

DENTAL TRIBUNE

— The World's Dental Newspaper • United Kingdom Edition  —

PUBLISHED IN LONDON

www.dental-tribune.co.uk

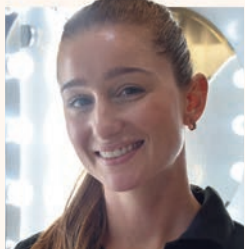
VOL. 10, No. 10



DIGITAL DENTISTRY

Orthodontist Dr Asif Chatoo explains how he progressed through all aspects of modern day technology.

► Page 8



INTERVIEW

London dental hygienist-therapist Theodora Little on the benefits of individual training of oral prophylaxis.

► Page 10



COSMETIC TRIBUNE

Read the latest news and clinical developments from the field of endodontics in our specialty section included in this issue.

► Page 15

Oral cancer thrives based on lifestyle

Cases have almost doubled throughout the population since the late 1990s

By DTI

LONDON, UK: Lifestyle habits like smoking, drinking alcohol or an unbalanced diet, in addition to human papillomavirus infections, appear to have resulted in a surge of oral cancer in the UK. New data released by Cancer Research UK in London on the occasion of Mouth Cancer Action Month in November, show that the incidence of the disease has increased significantly throughout the population over the last 20 years.

Cases have almost doubled since the late 1990s, from eight to 13 cases per 100,000 people.

The highest increase was observed in women, among whom the incidence of oral cancer has soared through all age groups in the last two decades by a staggering 71 per cent. In comparison, the incidence rate of breast cancer, the most common cancer in British women, increased by 10 to 20 per cent in the same period. Oral cancer is almost seven times as high in women over 50, in whom the organisation reported



2,200 cases in 2015, compared with 300 cases in women under 50.

A similar situation was found among men. Oral cancer rates climbed by 54 per cent to 4,400 reported cases in men under 50 and by 67 per cent to 640 reported cases in men over 50.

Men currently account for two-thirds of all reported oral cancer cases in the UK.

"It's worrying that oral cancer has become more common," said Jessica Kirby, Cancer Research UK's Senior Health Information Manager. "Healthy lifestyles can help reduce the risk of developing

the disease in the first place. Not smoking, drinking less alcohol and eating plenty of fruit and vegetables can all help to cut our risk of mouth cancer."

In view of the figures, Cancer Research UK has now called on local councillors and the public to help protect vital Stop Smoking

Services, which are under threat owing to budget cuts. It has also developed an oral cancer toolkit in cooperation with the British Dental Association (BDA) to help general medical practitioners, dentists, nurses and hygienists spot early signs of the disease and refer suspected cases sooner.

According to research, survival rates can be improved significantly if the disease is identified early.

"Early detection is key, and a check-up can mean the difference between a 90 and 50 per cent survival rate," commented Dr Russ Ladwa, Chair of the Health and Science Committee at the BDA.

Smoking has been identified as the greatest avoidable risk factor for oral cancer, linked to an estimated 65 per cent of cases, in addition to drinking alcohol and following a diet low in fruit and vegetables. A recent study conducted by University of Derby researchers also confirmed a link between these lifestyle choices and a higher risk of developing head and neck cancer from human papillomavirus infections.

Prescriptions of antibiotics decrease

By DTI

LONDON, UK: In line with general medical practices and hospitals, dental practices in the UK for the first time prescribed fewer antibiotics last year. According to a new report issued by Public Health England (PHE) as part of the English surveillance programme for antimicrobial utilisation and resistance (ESPAUR), dentists gave out approximately 7 per cent less of the two most prescribed antibiotics, amoxicillin and metronidazole, in 2015 than in 2014.

Across all health sectors, 2.2 million fewer antibiotic prescriptions were dispensed in the community last year. The overall consumption of antibiotics in 2015 was 21.8 defined daily dose

per 1,000 inhabitants per day, a 4.3 per cent decrease from the 22.9 DDD recorded by PHE in the previous year, the report states.

Dentists are currently responsible for 5 per cent of antibiotic prescriptions, with the overall majority given out by general medical practitioners and hospitals.

The figures are relevant in view of the roll-out of a new dental toolkit developed by the dental subgroup of ESPAUR in collaboration with the Faculty of General Dental Practice (FGDP) and the British Dental Association (BDA). It includes an easy self-audit tool and patient-facing posters and leaflets to support effective antimicrobial stewardship in dentistry.

