BDA calls on new government to fix dentistry system

By DTI

London: The British Dental Association (BDA) has said that it will work with the new Conservative cabinet and members of parliament towards a better contract for dentistry in the UK. Remarkably on last month’s general election results, Chief Executive Peter Ward pledged his organisation will continue to fight for better recognition of dentists and distribution of funding for the profession under the new government.

“Healthcare was a central battle-ground between all of the parties in this election and I am sure you will all be interested what share of the £8 billion, promised by the Conservatives to the NHS, will be spent on provision of dentistry,” said Ward during a special session at the British Dental Conference and Exhibition in Manchester.

Ward criticised that while all parties acknowledged the importance of dental care for the overall health system, little was actually mentioned in the party manifestos except for those of the Green Party and Plaid Cymru.

“Doctors, nurses and midwives do wonderful work, but too few dentists across the UK. With a political agenda that seeks to tackle the challenges of diet, alcohol, sugar and tobacco, it is clear that dentists have a role to play in a government strategy of prevention and integration in healthcare,” he emphasised. Ward said that the BDA will be reaching out to the government’s new health cabinet, as well as re-elected and new MPs, as soon as possible to follow up on critical issues, such as regulation. “The small majority means that every MP will have a stronger position to influence Parliament, so engaging with them will be all the more useful.”

The election saw the Conservative Party securing a small but absolute parliamentary majority owing to Labour losing most of its seats north of the border to the Scottish National Party. With over 69 per cent, the election produced the highest participation of voters since 1995.

Only one British institution among top ten dental schools

By DTI

London: According to the QS World University Rankings by Subject 2015, Swedish dental schools are among the best in the world. With the Karolinska Institute leading the list of top dental schools and the University of Gothenburg following closely in third place, the country currently claims two of the world’s three best dentistry faculties.

In second position, the University of Hong Kong is located in the midst of the Swedish leaders. The list of top ten dental schools further includes the University of Michigan in the US at number four, KU Leuven in Belgium in fifth place and the Tokyo Medical and Dental University in Japan ranked sixth.

King’s College London in the UK at number seven is the only dental school from Britain to have made it in the top ten list this year.

The QS World University Rankings are published annually by Quacquarelli Symonds (QS), a British company specialised in education and study abroad. It lists comprises an overall university ranking and a variety of subject rankings. Dentistry is one of the six new additions to the individual subject rankings, bringing the total number of academic disciplines the report covers as of 2015 to 36.

The rankings are based on major global surveys of academics and graduate employers, as well as research citations data from the literature database Scopus. For the QS World University Rankings by Subject 2015, 8,042 academics and 41,910 graduate employers from 60 countries and 894 universities were asked to list up to ten domestic and 30 international institutions they consider excellent in categories such as academic reputation, citations per faculty and employer reputation.

The full QS World University Rankings 2015, as well as the rankings by subject, can be accessed at www.topuniversities.com.
Military dentist follows Cockcroft as Chief Dental Officer

By DTI

LONDON: After two months of searching, the National Health Service (NHS) has recently appointed Sara Hurley from the Royal Centre for Defence Medicine in Birmingham as new Chief Dental Officer (CDO) for England. She is the second woman to occupy the government advisory post after Dame Margaret Seward became CDO in 2000.

Hurley follows Dr Barry Cockcroft, who retired in February after holding the position for almost a decade. She received her bachelor's degree from the University of Bristol, and holds an MS in Dental Public Health from University College London, as well as a King’s College London MA in Defence Studies.

Appointed as a Queen’s Honorary Dental Surgeon last year, she has also served as Chief Dental Officer for the Royal Army, among other posts.

In her recent position at Queen Elizabeth Hospital Birmingham, she has worked with the NHS to ensure access to and quality of care for injured military personnel. In her new role, Hurley will work in partnership with other directors, domain leaders and other clinical leaders in regional and local area teams to improve outcomes for patients, and champion the role of dentists and dentistry within the health system, the NHS said in a note.

Hurley commented that as CDO she will be working collaboratively across the breadth of the dental health care profession to develop ideas that will contribute to achieving quality health outcomes and better oral health for all.

Several dental associations in the UK have responded positively to the appointment. “This is the time for new beginnings, fresh eyes and renewed relationships, and we intend to approach her appointment in that spirit,” Chair of the British Dental Association’s Principal Executive Committee Mick Armstrong said. “Building an effective working relationship is in the best interests of our patients and our profession, and genuine engagement will be reciprocated.”

“In a country where marked inequalities in children’s oral health persist, we look forward to working with her on the long overdue care pathway for children’s dentistry. Our Open Access groups are ready and waiting to progress this vital piece of work,” British Society of Paediatric Dentistry spokesperson Claire Stevens commented “We are looking forward to a long and productive working relationship with Sara.”

New initiative aims to improve oral health of care home residents

By DTI

LONDON: Several studies have found that the oral health of care home residents is often poor and that in many cases carers have not received specific training to help residents with their daily oral hygiene routine. This problem is now being tackled in a new British initiative that was recently launched by Health Education Kent, Surrey and Sussex, supported by research from the University of Greenwich’s Centre for Positive Ageing.

It is predicted that by 2020, around 20 per cent of the UK population will be aged 65 years or older. With increasing age, many people have to face a deterioration in physical and cognitive abilities and often need care.

The Improving Oral Health of Older Persons Initiative aims to improve oral health and quality of life for older people living in residential care homes in Kent, Surrey and Sussex through education and training of care home staff. “By helping to raise awareness of the importance of good oral health, both for quality of life and for general health, and by introducing oral health training for carers within her community, we aim to establish a sustainable quality standard for the oral healthcare of older persons,” the initiative stated.

In order to implement its measures, the initiative builds on research into the experiences of older patients and their carers by Dr Paul Newton, a research fellow at the Centre for Positive Ageing. Newton is an expert in patient empowerment and the management of chronic conditions. His work for the initiative has led to new training methods and information for carers of people living with dementia.

“Research about identifying and managing dental pain and oral health problems for people living with dementia was lacking—both in the literature and in previous initiatives,” Newton said. “We have worked closely with the Older Person’s Initiative to make sure the oral health needs of this vulnerable group are addressed.”

Problems with teeth, gums and dentures can significantly affect the overall well-being of an older person and his or her quality of life. There is a range of oral health challenges for elderly people, including loosening teeth, dry mouth and difficulty with eating and using teeth. Ensuring quality care and treatment can lead to poor nutrition, low self-esteem, social isolation and the exacerbation of other conditions, such as diabetes and cardiovascular disease.

Health Education Kent, Surrey and Sussex is a local education and training board, authorised as a sub-committee of Health Education England. It was established in April 2013, when it took on the functions of the old Kent, Surrey and Sussex Deanery, and aims to ensure that health care providers across the region have suitable staff with the necessary skills.

The Centre for Positive Ageing, based in the Faculty of Education and Health, brings together 22 research clusters from across the university. It aims to understand and develop solutions to the problems facing individuals, like chronic pain and dementia, as well as those confronting society, like those facing older generations, and to consider models of care and support for the future.

BDIA extends contracts with London and Birmingham venues

By DTI

LONDON & BIRMINGHAM: The British Dental Industry Association (BDIA) has announced that it signed new contracts with both the NEC in Birmingham and the ExCeL London Exhibition and Convention Centre in April to hold its Dental Showcase for another three years in each venue. Alternating between the two cities, the annual dental show attracts up to 10,000 visitors every year.

According to the BDIA, the contracts secure its partnership with both ExCeL London for the upcoming shows in 2016, 2018 and 2020. The NEC, which will host this year’s edition in autumn, has agreed to host the event in 2017 and 2019.

With an overall space of 186,000 m², the NEC is Britain’s largest exhibition centre. It also hosts the Dentistry Show organised by CloserStill Media in Coventry every year in spring. The BDIA’s partnership with ExCeL London began in 2002. Last year’s show there saw an overall attendance by 350 exhibitors and 9,500 professional visitors, according to the association.

“It is not easy to find suitable venues for a show of this size so securing contracts with both ExCeL and the NEC that will give us stability for the next six years is a significant achievement for us,” Executive Director of the BDIA Tony Reed said.

An ExCeL London representative commented that his company is committed to helping the event grow with further investment in the venue’s infrastructure in the year to come.

The next edition of the Dental Showcase is scheduled for 22–24 October at the NEC.
By DTI

BRADFORD/DURHAM: A team of researchers at the University of Bradford and Durham University has analysed the teeth of children and adults from two nineteenth-century cemeteries and found that the biochemical composition of teeth that were forming in the womb and during a child’s early years provides insight into the health of the baby’s mother and the future health of the child. These findings could help to develop a simple test on baby teeth to predict potential health problems in adulthood.

