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 urged 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 claimed to have delivered over 850,000 dental check-ups to teenagers under 16, more than 850,000 dental treatments altogether. In a statement released in the issue and that the law would fairly represent all stakeholders involved. The law was developed by several dental professionals and is aimed at giving victims the right to sue even after they have received treatment. In a public letter to Prime Minister Abhisit Vejjajiva, doctors and dentists stated that the committee that developed the law did not represent all stakeholders in the issue and that the law would give victims the right to sue even after they have received treatment.

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France and the US go digital fast

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 states.

Intraoral X-ray procedures are the most common type of dental X-ray nowadays as they are typically performed in annual checkups. Dental practitioners can choose between analogue film, photosensitive phosphor and digital systems.

Digital sensors are able to take and upload X-ray images of teeth to a computer immediately, which eliminates the labour necessary for the development of physical film. By reducing film loss, digital imaging also reduces the total number of X-rays taken and in turn decreases patient exposure to radiation.

FDI congress adds to Singapore title

Singapore has recently been claiming the position of best city and country to hold business meetings in Asia for the third consecutive year. In 2009, the city housed over 600 meetings that met international criteria, including the Annual World Dental Congress of the FDI World Dental Federation.
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.

DT Asia Pacific: Ethical guidelines for dentistry already exist. Why did you decide to publish a handbook on the issue?

Assistant 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 because ethical issues that arise in the delivery of any healthcare services are usually accompanied by legal issues. In this handbook, we also sought to highlight the concept of dental negligence and the relevant provisions of legislation pertaining to this matter in our country.

Forensic odontology and the need for expert witnesses in the field are discussed in the book as well. 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.

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 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.

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) swimwear. Attention to be shifted to their teeth instead, perhaps we could move onto policy discussions. Both of the contenders for Australia’s top job have socially shifted to their teeth instead, perhaps we could move onto policy discussions. Both of the contenders for Australia’s top job have socially shifted to their teeth instead, perhaps we could move onto policy discussions.

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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 midterm. 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 referees. The authors are freelance authors and not affiliated with Dental Tribune International.
Daniel Zimmermann

HONG KONG/LEIPZIG, Germany: 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 keeping 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 News

Air-Flow kills biofilm

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The new Air-Flow handy Perio gets rid of the enemy— with gentle action and utmost precision

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-ci.com

DEEP DOWN, between tooth and gingiva, billions of bacteria managed to proliferate under the cover of malicious biofilm— until now.

Three horizontal nozzle apertures for the air-powder mixture, a separate vertical water nozzle aperture for rinsing: what used to be off limits is now easily reachable, through gentle action and without any risk of emphysema. And since the Air-Flow Powder Perio is particularly fine, the tooth surface is not damaged.

Grain size ~ 21 μm

Together with the Original Air-Flow Powder Perio, the new Air-Flow handy Perio with its unique PerioFlow nozzle tracks down biofilm, even in the deepest periodontal pockets.

Asian bug causes trouble worldwide

Daniel Zimmermann

HONG KONG/LEIPZIG, Germany: 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 bacteria 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.

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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.
Tea not necessarily beneficial for teeth

Daniel Zimmermann
DTI

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
DTI

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. Radioactive material will be included in the directive.

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.

Allow us to introduce ourselves: Kettenbach. In Germany we are world-famous.

Kettenbach Simply intelligent

It really would have been possible to meet each other much sooner, because in 1955 we were already the first company worldwide to supply elastomeric, condensation-curing impression materials. And by now the news has made the rounds internationally that our research department is responsible for groundbreaking developments in the A-silicone sector. Thus, our partners in laboratories and dental practices are always a bit ahead of their time. You don’t know us yet? Then please invite us in and test the Kettenbach precision products.

www.Kettenbach.com
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

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 about 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 implant-based tooth replacement be used?”, “What are the advantages of dental implants 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

Suits 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. Free 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 patient the advantages of dental implantology as well as different indications and treatments. For distribution at your reception or waiting room (Figs. 5 a & b).