"Dentists have a vital role to play in keeping antibiotics working. Audit helps us fulfil our professional responsibility only to prescribe antibiotics when it is appropriate to do so, and the new tool is an easy way to measure our practice against clinical guidance, and identify, implement and sustain any changes we need to put in place," FGDP Dean Dr Mick Horton said.

Dentists are able to download the free toolkit from both the BDA and FGDP websites.

Despite the drop in prescriptions, resistance to antibiotics is further on the rise across all sectors in the UK. The proportion of bloodstream infections resistant to piperacillin/tazobactam, the most

frequently used combination antibiotic for the treatment of sepsis, for example, has increased by almost 50 per cent over the last four years.

The government has vowed to reduce inappropriate prescribing by 50 per cent by 2020 to tackle the problem.





MEZGER '16

IMPRINT

PUBLISHER:
Torsten OEMUS

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

CLINICAL EDITOR:
Magda WOJTKIEWICZ

ONLINE EDITOR:
Claudia DUSCHEK

EDITOR:
Anne FAULMANN

ASSISTANT EDITOR:
Kristin HÜBNER

COPY EDITORS:
Sabrina RAAFF, Hans MOTSCHMANN

PRESIDENT/CEO:
Torsten OEMUS

CFO/COO:
Dan WUNDERLICH

MEDIA SALES MANAGERS:
Matthias DIESSNER
Peter WITTECEK
Maria KAISER
Melissa BROWN
Weridiana MAGESWKI
Hélène CARPENTIER
Antje KAHNT

INTERNATIONAL PR & PROJECT MANAGER:
Marc CHALUPSKY

MARKETING & SALES SERVICES:
Nicole ANDRAE

ACCOUNTING:
Karen HAMATSCHEK

BUSINESS DEVELOPMENT:
Claudia SALWICZEK-MAJONEK

EXECUTIVE PRODUCER:
Gernot MEYER

AD PRODUCTION:
Marius MEZGER

DESIGNER:
Franziska DACHSEL

INTERNATIONAL EDITORIAL BOARD:
Dr Nasser Barghi, Ceramics, USA
Dr Karl Behr, Endodontics, Germany
Dr George Freedman, Esthetics, Canada
Dr Howard Glazer, Cariology, USA
Prof. Dr I. Krejci, Conservative Dentistry, Switzerland
Dr Edward Lynch, Restorative, Ireland
Dr Ziv Mazor, Implantology, Israel
Prof. Dr Georg Meyer, Restorative, Germany
Prof. Dr Rudolph Slavicek, Function, Austria
Dr Marius Steigmann, Implantology, Germany

Published by DTI

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
535, Stillwater Drive 5
Manchester M11 4TF
Tel.: +44 161 223 1830
www.dental-tribune.co.uk

DT ASIA PACIFIC LTD.
c/o Yonto Risio Communications Ltd,
Room 1406, Rightful Centre,
12 Tak Hing Street, Jordan,
Kowloon, 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
Tel.: +1 212 244 7181
Fax: +1 212 244 7185

© 2016, Dental Tribune International GmbH

DENTAL TRIBUNE
The World's Dental Newspaper - United Kingdom Edition

All rights reserved. Dental Tribune makes every effort to report clinical information and manufacturer's product news accurately, but cannot assume responsibility for the validity of product claims, or for typographical errors. The publishers also do not assume responsibility for product names or claims, or statements made by advertisers. Opinions expressed by authors are their own and may not reflect those of Dental Tribune International. Scan this code to subscribe our weekly *Dental Tribune UK* e-newsletter.



Combat dental anxiety in children

By DTI

SHEFFIELD, UK: For sufferers of dental anxiety, the fear of dental procedures and check-ups can often lead to neglect of oral care, poorer dental health, and a sense of depression or shame. A new study conducted by researchers at the University of Sheffield has looked into the efficacy of cognitive behavioural therapy (CBT) as a means of addressing dental anxiety in children, over one-third of whom experience such fear, and achieved good results.

In the study, the researchers aimed to develop a guided self-help CBT resource to reduce dental anxiety in children. This fear can prevent children from receiving

important dental care, so understanding the root of the issue is an important step in seeking to address the problem. Interestingly, research recently conducted in the US has found that dental anxiety may not only be caused by environmental factors, but also be a result of genetic influences. Irrespective of the aetiology, reducing the fear of dental visits in children is a valuable corrective action that can ideally lead to lifelong healthy dental habits.

