US market report. While France has a high penetration rate of almost 75 per cent, US practices are undergoing a rapid transition from analogic film to digital technology, which will have a dramatic impact on the US dental imaging market, the report stated.

Extra

The latest news from the FDI head office

Crown preparation

Dr Barrington on how to utilise a microscope
Current ethical guidelines in India are deficient

An Interview with Assistant Prof. Saurab Bither, Christian Dental College, Ludhiana, India

The first handbook on ethical and legal issues for dentists in India was recently released by the Christian Dental College in Ludhiana in India. Dental Tribune Asia Pacific spoke with author Assistant Prof. Saurab Bither about the book, and its discussion of ethical issues in dental practice.

Assistance Prof. Saurab Bither: Ethical guidelines for dentistry have indeed been formulated by regulatory bodies like the Dental Council of India (DCI) and Indian Dental Association (IDA). What this handbook offers is legal guidelines for expert witnesses in the field as well.

With increasing dental tourism in India, it is also very important that ethical guidelines are followed and implemented in dental practice. Should this not be done, we might fail to benefit from an increasing number of foreign patients in the future.

What are the central issues in dental ethics in India and how have they become of greater concern?

Dentistry is flourishing in India thanks to technology, education and stringent measures adopted by regulatory bodies like the DCI and IDA. Unfortunately, there are members of the dental fraternity who resort to unethical practices and flout all norms, guidelines and ethics of practice in order to make a quick buck or just out of financial need. The image of the entire dental profession may suffer as a result of the unethical actions of those few.

What are the main conclusions of your book and what are their implications in practice?

The current ethical principles in Indian dentistry are helpful guidelines regarding dentistry’s professional obligations, but are deficient in that they do not address the reciprocity of the relationship between dentists and their patients or the principle of self-determination. Professional ethical codes, however, are important in developing higher standards of conduct, as they are based upon what are considered to be the correct attitude and procedure.

Dental professionals must recognize and deal with ethical issues in their interaction with their patients and society in a rational and principled manner as defined by a code of ethics. For example, they must be aware of the legislation concerning malpractice, primarily the Consumer Protection Act, in order to prevent litigation. Dentists also have a duty to maintain and regularly update their level of knowledge and skills, as well as to participate in the professional community, maintain cordial relations with fellow professionals and share the burden of professional self-regulation.

Thank you very much for this interview.

Politics, but no policy discussion on oral health

The Australian federal election is currently characterised by a focus on the current Prime Minister’s (Julia Gillard) hair and the Opposition Leader’s (Tony Abbott) smile. Were attention to be shifted to their teeth instead, perhaps we could move onto policy substance. Both of the contenders for Australia’s top job have socially acceptable mouths with no missing or crumbling teeth, poor gums or bad breath. However, this is not the case for many low-income earning Australians who cannot afford private dental care, and so wait years for treatment in public clinics, often in pain, and suffer embarrassment when they open their mouths in front of others.

For the last two years, there has been a battle underway, with the Labour Government attempting to abolish the previous Coalition Government’s scheme that allows complex and chronic conditions to be treated, and reintroduce a national dental programme along the lines of Labour’s previous programme, in order to provide treatment for low-income earners. This has twice been blocked by Senate. The DentCare plan proposed by the National Health and Hospitals Reform Commission, intended to provide universal access to oral health care through a new tax, has not transpired either.

At issue is a difference in views about policy. Should public dental care be universal or residual? In Australia, where medical and hospital cover is universal, it remains acceptable to distinguish between groups in the case of oral health because it is not seen as integral to health but as an optional extra. An important policy debate about this should be taking place during this election, and some have attempted to offer a framework. Other than that, there are considerable political difficulties in introducing a new tax to fund a universal scheme, finding a sufficient number of professionals to provide timely services, and (an inevitable consequence of workforce shortages) allowing auxiliary staff to provide more services directly.

These conspire to make policy discussion difficult, but that is no reason not to have them. Avoiding them merely perpetuates the situation for those who have no choice but to continue using pharmaceuticals and their hands to cover their painful and embarrassing mouths.

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Heraeus acquires majority in Korean dental dealer

Daniel Zimmermann
DTI

HONG KONG/LEIPZIG, Germany: The dental division of the German Heraeus Group is reinforcing its market position in Asia. As part of a capital increase, the company recently acquired a majority shareholding in Huden, a South Korean dental dealer based in Seoul. The acquisition, which will focus on the sale of materials and equipment for restorative and implant procedures, gives Heraeus direct access to customers in one of the fastest growing dental markets in Asia.