In-clinic patient video

To be played in the clinic’s waiting room, LCD screen, consultation room and patient semi-open houses. Flash version with more clinical animation e.g. implant process, how to make an implant choice, 5 indications of single tooth missing, multiple teeth missing, edentulous jaw etc.

Reference


Fig. 1: Brochure

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.

Fig. 2a: Leaflet

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.

Fig. 2b: Leaflet

These items are available: 
- Brochure (A5)
- Leaflet holder
- Poster (A5)
- Flipchart (Calendar/table-top)
- Implant passport (Credit-card size)
- 3:1 Premium Illustration model

Fig. 3: Leaflet Holder

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Reference


2 Brolg Survey 2008, Germany.
ROXOLID™
THE NEW “DNA” OF IMPLANT MATERIALS

ROXOLID™ – Exclusively designed to meet the needs of dental implantologists.
Roxolid™ offers ■ Confidence when placing small diameter implants ■ Flexibility of having more treatment options ■ Designed to increase patients’ acceptance of implant treatment

More information on www.straumann.com/roxolid

COMMITTED TO SIMPLY DOING MORE FOR DENTAL PROFESSIONALS
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, sticky/erythematos 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. 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, ², ⁴

1. Kills plaque bacteria for a full 12 hours² to help reduce plaque by up to 98% and gingivitis by up to 88%³

2. Triclosan reduces inflammatory mediators, such as PGE₂⁴ that may be associated with systemic health.


Refer to Colgate Total for approved uses.
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.

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

A powerful combination

- **Triclosan** is an effective broad-spectrum antibacterial that helps prevent and reduces plaque, a cause of periodontal inflammation\(^1,3\)

- The **Copolymer** helps ensure the delivery and retention of triclosan on the surface of teeth and gingiva for clinically proven 12-hour antibacterial protection\(^1,4\)

- **Extensively Researched**: Proven effective over a range of patient benefits in more than 60 well-controlled clinical studies with over 16,000 patients\(^5\)

- Brushing with **Colgate Total®** is more effective in reducing plaque and gingivitis than brushing with regular fluoride toothpaste\(^2,3\)


Greater reduction in gingival bleeding vs regular fluoride toothpaste\(^4\)


In this issue of WDC, we are pleased to have FDI Dental Practice Committee and Dental Amalgam Task Team (DATT) member, Dr Stuart Johnston discuss his involvement with FDI World Dental Federation and share his vision for oral health.

**WDC: As a practicing dentist, what made you decide to devote your time to addressing issues affecting dental practice at an international level?**

Dr Stuart Johnston: I initially became involved with organized dentistry at the local level because I was dissatisfaction with the system of dentistry in the UK. After some time, I became Chairman of the local body and went on to represent the UK at the national level.

People gave me jobs to do and I didn’t say “no”. I enjoyed it… I enjoyed learning and actively making a better future for myself and colleagues in UK.

“Accidently” I had the opportunity to attend the FDI Congress in New Delhi, in 2004, as a representative of the British Dental Association. I wasn’t sure what to make of it at first, it seemed very complex. But after this experience, I reflected on the opportunities FDI involvement presented and quite liked it—the complexity of it, it was something completely new, I wanted to understand FDI, what we could do, how I could help raise the profile of my home association there. There is a symbiotic relationship, representing BDA at FDI and bringing benefits back to dentists in the UK.

You were recently invited to join FDI Dental Amalgam Task Team (DATT). What is the rationale behind the formation of DATT?

It is fascinating work—the way these colleagues have communicated with one another around the world, all cooperating, and the quality of debate is superb. The FDI Council mandated that a Dental Amalgam Task Team (DATT) be established to ensure that the international dental community and issues regarding dental amalgam were properly and adequately represented in United Nations discussions regarding mercury and would be based on the best available science. For details see UNEP Intergovernmental Negotiating Committee on Mercury Available at www.unep.org/en-US/Default.aspx.