In the first phase of the study, a qualitative approach was utilised to guide the development of the resource. The second phase involved children between the ages of 9 and 16 who suffered

from dental anxiety being asked to trial the CBT resource. Available in hard copy or online, the CBT resource allowed a variety of techniques and tools to be employed by the children. These included squeezing a stress ball, writing a message to the dentist and choosing a small reward. The children's relative levels of dental anxiety were assessed through the completion of questionnaires prior to and after using the resource.

In addition, the feasibility of this resource for children was analysed through a combination of interviews and focus groups with children, parents and caregivers, as well as dental professionals. The researchers found

that the use of the CBT resource resulted in 60 per cent of the children feeling less worried about visiting the dentist. Additionally, the participating children were found to have a corresponding increase in health-related quality of life after their use of the CBT resource. The study findings will be employed in the development of a more definitive trial to investigate the treatment success and cost-effectiveness of this resource.

The study, titled "Development and testing of a cognitive behavioral therapy resource for children's dental anxiety", was published online on 1 November in *JDR Clinical and Translational Research*.

New Exeter dental education facility

By DTI

EXETER, UK: Replacing an old dental training facility at Heavitree Hospital, the new Dental Education Facility was opened last week in Exeter. In addition to the training of Plymouth University students in the five-year dental and three-year dental therapy and hygiene undergraduate programmes, it will offer basic dental procedures, like filling, extraction and root canal therapy as well as periodontal treatment, for local NHS patients.

The facility in Exeter will be run and managed by the Peninsula

Dental Social Enterprise, a non-profit organisation that aims to improve oral health across the South West.

With a capacity upgrade, it will offer 42 chairs, as well as a 16-chair Simulated Dental Learning Environment, where students can test and improve their clinical skills on smart dummies.

According to university officials, it will also provide a suite of postgraduate programmes, allowing dentists and other dental health professionals from the area to further their careers through education.

The opening was attended by Chief Dental Officer for England Dr Sara Hurley, who said that the facility is the spirit of best practice in care, learning and social enterprise. "Recognising a need to improve access, the Exeter Dental Education Facility offers not only a place for excellent patient care but an outstanding environment for the high quality of training of the next generation of dental professionals," she said.

Exeter Member of Parliament Ben Bradshaw added: "It was great to see the students learning in such state of the art facilities and the local patients benefitting from

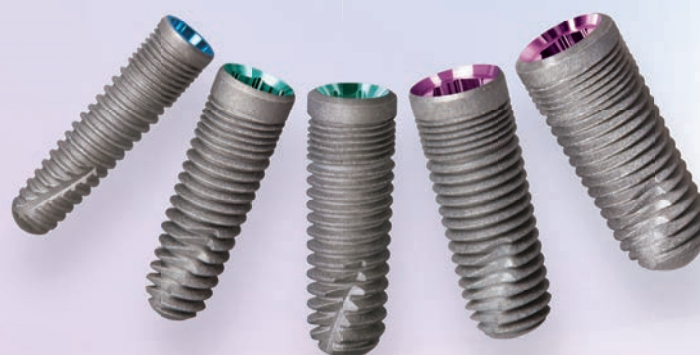
their care. The dental school has been a valuable asset for Exeter in recent years and it is wonderful to see it in such a fantastic, brand-new setting."

The dental training facility in Exeter originally opened in 2008 and has provided NHS dental care by students under supervision of qualified dental professionals to more than 18,000 people across Devon and Cornwall, according to Peninsula figures. There are currently four dental education facilities run by the organisation in the South West, with the other three based in Plymouth and Truro.

Introducing Innovative and High-Quality Restorative Solutions



INCLUSIVE®
TAPERED IMPLANT SYSTEM



Industry-standard Internal Hex Connection

NEW!

HAHN™
TAPERED IMPLANT

Industry-standard Conical Connection



INCLUSIVE®
MINI IMPLANT SYSTEM



INCLUSIVE®
PROSTHETIC COMPONENTS



Industry-compatible Prosthetics

For more information

+49 (0) 69-2475 144 30

glidewelldirect.com | orders@glidewelldental.de

Glidewell Direct is actively seeking distribution channels

GLIDEWELL DIRECT **EUROPE**
CLINICAL AND LABORATORY PRODUCTS

Society for Women in Dentistry launched

By DTI

LONDON, UK: It is estimated that by 2020 over half of dentists in the UK will be women. In order to address particular challenges related to the feminisation of the workforce, as well as to encourage and inspire women to achieve their full potential in the field now and in the future, the Society for Women in Dentistry was officially launched this month.