The analysed teeth came from a cemetery at a workhouse in Ireland where famine victims were buried and from one in London that holds the graves of some of those who fled the famine. According to the researchers, the biochemical composition of the examined teeth not only provided insight into the health of the baby’s mother, but even showed major differences between those who died and those who survived beyond early childhood. Earlier work led by students Drs Janet Montgomery and Mandy Jay from Durham’s Department of Archaeology found similar results in people living in the Iron Age on the Isle of Skye and in Neolithic Shetland.

Lead researcher Dr Julia Beau- mont from Bradford’s School of Archaeological Sciences explained: “We know that stress and poor diet in mothers, both during pregnancy and after birth, can have an impact on a child’s development. In the past that could mean a child didn’t survive, now it’s more likely to mean a child has a greater risk of health issues in later life. While sometimes there are obvious signs of maternal stress in the baby at birth, such as a low birth weight that isn’t always the case. So a simple test on teeth that are naturally shed by children as they grow could provide useful information about future health risks.”

Levels of carbon and nitrogen isotopes within bone and teeth, and the relationship between the two, change with different diets, so baby teeth can reveal clues about the diet of the mother during pregnancy and the diet of the child immediately after birth. The first permanent molar also forms around birth and is retained into adulthood. Each layer of the tooth relates to around four months’ growth, starting in the womb, enabling it to be linked to a specific period of a baby’s life. These indicators have also been thought to show when a baby has been breastfed, which is seen as a healthy start in life. Nitrogen isotope levels are higher in people on protein-rich diets and in breastfed babies, and lower for vegetarian diets. However, in the samples taken from the famine cemetery, the results were counter-intuitive. The babies who showed higher nitrogen isotope levels at birth did not survive into adulthood. Those who did survive had lower and more stable nitrogen isotope levels throughout early childhood. Similar results were found among Victorians buried in the London cemetery who lived during a period of high rates of infant death. Beau- mont believes that — for many of us — breastmilk is an indicator of a good start in life — the higher nitrogen isotope levels showed that the mothers were malnourished and under stress.

“At the period we studied, it’s likely that most babies were breastfed, but only some showed the spike in nitrogen isotope levels normally associated with it,” she said. “Where pregnant and breastfeed- ing mothers are malnourished however, they can recycle their own proteins and fats into the milk to feed it. We believe this produces higher nitrogen isotope levels and is what we’re seeing in the samples from the nineteenth-century cemeteries. Babies born to and breastfed by malnourished mothers do not receive all the nutrients they need, and this is possibly why these babies didn’t survive.”

Beaumont now hopes that the insights gained from the historical graves can be used to help children in the future. If similar patterns can be seen in current-day mothers and children, she hopes this could lead to a simple test on baby teeth to predict potential health problems in adulthood.

She is currently testing teeth from children through the Born in Bradford project, a long-term study of a cohort of 13,500 children, born between 2007 and 2010, whose health is being tracked from pregnancy through childhood and into adult life.

She hopes to be able to correlate nitrogen and carbon isotope levels to the medical history of the mother and the future health of the children: “We currently cannot analyse any other tissue in the body where the stress we are under before birth and during early child- hood is recorded,” Beaumont stated. “If we can show that baby teeth, which are lost naturally, provide markers for stress in the first months of life, we could have an important indicator of future health risks, such as diabetes and heart disease.”

The study, titled “Infant mortality and isotopic complexity: New approaches to stress, maternal health, and weaning,” was published online in the American Journal of Physical Anthropology on 13 March ahead of print.

Victorian baby teeth could help predict future health of children today

By DTI

BRADFORD/DURHAM: A team of researchers at the University of Bradford and Durham University has analysed the teeth of children and adults from two nineteenth-century cemeteries and found that the biochemical composition of teeth that were forming in the womb and during a child’s early years provides insight into the health of the baby’s mother and the future health of the child. These findings could help to develop a simple test on baby teeth to predict potential health problems in adulthood.

The analysed teeth came from a cemetery at a workhouse in Ireland where famine victims were buried and from one in London that holds the graves of some of those who fled the famine. According to the researchers, the biochemical composition of the examined teeth not only provided insight into the health of the baby’s mother, but even showed major differences between those who died and those who survived beyond early childhood. Earlier work led by students Drs Janet Montgomery and Mandy Jay from Durham’s Department of Archaeology found similar results in people living in the Iron Age on the Isle of Skye and in Neolithic Shetland.

Lead researcher Dr Julia Bea- mont from Bradford’s School of Archaeological Sciences explained: “We know that stress and poor diet in mothers, both during pregnancy and after birth, can have an impact on a child’s development. In the past that could mean a child didn’t survive, now it’s more likely to mean a child has a greater risk of health issues in later life. While sometimes there are obvious signs of maternal stress in the baby at birth, such as a low birth weight that isn’t always the case. So a simple test on teeth that are naturally shed by children as they grow could provide useful information about future health risks.”

Levels of carbon and nitrogen isotopes within bone and teeth, and the relationship between the two, change with different diets, so baby teeth can reveal clues about the diet of the mother during pregnancy and the diet of the child immediately after birth. The first permanent molar also forms around birth and is retained into adulthood. Each layer of the tooth relates to around four months’ growth, starting in the womb, enabling it to be linked to a specific period of a baby’s life. These indicators have also been thought to show when a baby has been breastfed, which is seen as a healthy start in life. Nitrogen isotope levels are higher in people on protein-rich diets and in breastfed babies, and lower for vegetarian diets. However, in the samples taken from the famine cemetery, the results were counter-intuitive. The babies who showed higher nitrogen isotope levels at birth did not survive into adulthood. Those who did survive had lower and more stable nitrogen isotope levels throughout early childhood. Similar results were found among Victorians buried in the London cemetery who lived during a period of high rates of infant death. Beaumont believes that — for many of us — breastmilk is an indicator of a good start in life — the higher nitrogen isotope levels showed that the mothers were malnourished and under stress.

“At the period we studied, it’s likely that most babies were breastfed, but only some showed the spike in nitrogen isotope levels normally associated with it,” she said. “Where pregnant and breastfeed- ing mothers are malnourished however, they can recycle their own proteins and fats into the milk to feed it. We believe this produces higher nitrogen isotope levels and is what we’re seeing in the samples from the nineteenth-century cemeteries. Babies born to and breastfed by malnourished mothers do not receive all the nutrients they need, and this is possibly why these babies didn’t survive.”

Beaumont now hopes that the insights gained from the historical graves can be used to help children in the future. If similar patterns can be seen in current-day mothers and children, she hopes this could lead to a simple test on baby teeth to predict potential health problems in adulthood.

She is currently testing teeth from children through the Born in Bradford project, a long-term study of a cohort of 13,500 children, born between 2007 and 2010, whose health is being tracked from pregnancy through childhood and into adult life.

She hopes to be able to correlate nitrogen and carbon isotope levels to the medical history of the mother and the future health of the children: “We currently cannot analyse any other tissue in the body where the stress we are under before birth and during early child- hood is recorded,” Beaumont stated. “If we can show that baby teeth, which are lost naturally, provide markers for stress in the first months of life, we could have an important indicator of future health risks, such as diabetes and heart disease.”

The study, titled “Infant mortality and isotopic complexity: New approaches to stress, maternal health, and weaning,” was published online in the American Journal of Physical Anthropology on 13 March ahead of print.

Periodontitis linked to heart attacks in kidney disease patients

By DTI

BIRMINGHAM: Over 10 per cent of the adult population suffers from chronic kidney disease (CKD) and those affected often have poor health outcomes owing to an increased incidence of cardiovascular disease compared with the general population. A team of researchers at the University of Birmingham recently found that treating a common gingival inflammation of the mouth, known as periodontitis, which is very common, significantly reduces their risk of potentially fatal heart disease.

The latest research at the university suggests that increased mortality in people with CKD may be linked with chronic inflammatory condi- tions such as periodontitis, which causes gingival inflammation, loss of the bone that supports the teeth and ultimately tooth loss.

Previous studies have found that more than 85 per cent of people with CKD have inflammatory gingival problems, caused by inade- quate removal of dental plaque from between the tooth and gingi- val margin and made worse by im- paired immunity and wound heal- ing. Experts have identified that bacteria in the mouth can enter the bloodstream through periodontal defenses, causing blood cells to malfunction and leading to clots and narrowing of the arteries.

