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ORTHODONTICS

DT contributor Aws Alani, London, discusses the emergence and future implications of short-term orthodontics in general practice.

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DATA SECURITY

The principles of moving and protecting one's data and what dentists should consider to not become the next Ashley Madison.

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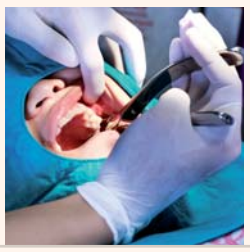

AVOIDING PROBLEMS

Some tips not usually included in traditional textbooks or lecture notes to help general practitioners to perform safer extractions.

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More UK dentists see no future for their profession

By DTI

One in two dentist would not recommend dentistry as a career.

BIRMINGHAM, UK: Recent changes to the dental care system seem to have taken their toll on dentists' expectations for the future of their profession. According to a recent poll conducted by Birmingham financial service provider Wesleyan, half of the dentists surveyed stated that they would advise against entering the field when asked whether they would recommend dentistry as a career to friends or family members.

Most of those surveyed named increasing costs, including those for education and training, along with changes to pay and working conditions, as the main reasons for the grim future of the field. The overall majority admitted that pressure on the profession owing to these changes has increased.

Other issues, such as the introduction of the new NHS dental contract and the changes to the NHS Pension Scheme, were also identified as having an impact on the field in the years to come.

"There are huge stresses in the dental profession and great unhappiness, even fear, regarding our regulator, not to mention an uncertain NHS future," Judith Husband, a dentist and member of the Wesleyan Members Advisory Board, said. "More than half of dentists in England and Wales are associates and, because of the massive rise in the value of practices, it is becoming increasingly difficult for those with an ambition to own their own practice to actually achieve this."

In an earlier Wesleyan poll conducted among dentists last year, only every third dentist said that he or she would recommend the profession to others. In sharp contrast, more dentists then ever would choose to enter the profession again if given the opportunity to start over. According to the latest poll, almost two-thirds of dentists would choose the same career path again, compared with 60 per cent in 2014.

"Practising dentistry and looking after patients remains a rewarding career with lots of varied opportunities," remarked Husband on the results.

World largest dental companies merge

DENTSPLY International and Sirona Dental Systems have entered into a definitive merger agreement and will operate under the name of DENTSPLY SIRONA in the future. Both companies will retain their respective headquarters. The current DENTSPLY head office in York will serve as the new company's global headquarters, while the international headquarters will be located in Salzburg.

Upon close of the transaction, Jeffrey T. Slovin, current president and CEO of Sirona, will serve as CEO of DENTSPLY SIRONA and will be a member of the board of directors. Bret W. Wise, current chairman and CEO of DENTSPLY, will assume the position of executive chairman of the newly founded company. In their respective positions, they will collaborate in executing the corporate strategy and in integrating the companies and their respective corporate cultures.

Together, the companies expect to generate a net revenue of about US$3.8 billion (€3.4 billion) and adjusted EBITDA of more than US$900 million (€796 million), excluding the incremental benefit of synergies.

First Brit to assume presidency of world's largest ortho body

By DTI

LONDON, UK: Former President of the British Orthodontic Society Dr Allan R. Thom is the new President of the World Federation of Orthodontists (WFO), the organisation announced on the last day of its 2015 international congress in London. He is the first orthodontist from the UK to assume the presidency of the specialist body, which represents 110 orthodontic societies around the globe.

Thom (right) with his predecessor Dr Roberto Justus.

Thom is taking over the role from Dr Roberto Justus from Mexico, who has headed the WFO for the last five years. In his first speech, he said that under his presidency the WFO will help young dentists and those living in areas of civil unrest to play a more active role in the organisation.

"There must be strong support for our present fellows and elected representatives in these countries who are trying to maintain both a service and high standards for patients under challenging conditions," he said.

Thom's term as president will end in 2020. An expert witness from Tunbridge Wells in Kent, Thom has been a consultant orthodontist and author of clinical books for over 30 years. Among other things, he helped to establish an orthodontic service in Malta when working as a consultant adviser to the country's health department. He has also served on the WFO's Executive Committee for over a decade.

Maternal stress linked to higher caries prevalence in children

By DTI

SEATTLE, USA/LONDON, UK: New research has related chronic maternal stress to a higher prevalence of cavities among children. The study, which was conducted by researchers at King's College London and the University of Washington, further showed that chronic stress levels also influenced mothers' care-taking behaviors, such as breast-feeding, dental visits, and giving breakfast daily.

While this is not the first study to associate maternal exposure to stress with childhood cavities, it is the first to examine the relationship using biological markers of chronic stress, an incident known as allostatic load (AL). In order to measure the impact of maternal stress on children's oral health, the researchers analysed data from 716 US mothers of children aged two to six. Data was taken from the 1988–1994 National Health and Nutrition Examination Survey. The investigators noted that even though the data used was relatively old, the public availability of the file allowed for a unique opportunity to analyze mother–child pairs from a large US study sample.