The introduction event in London saw presentations by outgoing Executive Dean of King's College London Dental Institute Prof. Dianne Rekow, British Dental Association executive member Dr Alison Lockyer, and General Dental Council adviser and practice owner Dr Sana Movahedi, each of them speaking about their own careers in dentistry and the current issues women in the field face.

Open to dental students and professionals across all universi-



In 2020, over half of dentists in the UK will be female.

ties, the society will be welcoming both women and men to join and support them in their endeavour

for a more diverse and equal workforce throughout the profession, not just on entry, the organisers

said. In addition to several events, including a series of lectures to be held this year focusing on various

specialities, in which successful individuals in their profession will describe their own career pathways, the society plans to hold regular networking events for undergraduates to meet each other and create contacts with fellow students, graduate dentists and working professionals.

It also announced plans to hold an event in March next year, coinciding with International Women's Day, to raise the profile and celebrate the contributions of women in dentistry.

Despite their increasing number in the workforce, female dental professionals are still under-represented in most of the 13 specialities, except dental public health, paediatric dentistry, special care dentistry and oral microbiology. Moreover, woman professionals are less involved in leadership, according to the society, preventing them from influencing decisions made at higher levels.

New perspectives at Belfast Oral Health Conference

By DTI

BELFAST, UK: Under the theme of "Perspectives", members of the British Society of Dental Hygiene and Therapy (BSDHT) recently met at Belfast Waterfront convention centre to discuss how oral health issues affect overall health. One of the largest gatherings of dental care providers in the UK, this year's Oral Health Conference aimed to look beyond the mouth in order to gain fresh perspectives

on the wider impact of the dental profession.

Introduced by four chief dental officers this morning, the programme started off with papers on peri-implantitis, presented by Liverpool dentist Dr Ian Dunn, and new concepts in the association between oral disease and systemic disease, discussed by hygienist Juliette Reeves. Over the course of the 18–19 November, the role of dental hygienists and ther-

apists in oral and maxillofacial surgery practice, radiation protection and stress management, among other topics, was also in focus. Participants were able to gain valuable continuing professional development points by attending the lectures and hands-on sessions.

The congress was supported by a number of major industry competitors, including Colgate-Palmolive, CURAPROX, Dentsply

Sirona and GC. Over 300 members and interested dental professionals took part in the event. According to BSDHT President Michaela O'Neill, it offers a valuable opportunity for members to come together and share ideas, as well as advance their approach to their careers.

"This is more than a learning opportunity; I want our members to shrug off their early winter blues and join us in Belfast to cele-

brate all things great about our career," she said. "I am asking our members to come to the conference with an open mind, be willing to learn and share ideas and don't be afraid to shake up the dental world."

"I want our members to go home thinking that they have new perspectives and connections which will help take them even further in their careers," she continued.

The BSDHT currently represents over 4,000 members across the UK. Its main conference is held biennially, and the last two were held in Liverpool.

2016 Young Dentist Endodontic Award

By DTI

LONDON, UK: Described as a prize to recognise future stars in dentistry, the Young Dentist Endodontic Award has been given since 2012 to young clinicians who have performed outstanding clinical work. This year, the jury recognised Dr Satnam Singh Virdee from Cardiff for his treatment of a case of chronic periapical periodontitis due to an infected root canal in a 36-year-old male patient.

The 26-year-old dental core trainee was awarded first prize, competing against fellow clinicians Dr David Bretton from Huddersfield, who took second place with a routine, but highly well executed endodontic case, and Dr Jasneet Gulati from London, who submitted a case of an 18-year-old

treated with mineral trioxide aggregate for apical closure.

As the winner, Virdee took home an X-Smart iQ WaveOne Gold starter kit with dual cordless motor and an iPad mini from Dentsply Sirona.

"His was the most technically challenging case," explained Dr Julian Webber, dentist at the Harley Street Centre for Endodontics in London and founder of the award. "The tooth had been treated before, but poorly, and the canals were curved with apices close to the maxillary sinus."

"This was the kind of case for which a specialist referral would normally be warranted," he added.