The DATT consists of a representative from each of the FDI standing committees, three Council representatives and where required be supplemented with subject matter experts.

**Where does the DATT stand now and what role does it play in FDI overall mission?**

At the UNEP meeting in Stockholm, 7-11 June 2010, I was privileged to represent FDI Dental Amalgam Task Team. This meeting saw a continuation of the process begun in November and we had the opportunity to lobby delegates to our position to avoid an all-out amalgam ban. DATT is looking to develop information for member NDAs to take back to their countries to communicate with their governments directly. It will be governments who vote on this, so we require a team effort to achieve the desired result.

In regards to dental amalgam, it is not a health issue because the dental profession has a significant body of evidence that the use of amalgam as a restorative material is safe with respect to human health. However it is the broader considerations with regards to mercury that the intergovernmental negotiating committee is addressing.

**Is FDI developing a position on environmental waste?**

We must be seen as doing everything we can, including:

- Make sure all waste is collected properly in dental surgery and properly disposed of and re-cycled wherever possible, to avoid contamination.

- Move away from bulk mercury, which can be misappropriated for small scale gold mining, towards capsule mercury, which avoids spillage.

- Where do you see your work taking you with FDI?

I am enjoying what I am doing now. It means a juggling act with FDI involvement, the BDA where I am from and the Representative Body, running dental practice, and European work.

Dr Stuart Johnston qualified in General Dental Practice School and has worked in his own practice for the last 32 years. He is the DPC member on the FDI Dental Amalgam Task Team (DATT).

**What does the FDI World Dental Federation offer to the dentists?**

The world is changing and FDI helps us to understand this change at international or global level. For example, amalgam is prime issue. FDI can represent this at the international level for the dental profession. Another example is OIC and how it fits together, there is serendipity—the strategy for dealing with carveys sees a reduction in need for amalgam.

There is a huge opportunity to make a real difference through FDI. For example, since amalgam is a major issue in many countries, part of FDI’s work is the duty to help colleagues in developing areas. There is a global responsibility which we should take, but amalgam issue—this shows that we are one world, working together for better oral health.

**What plans does the FDI Dental Practice Committee (DPC) have for 2010?**

I have been a Member of DPI for just over a year. I am now chair of the Indian Dentists’ Association, which is a position I have held for nearly a year. We have been approached by the World Dental Development Fund (WDDF) of FDI to start 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, 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.fdiworldental.org/es/node/109
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 Batangay 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 Philippine 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 centers 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.

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Grand opening of FDI head office in Geneva, Switzerland

Friday 23 April 2010 saw the official opening of the new FDI World Dental Federation head office and the start of a new chapter in FDI’s evolution. FDI secretariat have been settling into the new location since the move from Ferney-Voltaire, France, last September immediately following Congress.

The move from France to Switzerland reflects the diversity of FDI membership. Geneva is international crossroads with its multicultural population, in a country with four official languages, located in heart of Europe and well connected to rest of the world. Also significant is the fact that Geneva is a Capital of Health, with FDI neighbours including the World Health Organization, World Heart Federation, International Federation of Red Cross, and Medecins sans frontiers. Furthermore the consolidation of FDI businesses under a single entity provides more simplified management and a favourable taxation environment.

Attending the ceremony were FDI Council members and staff, FDI members, corporate sponsors, partners and other NGO’s. Mr Stéphane Graber, Délégué au Service de la Promotion Economique du Canton de Genève, and Mr André Klopmann, Chargé des ONG internationales, Canton de Genève, represented the Canton de Genève.

A ribbon-cutting ceremony was performed by FDI President, Roberto Vianna. FDI Executive Director, David Alexander, and for the Canton de Genève, André Klopmann. Guests enjoyed a brief tour of the office on the 5th floor having a sneak peak of FDI’s new “home” and FDI’s colourful windows.

The Grand Opening ceremony coincided with FDI Council meeting. Despite the Icelandic volcanic ash incident which made traveling difficult, a good number of guests could still attend the ceremony. However, some aspects of the event were postponed, such as the bidding for the 2015 congress. This has now been scheduled to take place in September in Salvador.