Dr Irundika Dias of Aston’s School of Life and Health Sciences is currently leading a study into the underlying causes of increased cardiovascular disease and out- comes of accelerated progression observed in people with CKD and periodontitis. She will observe how successfully treating periodontitis reduces oxidised lipids and inflam- matory cell activity in people with CKD, thereby lowering their risk of life-threatening heart disease.

“This project has the potential to make a real difference for people with CKD. If we can prove managing periodontitis reduces the threat of cardiovascular disease then it may well represent an efficient and cost effective treatment for CKD,” Dias stated. “In conjunction with our study, I will be talking to dental schools about alternative ways of helping periodontitis patients. It is vitally important to keep your gums healthy and have regular dental check-ups to avoid the onset of a disease that is very common, poorly appreciated by the public and causes tooth loss resulting in reduced quality of life.”

The study will involve 80 people, including healthy volunteers and 60 people with CKD, both with and without periodontitis. Among these will be a group of 20 people with CKD and periodontitis who will be randomised to have the gingival condition clinically treated over a 12-month period. They will be reviewed at three-monthly intervals to assess markers of cardiovascular disease, such as oxidative stress biomarkers in the blood and arterial stiffness.

The project is part of a collabora- tion between Dias and Prof. Helen Griffiths of Aston School of Life and Health Sciences, Prof. Iain Cockwell, consultant nephrologist at University Hospitals Birmingham NHS Foundation Trust.
“Holding ConsEuro in London was a little bit of a risk”

An interview with Prof. Stephen Dunne, King’s College London Dental Institute

As one of many dental organisations to do so, the European Federation of Conservative Dentistry (EFCD) chose to hold its international congress in the UK this year. Dental Tribune UK sat down with EFCD President and King’s College London professor Stephen Dunne in London to discuss the event and how technology is increasingly shaping the field of dentistry.

Dental Tribune UK: Prof. Dunne, the ConsEuro conference in London was a little bit of a risk because with all the other conferences to be going on this year in the capital and other parts of Britain there could be an overload. We actually spent months discussing a window in which we would attract the highest number of delegates. With 500 and growing so far, the congress has clearly exceeded our expectations and, while previous congresses in Italy or Turkey might have had a bigger turnout, the conference here has attracted delegates from 29 countries, including from Australia, the US and the Middle East. It is probably one of the most multinational conferences we have ever had.

You were originally planning for 350–450 participants. Can the outcome mainly be attributed to the London factor?

Almost every dental practice across the world now employs some form of technology...

When I first joined the EFCD about ten years ago, there was very much an effort to compete with the International Association for Dental Research, so it was very focused on academics and researchers from the universities. My view is that this was a mistake, as we really need to provide a conference that has interest across the board, so it must have academic content of excellence to attract researchers and teachers, as well as clinical content for clinicians to provide evidence-based knowledge for the work that they do. Therefore, for every session that we have this year here at ConsEuro, we have an evidence-based start, followed by clinical applications and hands-on sessions after lunch-time that help practitioners get to grips with equipment they heard about and want to have a chance to play with. That is very attractive to clinicians and you can see a great deal of interest there.

The programme for ConsEuro 2015 is very focused on technology issues. Would you confirm this to be the overall theme of this conference?

From the beginning, we planned this to be a very high-tech conference. In society and certainly in dentistry, medicine or surgery, technology is becoming increasingly important. And while air turbines and scalpels are still staples of the trade, there is a huge amount of technological equipment coming onto the market for operative work, dental surgery, logistics and communication.

Our belief is that dentists need to know about all of these things, as well as to have an understanding of the most expensive ones. This made us very concerned when we planning this three years ago because at that time we were in an economic downturn. Trying to secure sponsorship from companies was difficult back then. They were all downsizing and did not have any money to spare for conferences.

Owing to the economic situation gradually improving over time, we exceeded our expectations with regard to sponsorships. We actually sold out the exhibition space several months ago. That has been very successful and helped us to cover the costs. We came ahead break-even on the first day, so I am much more relaxed today than I was yesterday morning. And it looks as though we might make a reasonable profit, which would then be shared between the EFCD and King’s College London.

King’s recently made it on to the list of the top ten best dental schools globally. How much do you think the school’s reputation contributed to the congress outcome?

There are a number of dental schools surveys and rankings worldwide. Despite different methodologies and different variables, King’s usually comes out very near the top, which I am very pleased about. The school attracts not only good teachers and researchers, but also equally good clinicians from across the world.

Almost every dental practice across the world now employs some form of technology. Technology has clearly expanded the scope of this conference. Does this also apply to clinical practice?

Almost every dental practice across the world now employs some form of technology, be it electronic patient records, stock-taking or equipment, such as lasers, CAD/CAM and digital imaging to show patients areas of the tooth they could not possibly see otherwise. Digital imaging and photography are also very important from a medical and legal point of view, as this area is increasingly becoming a concern.

Where do you see the trends with regard to dental materials?

The materials that we use now are not available to me when I was in training and in my early practice and the stages or requirements for their use are infinitely more sophisticated. Nowadays, you might have ten stages to a bonding procedure and every one of those stages is critical. If you fail in only one of them, your restoration fails before it has even started.

Historically, dentists have been trained by representatives of the companies who make the materi-
Bio-Emulation™ Colloquium 360°
4-5 July, 2015, Berlin, Germany

Mentors

Ed Mclaren  Michel Magnie  Pascal Magnie

Emulators

Akinobu Ogata (guest)  Andrea Fabianelli  Antonio Saiz-Pardo Pinos  August Bruguera  David Gerodolli  Fernando Rey  Gianfranco Poltano  Jason Smithson  Javier Tapia

Jungo Endo  Leandro Pereira  Marco Gresnigt  Oliver Brix  Panos Bazos  Sascha Hein  Stephanie Browet  Thomas Singh  Walter Gebhard (guest)

Details & Online Registration
www.BioEmulationCampus.com
Registration fee: 599 EUR + VAT

Tribune Group is an ADA CERP Recognized 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 approval does not necessarily indicate or imply endorsement by the American Dental Association or validation of a course or program. The conduction of any activity that could be interpreted as continuing education must be submitted for ADA CERP approval. Approval does not imply acceptance by a state or jurisdictional board of dentistry or CERF environment.
US to lower fluoride in drinking water after 50 years

By DTI

WASHINGTON, USA: US health authorities have updated their guidelines for fluoride in drinking water and now recommend an optimal fluoride concentration of 0.7 mg/l. As Americans today have greater access to fluoride in the form of toothpaste and mouthrinse and owing to the increasing incidence of fluorosis due to excess fluoride, the Department of Health and Human Services sought to replace its previous recommendations that were issued in 1962.

Since the early 1960s, the practice of adding fluoride to public drinking water systems has grown steadily in the US. Nearly all water fluoridation systems in the US have used fluoride concentrations ranging from 0.8 to 1.2 mg/l. With the recent update, however, this will be reduced by 0.1–0.5 mg/l, and fluoride intake from drinking water alone will decline by approximately 25 per cent. The total fluoride intake will be reduced by about 14 per cent.

According to the department's report issued on 27 April, the new optimal concentration of 0.7 mg/l was chosen to maintain caries prevention benefits, but reduce the risk of dental fluorosis.

Although a number of studies have found that community water fluoridation has led to a significant decline in the prevalence and severity of tooth decay, data from the 1999–2004 National Health and Nutrition Examination Survey and the 1986–1987 National Survey of Oral Health in US School Children indicate that over 20 per cent of people aged 6–49 have some form of dental fluorosis.

Today, nearly 75 per cent of Americans who are served by public water systems receive fluoridated water. In 2012, the Centers for Disease Control and Prevention estimated that approximately 200 million people in the US were served by 12,341 community water systems that added fluoride to water or purchased water with added fluoride from other systems.

Artificial fluoridation of drinking water remains controversial as a public health measure, as it has been suggested that excess fluoride may have adverse health effects. For instance, it has been associated with neurodevelopmental delays in children and with the development of attention deficit hyperactivity disorder only recently.

In contrast to fluoridation policy in the US, many western European countries, including Austria, Belgium, Finland, Germany and Sweden, do not fluoridate their water supply. Other European countries, such as Ireland and the UK, currently add fluoride to drinking water at levels ranging from 0.2 to 1.2 mg/l.
The WaterLase iPlus Version 2.0, from the global leader in dental lasers, expands and enhances the treatments you can offer your patients, reflecting the almost universal interest in practice growth.

- Delight patients with gentle, minimally-invasive procedures
- Expand your treatment offerings with REPaiRTM
- Enable faster healing times and improved comfort
- All-new SureFire™ YSGG Delivery System, the new gold standard in all-tissue laser delivery systems

WaterLase is the all-tissue laser trusted by the most dentists worldwide, with over 27,300,000* patients treated. Its unrivaled clinical versatility – with the ability to treat hard tissue, soft tissue and bone – gives you unmatched results in treatment outcomes and outstanding ROI...making it the essential addition for your successful practice.