The findings showed that caries was more common among children whose mothers had two or more biological markers of AL compared with no such markers—44.2 per cent vs. 27.9 per cent. They further identified that maternal AL was associated with socio-economic status, affecting care-taking behaviors, such as breast-feeding, dental visits, and giving breakfast daily.

"Mothers with lower income were significantly less likely to breastfeed or to have taken their child to the dentist in the prior year. They were also less likely to feed their child breakfast than higher income counterparts. It is important to better understand the dynamics of these links, so that we might develop effective public health programs and interventions," Dr. Wael Sabbah, a senior lecturer at the Dental Institute at King's College, remarked.

In the study, mothers who had one or more markers of AL were significantly less likely to breast-feed than those with a normal AL level. This behavior was found to affect caries prevalence in children, as dental cavities were almost twice as common among children whose mothers did not breast-feed than those whose mothers did—62.9 per cent vs. 37.1 per cent.

"This study uniquely highlights the importance of considering the influence of socioeconomic status and maternal stress on children's oral health through mothers' struggles to adopt healthy patterns that are major predictors of dental cavities, such as brushing her children's teeth regularly, maintaining healthy dietary habits and taking regular visits to the dentist for preventive care," Erin E. Masterson, a PhD student from the schools of Public Health and Dentistry at the University of Washington, said.

"Policy that aims to improve dental health, particularly the prevalence of cavities among children, should include interventions to improve the quality of life of mothers. Chronic maternal stress as a potential risk factor is something we need to consider, in addition to the wider implications of maternal wellbeing, social, and psychological environment on dental health," Sabbah concluded.

The study, titled "Maternal Allostatic Load, Caretaking Behaviors, and Child Dental Caries Experience", was published online ahead of print on Sept. 17 in the *American Journal of Public Health*.

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PUBLISHER:
Torsten OEMUS

GROUP EDITOR/MANAGING EDITOR DT AP & UK:
Daniel ZIMMERMANN
newsroom@dental-tribune.com

CLINICAL EDITOR:
Magda WOJTKIEWICZ

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AD PRODUCTION:
Marius MEZGER

DESIGNER:
Franziska DACHSEL

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DENTAL TRIBUNE INTERNATIONAL
Holbeinstr. 29, 04229, Leipzig, Germany
Tel.: +49 341 48474-302
Fax: +49 341 48474-173
info@dental-tribune.com
www.dental-tribune.com

Regional Offices:

UNITED KINGDOM
Baird House, 4th Floor, 15–17 St. Cross Street
London EC1N 8UW
www.dental-tribune.co.uk
info@dental-tribune.com

DT ASIA PACIFIC LTD.
c/o Yonto Risio Communications Ltd,
20A, Harvard Commercial Building,
105–111 Thomson Road, Wanchai
Hong Kong
Tel.: +852 3113 6177
Fax: +852 3113 6199

DENTAL TRIBUNE AMERICA, LLC
116 West 23rd Street, Suite 500, New York,
NY 10001, USA
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Short-term gains...long-term problems?

The emergence of STO and its future implications in general practice

By Aws Alani, UK

The provision of orthodontics can be a life-changing experience for young patients whose "crooked" teeth can affect their confidence and self-esteem. Indeed, where mature patients present with a history of malalignment, equally beneficial and fulfilling results can be achieved. In government-funded systems, patients with congenital abnormalities receive treatment that is essential to their ongoing oral health. Restorative dentists work closely with orthodontists, who can appreciate how small details can aid in achieving positive restorative outcomes.

As a young dentist, I corrected a tooth in crossbite with a simple T-spring appliance. It was enjoyable and brought a different type of delayed gradual satisfaction to the more cerebral but tenuous molar endodontics or the more artistic and instant composite build-up. I was not a specialist, but I managed to do some orthodontics. In contrast to my experience, general dental practitioners are now more routinely providing tooth movement with the emergence of short-term orthodontics (STO). This has resulted in some conjecture as to the methods of achieving "straighter" teeth. Indeed, some may consider STO as an emerging entity competing with specialist orthodontics, but should it be?

The specialist training pathway for orthodontics involves a competitive-entry three-year full-time course linked with the achievement of a master's level qualification that many may feel daunted by. Indeed, navigating the pathway from start to finish can be difficult academically and financially when factoring in fees and loss of earnings during training. Once qualified, the majority of these specialists reside, like the majority of all specialists, in the south-east of England. With this skewed distribution of specialists and assumed need for access, it might seem prudent for general dental practitioners to contribute to meeting the need for orthodontics.

Indeed, the long-cited managed clinical networks have yet to be fully realised, although all planning and documentation related to managed clinical networks identify general dental practitioners as integral to the function of the network. The number of orthodontic therapists has gradually increased over the last ten years or so since inception of the first courses in Wales and Leeds. Therapists are allegedly more cost-effective to train and employ in a large orthodontic practice; however, unlike their hygiene or therapy colleagues, they cannot practise without a specialist's treatment plan and supervision.