Founded in 1851, family-owned Heraeus has been active in business sectors such as industrial precious metals, sensors, quartz glass and biomaterials. Its dental division, which includes casting materials, composites, alloys and ceramics, reported a turnover of €288 million in 2009.

Company officials told Dental Tribune that the capital increase was decided upon by shareholders earlier this year, and will be used to extend Huden’s sales and distribution team in the short and mid-term. In addition, Heraeus aims to extend cooperation with local thought leaders and universities to advance product approvals and enhance brand recognition in the country. The company aims to double its current market share in the next few years.

The financial terms of the transaction were not disclosed.

EMS device targets sub-gingival biofilm

Daniel Zimmermann
DTI

LEIPZIG, Germany: The Swiss-based company EMS is now offering its latest portable Perio handpiece Air-Flow handy Perio to dentists in the Asia Pacific region. The device, which is based on the company’s award-winning Air-Flow Master and Air-Flow handy 2+ series, was developed for rapid removal of biofilm from the sub-gingival area. It comes with a single-use Perio nozzle for easy access to pockets of up to 10 mm and the air-polishing powder Air-Flow powder Perio.

According to some studies, sub-gingival biofilm is one of the main factors that contribute to the growing number of peri-implantitis cases amongst dental implant patients. To prevent the penetration of the sub-gingival area with bacteria and microbes, the human body triggers a bone deterioration process as an “emergency response”, which can cause dental implants to fail. As sub-gingival biofilm efficiently protects bacteria against pharmaceuticals, conventional treatment with antibiotics is very difficult. EMS says that their new handpiece provides clinicians with an ergonomic solution that offers complete removal of the biofilm even on implant surfaces and without damaging the cement or the tooth.

The Air-Flow handy Perio device is available in white. It will be available through EMS and through the company’s local dealers in Asia.

Correction

In Dental Tribune Asia Pacific No. 5 Vol. 8, the interview titled “Dental caries is … not easily prevented or treated in the most susceptible children” on pages 15/16 misstated the surname of an interviewee. The correct surname is Lim, not Kim.

In Dental Tribune Asia Pacific No. 6 Vol. 8, the article “Artistic and functional restorations with Panasil impression materials” on pages 15/16 misstated that the authors were freelance editors. Dr Ugo Torquati Gotti and Giancarlo Riva are freelance authors and not affiliated with Dental Tribune International.

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The government of Malaysia has released new figures that underline a significant shortage in the country’s public health care sector. Speaking to senators at a parliamentary question time in August, Deputy Health Minister Datuk Rosnah Rashid Shirlin said new figures show that an average of 360 medical officers have resigned from public service annually since 2005. Malaysia currently faces a shortage of 5,000 physicians and dentists, a situation that has left thousands of patients in rural areas especially without access to affordable health or dental care. The Deputy Health Minister promised to seek officers in public service through various initiatives, including the increase of medical, dentistry and pharmacy graduates in the public service. She added that the government is also planning to provide more career development opportunities for public officers and to improve their incentives and allowances.

Earlier this year, the Ministry of Health considered extending the compulsory public service for doctors to five or ten years from the current three. Since 1971, doctors in Malaysia have been required to serve with the government.

Malaysian govt admits to public health crisis

Asian bug causes trouble worldwide

The emergence of a bacteria-resistant genetic mutation in Asia and other countries poses a significant threat to global health, a multinational team of researchers has reported. According to their study, published in the current issue of *The Lancet Infectious Diseases*, evidence of increased prevalence of New Delhi metallo-beta-lactamase (NDM-1), an enzyme that makes bacteria resistant to antibiotics, was detected in *Enterobacteriaceae* isolated in India, Pakistan and the UK. The researchers called for co-ordinated international surveillance of the enzyme to prevent its spread through medical and dental tourism.

NDM-1, which was first identified by UK Prof. Tim Walsh in a hospital in India last year, has been found to be resistant to a wide range of antibiotics, including penicillin and amoxicillin, which are commonly used after dental procedures. In addition, it also affects the efficiency of carbapenems, a group of antibiotics reserved for use in emergencies when other antibiotics have failed.

Prof. Walsh told the magazine *New Scientist* that due to travelling and medical tourism throughout the region, bacterial mutations like NDM-1 increasingly find their way into other countries. He said the gene, which was rarely observed just a few years ago, is now to be found in between 1 and 3 per cent of all *Enterobacteriaceae*-involved infections. Mutated genes have recently been isolated in the US, Sweden, Turkey, Israel, Greece and the UK, he said.

Infectious disease experts in the US and the UK have warned clinicians to be aware of the possibility of NDM-1-producing *Enterobacteriaceae* in patients who have received medical care in India and Pakistan. They should also specifically enquire about this risk factor when carbapenem-resistant *Enterobacteriaceae* are identified.