Introducing the New and Improved WaterLase™ iPlus Version 2.0

SureFire REPaR

Regenerative Er,Cr:YSGG Periodontitis Regimen

Before 20 Months Post OP

*The WaterLase iPlus is an integral part of every procedure I do. The results we achieve are outstanding, with so much less stress, so much more fun and so much more comfort for patients.*
— Dr. Rana Al-Falaki, London, UK

Grow your practice with WaterLase. Contact your BIOLASE distributor today.

Practice Growth. Assured.

Biolase Europe GmbH Paintweg 10, 92685, Floss, Germany • +0049 9603 80802 • biolase.com

©2015 BIOLASE, Inc. All rights reserved. *Data on file.

Upgrade Available
for current WaterLase iPlus owners.
“We are still pretty much in shock”
An interview with Nepalese dentist Dr Sushil Koirala

In one of the worst earthquakes in over 80 years, more than 10,000 people are believed to have died in the Federal Democratic Republic of Nepal. Living in and practising dentistry in the capital of Kathmandu, dentist Dr Sushil Koirala has been directly affected by the disaster. Dental Tribune had the opportunity to talk to him briefly about the situation in the country and how the international community can help it to overcome the humanitarian crisis.

Dental Tribune: The earthquake on 25 April had a devastating effect on your country’s infrastructure and its people. What is the situation currently in Kathmandu, and how have you been affected personally?

Dr Sushil Koirala: The situation in Kathmandu at present remains very difficult owing to the extentive damage to many public buildings, government offices and schools. Nearly 7,500 lives have been lost and 14,500 people have been injured. Those who survived the earthquake are traumatised.

While physically my family and I are fine, we are still pretty much in shock. My children are very distressed because they were alone at home during the first episode of the earthquake. Some of my staff from the hospitals and clinics lost their houses and Sindupalchowk districts of Nepal’s Central Region, as well as the Gorkha District of its Western Region.

Have you received any correspondence from the dental community?

I am glad to have received many e-mails with best wishes and prayers from our dental friends around the world. It is so gratifying to know that many of them have pledged their support of the earthquake victims of Nepal. Some dental manufacturers have shown keen interest to help us in the rehabilitation of children who have been affected.

Despite an immediate response from India and Western countries, relief efforts seem to be insufficient, according to reports. What is your impression?

International communities have offered immediate support and we really appreciate their help. However, 39 of the most affected villages are in remote locations with mountainous terrain. The relief work, therefore, is hampered and support items cannot be delivered on time. Many people in these small villages are still waiting for basic items, such as food and shelter.

Regardless of the efforts by the Nepalese army, police and Red Cross Society, as well as national and international organisations, which are working 24/7, the manpower and supplies are still felt to be inadequate.

In your opinion, how will this disaster affect the infrastructure of your country in the long run?

Nepal’s development budget depends mainly on foreign aid. Rebuilding all the infrastructure affected by the earthquake will require an estimated US$200 billion. The government plans to meet this mainly through foreign and international funding. However, damaged infrastructure will definitely affect the economic growth of Nepal negatively.

When I will be able to start practising again depends on when all my staff are mentally ready for work. Daily life in Kathmandu is still very stressful, as there are frequent aftershocks and people are still terrified. Under these conditions, I do not expect people will come for general dental treatment, except in the case of an emergency.

What do you consider the most important to improve your situation, and how can the international dental community help?

More than 95 per cent of houses and infrastructure have been damaged in the affected villages, so the rehabilitation phase for the earthquake victims is going to be a great challenge for our country. I personally feel that in order to overcome this difficult time our country needs support from each individual and professional in Nepal. We have, therefore, started a humanitarian project, the Dental Community for Humanity—Nepal Earthquake Relief Project, under the umbrella of the Punyajan Foundation, a charitable and non-profit organisation dedicated to supporting people most in need. This project aims to support poor children living in these remote villages in particular. I humbly appeal to the international dental community to support this cause. Please, with your donations and support, we can bring back the smiles of our poor children.

Thank you very much for taking the time and all the best for the future.

Editorial note: Dental Tribune spoke with Dr Koirala in early May. Since then Nepal has experienced a number of aftershocks. He and his family are in safety.

For more information on how to support the Dental Community for Humanity project, please contact Dr Koirala at drsushilkoirala@gmail.com.
MIS says it is all in the shape

Implant solutions provider launches new implant at special event in London

Elad Ginat, MIS Product Manager, stated that the new V3 implant is a multi-use implant suitable for a wide range of surgical scenarios, according to the implant solutions provider, and is ideal in anterior regions, as well as in regions where space and bone may be limited and good aesthetic outcomes are essential.

The design of V3 aims to provide both specialists and general practitioners with optimum flexibility in implant planning and placement for a restorative-driven approach. In particular, the triangular shape of the coronal portion is intended to encourage bone regeneration and to gain greater volume of bone in support of stable surrounding soft tissue for restorations with improved aesthetics. According to Ginat, the neck provides solid anchorage at three points in the crestal zone while forming three compression-free gaps at the sides (between the implant and the osteotomy), thus favouring conditions for better osseointegration, such as high primary stability, reduced bone compression and crestal bone resorption. The gaps encourage clot formation at the bone-implant interface to promote the initial scaffold-building process for bone growth and allow more space for blood pooling and the establishment of a stable blood clot. This way, V3 provides clinicians with advantages from the start, achieving a greater volume of bone and soft tissue at the onset of implant placement.

A high-performance conical connection implant with platform switching, V3 also features a variable thread and self-tapping capability, micro-rings, a concave inter-thread for maximum bone-implant contact, as well as a flat apex supporting immediate placement engagement. Ginat added that clinicians can enjoy all of these design benefits without having to learn new protocols. Furthermore, a dedicated surgical kit makes procedures especially simple, safe and accurate, resulting in ease of placement for the dentist and shorter recovery time for patients, he explained.

DENTSPLY introduces WaveOne GOLD

New single-file reciprocating technology to offer improved strength and flexibility

DENTSPLY has introduced its new generation of single-file reciprocating technology for use in endodontics at the Dentistry Show. WaveOne Gold features a number of improvements to its predecessor and is available to dentists in the UK immediately, the company said. The previous system will be discontinued from October.

According to London endodontist and WaveOne developer Dr Julian Webber, the new system is aimed at existing WaveOne users, as well as general practitioners who practise endodontics but have limited time resources or are afraid of file breakage related to the use of NiTi files. WaveOne Gold, which has been heat-treated to offer improved strength and flexibility, will allow them to treat a greater range of canal morphologies, he said. Therefore, the system features four files instead of three as previously.

“We believe that the enhancements we have made in WaveOne GOLD will increase clinicians’ confidence, help take away the fear factor and encourage them to take on cases considered too difficult in the past,” Webber commented.
Google Mobile Armageddon and what it means

By Naz Haque, Dental Focus

Google has just released an update that will prioritise mobile-friendly websites. It is indeed widely known that online audiences are moving to smart phone and tablet computers. At Dental Focus, we have seen massive shifts in the online audience to the point now where most clients see a minimum of 55 per cent of the organic audience visits from mobile devices.

Websites and marketing campaigns achieve higher conversions when they are mobile optimised. The diagram below shows a marketing campaign we are running at the moment. In this, we achieved 10,835 sessions over 30 days. The blue bar indicates the total sessions and the orange bar segments the mobile and tablet audience. In all traffic sources, mobile has the lion’s share of the market. In this project, we invested heavily in Google pay per click and 95 per cent of conversions were via mobile.

To qualify this trend further, consider that desktop sales have started to decline significantly since 2005. After 2013, the growing purchase of mobile devices (mobiles, tablets and phablets) has continued to outgrow desktop sales. Google focuses on its users and anyone who wants to have a presence on Google is directed to follow its guidelines to serve these users. In this instance, such users are dentists’ existing and prospective patients. Therefore, it is really important that your website deliver to their online expectations or Google will not present your website to them.

For your website to be mobile friendly, there are specific factors to which it must adhere. The website must not make use of any mobile-incompatible animations created with software like Adobe Flash. This appears as a black space in a mobile screen and serves no purpose. The text on your website should be readable on mobile devices without the user needing to resize or zoom. Responsive websites will automatically adjust to serve readability factors.