Patients who qualify for orthodontic treatment under the UK government-funded system need to be assessed according to the index of orthodontic treatment need. There will be an obvious shortfall of adults or adolescent patients with minor malocclusions who do not meet the criteria who would like their teeth straightened. This cohort may have to seek treatment privately from orthodontic specialists or general dental practitioners. As such, these minor or straightforward cases may be managed in a number of different settings utilising various techniques with the advent of STO. This may have resulted in some territorial paranoia between the two camps of traditional orthodontics versus STO systems. Conversely, it may be that differing scientific, technical and ethical ethos on managing the same problem is the source of the debate.

Quick and easy?

Commercialisation has modified the provision of orthodontics in the UK. Indeed, there are now orthodontic brands with courses attached and a

faculty of individuals who promote their particular product. Companies tend to boast that their product is the best with limited complications and treatment being low risk, predictable and easy. Somewhat surprisingly, courses are being run on how to convert patients into orthodontic clients. There are books describing strategies on promoting and increasing revenue. They outline detailed strategies on attracting more patients than one's local competitor—or is that colleague? Sounds more like capitalism than commercialism to many interested observers.

The rapid development of STO has not escaped the venture (or some may say vulture) capitalists. In the same vein as DIY whitening and sports guards, one can now have one's teeth straightened via online companies using products delivered by Her Majesty's Royal Mail and so cut out the middleman (i.e. the dentist). To my knowledge, STO has yet to make it on to the price list of Samantha's, a beauty salon in Peckham.

What may cause fear and worry is that the provision of tooth movement set against a backdrop of a focus on increasing revenue and patient conversion may detract from the real reasons we are providing the treatment. The risk and benefit of treatment must remain balanced or be rebalanced in favour of the patient.

The best things in life are rarely quick, easy and without reflection. While learning or training, one gains stature from one's mistakes and learns by way of osmosis from those of individuals one hopes to emulate. Becoming an expert in many a field requires time, effort and experience. Orthodontics is a complicated discipline that is difficult to deliver optimally and efficiently. Treatment planning should be performed in person not only to appreciate the challenges the patient presents with but also to develop a lasting patient rapport. Equally important, patients need to be diligent during treatment and forever more for purposes of retention. Is it possible that a one- or two-day course with a treatment plan lasting half a year or less can provide equally optimal results to a specialist orthodontist utilising traditional means? In any case, placing a time limit on any treatment could be considered contentious. Patients ask me all the time 'How long is this treatment going to take Doc?' I always reply 'Ill tell you when its finished'. As such I am rarely wrong.

Advertising cosmetic treatments the fair dinkum way

The Australian health ministry recently examined the provision of cosmetic procedures and in particular the modes of promoting the treatments. The working group found that advertising and promotion more often than not focused on the benefits to the consumer, downplaying or not always mentioning risks. The group went on to identify advertising practices that were not driven by medical need and where there was

significant opportunity for financial gain by those promoting these. They identified the need to regulate promotion and advertising ethically with factual, easily understood information from a source that is independent of practitioners and promoters. This is unfortunately not always readily available. In some Australian jurisdictions, there are specific guidelines that need to be adhered to for promotion of cosmetic treatments and they specifically cover before and after treatment adverts, which we know in the UK is a popular practice among the cosmetically driven. This is commonly one ideal, perfect case showcased on the front end of the practice website with no mention of any problems, either acute or chronic. Another aspect of the report detailed prohibition of time-limited offers or inducing potential customers through free consultations for the purposes of treatment uptake. The latter is something that has seen STO promoted by way of voucher deals on the Internet or via smartphone applications. Others may consider such a practice as loss leading; one could ask who is losing and who is gaining and at what price?

One important aspect of the report identified the wider social impact of cosmetic procedures in that people may become increasingly dissatisfied with themselves and their appearance, culminating in deeper concerns for the person and reducing scope for individuality. Many dentists throughout the country may have a slipped contact here, a rotation there or a space distal to a canine who are unlikely to be waiting in earnest for the next voucher deal alert on their iPhones. Inducing misgivings or raising concerns about the patient's tooth position where the teeth are otherwise healthy and the patient presents with no concerns could be considered unethical and worryingly dishonourable.

Relapse of confidence

In a recent publication from an indemnity provider, orthodontics was identified as an emerging area for claims against their clients. This is likely to be the tip of the iceberg, whose size will probably continually grow as more and more orthodontics is provided and the repercussions of which may only become apparent gradually in the future.