With its new Air-Flow handy Perio, Air-Flow has assigned its latest family member to combat – right on target for subgingival prophylaxis in your practice.

For more information > welcome@ems-ch.com

Grain size ~ 25 μm

Together with the Original Air-Flow Powder Perio, the new Air-Flow handy Perio with its unique Perio-Flow nozzle tracks down biofilm, even in the deepest periodontal pockets.
Tea not necessarily beneficial for teeth

Daniel Zimmermann

BARCELONA, Spain/LEIPZIG, Germany: Britons may need to rethink their national habit of afternoon tea, as new research presented at the IADR meeting in Barcelona in Spain suggests that the world’s most-consumed beverage contains more fluoride than previously thought. According to a study led by Dr Gary Whitford from the Medical College of Georgia, USA, the concentration of fluoride in black tea can be as high as 9 mg/l compared to 1–5 mg/l found in earlier studies. The findings could explain the occurrence of advanced skeletal and dental fluorosis, a health condition that affects the stability of teeth and bones.

Whitford found that tea leaves accumulate not only fluoride, but also large amounts of aluminium. When the leaves are brewed, both substances form insoluble aluminium fluoride, which cannot be detected by common fluoride detection methods. By breaking the aluminium fluoride bond through diffusion, he found that the amount of fluoride in all cases was 1.4 to 3.3 times higher. Dr Whitford said that this additional fluoride does not contribute to fluorosis when consumed moderately but heavy drinkers should be aware of the danger.

Fluorosis affects more than ten million people worldwide. It is found to be most severe in countries like China and India, where more than 60 million people are at risk. Besides the consumption of tea, common causes of excessive intake of fluoride are the inhalation of fluoride fumes in the chemical industries and drinking water.

Europe to improve patient rights

Daniel Zimmermann

LEIPZIG, Germany: The European Union is advancing the rights of medical and dental patients in all its member states. In a new cross-border health-care directive developed by presidency holder Spain and adopted by the ministers of the European Council in June, patients resident in an EU member state will be entitled to reimbursement for medical services obtained in another member state. The draft directive is expected to become legal once the European Commission, Council and Parliament begin negotiations on a final version later this year.

The decision of the Council comes as a surprise, as Spain opposed an earlier draft, fearing that it would have to bear the costs of many Northern Europeans currently living in retirement on Spanish coasts. The new directive, which offers a compromise to an original proposal by the European Commission, shifts the obligation for reimbursement from the country of residence to the country of origin. It also aims to strengthen the recognition of medical prescriptions and cooperation between member states, for example, in the digital exchange of patient data.

Members of the European Commission, which is responsible for implementing the decisions of the Council, have criticised the directive’s requirement that patients are to seek prior authorisation from health-care authorities if their treatment involves hi-tech equipment or a hospital stay of more than one night. They claim that the Council version of the directive falls short of their original proposal and creates more confusion for patients.

Cross-border health care between member states of the EU already exists, but this is usually regulated by domestic law and transnational agreements. Rulings by the European Court of Justice over the last ten years had established that patients have the right to obtain health care in other EU countries, but the European Commission desired greater legal certainty so that patients did not have to go to court every time they wished to go abroad for an operation or other medical procedure.
New information material from Straumann Asia Pacific

Show your patients that you can offer an attractive long-term solution to enjoy a new quality of life

For Straumann, “Simply Doing More” also matters in the field of Patient Communication. The newly available patient information material supports dental professionals in their daily endeavors to inform their patients that it is possible to replace tooth roots almost entirely with dental implants. Moreover, it presents implant treatment therapy as a modern dental method that has been scientifically tested and used for over three decades. It shows patients that qualified dentists and oral surgeons can offer them an attractive long-term solution to enjoy a new quality of life despite missing teeth.

There is a need for patient information

As a German market survey indicates, 97% of those who have received implant therapy confirm that they feel happy with their newly regained quality of life. However, out of all suitable cases, only 46% decide to be treated with implants. This ratio suggests that many potential candidates for this treatment are still not very well informed and that, accordingly, there is a need for patient information and appropriate material.

Helping patients decide

Patients may have only superficial knowledge or wrong information on dental implants. Sometimes they simply fear the pain caused by the surgical procedures. In order to bring patients one step closer to choosing implant-based tooth replacement solutions, they need to be provided with all the necessary facts. With well-balanced and fact-based information material, patients will find answers to their most frequently asked questions like, “Where and when can implants be used in tooth restorations?” “What are the benefits?” “What is the difference from conventional procedures?” and “What are the costs?/the long-term savings?” The print material can be displayed in the waiting room or handed out to patients after the initial discussion on treatment options. The content is presented in an emotionally appealing way and includes patient testimonials, scientific data and graphics visualizing the situation before and after implant treatment.