User experience has always been a core area from Google’s perspective, and mobile-friendly websites have links separated sufficiently to allow a user to make a selection with ease. Google provides a platform to check whether websites are mobile-friendly. Just type in your website address at www.google.com/webmasters/tools/mobile-friendly.

There is no reason to panic if your website is not ready yet; however, expect to lose more customers to businesses with mobile-friendly websites, as they will be favoured by Google. The company has such a massive job to do reading the entire Internet, it is unlikely you will start suffering from 12 a.m., but you can expect to see your rankings diminish over time, especially on a mobile device search.

Your presence on Google is directly affected by your competition, so if your practice is in the middle of nowhere with limited competition you will live another day, but surely it is time that you start to think how to best serve your audience before it is too late.

Naz Haque, aka the Scientist, is Operations Manager at Dental Focus. He has a background in mobile and network computing, and has experience supporting a wide range of blue chip brands, from Apple to Lexus. As an expert in search engine optimisation, Naz is passionate about helping clients develop strategies to enhance their brands and increase return on investment from their dental practice websites. He can be contacted at naz@dentalfocus.com.

UAE INTERNATIONAL DENTAL CONFERENCE & ARAB DENTAL EXHIBITION
20th Anniversary

2 - 4 February 2016

Delivering Science & Technology

www.aedc.com
1 Year Clinical Masters™ Program in Aesthetic and Restorative Dentistry

Three sessions with live patient treatment, hands-on practice, plus online training under the Masters’ supervision.

Learn from the Masters of Aesthetic and Restorative Dentistry:

Dr. Ed Mischne
Dr. Philippe Dupont
Dr. Mauro Franchi
Dr. Steven Polanac
Dr. Chet Deterlch
Dr. Gianfranco Polidoro

Registration information:

12 days of live training with the Masters in Athens (GR), Geneva (CH) + self study

Curriculum fee: €9,900
(Based on your schedule, you can register for the program one session at a time.)

Collaborate on your cases and access hours of premium video training and live webinars.

University of the Pacific: you will receive a certificate from the University of the Pacific.

100 C.E. CREDITS

ADA CERP® 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 provincial board of dentistry or AGD endorsement.

Details on www.TribuneCME.com

contact us at tel.: +49-341-484-74134
email: request@tribunecme.com
Cone Beam Computed Tomography
Is dentistry ready for a new standard of care?
By Dr Lee M. Whitesides, USA

Since its commercial introduction into dentistry in 2001, cone beam computed tomography (CBCT) has been rapidly evolving into a new standard of care in maxillofacial imaging. In just over a decade, CBCT has exploded onto the dental landscape and permitted dental professionals a degree of three-dimensional (3-D) anatomic truth in maxillofacial imaging previously unavailable and unattainable. Like many other new technologies, which have progressed from the extraordinary to the ordinary and thus gained acceptance by professionals and patients, CBCT has advanced from exceptional use to almost commonplace use in dentistry. The more a CBCT machine is used by a trial judge to make a preliminary assessment of the facts at issue. Under this methodology that is scientifically sound, an expert's scientific testimony must be based on scientific methods that are sufficiently established and accepted.

Standard of care influences
The influence of an emerging technology, like CBCT, into a new standard of care involves many criteria. These criteria include but are not limited to: court verdicts, expert testimony, literature support, professional guidelines, cost and availability of the technology, reimbursement by third party payers, and multi-specialty use and recognition.

No database exists to search verdicts in dental malpractice cases in which CBCT has played an important or pivotal role. For a new technology to become admissible as a standard of care in court, it must pass the Frey test. This standard comes from Frey v. United States which is a 1923 in a case discussing the admissibility of a polygraph test as evidence. The Frey standard maintains that scientific evidence presented to the court must be interpreted by the court as “generally accepted” and expert testimony must be based on scientific methods that are sufficiently established and accepted.

In Frey, the court opined: “just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognised, and while the courts will go a long way in admitting experimental testimony deduced from a well recognised scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.”

In many jurisdictions and in Federal court, the Frey standard is superseded by the Daubert standard. The Daubert standard is used by a trial judge to make a preliminary assessment of the facts at issue. Under this methodology that is scientifically sound, expert's scientific testimony must be based on scientific methods that are sufficiently established and accepted.

The legal perspective
The legal system in the United States is complex and fragmented.

The theory or technique behind medical grade computed tomography and CBCT has been tested and proven sound over many years of application in the medical and dental arena. The Housefield unit is the only recognised standard quantitative scale for describing radiodensity and provides doctors with a known standard and error rate in computed tomography. The widespread acceptance of CBCT by the medical and dental community is demonstrated by the ever increasing presence in dental and medical practices of the technology. Additionally, The Inter-societal Accreditation Commission, an accreditation organisation for medical and dental imaging, has developed guidelines and accreditation criteria for 3-D CBCT imaging. Thus CBCT appears to have satisfied both the Frey and Daubet criteria for acceptance as a standard of care technology.

To not discount the value of CBCT imaging or its ability to successfully satisfy the Frey or Daubert criteria, the absence of CBCT is not de facto evidence of lack of a standard of care imaging. Many patients present to their dentist with uncomplicated cases where traditional two-dimensional radiographic studies are appropriate and provide the dentist with standard of care imaging of the patient. For the more complicated cases, 3-D imaging may be employed to provide the dentist with superior anatomic evidence in treatment planning and diagnosis. Three-dimensional imaging with CBCT can also be used in uncomplicated cases, but it may not necessarily be considered as the standard of care for every case in 2014.

Expert Testimony
An expert is a person with sufficient minimal qualifications to render an opinion on the subject at hand. Not all experts are created equal, and in fact in three states (Iowa, South Dakota, and New Hampshire) an expert need only be qualified in a related field to provide the expert's opinion. Experts are appointed by the courts to educate the judge and jury as to what constitutes normal minimal acceptable care of a patient in a given environment.

In many jurisdictions and in Federal court, the Frey standard is superseded by the Daubert standard. The Daubert standard is used by a trial judge to make a preliminary assessment of whether an expert's scientific testimony is based on reasoning or methodology that is scientifically valid and can properly be applied to the facts at issue. Under this methodology, the factors that may be considered in determining whether the methodology is valid are:

• the theory or technique in question can be and has been tested,
• it has been subjected to peer review and publication,
• there is a known or potential error rate,
• the existence of maintenance standards controlling its operation,
• widespread acceptance within a relevant scientific community.
The DTI publishing group is composed of the world’s leading dental trade publishers that reach more than 650,000 dentists in more than 90 countries.

www.dental-tribune.com

VISIT US AT EuroPerio 2015 BOOTH 30e
professional correspondences. In the last five years, the author has noticed a remarkable increase in the number of cases in which plain- tiffs and defense attorneys, as well as experts, rely on pre- and post- procedure CBCT imaging studies in proving malpractice or defending good practice. Post- treatment radiographic imaging to prove malpractice or support good practice is not new to medicine. In fact, in the years preceding the advent of some of the highest malpractice claims were awarded in cases where post-treatment radiographs played a pivotal role.

Logic would dictate that if plaintiff- tiffs and defense counsels and ex- perts are making CBCT part of their strategy, then CBCT must be not only prevalent and pertinent but of significant value in the formation of an opinion by an expert (and the jury) when reviewing a case. CBCT can be seen as an additional and important piece of information to help explain why the doctor did or why an unfortunate outcome occurred. Additionally, CBCT provides powerful and easily understandable images for lay- person jury.

Recognising the value that CBCT adds to a case does not necessarily indicate that CBCT is the standard of care in each and every case. The decision to obtain a CBCT study before the procedure is determined by the clinician based on their experience and knowledge of the case.

**Literature Support**

For any technology to be con- sidered as a standard of care, a plethora of literature in support for the technology should exist. The literature must discuss the risk and benefits of the technology, its ap- plication to patient care, and guide- lines and protocols for acceptable use.

To assess the influence of CBCT in the dental literature, the author performed a PubMed literature search in October for the words cone beam CT, cone beam CT + dental- lons, cone beam CT + orthodon- tics, cone beam CT + oral surgery, cone beam CT + endodontics in the search line. The results are in Table 1.