Webber and his co-judges, Dr Trevor Lamb, another London-



Winner Satnam Singh Virdee (left) and runner-up David Bretton.

based endodontic specialist, and Pro-Vice-Provost at University College London Prof. Andrew Eder, selected the winning entries from dozens of contributions submitted by dentists from

all over the UK during the last six months. Deciding who should take the first three places was very challenging owing to the high-quality of the treatment, according to them.

"As we looked through these entries, supported by extensive references and a highly rigorous approach, from diagnosis and presentation of options to the shaping, cleaning and obturation of canals, at every stage using the correct technique, we had to keep reminding ourselves that these young dentists were effectively still in training. They are rising stars in the field of endodontics and a credit to their teaching hospitals and tutors," Webber said.

This year marked the fifth time that the award was given to young professionals in the field of endodontics. Those who would like to compete will have their chance when the next competition begins in spring next year. Further details will be announced through the British Endodontic Society website.



Tribune CME



Clinical Masters™ Program in **Specialist for Regeneration** - Dental Implantology and Periodontology

Berlin: 8 - 9 October, **Berlin:** 26 - 27 November, **Berlin:** 14 - 15 January 2017, **Berlin:** 4 - 5 March 2017, **Berlin:** 22 - 23 April 2017,
Berlin: 10 - 11 June 2017, **Berlin:** TBA

A total of 14 days on location

Internationally acknowledged and leading experts from universities and private clinics will teach the participants in all aspects of dental bone and tissue regeneration.



Werner Götz



Ralf Smeets



Jörg Neugebauer



Heike Steffen



Stefan Hägewald



Dávid Botond Hangyási



Daniel Rothamel



Oender Solakoglu



Markus Schlee



Marco Kesting



Daniel Grubeanu



Branko Sinikovic



Alireza Houshmand



Bodo Hoffmeister



Online access to our
library of Lectures & Clinical Videos

Registration information:

www.TribuneCME.com

Curriculum fee: €11,950
+ VAT (if applicable)

tel.: +49 341 84 74134 | email: request@tribunecme.com

Sponsors:



84 C.E.
CREDITS

Certificates will be
awarded upon completion

ADA C.E.R.P.®
Continuing Education Recognition Program

Tribune Group GmbH is an ADA CERP provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.



Tribune Group GmbH is designated as an Approved PACE Program Provider by the Academy of General Dentistry. The formal continuing dental education programs of this program provider are accepted by AGD for Fellowship, Mastership and membership maintenance credit. Approval does not imply acceptance by a state or province board of dentistry or AGD endorsement. The current term of approval extends from 7/1/2014 to 6/30/2016. Provider ID# 355051.

Foreign studies show e-cigarettes harmful to oral health

By DTI

ROCHESTER, USA/QUEBEC CITY, Canada: In the Western world, electronic cigarettes continue to grow in popularity among young adults and current and former smokers because they are often perceived as a healthier alternative to conventional cigarettes. However, two recent studies conducted by scientists in the US and Canada have found that regular exposure to e-cigarette vapours causes damage to the gingival tissue, which may lead to infection, inflammation and periodontal disease.

Both studies investigated the effect of e-cigarettes on oral health on cellular and molecular levels through *in vitro* experiments. The team of Prof. Mahmoud Rouabhia from the Faculty of Dentistry at Université Laval in Quebec City exposed gingival epithelial cells to e-cigarette vapour, finding that a large number of these cells died within a few days. "Mouth epithelium is the body's first line of de-



fense against microbial infection," Rouabhia explained. "This epithelium protects us against several microorganisms living in our mouths."

To simulate what happens in a person's mouth while inhaling, the Canadian researchers placed human epithelial cells into a small chamber containing a saliva-like liquid. E-cigarette vapor was pumped into the chamber at a rate of two 5-second "inhalations" per

minute for 15 minutes a day. Observations under the microscope showed that the percentage of dead or dying cells, which is about 2 per cent in unexposed cell cultures, rose to 18, 40 and 53 per cent after one, two and three days of exposure to e-cigarette vapour, respectively.

"Contrary to what one might think, e-cigarette vapour isn't just water," Rouabhia stated. "Although it doesn't contain tar compounds

like regular cigarette smoke, it exposes mouth tissues and the respiratory tract to compounds produced by heating the vegetable glycerine, propylene glycol, and nicotine aromas in e-cigarette liquid."

The cumulative effects of this cell damage have not yet been documented, but they are worrying, according to Rouabhia. "Damage to the defensive barrier in the mouth can increase the risk of infection, inflammation, and gum disease.