In the now highly litigious arena of UK dentistry, the failure of orthodontic treatment against the backdrop of *Montgomery v. Lanarkshire Health Board* is likely to result in increased litigation. The movement of teeth into what the patient and the dentist feel is the correct position may be possible in the short term, but in the long term complications may arise owing to a variety of soft- and hard-tissue factors that cannot accommodate this new and supposedly "right" position. Indeed, orthodontics requires the appreciation of detail where symmetry and alignment are "king", but long-term stability is the likely "empress". Relapse of position is a common complaint and where patients have paid handsomely for a result they may have been happy with at the time of the cheque clearing, over time tiny tooth shuffles can result in disproportionate and vehement dissatisfaction. Where teeth are moved indiscriminately, recession in the labial segment is a complication difficult to explain and remedy in the high lip line of a conscientious and ambitious corporate female patient. Indeed, more haste, less speed may result in a case being etched longer in the memory of the patient and the clinician for the wrong reasons.

Clear steps to business building

A cornerstone of a successful business is the repeat customer who values the dentist and his or her service and returns with no qualms or misgivings about what the dentist feels should be provided. A successful business relies on patients returning in the long term owing to their positive experiences. Focusing on short-term gains without due consideration of quality or reliability of the treatment provided has potential repercussions for patients, the business of dentistry and perception of the profession.

Aws Alani *is a Consultant in Restorative Dentistry at Kings College Hospital in London, UK, and a lead clinician for the management of congenital abnormalities. He can be contacted at awsalani@hotmail.com.*

"We need to stay open-minded to new crazy ideas"

An interview with Dr Rickard Brånemark, Sweden

The concept of osseointegration has been applied to dental implants for several decades. As an orthopaedic surgeon and engineer, Dr Rickard Brånemark has continued the work of his famous father by adapting the concept to the treatment of amputees. In an recent interview with *Dental Tribune* at the EAO congress in Sweden, Brånemark explained the benefits and future possibilities of osseointegrated amputation prostheses.

Dental Tribune: Dr Brånemark, could you please give an outline of the development of osseointegrated prostheses?

Dr Rickard Brånemark: The work started by my father was the foundation of what we do in orthopaedics today. Using his concept, I developed new treatments for amputees based on osseointegrated implants, which I have been performing for about 25–30 years now.

Since 1998, I have mostly worked with my own companies, namely Brånemark Integration, the dental company I started with my father, and Integrum, which does all the development for orthopaedic osseointegration. However, we now also have multinational collaborations with universities in Gothenburg, Vienna, San Francisco and Chicago, and hopefully also Göttingen in the near future. As the Swedish implant system has recently been approved by the US Food and Drug Administration (FDA) for the treatment of amputees, I am currently establishing an orthopaedic osseointegration centre in San Francisco and am working closely with the US Department of Defense, which has many soldiers with amputations and is thus very interested in supporting our work.

Dr Rickard Brånemark

What do you consider the main challenges of this treatment?

Anchoring something to the bone is the core of osseointegration technology and that is a fairly robust technology we have proven in millions of dental implants. However, in orthopaedics, we face additional challenges. There are, for example, no materials available today that are strong enough to withstand 20–50 years of high physical activity. Therefore, we have developed and continue to develop new materials and surfaces that better withstand the higher loads.

Another important concern is the mucosal area and skin penetration, which is maybe even more challenging. We are working with a concept very similar to the old Brånemark protocol and the bone-anchored hearing aid in that we have a smooth surface that is not an attachment. There are many groups working with attachments and, as far as I know, all have failed, especially in the orthopaedic field.

However, just like with every surgical procedure, the outcome largely depends on the skills of the surgeon too.

For the last six years, you have also been using osseointegration in conjunction with implanted electrodes. Could you tell us more about this programme?

Yes, we are also developing the next generation of amputation prostheses. In addition to the osseointegrated implant, we are able to attach electrodes to muscles and nerves to have a brain-controlled prosthesis, which helps us to direct the prosthetic device in a much better way and provides feedback. This is extremely important for truly restoring function.

The main advantage of our approach compared with our competitors is that they have to use wireless technology because they do not have the means to bring wires out of the body owing to the risk of infection. However, we have this fantastic osseointegrated implant to use as a conduit so that the wires can pass through the implant system. Similar to a fibre-optic Internet connection, the wired connection in a robotic arm is much better, stable and robust.

We have already successfully treated one patient. However, our research is still in the early phase, but I think we could do amazing things in the future.

Do you think that osseointegrated prostheses could potentially replace traditional prostheses in the future?

This treatment would not apply to amputations of the lower leg as a result of poor circulation caused by diabetes or vascular diseases related to smoking. Such patients constitute about 90 per cent of the amputee population. However, the younger population who have been in road or war accidents or who have musculoskeletal tumours, which are more likely to occur in younger patients, will be candidates for this treatment.

If the technology continues to be as promising as it appears now, the majority of patients will opt for it—just like they now have the choice between dentures or fixed dental implants, which are much better for the patient. There will be a shift, but this will take some time. The introduction of dental implants took about 17 years; similarly, this shift could take another ten to 20 years. However, receiving FDA approval and having the system in use by the military could definitely speed up the establishment.