Dental Implants “Get back your natural smile”

The “Dental Implants” information package (brochure, patient flyer and post-up flyer, posters, implant passport) contains basic information on dental implants, the surgical procedures and the costs, and the differences from and advantages over conventional methods are explained.

5 : 1 Premium Illustration Model

In addition to the print material, a premium 5 : 1 model is available which can be used to visualize the benefits of single-tooth implant treatment compared to conventional 3-unit bridge treatment. It comes in a high-quality bag and includes a 1 : 1 sample implant (Straumann® Standard Plus) and a 1 : 1 artificial tooth. These 1 : 1 objects demonstrate to the patient the real dimensions of an original implant compared to a human tooth.

Leaflet & Leaflet Holder

Suitable for patients who request basic information. Provides information on the advantages of dental implantology, an overview about materials, the function of dental implants as well as different indications and treatments. For distribution at your reception or waiting room (Figs. 2 a & b).

Poster

Provides information about the advantages of dental implantology at your reception, as well as your waiting and examination room (Fig. 4).

Flipchart

More detailed information and clinical explanations for the dentists to explain to the patients in the consultation room. Easy to use tabs to find the relevant info, easy handling size and sturdy calendar table-top base (Figs. 5 a & b).

Implant Passport

Records information about your patient’s treatment flows. Hand it over after the implant procedure (Figs. 6 a & b).

Brochure “Get back your natural smile”

Will help and support you actively in pre-operative discussion to convince your patients of the advantages of dental implantology (Fig. 1).

Reference


In-Clinic patient video

To be played in the clinic’s waiting room, LCD screen, consultation room and patient seminars/open houses. Flash version with more clinical animation e.g. implant process, how to make an implant choice, 3 indications of single tooth missing, multiple teeth missing, edentulous jaw etc.

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ROXOLID™ – Exclusively designed to meet the needs of dental implantologists.

Roxolid™ offers:
- Confidence when placing small diameter implants
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Lisa Townshend
DT UK
GLASGOW/LONDON, UK: The rising occurrences of Xerostomia (dry mouth) in patients was one of the most talked-about issues at the International Symposium on Dental Hygiene, recently held at the Scottish Exhibition and Conference Centre in Glasgow. So it was unsurprising that it was a packed room for Prof. Michael Lewis’ presentation. The role of the dental hygienist in the diagnosis and management of dry mouth in association with GSK.

Lewis is Professor of Oral Medicine in the School of Dentistry, Associate Dean for Postgraduate Studies and Dean of the Dental Faculty at Cardiff University. He is also Vice-President of the Royal College of Physicians and Surgeons of Glasgow.

The lecture began with Prof. Lewis setting the scene for the lecture with his alternative title: Unlocking the secrets of saliva. His aim was to inform delegates of the production of saliva, its components, the effects of reduced salivary production, and what can be done to help patients with this condition.

Prof. Lewis explained that there are three major paired glands that produce 95 per cent of saliva: the parotid (60 per cent), the submandibular (30 per cent) and the sublingual (5 per cent). The rest is produced by more than 600 minor or accessory glands mainly found in the lips, cheek and palate.

Prof. Lewis detailed the manner in which salivary flow rate is neurally controlled—it is excited by taste and mechanical stimuli but inhibited by feelings such as anxiety. Owing to its importance in speech, as a buffer against acid attack, cleansing antimicrobial actions etc., a reduced flow rate soon manifests as a problem. Symptoms often mentioned by patients include a lack of taste, difficulty in swallowing, and increased effort when speaking. Immediate signs in the mouth observed by clinicians include no saliva pooling in the mouth, frothy or cloudy saliva, sticks/erythematous mucosa, atrophic tongue dorsum, candidosis, and angular cheilitis. One big marker for xerostomia, explained Prof. Lewis, is the occurrence of cervical caries and failed restorations.

Moving from theory to practice, Prof. Lewis then discussed what clinicians can do for patients presenting with dry mouth. He stressed the importance of investigation into the causes of dry mouth for each patient, to ensure any underlying condition has been identified and medication use explored.

Means of investigation can include clinical exam (discussion with patient; appearance of patient, i.e. face, hands, gait; appearance of saliva; ‘mirror sticks test’—a dental mirror will often stick to the buccal mucosa if there is reduced saliva), salivary flow rate tests, haematological tests, sialography and labial gland biopsy.