Evaluation of Table 1 data clearly shows a significant presence in the literature of articles pertaining to the use of CBCT in oral and maxillofacial region representing approximately 99 per cent of oral and maxillofacial sur- gery publications. In the US Liter- tics, cone beam CT + orthodon- tics and endodontics, cone beam CT + oral surgery, cone beam CT + endodontics, oral and maxillofacial surgical, and orthodontics, and endodontics. Articles on new applications of CBCT technology to patient care were also prevalent in the sample. Some articles addressed the risk and benefitsof CBCT but none denounced CBCT as harmful to the patient or insignificant in treat- ment planning and diagnosis. Two similar PubMed reviews of the litera- ture on CBCT were performed by authors Alamri et al (Applications of CBCT in dental practice: A review of the literature. Gen Dent 2012; 60(5):390–400) and De Vos et al (Cone-beam computerized to- mography (CBCT) imaging of the oral and maxillofacial region:

<table>
<thead>
<tr>
<th>Key words in search</th>
<th>Number of articles</th>
<th>Year article first appeared</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCT</td>
<td>5,517</td>
<td>1998</td>
</tr>
<tr>
<td>CBCT + dental</td>
<td>1,997</td>
<td>2002</td>
</tr>
<tr>
<td>CBCT + implant</td>
<td>617</td>
<td>2002</td>
</tr>
<tr>
<td>CBCT + orthodontics</td>
<td>725</td>
<td>2003</td>
</tr>
<tr>
<td>CBCT + oral surgery</td>
<td>1,047</td>
<td>2003</td>
</tr>
<tr>
<td>CBCT + endodontics</td>
<td>313</td>
<td>2007</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Article first appeared</th>
<th>Number of articles</th>
<th>Key words in search</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td></td>
<td>5,517</td>
<td>CBCT</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>1,997</td>
<td>CBCT + dental</td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td>617</td>
<td>CBCT + implant</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>725</td>
<td>CBCT + orthodontics</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>1,047</td>
<td>CBCT + oral surgery</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>313</td>
<td>CBCT + endodontics</td>
</tr>
</tbody>
</table>

A systematic review of the literature, Int J Maxillofac Surg 2009; 38:609–625. Both of these exhaustive articles demonstrate the plethora of literature address- ing CBCT and its application in the many disciplines in dentistry.

**Professional Guidelines**

For a technology such as CBCT to become a standard of care in dentistry, guidelines for its use and application in patient care must be established by the organisations of those disciplines in dentistry who employ the technology to treat patients. In dentistry, the dental practitioners most involved in the use of CBCT in patient care include general dentists, oral and maxillofacial surgeons, endodontists, oral and maxillofacial radiologists, ortho-dontists, and periodontists.

The American Dental Associa- tion has over 150,000 licensed den- tists representing approximately 75 per cent of dentists in the USA. The American Dental Association published an advisory statement article in its principal journal, The Journal of the American Dental Association, in August 2012. The article discusses many positive aspects of CBCT, but stops short of calling CBCT a new standard of care. Rather, the ADA encourages the dentist to use CBCT “selectively, as an adjunct to conventional radiog- raphy.” The article goes on to emphasise that CBCT is an emerging technology, advances should be considered as an imaging alternative where con- ventional radiographs may not provide sufficient anatomic truth. Literature discussing the appli- cation of CBCT in implant dentistry is ubiquitous and comprises the lion’s share of research in applying CBCT technology to dentistry. The vast majority of post-doctoral resi- dencies involved in dental implant patient care and all private dental implant training courses in the US incorporate CBCT in their dental implant education curriculum.

Many professional organisa- tions in dentistry for general den- tists and specialists have weighed in on CBCT by providing recom- mendations, guidelines, and a posi- tive message. These recommendations are beneficial in establishing a society or specialty’s position on CBCT, are not mandates. Rec- commendations, guidelines, CE pro- grams, and position papers are used by professionals to influence the practice of their discipline. As the practice of the discipline changes in response to many fac- tors including, but not limited to court verdicts, expert testimony, litigation and changing regulations, the cost of the technology, and reimbursement by third party payers, the recommendations, guidelines, and position papers may facilitate the evolution of CBCT into a standard of care. In 2010, the professional organisa- tions that comprise dentistry may not formally declare CBCT is the standard of care. In 2011, but these organisations do recog- nise the influence CBCT is having on the profession.

**Educational Institutional Participation**

For a technology to be consid- ered a standard of care, those in the profession must be educated in its application in patient care. In US, 56 of the 57 dental schools (98 per cent) have courses available for patient care for pre-doctoral students. Forty-seven (84 per cent) incorporate CBCT education in their pre-doctoral curricula. In a survey performed by the author and others 201 general practice residents participated in CBCT education in general dentistry (AEGD) programmes were surveyed regard- ing use of CBCT by their residents. Eighty-two programme directors responded to the survey. Of these, 87 per cent (44 of 47) of program directors (PDs) re- sponded affirmatively when asked if CBCT was used in patient care by their residents. The author also surveyed 102 PDs in oral and maxillofacial programmes in the US. Fifty-four PDs responded. Of the 54 PDs responding (47 per cent) affirmatively when asked if CBCT is used in patient care by their residents. In a phone survey of en- dodontic residents, 44 of 47 indicated their residents use CBCT in patient care. All seven ADA- approved oral and maxillofacial programmes in the US accept CBCT in patient care. Additionally, all 51 periodontal programmes PDs indi- cated that their residents employ CBCT technology in patient care. In orthodontics, 83 per cent of US- based orthodontic programmes use CBCT in patient care.

**Cost and Availability**

The cost of CBCT machines today range from US$50,000 to US$200,000 with yearly main- tenance fees in the US$8,000 to US$50,000 range. As with any emerging technology, advances create a secondary market for slightly used machines. Each new step forward in technology reduces the cost of the machine of only a few years ago significantly out-of-date, de- creasing its value by 30–40 per cent. This disparity in value is repeated across all CBCT technology. As time progresses and advance- ments in technology are made, the newest machines demon- strate these, the slightly non- contemporary machine will repre- sent themselves. The difference between the dentist versus 2-D radiography, while not burdening the dentist...
Exhibition  Live Product Presentations  Hands-on Workshops
Printed Reference Guide  Coffee With the Experts

22-24 05  24-27 09  28 09 - 01 10  01 - 03 10  30 10 - 01 11  30 11 - 02 12
Athens  Shanghai  Moscow  Budapest  Istanbul  New York

www.DDSWorldShow.com

Organized by Dental Tribune International:
Dental Tribune International  Holbeinstraße 29  04329 Leipzig  Germany
T  +49 341 48474 134  F  +49 341 48474 173  E  info@digitaldentistryshow.com  W  www.DDSWorldShow.com
with significant cost. This will undoubtedly lead to an increase in the number of dental professionals utilising CBCT in their practices. The bottom line for most practices in regards to CBCT machines is: can I afford this for my practice?

To determine affordability, the price of the machine (purchase and maintenance) must be considered against potential revenue generated by the machine. Revenue can be directly from patients, insurance companies, or from other dentists who utilise the CBCT machine. A cost-effective alternative to owning and operating a CBCT device can be the outsourcing of the study to a third party (dentist or facility) and insourcing the software necessary to employ the images in treatment planning and diagnosis.

CBCT machines are becoming ubiquitous as more dentist purchase the machines and more third party non-dentist owned imaging centres enter the market. More dentists and more patients are becoming exposed to the technology. Patient acceptance will increase, facilitating the incorporation of CBCT into the mainstream culture of dentistry. The increasing omnipresence of CBCT technology will not singularly make it standard of care, but it will serve to increase patient awareness of the technology, which in turn will influence what the public perceives as a standard of care.

The insurance industry

Reimbursement from major insurance companies and government-sponsored health care is traditionally the last to embrace (i.e. pay for) a new service such as CBCT. Although codes for medical CBCT have been around for decades, specific codes for in office CBCTs began to materialise in 2009. Current reimbursement rates for in-office CBCT’s average around US$300, provided the study is covered.

By providing dentists with a CPT code, the insurance industry has validated the technology of CBCT and thus acknowledged its value in treatment planning and diagnosis. As time progresses, insurance companies may, as they have in the past, require CBCT owner/operators to obtain a certification via the IAC or some other regulating entity for an owner/operator to qualify for financial reimbursement from any third party payer.

Two of the major malpractice carriers of the insurance industry (OMNISIC and MedPro) have influenced the evolution of CBCT to a new standard of care by offering coverage for CBCT owner/operators commensurate with the level of risk to which the owner/operator are exposed. Were CBCT studies believed to be of little value or represent minimal risk these leaders in the dental malpractice industry would not offer such coverage. Additionally OMNISIC requires the owner/operator to have CBCT images interpreted by a dental or medical radiologist to minimise risk.

Two of these aspects (cost and availability) will more likely than not be determined by the invisible hand of the market as the Keynesians laws of supply and demand move the dental industry to provide the best possible service at a price patients and insurance companies are willing to pay. The third (legal) will be slowly determined in the court systems as attorneys and experts begin to rely more on CBCT in support of their clients’ cases.