Excerpt from FDI President’s speech
Roberto Vianna: “Feel proud that FDI World Dental Federation—one of the world’s oldest international health profession organizations—has found a new home in this city, with neighbours including the World Health Organization, United Nations, and World Trade Organization.”

“...From our new home in Geneva, we are well positioned to collaborate with our many partners in health, continuing to serve as the worldwide, unified voice for oral health; to promote oral health globally; and to deliver excellence in continuing professional education and access to care to communities worldwide.”

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 of what awaits them in the exotic Bahia state. The programme has been carefully developed to show the various aspects of the local culture.

Visit the FDI website to access the social programme.
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-cover restoration can minimise many difficulties associated with the preparation of a tooth for a crown, obtaining an accurate impression, and the achievement of a precise fit, 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 identify the rubber dam and the tissues that are easy to impress and temporise. Magnification of 2 to 24x is available with the OM. Management of gingival health and biological width is important in 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.

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 irritate 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.

Good patient management

Working at high magnification with the OM requires good patient and procedural management. If the patient moves about or is uncomfortable, the operator cannot concentrate on preparation 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 rubber 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.)

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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/line 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 #118 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 impress it.

With a radiosurgical unit, inflamed tissue can be removed such that the healthier tissue is exposed to our haemostatic agents. Healthy haemorrhagic tissue responds better to haemostatic agents than inflamed haemorrhagic tissue does. When inflamed tissue is encountered, use of high magnification and the radiosurgical tip to conservatively contour or remove this nuisance tissue can provide a predictable result. Reducing tissue thickness but not modifying tissue height can leave the gingival tissue in proper position such that we achieve nice aesthetics in our final result.

Handpiece and bur choices

The final item and of least concern in this protocol are the air-driven handpiece and bur choices.

In a stepwise fashion for an individual crown preparation, the primary concern is achieving an accurate impression, proper finishing, isolation and tissue management. If a practitioner follows the diagnosis, magnification, isolation and tissue management protocol, then bur and handpiece choices will fall into place on their own with time and experience. I typically use an air-driven handpiece and an assortment of Axis turbo diamonds.
ment of proper anaesthesia such that the patient is comfortable in all capacities. Once this is done, the rubber dam is placed. I use a split- or slit-dam technique. The key to success with this rubber dam technique and crown preparation is the distance at which the holes are placed apart from each other. Generally speaking, holes are punched too close together for this technique. It is best to punch the holes at a distance from each other on the dam that essentially matches the true anatomical distance between the teeth to be isolated.

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(er) 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. For example, if right-handed, 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. Hopefully, I have not diminished the importance of this step, 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.

Indirect vision on the lower arch is the part that is refined using axial reduction. The difficult area to visualise, so this is the part that is refined using axial reduction. The steps for axial reduction

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-huecal (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 limited saliva in anxious, 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 lingual sides. 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.

Tissue management and cord placement

Once all occlusal and axial reductions have been accomplished, the next step is tissue management and cord placement. I use a #14 tip to create a conservative trough around the tooth, mostly removing tissue thickness and/or reducing any volume of inflamed tissue. This is a very conservative step under the OM. The OM allows precise and accurate tissue removal, and increases tactile sense and the steadiness of our hands.

A size 00 cord is placed in a haemostatic agent to soak at the start of the procedure. Literature supports that a cord soaked for 15 to 20 minutes in a haemostatic agent works better than any other alternative cord/haemostatic agent combination or method.1 Personal clinical experience and observations find this to be true. With the radiosurgical 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 area, including the thin and/or other debris. Occasionally, a BUC-I endodontic tip (Ultradent), 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. This is done with 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 occurs, 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


Dr Craig M. Barrington practices general dentistry in Waco, Texas, USA, with his wife, and has a particular interest in endodontics and microscope dentistry. He can be contacted at cbdds002@prodigy.net
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 where, when and how to best utilize them.

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