Once the cause of the condition has been identified, both the clinician and patient can focus on the way in which to manage it, commented Prof. Lewis. For example, it may be possible to suggest a change in medication to one that does not list dry mouth as a side effect; or a diagnosis of diabetes should see improved glycaemic control on behalf of the patient and subsequent resolution of dry mouth symptoms.

There are many salivary substitutes that can be recommended. Prof. Lewis described a few of these, as well as the benefits and disadvantages of using them. The most graphic disadvantage was of Salinum, described as “like licking a cricket bat”! Owing to their formulation and ease of use, oral care systems such as the Biotène range have proved very popular with patients.
Think all toothpastes work the same?

Colgate Total™ is proven to help prevent gingival inflammation.

Colgate Total™ contains a Triclosan + Copolymer formula that helps fight gingival inflammation in two ways:

1. Kills plaque bacteria for a full 12 hours to help reduce plaque by up to 98% and gingivitis by up to 88%.

2. Triclosan reduces inflammatory mediators, such as PGE₂, that may be associated with systemic health.

Plaque and Bleeding Scores

References:

Refer to Colgate Total for approved uses.
Fluoride-containing toothpastes are generally used for reducing dental enamel solubility and assists in straightening. They are primarily indicated as prophylaxis for caries.

Low abrasive toothpastes contain specific ingredients that prevent the pain impulse and are used for dental hypersensitivity.

Toothpastes preventing inflammation of the gums contain antibacterial ingredient to fight against the main source of gum diseases i.e. germs. Bacteria in the plaque is the key reason for both inflammations of the gums and caries, so antibacterial toothpastes have effective complex exposure providing protection of gums and teeth. A clear example is Colgate® Total toothpaste containing triclosan as an antibacterial ingredient and sodium fluoride for providing protection over caries.

Daily mechanical removal of plaque at home and the resulting effects on the growth of bacteria in the plaque are the significant components of a comprehensive treatment thereby preventing inflammations of the gums and periodontium. Antibacterial ingredients of the toothpastes used for therapy and prophylaxis of the given diseases have bacteriostatic and/or bactericidal effects, thus, reducing pathogen and opportunistic plaque bacteria counts. The numerical reduction is accompanied by the reduction of bacteria-derived inflammatory mediators causing dental and gum tissue lesions.

Toothpaste containing triclosan and copolymer has shown to be highly effective in treatment and prevention of inflammation of the gums. Its unique formulation was patented under the brand name Triclogard™ and is included in Colgate® Total toothpastes.

Triclosan has a wide range of antibacterial activity. It is effective at low concentrations and has anti-plaque effect. Moreover, triclosan has a direct influence on the inflammatory process by suppressing inflammatory mediators. Triclosan is safe, with low allergic capacity and no occurrence of pigmentation of the dental enamel. However, it was shown that triclosan in its pure form is washed out of oral cavity in 1.5-2 hours. The copolymer, included in Triclogard™ complex, retains triclosan on the dental surface and gums up to 12 hours and thus prolongs its antibacterial activity. Thus, Colgate® Total toothpaste may control plaque bacteria growth throughout the day and night, arresting the main source of the appearance and progression of the periodontal diseases. Moreover, long-term application of Colgate® Total toothpaste does not result in derangement of the natural balance in the oral cavity microflora, so it has shown to be safe and clinically proven for daily oral hygiene. Additionally, this toothpaste contains fluoride needed for dental enamel strengthening.

In conclusion, Colgate® Total toothpaste due to its unique formulation has a complex effect on the main reasons for inflammations in the oral cavity - dental and gum diseases. It may also be used as preventive measures as well as for complex treatment of inflammatory diseases and is considered to be a justified choice for daily oral hygiene.
Antibacterial toothpastes

WHY do we need to use them?

Nowadays there is a wide range of medical and preventive toothpastes in the market. These toothpastes differ in their composition, mechanisms of action and, thus, have a definite application.

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Only Colgate Total® has a unique Triclosan plus Copolymer formula delivering 12-hour antibacterial protection¹

A powerful combination

- **Triclosan** is an effective broad-spectrum antibacterial that helps prevent and reduces plaque, a cause of periodontal inflammation²,³

- The **Copolymer** helps ensure the delivery and retention of triclosan on the surface of teeth and gingiva for clinically proven 12-hour antibacterial protection¹,⁴

- **Extensively Researched:** Proven effective over a range of patient benefits in more than 60 well-controlled clinical studies with over 16,000 patients⁵

- Brushing with **Colgate Total®** is more effective in reducing plaque and gingivitis than brushing with regular fluoride toothpaste²,³

FDI Revisits Suntec Center, Singapore

Eight months after the successful 2009 FDI Annual World Dental Congress at the Suntec International Convention and Exhibition Centre, Singapore, FDI returned to Singapore to participate in the biennial International Dental Exhibition and Meeting (IDEX). Dr Stuart Johnston took place from 16 to 18 April 2010.