Overall, this treatment offers many alternatives to conventional treatments. However, there is often too much conservatism in the dental and medical fields when it comes to innovations, but I think we need to stay open-minded to new crazy ideas. This research shows what might be possible in the future. We might be able to restore sensory function of a non-existing limb, creating good artificial sensation. It also shows that the dental and the medical professions should work more closely together. As one can see, there are many synergies that could be drawn from the fields of dental and orthopaedic research in our case. The idea of translation of knowledge was also the original idea of the EAO, which has now become a purely dental meeting. This is a pity because we have to collaborate more, but maybe there will be more cross-disciplinary presentations and meetings in the future.

Thank you very much for the interview.

LONDON'S **TOP 10** ATTRACTIONS

1. BRITISH MUSEUM

The world-famous British Museum exhibits the works of man from prehistoric to modern times, from around the world. Highlights include the Rosetta Stone, the Parthenon sculptures and the mummies in the Ancient Egypt collection. Entry is free but special exhibitions require tickets.

2. NATIONAL GALLERY

The crowning glory of Trafalgar Square, London's National Gallery is a vast space filled with Western European paintings from the 13th to the 19th centuries. In this iconic art gallery you can find works by masters such as Van Gogh, da Vinci, Botticelli, Constable, Renoir, Titian and Stubbs. Entry is free but special exhibitions require tickets

3. NATURAL HISTORY MUSEUM

As well as the permanent (and permanently fascinating!) dinosaur exhibition, the Natural History Museum boasts a collection of the biggest, tallest and rarest animals in the world. See a life-sized blue whale, a 40-million-year-old spider, and the beautiful Central Hall. Entry is free but special exhibitions require tickets.

4.TATE MODERN

Sitting grandly on the banks of the Thames is Tate Modern, Britain's national museum of modern and contemporary art. Its unique shape is due to it previously being a power station. The gallery's restaurants offer fabulous views across the city. Entry is free but special exhibitions require tickets.

5.THE LONDON EYE

The London Eye is a major feature of London's skyline. It boasts some of London's best views from its 32 capsules, each weighing 10 tonnes and holding up to 25 people. Climb aboard for a breathtaking experience, with an unforgettable perspective of more than 55 of London's most famous landmarks – all in just 30 minutes!

6. SCIENCE MUSEUM

From the future of space travel to asking that difficult question: "who am I?", the Science Museum makes your brain perform Olympic-standard mental gymnastics. See, touch and experience the major scientific advances of the last 300 years; and don't forget the awesome Imax cinema. Entry is free but some exhibitions require tickets.

7. VICTORIA & ALBERT MUSEUM

The V&A celebrates art and design with 3,000 years' worth of amazing artefacts from around the world. A real treasure trove of goodies, you never know what you'll discover next: furniture, paintings, sculpture, metal work and textiles; the list goes on and on… Entry is free but special exhibitions require you to purchase tickets.

8. TOWER OF LONDON

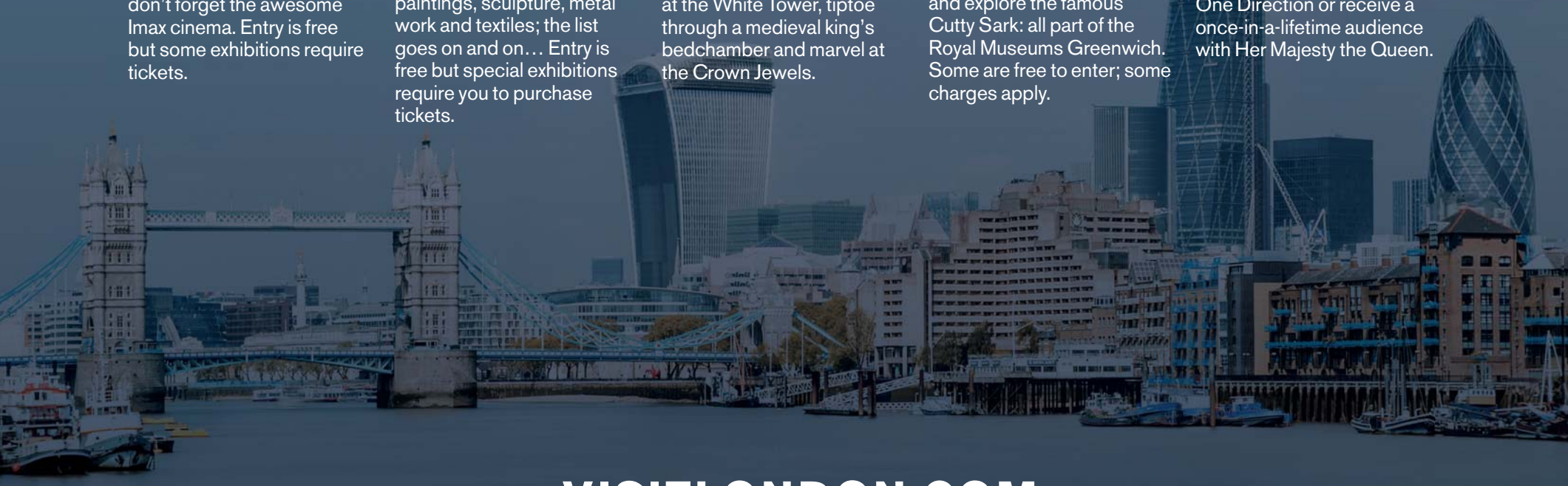
Take a tour with one of the Yeoman Warders around the Tower of London, one of the world's most famous buildings. Discover its 900-year history as a royal palace, prison and place of execution, arsenal, jewel house and zoo! Gaze up at the White Tower, tiptoe through a medieval king's bedchamber and marvel at the Crown Jewels.