Patient expectations are difficult to accurately ascertain. We know patients expect our practices to be contemporary. Buying the latest and greatest machine for your practice may not be wise if cost exceeds benefits both clinically and financially. As CBCT becomes accepted and expected by our patients due to aggressive marketing or clinical relevance, incorporating the technology into one’s practice may not be entirely necessary but prudent.

There are many questions yet to be answered definitively regarding CBCT:

1. Who is responsible (and liable) for interpreting the images?
2. Is an entire field of view interpretation necessary or simply the pertinent structures?
3. Must all images be interpreted by a board certified oral and maxillofacial radiologist or can the ordering doctor interpret the images?
4. What level of training is sufficient to own and operate the machine, as well as, and interpret CBCT images?
5. What cases deserve a CBCT?
6. If the patient refuses a CBCT and the dentist believes a CBCT is necessary for successful case completion, must the dentist complete the case without the CBCT study or can he refuse the case without fear of legal repercussions?

Lastly, as mentioned earlier, standard of care is an evolving concept. Darwin stated clearly any organism (or concept in this case) which is subject to the laws of evolution must adapt in response to outside forces in order to survive. The standard of care in dentistry is adapting to CBCT as forces (legal, financial, clinical) and others act upon the industry to account for the powerful influence CBCT has on treatment planning and diagnosis of patients. While recognising that all that glitters is not gold, CBCT may soon represent a new gold standard by which many cases will be judged.
Landmark dental event opens this month in London

Up to 10,000 dental professionals expected for EuroPerio8

By DTI

LONDON, UK: This month, London will be welcoming experts in periodontology and dental implantology from Britain and the continent to the next pan-European meeting of the European Federation of Periodontology (EFP). With preparations finalised in May, dental professionals are invited to learn about the latest trends and developments in both fields, the organisation said.

Headed by King’s College London Prof. Francis Hughes, EuroPerio8 is expected to bring together thousands of members of the profession at the ExCel London Exhibition and Convention Centre from 3 to 6 June. Hughes told Dental Tribune Online earlier that participants can look forward to one of the largest and most successful congresses on periodontology and implant dentistry ever held in Europe.

Over 100 distinguished international speakers have confirmed their participation in the scientific programme, which will be complemented by a number of sponsored sessions and free oral sessions selected from submitted abstracts.

“There is lots for all the dental team,” Hughes said. “We are particularly keen to attract many general dentists and hygienists. This is a great opportunity for us to promote the profile of periodontology within the profession and more widely in the population both within the UK and throughout Europe.”

According to a recent study conducted by Barts and The London School of Medicine and Dentistry in London, periodontitis, particularly in its severe form, remains highly prevalent around the world, with almost every tenth person suffering from the condition. In Britain, at least one in 15 adults are currently affected by the most severe form of periodontal disease, according to National Health Service figures.

Experts will discuss these developments at EuroPerio8, as well as other issues in the field. The event will also be a showcase for the most recent product innovations in oral health, which will be presented by up to 80 sponsors, including the UK’s own Dentaid, as well as major international dental consumables companies Johnson & Johnson, Oral-B and Sunstar.

Elected EFP President Prof. Phoebus Madianos from Greece stated, “A major priority for EFP is the general recognition of periodontology as a dental specialty in Europe. Therefore, the organisation is working with all relevant parties to promote the rationale of periodontology being recognised among regulators, licensing bodies and policymakers across Europe. Closely related to this goal of full recognition is the creation of a common curriculum for postgraduate studies in periodontology, promoted by the EFP according to standardised criteria, a project aimed at enabling free mobility of periodontal professionals and citizens across the EU, the ultimate aim being to improve the quality of treatment and people’s general health.”

Currently, the EFP represents 16,000 dental professionals, who belong to its 29 member associations, including the British Society of Periodontology located in Bubwith in Yorkshire. Its last congress brought more than 7,000 visitors to Vienna in Austria in 2012.

For more information, news and updates please visit the event website at www.dental-tribune.co.uk.

DTI to publish official congress newspaper of EuroPerio8

Publisher signs long-term agreement with European Federation of Periodontology

By DTI

LONDON, UK: Undoubtedly, the EuroPerio8 Congress today is among the leading conferences for periodontology and implant dentistry worldwide. Dental Tribune International (DTI) has recently signed an agreement with the event’s organiser, the European Federation of Periodontology, one of the largest dental associations in Europe, to establish DTI’s today show daily newspaper as the official congress guide of EuroPerio8.

As part of the agreement, DTI will publish three daily issues of today in English during the congress. The newspapers will be distributed to over 7,000 expected participants free of charge at the main entrances of the congress venue, the ExCel London Exhibition and Convention Centre.

In addition, the publisher will be providing editorials and special features, as well as the latest news from EuroPerio8 before, during and after the event, on its website, www.dental-tribune.com. Daily online coverage, including interviews with key opinion leaders and industry representatives, will be provided by an on-site editorial team. Moreover, users of the DTI website will have free access to a dedicated EuroPerio8 topic page, on which all important updates, photographs and videos will be published.

For more than a decade, DTI has partnered with some of the world’s largest exhibition and congress organisers, publishing more than 65 editions of its today show daily newspaper for major dental shows and events annually.

The publication allows for better planning and orientation, as well as provision of general business information for congress participants and exhibition visitors. It has also established itself as a platform for the dental industry for targeted communication.
“The high prevalence of periodontal disease is alarming”

An interview with EFP President Prof. Søren Jepsen, Germany, about EuroPerio8 in London

There will be parallel sessions with different themes and for different target groups. Master Clinician Forums aimed at surgical experts, many sessions dealing with all aspects of implant therapy, sessions on realising modern periodontics in daily practice, as well as a whole lecture series about the current understanding of aetio-pathogenesis of periodontitis. All these are presented by the absolute best in their respective fields.

Personally, I am looking forward to the keynote lectures on Saturday, as well as the many short presentations given by our younger generation, who have found an appropriate place within the main scientific programme. I also recommend that visitors not miss our closing event on 6 June. While I am not supposed to reveal more information at this point, attendees can be sure it will be a cracker.

The issue of peri-implantitis is more relevant than ever with an increasing number of implants being placed worldwide. How is this important area reflected in the programme?

Several main sessions are dedicated to this area and there will be a number of internationally renowned experts, including EFP General Secretary Prof. Stefan Renvert and EFP-treasurer Jörg Meyle, who will speak about this issue. Moreover, some of the scientific short presentations will deal with peri-implant disease from a patient’s perspective. This will be followed by a podium discussion involving patients and clinical experts.

Despite a high prevalence, periodontal disease still does not attract the attention it deserves, even in developed countries. Where do you see the main obstacles and what can be done to raise awareness among professionals and the general public?

The same message is carried by the manifesto and we invite everyone to support this mission by signing it at www.efp.org/efp-manifesto.

Next year, the EFP will be celebrating its 25th anniversary. How do you see the role of the organisation within dentistry, and what goals are on the agenda for the time being?

We will certainly celebrate this anniversary properly at the general assembly of all national member societies of the EFP next year in Berlin. However, the party starts already here in London, where our colleagues and friends from all over the world are assembled.

At this point, the EFP is already one of the worldwide driving forces in the field of periodontics and implant dentistry. Its influence on dentistry, particularly through its annual congress conference (European workshops) and EuroPerio, should not be underestimated. We also have to acknowledge the EFP’s Journal of Clinical Periodontology with its editor Prof Maurizio Tonetti.

For the next three years, we are planning to advance our vision of “Periodontal health for a better life” for this, we will communicate the most important findings from our consensus conferences with regard to the interrelationship between oral and general health, as well as the prevention of periodontal and peri-implant disease, to the public. As mentioned, we are currently in preparations to launch a European-wide campaign.

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. **NATIONAL 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.
Where periodontology has advanced

A critique of current trends in the field

By Prof. Mark Bartold, Australia

Over the past 20 years there have been some exceptional advances made in periodontology. Many of these advances have shaped our thinking and our approach to periodontal therapy. In 1999, the American Academy of Periodontology (AAP) devised a “new” classification system for the periodontal diseases. From this some 50 different types of periodontal conditions were identified which were considered worthy of individual recognition. Clearly this was an unwieldy system and in reality it was distilled down to three main types of plaque-associated periodontal diseases: gingivitis, chronic periodontitis and aggressive periodontitis.

While the appropriateness of the terms “chronic” and “aggressive” have been debated, they have served as a framework for both clinicians and researchers to define specific types of periodontitis with identifiable clinical parameters. It also provided a framework for understanding management protocols and outcomes. Nonetheless, over time it has become evident that such a classification system (chronic and aggressive) may be too simplistic because of the heterogeneity of the periodontal disease. Therefore, it may be timely to revisit such a classification system and determine whether current understanding of the epidemiology and pathology of these diseases can be used to better define them.