Spotlight on World Dental Development Fund

For more than a decade, the FDI’s World Dental Development Fund (WDDF) has made a difference to the lives of disadvantaged people in many places around the globe through its support of oral health education and outreach programmes.

Established in 1999, the World Dental Development Fund aims to improve oral health primarily in disadvantaged populations through education, oral health promotion, disease prevention and primary health care. The variety of projects that are funded highlights different approaches to better oral health in contrasting settings. Current projects range from capacity building in Africa, to improving oral health in rural India, through to integrating oral health in primary health care in northern Pakistan, and oral cancer awareness and HIV/AIDS awareness training for dentists in Latin America.

The World Dental Development and Health Promotion Committee, the body responsible for the management of the World Dental Development Fund within FDI, recently completed a project in Cambodia. Here, the prevalence of HIV/AIDS and hepatitis is one of the highest in South-East Asia. Due to the lack of established standards and training materials regarding infection control for dental personnel, the Cambodian Dental Association proposed a project to develop a national cross infection control programme in collaboration with the World Health Organisation.

The successful completion of this project has benefited the dental team and the entire Cambodian population. A training manual on cross-infection control (CIC) for dental practitioners has been developed. Also, as a result of this project, knowledge and behaviour of dentists in relation to infections has improved.

The World Dental Development Fund accepts applications on a continuous basis. To improve oral health and oral health care services in developing countries, educational projects delivered in collaboration with governmental, non-governmental organisations and individuals, and supported by the FDI member association are encouraged. The numerous applications received from community organisations and initiatives highlights the enormous need for effective oral health programmes.

FDI invites well-wishers to support this very important work by making donations to the WDDF, so that we are able to expand and sustain the funds successful activities. For more information: www.foxworthental.org/wddf10

Dr Roberto Vianna, FDI President, was present at IDEM Singapore to promote FDI and the World Dental Development Fund's spirit of partnership among participating stakeholders.

"IDEM Singapore brings together many facets of FDI’s work..."
Successful Live.Learn.Laugh. project

Initiative pilots adoption of a province-wide oral health programme in the Philippines

During the 1 March 2010 ceremony marking the end of the three-year Live.Learn.Laugh. Philippines demonstration project, Governor of the province of Batangas, Vilma Santos-Recto, affirmed her plans to expand the Batang May K (BMK) project to ten more municipalities of the Province of Batangas.

Batang May K—Empowering children to Healthy Habits, was a project under the Live.Learn.Laugh. partnership of FDI World Dental Federation and Unilever Oral Health in association with the Philippines Pediatric Dental Society and Philippines Dental Association (PDA).

The BMK project aimed at improving the oral and overall health status of pre-school children in day care centres in Batangas through tooth brushing, hand-washing, finger-nail cutting, healthy diet, mass de-worming and waste management.

During the ceremony, outstanding day care centers and workers in the province received awards for good implementation of the project’s components, improvement in their centers and their promise to sustain the project.

As a catalyst for the three-year Live.Learn.Laugh. Philippines project, following a National Oral Health Survey reported that 97.1% of six-year-old children suffered from dental caries and 84.7% from dental infections, the Philippine Pediatric Dental Society instigated a project to empower children to healthy habits.

Social Events Schedule for FDI 2010 Congress now available

The social programme for the 2010 FDI Annual World Dental Congress which will be held from 2–5 September in Salvador, Brazil, is now accessible for participants to familiarise themselves with what awaits them.
Crown preparation techniques utilising the dental operating microscope

Dr. Craig Barrington
USA

Successful crown preparations start at the diagnosis. Early detection of the need for a full-coverage restorative can minimise many difficulties associated with the preparation of a tooth for a crown, obtaining an accurate impression, and the achievement of a precise fitting, long-lasting, aesthetic restoration. Proper diagnosis is the all-important first step.

The second most important component is vision. The dental operating microscope (OM) has proven to be valuable in endodontics but it is just as valuable—or more valuable—for restorative efforts. High magnification above 4x is necessary to impede the rubber dam tissues that are easy to impress and temporise. Magnification of 2 to 4x is available with the OM. Management of gingival health and biological width is important to the overall final look of the crown and the cleanliness for the patient. A poor finish line and a poorly positioned finish line not only result in poor impressions and final restoration fit, but also make for poor-fitting provisionals.

If the finish line cannot be found, one cannot properly trim and fit the provisional restoration and remove any temporary cement properly. When patients return, gingival tissues can be irritated, making the placement of the final restoration challenging. If by chance one does achieve a good fit, then, when the soft tissue heals, the junction of the final restoration and the tooth may be visible, ruining the overall aesthetics.