9. ROYAL MUSEUMS GREENWICH

Visit the National Maritime Museum - the world's largest maritime museum, see the historic Queen's House, stand astride the Prime Meridian at Royal Observatory Greenwich and explore the famous Cutty Sark: all part of the Royal Museums Greenwich. Some are free to enter; some charges apply.

10. MADAME TUSSAUDS

At Madame Tussauds, you'll come face-to-face with some of the world's most famous faces. From Shakespeare to Lady Gaga you'll meet influential figures from showbiz, sport, politics and even royalty. Strike a pose with Usain Bolt, get close to One Direction or receive a once-in-a-lifetime audience with Her Majesty the Queen.



VISITLONDON.COM

FDI releases second edition of *Oral Health Atlas*

By DTI

BANGKOK, Thailand: The FDI World Dental Federation has released the second edition of its *Oral Health Atlas* at the Annual World Dental Congress (AWDC) in Bangkok in Thailand. Titled *The Challenge of Oral Disease—A Call for Global Action*, it aims to serve as an advocacy resource for all oral health care professionals and recommends strategies to address the global challenge of oral disease.

At the launch event held at the Bangkok International Trade and Exhibition Centre, Dr Habib Benzian and Prof. David Williams, the publication's editors-in-chief, presented the new edition of the atlas and spoke with DTI group editor Daniel Zimmermann about the contents of the book and the global challenge of preventing oral disease and implementing adequate oral health care worldwide.

The first edition of the *Oral Health Atlas*, titled *Mapping a Neglected Global Health Issue*, was released at the FDI 2009 AWDC in Singapore and highlighted the extent of the problem of oral disease worldwide. The second edition of the atlas provides an update of the global health challenge and reflects on policies and strategies that address the burden of oral disease, such as tooth decay, periodontal disease and oral cancer, Benzian pointed out.

The book summarises the key oral health issues based on the latest available information from various international sources, Benzian and Williams explained, including the impact of oral disease, major risk factors and inequalities in oral health, as well as oral disease prevention and management. Moreover, it aims to ensure that oral health is granted higher priority on the global health and development agendas. Written for national dental associations, health organisations, industry professionals and the general public, the atlas provides them with the means to address policy-makers, governments and local authorities based on sound facts so that they can better advocate for change in oral health-related policies, Williams said.

Dr Habib Benzian (left) and Prof. David Williams, editors-in-chief of the second edition of the Oral Health Atlas.

Benzian and Williams discussing the new publication with WDD Editor Daniel Zimmermann, DTI, during the launch event.

According to the atlas, only about two-thirds of the world's population have access to adequate oral health care, even though oral disease, particularly tooth decay, is among the most common human diseases. "Untreated tooth decay is the most common health condition of children across all countries, recently confirmed by the Global Burden of Disease Study looking at the burden of 281 diseases and conditions," said Benzian. "Children with severe untreated tooth decay are impacted in their growth, have frequent episodes of pain, miss days in school and have a generally lower quality of life," he continued. They also usually have the lowest access to oral health care and preventive services, added Williams. Therefore, the two editors-in-chief hope that the second edition of the *Oral Health Atlas* will most of all serve as an advocacy tool for institutions, policymakers and dental associations in their effort to improve access to oral health care worldwide.

The compilation of the new edition of the *Oral Health Atlas* was supported by the Hong Kong Dental Association and the FDI's Vision 2020 oral health initiative. The book content includes chapters and data from 30 contributors, and was reviewed and edited by the two editors-in-chief.

The atlas can be downloaded free of charge from the FDI website and will be translated into the FDI's official languages of French and Spanish. These versions will be available electronically in early 2016.

Clear aligners more beneficial than braces

By DTI

MAINZ, Germany: In recent years, clear aligners have become a favourable treatment alternative in orthodontics to fixed orthodontic appliances (FOA). However, there are few studies about the effects of aligner treatment on oral hygiene and gingival condition. A team of German researchers has now compared the oral health status, oral hygiene and treatment satisfaction of patients treated with FOA and the Invisalign aligner system. They found that Invisalign patients have better periodontal health and greater satisfaction during orthodontic treatment.