Over the longer term, it may also increase the risk of cancer. This is what we will be investigating in the future," he concluded.

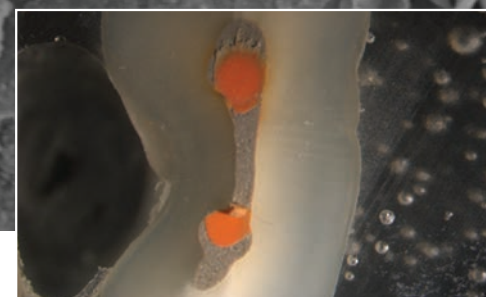
Researchers at the University of Rochester Medical Center in the US came to similar conclusions. Dr Irfan Rahman, Professor of Environmental Medicine at the university's School of Medicine and Dentistry, and his colleagues exposed cell cultures of human gingival epithelial cells and periodontal ligament fibroblasts to e-cigarette vapours. "We showed that when the vapours from an e-cigarette are burned, it causes cells to release inflammatory proteins, which in turn aggravate stress within cells, resulting in damage that could lead to various oral diseases," he explained.

Most e-cigarettes feature a battery, a heating device and a cartridge to hold liquid, which typically contains nicotine, flavourings and other chemicals. The US researchers found that the flavouring chemicals negatively affect gingival cells too. "We learned that the flavourings—some more than others—made the damage to the cells even worse," said study author Fawad Javed, a postdoctoral resident at Eastman Institute for Oral Health, part of the university's medical centre.

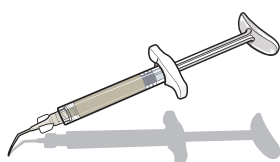
Intratubular Biomineralization

following root canal obturation with GP+Endoseal MTA

SEM image (X10,000) of cross section at 5mm level from the root apex



Simple · Smart · Safe



ENDOSEAL MTA
Mineral Trioxide Aggregate
ROOT CANAL FILLING MATERIAL

PREMIXED INJECTABLE PASTE

3g Syringe

- Simple premixed injectable paste type
- Fast setting time
- Adequate flowability
- Excellent film thickness
- Dimensional stability
- Outstanding sealing property
- Insolubility
- Tooth color
- High radiopacity
- Easy retrieval
- Antibacterial effect
- Biocompatibility
- Promoting hard-tissue formation

IDS 2017
Hall 2.1 Aisle D No:58



MARUCHI

TEL : +82-33-734-0330 help@endocem.com
www.endocem.com

MTA is evolving
by MARUCHI

“Going green is our business, not somebody else’s, but everybody’s responsibility”

An interview with Dr Claudio Pinheiro Fernandes, Brazil

By Kristin Hübner, DTI

Measures to reduce waste and pollution and to conserve natural resources such as water and energy already play a major role in many aspects of daily life. Likewise, acting in an environmentally friendly manner is becoming increasingly important in dentistry as well. *Dental Tribune* spoke with Dr Claudio Pinheiro Fernandes, head of the Sustainable Dentistry Center at Fluminense Federal University in Nova Friburgo in Brazil and consultant to the FDI World Dental Federation’s Science Committee, about sustainability principles in dentistry, the preservation of natural resources and the economic dynamics of going green.

Dental Tribune: Being environmentally friendly is becoming increasingly important in everyday life. When did this topic first gain momentum in dentistry?

Dr Claudio Pinheiro Fernandes: Sustainability is relevant to everyone and we face this challenge every day. Every single newspaper that one opens includes something about climate change or sustainable development. It is the responsibility of dentistry too to become involved as a profession to pursue sustainability in the field of oral health for the good of society.

The dental profession is being challenged by the increasing demand for better oral health care for more people in more countries than ever. At the same time, we have the challenge of needing to do so using less resources. In this context, the question of how exactly we are to do that arises.

What can dentists do and what defines a sustainable practice?

As dentists, we have to realise that there are certain aspects and areas of our work that can be organised better. From a procedural point of view and concerning the equipment used, there are certain sustainability principles to consider. Take a simple example: when one buys a refrigerator or an air conditioner today, one looks for energy efficiency labels that indicate the most efficient device in terms of its energy use. This means that it is good both for one’s pocket, being cheaper to run, and for the environment, since it needs less energy. Why do we not have this kind of labelling on dental equipment? We could introduce energy-efficient dental equipment, with labels indicating the device’s energy use. That would be one way of going green.