Handpiece and bur choices

The final item and of least concern in this protocol are the handpieces and regarding finish-line visualisation, the most important is vision, the dental rubber dam.

Good patient management

Working at a high magnification with the OM requires good patient and procedural management. If the patient moves about or is uncomfortable, the operator cannot concentrate on proper reduction or the task of placing a solid, conservative finish line on the tooth. Therefore, the third most important component in crown preparation success is the dental rubber dam.

For most using a dental dam for a crown preparation is a widely misunderstood concept. Simply placing a dental dam is the most under-utilised, inexpensive and simple piece of equipment an operator can incorporate into his/her crown preparation protocol. With a little training, dentists and assistants can learn techniques that will benefit all individuals involved in the restoration of a tooth. (Please note that in all of the figures 1–10, a dental dam is in place before and after.)

Tissue management is the fourth concern and it points back to the number one concern of good finishing versus waiting until a tooth is severely decayed or broken down. Working deep subgingivally and irritates tissues exponentially complicates the task of crown preparation. Haemorrhagic areas, or those that are deep subgingivally, can be difficult to visualise and control. Early diagnosis can minimise these tissue complications. Good tissue management protocol is paramount to the success of the final restoration.

Radiosurgery: A useful instrument

Lasers have been used in dentistry for quite some time but their cost and other fundamental limitations make them difficult to acquire and use. However, radiosurgery has been in use for years and is an affordable and useful instrument that can solve many problems regarding finishing-fine visualisation, finish-line exposure and haemorrhage control. In addition, this simple, conservative instrument can make cord placement quick and simple by preserving the gingival architecture.

The Parkell unit with a #188 tip allows the creation of a very conservative trough or trench around a tooth. In combination with good visualisation using the OM and good patient and procedural management with the rubber dam, we can reliably create a finish line, expose it, place a cord if necessary and then return, gingival tissues can be returned to, gingival tissues can be managed to, gingival tissues can be managed. If by chance one does achieve a good fit, then, when the soft tissue heals, the junction of the final restoration and the tooth may be visible, ruining the overall aesthetics.

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Next step: Occlusal reduction

Once the tooth has been isolated and the patient is confirmed to be comfortable, the next step is the occlusal reduction. This makes the tooth shorter and allows better access and visualisation for the axial reduction. There is an existing restoration in the form of an alloy or composite filling, it is removed and the tooth is reduced to the level of the depth of this restoration. Existing restorations usually provide a good guide to achieving nice occlusal clearance without having to verify prior to the next step. Hopefully, I have not diminished the importance of this step, as I know this can make or literally break a final restoration.

Completing the occlusal reduction first allows me to warm up and work out any kinks in terms of patient issues, patient positioning, handpiece water flow or bur choice etc., before moving to the more complicated axial reduction. On the upper arch, the full-crown preparation is done with a mirror and indirect vision. The OM places us in an ergonomic position for doing this and the rubber dam creates a nice situation for a high volume suction to create an air flow that will keep our mirrors clean(ish) of the water spray from the handpiece. On the lower arch, I conduct three-quarters of the procedure with direct vision and then finish certain areas through indirect vision. Indirect vision on the lower arch is not a common technique but with understanding and desire, it is an easy technique to master.

The axial surface reduced first depends on which tooth is being treated. I start with the right-hand tip, so on an upper right first molar I reduce the palatal side first and then move to the interproximals. On that same molar, I break contact on the mesial first, moving from the palatal side, breaking the contact towards the buccal side.

This is the easier of the two surfaces to break. First, it is further forward in the mouth and therefore easier to reach; and, second, it is a shorter contact as it is against a premolar. Following the mesial contact break, I continue around the tooth through the mesio-buccal line angle onto the buccal surface. I then break the distal contact, also moving from the palatal side to buccal direction. The most challenging area to prepare on an upper right first molar is the disto-hexagonal (DB) line angle. Therefore, I prepare the tooth as far as I can through the distal contact and around the DB line angle. I then complete the buccal reduction and connect the buccal finish line at the DB line angle.

Mirror position is critical in achieving a solid finish line on the entire tooth including the DB line angle. These steps, for me, remain true for most upper right teeth, with difficulties being increased as we move more posteriorly and considering patient limitations such as anatomy, patient attitude, tooth anatomy and existing restorations or decay.

Axial reduction

The steps for axial reduction on the upper right arch mirror themselves on the upper left arch. On the upper left arch, I initially reduce the buccal and break contact from the buccal to palatal direction. The difficult area to prepare in an upper left tooth is the disto-palatal lingual line angle. The difficulty varies according to the tooth being treated and/or the patient’s tooth limitations.