To date, the majority of patients, particularly during childhood and adolescence, are treated with FOA. However, these appliances tend to complicate oral hygiene and thus interfere with patients' periodontal health. Moreover, treatment with FOA is not very popular in adult orthodontics for aesthetic reasons. Therefore, other orthodontic techniques have been developed to improve aesthetics and simplify oral hygiene procedures. An alternative to FOA is clear aligners, which are discreet and have the advantage of being removable during oral hygiene and eating or drinking. The use of clear aligners has increased greatly in the last decade, one prominent example being Invisalign, produced by Align Technology since 1999. However, only a limited number of studies have compared the effects of Invisalign and FOA on oral hygiene, the researchers from the Johannes Gutenberg University of Mainz pointed out.

Their study included 100 patients who underwent orthodontic treatment, divided equally between FOA and Invisalign, for more than six months. The researchers performed clinical examinations before and after treatment to evaluate the patients' periodontal condition and any changes. Furthermore, a detailed questionnaire assessed the patients' personal oral hygiene and dietary habits, as well as satisfaction with the treatment. All of the patients received the same oral hygiene instructions before and during orthodontic treatment. This included the use of toothbrush, dental floss and interdental brushes three times daily.

The data analysis showed no differences between the two groups regarding periodontal health and oral hygiene prior to the orthodontic treatment. However, the researchers observed notable changes in periodontal condition in both groups during orthodontic treatment. They found that gingival health was significantly better in patients treated with Invisalign, and the amount of dental plaque was also less but not significantly different compared with FOA patients.

The questionnaire results showed greater satisfaction in patients treated with Invisalign. Only 6 per cent of the Invisalign patients reported impairment of their general well-being during orthodontic treatment, compared with 36 per cent of the FOA patients.

Other negative effects that also were significantly higher in FOA patients included gingival irritation (FOA: 56 per cent; Invisalign: 14 per cent), being kept from laughing for aesthetic reasons (FOA: 26 per cent; Invisalign: 6 per cent), having to change eating habits during orthodontic treatment (FOA: 70 per cent; Invisalign: 50 per cent), and having to brush one's teeth for longer and more often (FOA: 84 per cent; Invisalign: 52 per cent).

The researchers concluded that orthodontic treatment with Invisalign has significantly lower negative impacts on a patient's condition than treatment with FOA, both with regard to gingival health and overall well-being.

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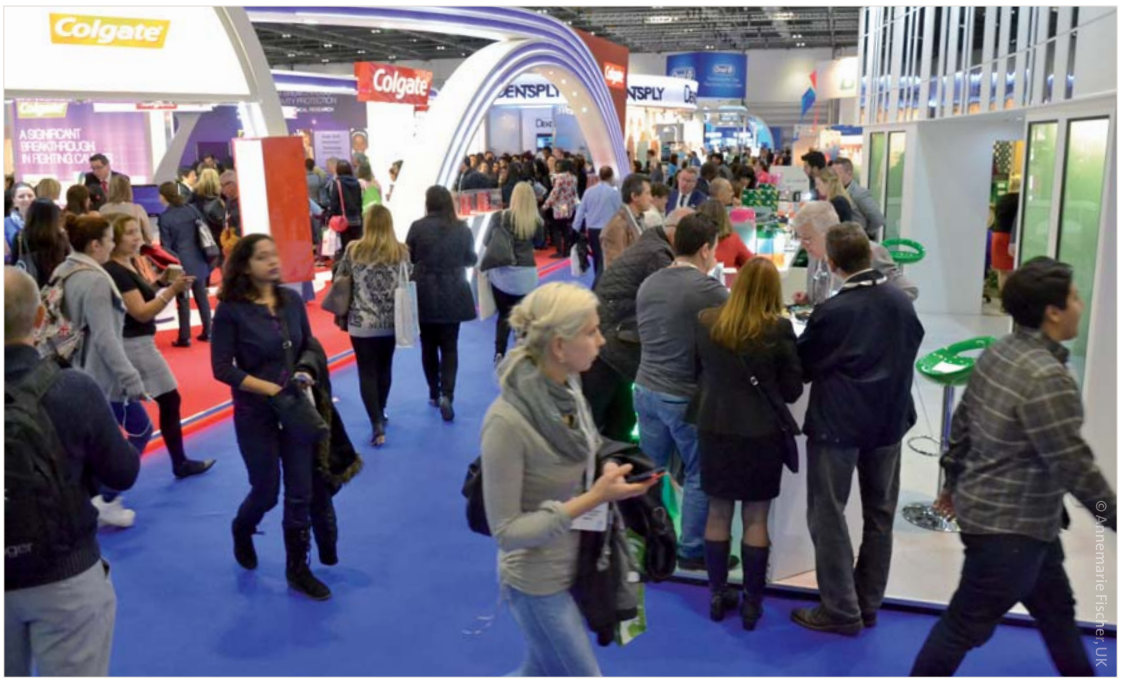
NEC welcomes dental professionals to BDIA Dental Showcase 2015