Another thing to keep in mind is how much water we use. That is an extremely important issue in dentistry. A dentist uses eight

times more water than the average person does—a large volume! Usually the equipment used in daily practice causes this high consumption. For example, some brands of suction equipment use clean water to drive the suction mechanism. On average, they use 200 litres per hour and this water goes from the pumps directly to the drain. Of course, suction is important, but could we not apply different technologies to achieve the same results? Do we have to waste clean water for this?

In many respects, dentists cannot implement a shift themselves alone; awareness of the importance of sustainability is important on the company side as well.

That is why the FDI is taking a stand on the sustainability issue right now. The whole thing started back in 2012 during the Rio+20 meeting, the United Nations Conference on Sustainable Development, in which the FDI had decided to participate. Back then, we had already begun collecting information and thinking about what we could do in dentistry. I represented the FDI in those meetings and I was able to see how much we could do even without going to a great deal of trouble. For example, the most sustainable thing to do is to focus on prevention. If we act on prevention of oral disease, this would reduce the need for extensive treatment and the related use of products and, in particular, the associated generation of a large volume of waste, as well as the substantial amount of water and energy required, and the large carbon footprint that all of this creates.

Speaking of waste management, what should dentists consider?

A great deal of waste is generated in dentistry and some of it is very toxic. Another issue that the FDI has pursued is the Minamata Convention on Mercury, which includes the phase-down of dental amalgam. We have to face our responsibility of dealing with amalgam waste, for example. Nordic countries are a good example in this regard, having implemented well-established amalgam management practices for many years.

One area in which we could do a great deal more is the management of recyclable materials. All the disposable materials that we use in dentistry generate hundreds of kilograms of waste every day. What can we do to address recycling of those materials? A considerable amount of waste is generated with disposable barriers, gloves and masks. Much of this could be safely recycled with current technologies.

How open is the dental community regarding this? When it comes to change, such as going digital, there are early adopters and some that find it difficult to adjust to something new.

That is a good point. Digital dentistry represents a different mindset on production. The primary objective is to have more



Dr Claudio Pinheiro Fernandes

control and to be more efficient in production; however, a third point is that digital technology generates less emissions, since there is less transportation and less product waste. This is just one example that serves to demonstrate that there are many more efficient means of manufacture. Certainly, digital dentistry is one of those areas of increasing technology use that results in greater sustainability. Science, technology and innovation play a key role in most areas of business. Improvements in efficiency, accessibility and cost-effectiveness of products and processes may allow fulfilment of global need in a more sustainable way. Furthermore, dental research needs to be directed towards improving sustainability in dentistry.

Dentistry may be considered a very conservative profession. How difficult is it to change the predominant mindset?

We are doing that already. One way or another, people are coming to realise that going green is our business, not somebody else’s, but everybody’s responsibility. We as dentists have to play our part as well. In addition to efficient equipment and waste management, we should consider the topic of recycling, particularly in light of all the products that we use in daily practice.

I think that the most important thing is education. We need to include education on sustainable development in undergraduate programmes and in continuing education programmes. That way, new and experienced dentists alike will learn how to actually practise environmentally friendly dentistry. The national dental asso-

a number of issues that will improve the environment on the one hand, as well as social and economic development on the other. By utilising the environment in an intelligent, sustainable manner, we allow society to develop in a healthy way. We need to have jobs, we need to produce, but we can all do that in a responsible manner and at the same time sustain a good economy.

When it comes to food and clothing, an eco-friendly lifestyle is often more expensive than the alternative. For dentists, is there an economic barrier to going green as well?

Yes, there are challenges regarding entry, and investment is required because everything must be reoriented to the future. As with everything, it is very difficult to start all over again, but when attitudes change, when dentists actively decide to pursue sustainability, then they will start reviewing their own procedures and little by little implement change. The good news is that, once one actually starts to implement a sustainable approach, it becomes evident that energy and resources were wasted before—which is not a good business strategy. There will be a return on investment. One’s patients, one’s clients and the public will recognise one as an active member of a responsible society. It will take time and effort, but the dental profession will achieve this.

So in the future it could be a selling point for companies to identify themselves as “green”.

Yes, this is already happening in many business areas, because the public is driving sustainability awareness by seeking more sustainable alternatives. As always, there may be some companies that already say that about themselves even if they have not achieved that yet. However, standards have already been established to determine whether certain things have been applied. Based on these indicators of sustainability, auditors and reviewers are able to evaluate objectively whether sustainability is being achieved by the company.