The lower arch is different to the upper arch in that direct vision can be utilised for most of the preparation. The buccal reduction is started on both lower arches and interproximal contact is broken in a buccal to lingual direction, starting with the mesial contact. Once both mesial and distal contacts have been broken, the lingual reduction has been accomplished. For a lower tooth, the disto-lingual line angle tends to be the most difficult area to visualise, so this is the part that is refined using indirect vision.

Tissue management and cord placement

Once all occlusal and axial reduction has been accomplished, the next step is tissue management and cord placement. I use the radiographs to try to predict where the radiograph will be placed. A size 001 tip is used, with either any other alternative cord/radiographic agent combination or method.† Personal clinical experience and observations find this to be true. With the radiographic gingival trough in place, the cord placement is a simple, pressureless and quick, followed by copious air/water syringe rinsing. In the time that it takes to place the cord and rinse most haemorrhage will be controlled, if any.

Now the sharpness and position of the finish line can be re-evaluated and refined. An ultrasonic unit is used, with the irrigation on, to clean the crown preparation surface of debris and/or other debris. Occasionally, a BUC-1 endodontic tip is used, which is about the same size and shape as a 1DT diamond bur, can be used in the ultrasonic unit to refine the crown preparation finish lines.

The steps for the irrigation feature turned off on the ultrasonic unit. To sharpen, slightly
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refine, or minimally move a finish line, I occasionally run the handpiece at a very low speed without water.

Rinsing and drying

Once all refinements have been accomplished, the preparation is rinsed and dried and for the first time, the entire preparation is evaluated in one view. The uniformity of the axial reduction and the position of the gums in relation to the cord, and the cord in relation to the finish line are all evaluated. The axial reduction should have uniform thickness throughout the different positions, as different areas need more reduction, while others need less, based on material and aesthetic demands. There should be no areas where the gingiva is over the cord. If this does occur, that area is refined with the radiosurgical unit to ensure a full view of the cord 360° around the tooth of tooth-tissue-cord.

One of the main reasons we use polyvinyl-siloxane impression materials is because they are repourable. If adequate strength and thickness of this material are not obtained through the proper radiosurgical troughing technique, then the impression may tear upon separation of the model. Having an impression tear after the first pour limits the ability to fabricate a well-fitting restoration.

When a clear tooth-tissue-cord and a visible, sharp finish line are present, the rubber dam is removed and the preparation is evaluated in all dimensions with the naked eye. At times the OM can create a ‘cannot-see-the-forest-for-the-trees’ type of situation, so it is always valuable to take another look from a different perspective without the OM. This can allow one to identify sharp angles or irregularities in the preparation.

Full-arch impressions

A full-arch impression is taken with a single tray for the arch that contains the prepared tooth. For the opposing arch, a full-arch alginate impression is taken. With full-arch impressions, a bite registration is usually not required. Most often, one chairside assistant is utilized for the entire procedure, but for difficult and challenging impressions, a second assistant may be utilized for saliva or tongue control.

Once all the impressions have been taken, a provisional is fabricated, refined, polished and cemented. Shades are taken and the patient is released with post-operative instructions.

Reference

Replacing missing teeth within the esthetic zone in an esthetically satisfactory fashion has been and still is a major challenge in dentistry. High esthetic expectations and the addition of implant therapy have only increased the challenge. It is, therefore, necessary for clinicians and technicians to fully understand all the available options and limitations as well as when and how to best utilize them.

The goal is to design a smile that fits the patient’s functional, biological and emotional needs. Modern techniques and materials can be useless if the final outcome does not live up to the patient esthetic expectations.

The protocol that is presented will improve the esthetic diagnosis, the communication and the predictability of anterior ceramic restorations.

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**Dr Christian Coachman**

received his dental degree from the University of São Paulo and his dental technology certificate from Rocha Mamm School (São Paulo, Brazil). He completed a dental ceramic specialization program and opened his own laboratory in 1996.

Dr Coachman was an instructor at the Ceramoart Ceramic Training Centre (São Paulo, Brazil) in 2001. From 2001 to 2004, he worked as a technical consultant at Oraltech, São Paulo. He is a founder and has been a lecturer at the Insight Group Ceramic Training Centre (Bauru, Brazil) since 2003. He is a member of the Brazilian society of esthetic dentistry.

From 2004 to 2008, Dr Coachman was the head ceramist of Team Atlanta consisting of Dr Ronald Goldstein, Dr David Garber and Dr Maurice Salama. He lectures and publishes internationally in the fields of cosmetic dentistry, oral rehabilitation, dental ceramics and dental implants.

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