By DTI

In October, the National Exhibition in Birmingham becomes the epicentre of all things dentistry in the UK again. This year's show, which follows a highly successful edition in London, promises to set another milestone with hundreds of dental companies, dealers and service providers showcasing their portfolio of innovative products and solutions for dental practices and laboratories. Some of them will be available to dental professionals in the UK for the first time, such as the TS1 Tongue Sanitizer, a revolutionary device that simply fits onto the saliva ejector and effectively removes bacterial tongue coatings in just one minute.



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On display will also be new and updated equipment such as handpieces, dental units, practice management systems or whitening solutions. Overall, up to 350 dental companies have registered for this year's exhibition, which will run from 22–24 October at Britain's largest convention and exhibition centre.

"There is no better way to see, touch and use all manner of dental equipment. With over 300 exhibitors Showcase is a great opportunity for the whole team to keep up to date with a vast range of products, from instruments and devices to technology, software, regulation and government policy. In fact, all the things needed to keep your practice one step ahead," said BDIA president Mike Cann.

Along with the industry showcase, over 100 mini-lectures will be held over all three days, including product presentations and papers on clinical issues discussed by nationally distinguished experts. By attending these lectures, visitors are entitled to continuing professional development certification. Instructions on how to obtain the certificates are provided on the show's website.

Visitors who have not registered for the show in advance can still gain admission onsite. Daily news and updates from the show will be available at the DT UK website and through the daily *Dental Tribune UK* newsletter. To access the news stream, please scan this QR code with your mobile device.

"Any non-compliant or counterfeit medical device is a risk to public safety"

An interview with MHRA investigator and BDIA Dental Showcase presenter Maxine Marshall, London

In response to an increase in counterfeit and unapproved dental products seized in the UK, the Medicines and Healthcare products Regulatory Agency (MHRA) launched an initiative in partnership with the British Dental Industry Association (BDIA) last year to make dental professionals aware of the dangers these products can pose to their own and their patient's safety. *Dental Tribune* had the opportunity to speak with investigator Maxine Marshall, who will discuss the dangers of buying dental products online during her mini-lecture programme in Birmingham, about the outcome and what needs to be done to ensure the removal of these products from the market.


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Maxine Marshall

Dental Tribune: **Last year saw a worrying number of counterfeit or unapproved dental goods being seized in the UK. Were the majority of these products purchased online?**

Maxine Marshall: Most of them were. In the years 2013 and 2014, we seized about 12,000 individual pieces of dental equipment, with the majority being curing lights, dental handpieces, files, pliers and other equipment that dentists use. That was quite a large seizure for that year.

What is the estimated number of unknown cases?

Unfortunately, we do not know and this is one of reasons that we are continuing our work with the BDIA. This year, our main focus is to communicate to health professionals that they need to report to us. If there is an incident with the equipment purchased or if they think it is not what they had bought, instead of disposing of it, they should submit a report. Any non-compliant or counterfeit medical device is a risk to public safety or patient safety. Our main objective is to try to stop such products coming into the UK at the port of entry, but we can only do that if we can trace the product back to the source from which it was purchased.

Purchases of critical devices can be made through various channels nowadays. What are the ones to be the most cautious of and what product categories are the most sought after?

Online purchases are made mainly through eBay or Google. There, one can simply search for handpieces or curing lights, for example, and from there be taken to the respective websites. The majority of the devices that we seize in the UK come from China via the ports and quite often through fulfilment houses. Of most concern are dental handpieces, especially those that run at very high speeds. If something happens in the patient's mouth when using such a device, it can be quite nasty.

Together with the BDIA, you launched the Counterfeit and substandard Instruments and Devices Initiative last year to heighten awareness of these products among dental professionals. Have these efforts paid off in your opinion?

From 2014 to 2015, we have actually seen a reduction in the number of investigations we conducted. Our latest figures are from four weeks ago. We hope that much of it has to do with the work that we are doing with the BDIA. On top of that, the MHRA, General Dental Council and NHS England have formed a working group over the last 12 months and they regularly discuss the issue of dental equipment. All these organisations have also sent out messages to all health professionals through publications and general lines of communication to raise dentists' awareness of the importance of buying from reputable sources.

Would you say that awareness among dental professionals has generally improved?

We hope it has, considering the amount of work we have put into this. This matter is something we want to focus on at the BDIA Dental Showcase. One of the things we need to do is to talk to dentists at our stand and ask them if they have seen anything we put out on this issue. Hopefully from that, we will receive positive feedback. I do believe the message is getting out there, if not initially to everyone, but we are getting there.

Thank you very much for the interview.