Of course, investment is required in the beginning. However, some business reports indicate that going green can save as much as 40 per cent of costs on water, energy and unnecessary product waste, which is a great deal of money. Many companies, big and small, are already considering it their corporate responsibility to act for the social and environmental good.

Thank you very much for the interview.

My complete conversion

London lingual orthodontics provider Dr Asif Chatoo describes his navigation of digital technology

My professional journey has no end or destination. If I ever felt satisfied by one system and I applied it in the same way without acquiring new knowledge or discovering more advanced technologies and materials, I would consider myself ready for retirement, which I am certainly not.

My voyage through digital technology, however, has just reached a natural conclusion. I realised recently that I had progressed through all aspects of digital technology as it relates to orthodontic treatment and I had completed a circle (Fig. 1).

My journey started with photography some years ago, but the process accelerated, and in recent years, everything has gone digital, including radiography, re-



Dr Asif Chatoo

cord-taking, treatment planning, and the manufacture of brackets and wires.

Over the course of my digital conversion, I have tried several different systems, all of which have delivered important benefits. The system I have used most as I completed the digital circle over the last two years is suresmile (OraMetrix). It is a treatment management system and among its benefits is that I am able to provide a highly customised service in a shorter space of time, saving on average six months of treatment time per patient.

I have had a digital scanner for some time, but this month I acquired an updated 3Shape TRIOS scanner. It is extremely fast and allows my team to take completely accurate and detailed records of patients' upper and lower arches. In the past, the process took half an hour, but now it is immediate.

The Scope of Digital Technology in Orthodontics



1

Adult patients are particularly grateful not to have impressions taken, and the orthodontic nurses are delighted to avoid this most trying aspect of record-taking. It was invariably messy. Being impression-free has brought more value to the team than going paperless.

It goes without saying that a key benefit of digital technology is the integration of the orthodontic processes and records. For instance, a scan of the patient's teeth can be superimposed on to a photograph, which I can in turn integrate with a grid. I can relate the tooth positions to facial planes and check that the dental midline is centrally located. I can show the patient his or her teeth and bite and I can provide him or her with a visual simulation of the difference that treatment will make. The patient can then ask questions. My vision for the finished result may not be the patient's vision and being able to manipulate the outcome on screen means one

its entirety will cost in excess of £20,000. Patients expect perfection—in so far as it is possible in an ageing dentition—and they expect a high level of service. Suresmile allows me to deliver both. Rightly for a West End practice, many of the benefits of suresmile relate to communication and the care of patients with high expectations, but there are also personal benefits for the clinician.

In my case, there is one that surpasses all others. Bending archwires at the end of treatment is almost always inevitable and it is an aspect I dread. Why am I so hung up on this? The reason is that, if one bends a wire on one tooth, one will affect all the other teeth. This will increase the chair-side time. The solution is the robotic wire bending that is central to suresmile.

I aim to deliver several things to my patients: an aesthetic result, a functional occlusion and an occlusion that is comfortable at rest.

“...I had completed a circle.”

can be absolutely sure the patient understands the treatment planning. The patient can influence the treatment if he or she wishes, and if he or she changes his or her mind towards the end, the technology allows for last-minute nuancing.

In order to convey how this approach differs from other treatments on offer, I compare it to the difference between an off-the-peg suit and going to a tailor in Savile Row. Many of the patients I treat at my practice are referred by leading dentists. Their expectations are high. Sometimes orthodontic treatment is just one part of an interdisciplinary treatment that in

More than anything, I want them to be wowed by their experience. I believe suresmile delivers that wow factor.

I have gone 360 degrees and am now fully digital, but this is only the first navigation of new and evolving technology. My orthodontic journey continues and I suspect a few more digital revolutions await.

Dr Asif Chatoo is a London-based orthodontist and a leading provider of invisible lingual treatments. He can be contacted at info@londonlingualbraces.com.

Live MOUTH SMART

Join us
for World Oral
Health Day 2017!

Be confident through life

Good oral hygiene habits, avoiding risk factors and having a regular dental check-up from early in life can help maintain optimal oral health into old age. Visit the website to find out how to Live Mouth Smart.

www.worldoralhealthday.org



PROFESSIONAL MEDICAL COUTURE



NEW COLLECTION

EXPERIENCE OUR ENTIRE COLLECTION AT WWW.CROIXTURE.COM