However, it is worth noting that in the past 25 years there have been at least 10 different classification systems proposed, none of which have been fully adopted. Clearly there remain a number of important challenges in this field. Since chronic and aggressive periodontitis are heterogeneous groups of diseases, for example, there will be unique subcategories based on their multifactorial nature basis of microbial, host response and environmental components. At present, apart from “plaque-assocated” designation, the current AAP classification is not based on cause-related criteria.

Recognition that bacteria are necessary but not sufficient for periodontitis to develop

During the 1990’s a very important conceptual advance occurred in our understanding of dental plaque. In its interaction within the subgingival environment. The recognition that subgingival plaque existed as a biofilm with filling holes in bone, rather than studying the natural healing processes required to regenerate the periodontal attachment apparatus. Ignorance of the contribution of the various tissue components in periodontal wound healing explained the widespread misuse of bone transplantation in the treatment of intrabony pockets which unfortunately still pervades some areas of periodontology.

It is now recognised that regenerative treatment of periodontal defects with an agent or procedure, requires that each functional stage of reconstruction be grounded in a biologically directed process. With such concepts in mind, the seminal studies of Karring, Nyman and coworkers from Gothenburg in Sweden led to the development of guided tissue regeneration (GTR) as a treatment modality. While this was a significant advance, it became evident that while periodontal regeneration was biologically possible, it was clinically very difficult to achieve on a reliable basis owing to a vast range of patient and operator variables.

More recently we have seen the development of biological agents and preparates which, when applied onto root surfaces, can result in significant regeneration of damaged periodontal tissues. The use of such agents offers a simpler approach to periodontal regeneration with equivalent, and sometimes superior, results compared to GTR procedures. However, as has been noted for GTR, the clinical outcomes using biological agents can be variable and further work is needed to improve their clinical utility. Moreover, the use of mesenchymal stem cells and genetic modulation of periodontal cells have been explored for the purposes of achieving periodontal regeneration. The future looks promising but no doubt there is a considerable amount of work to be done before reliable and predictable periodontal regeneration becomes a reality.

Over the past 20 years there have been some exceptional advances made in periodontology. Many of these advances have shaped our thinking and our approach to periodontal therapy. In 1999, the American Academy of Periodontology (AAP) devised a “new” classification system for the periodontal diseases. From this some 50 different types of periodontal conditions were identified which were considered worthy of individual recognition. Clearly this was an unwieldy system and in reality it was distilled down to three main types of plaque-associated periodontal diseases: gingivitis, chronic periodontitis and aggressive periodontitis.

While the appropriateness of the terms “chronic” and “aggressive” have been debated, they have served as a framework for both clinicians and researchers to define specific types of periodontitis with identifiable clinical parameters. It also provided a framework for understanding management protocols and outcomes. Nonetheless, over time it has become evident that such a classification system (chronic and aggressive) may be too simplistic because of the heterogeneity of the periodontal disease. Therefore, it may be timely to revisit such a classification system and determine whether current understanding of the epidemiology and pathology of these diseases can be used to better define them.

However, it is worth noting that in the past 25 years there have been at least 10 different classification systems proposed, none of which have been fully adopted. Clearly there remain a number of important challenges in this field. Since chronic and aggressive periodontitis are heterogeneous groups of diseases, for example, there will be unique subcategories based on their multifactorial nature basis of microbial, host response and environmental components. At present, apart from “plaque-assocated” designation, the current AAP classification is not based on cause-related criteria.

Recognition that bacteria are necessary but not sufficient for periodontitis to develop

During the 1990’s a very important conceptual advance occurred in our understanding of dental plaque. In its interaction within the subgingival environment. The recognition that subgingival plaque existed as a biofilm with filling holes in bone, rather than studying the natural healing processes required to regenerate the periodontal attachment apparatus. Ignorance of the contribution of the various tissue components in periodontal wound healing explained the widespread misuse of bone transplantation in the treatment of intrabony pockets which unfortunately still pervades some areas of periodontology.

It is now recognised that regenerative treatment of periodontal defects with an agent or procedure, requires that each functional stage of reconstruction be grounded in a biologically directed process. With such concepts in mind, the seminal studies of Karring, Nyman and coworkers from Gothenburg in Sweden led to the development of guided tissue regeneration (GTR) as a treatment modality. While this was a significant advance, it became evident that while periodontal regeneration was biologically possible, it was clinically very difficult to achieve on a reliable basis owing to a vast range of patient and operator variables.

More recently we have seen the development of biological agents and preparates which, when applied onto root surfaces, can result in significant regeneration of damaged periodontal tissues. The use of such agents offers a simpler approach to periodontal regeneration with equivalent, and sometimes superior, results compared to GTR procedures. However, as has been noted for GTR, the clinical outcomes using biological agents can be variable and further work is needed to improve their clinical utility. Moreover, the use of mesenchymal stem cells and genetic modulation of periodontal cells have been explored for the purposes of achieving periodontal regeneration. The future looks promising but no doubt there is a considerable amount of work to be done before reliable and predictable periodontal regeneration becomes a reality.
START PERFORMING ONE OF THE MOST COMMON PROCEDURES IN DENTISTRY WITH CONFIDENCE

Register Online at www.extacademy.com

Upcoming Dates and Locations:

**Anaheim, CA** during CDA
May 03, 2015

**San Francisco, CA** during AAO
May 16, 2015

**San Francisco** during AGD
Jun. 21, 2015

For complete list of dates and online registration, please visit www.ExtAcademy.com

---

**Mini-Residency Program**

**34 CE Units**

Complete any portion at your convenience

10 hours Online CE Anytime Anywhere

8 hours of workshop - 20 + locations to choose from

16 hours of Live Surgical Training

---

**Extraction Academy Mini Residency Series (34 CE) Course Registration**

**Course 1**

Advanced Extraction Techniques

- Online Series (10 CE hours)
- Hands On Workshop (8 CE hours)

Course Fee: $1,900

**Course 2**

All Inclusive Live Surgical Training

- Live Surgical Training (16 CE Units)
- All Inclusive From San Diego, CA

Course Fee: $5,500

Combined courses fee: $7,400

VISA info@ExtAcademy.com

---

“Give me a lever long enough and a fulcrum on which to place it, and I shall move the world.”

Archimedes of Syracuse (c. 287 BC – c. 212 BC)

Stop referring patients out for extractions. The Extraction Academy specializes in continuing education workshops and lectures for General Dentists, Periodontists, Oral implantologists, Oral Surgeons and Endodontists.

Extraction Academy courses are designed around practical hands-on lectures. Courses start with extraction basics and progress to advanced techniques. This allows attendees to go back to their office and immediately implement the techniques learned from Extraction Academy lectures and add more revenue to their practices.

---

**Program details**

**WORKSHOP**

- Breakfast
- Introduction and History (1 hour)
- Case presentations (1 hour)
- Instruments (1 hour)
- Hands-on (1 hour)
- Lunch
- Case presentations (1 hour)
- Hands-on (2 hours)
- Tips and ‘tricks’ (1 hour)

**ONLINE LEARNING**

- Anatomy (3 hours)
  Kanor Shih
- Biophysics, Classifications, Pre-Operative Preparation (1 hour)
  Kanor Shih
- Pharmacology (2 hours)
  Gregory Greenwood
- IV sedation, Socket Grafting and Suturing Techniques (2 hours)
  Gregory Greenwood
- Medical Emergencies (1 hour)
  Gregory Greenwood
- Surgical Techniques and Post-Operative Care (1 hour)
  Kanor Shih

**Lecture & Hands On Workshop**

**18 CE Credits**
As the number of dental implants being placed increases, reported cases of peri-implantitis are becoming more frequent. The available data suggest that one in five implant patients will develop peri-implantitis, an irreversible inflammatory condition characterised by bone loss around the site of an implant, while four in five will exhibit peri-implant mucositis, an early stage of the disease in which the inflammatory reaction is still reversible.¹

With peri-implant mucositis, the inflammation is limited to the peri-implant mucosa, while with peri-implantitis the infection also spreads to the peri-implant bone. Both conditions include the presence of bacterial plaque and calculus, oedema and redness of tissues, and involve bleeding on probing. In the majority of cases, classical treatment methods for peri-implantitis are inadequate due to a number of complicating factors, including resistant bacterial strains, difficult debridement procedures and the presence of biofilm on the implant surface.²

The most prevalent reason for the development of peri-implantitis appears to be poor occlusal load distribution, with either primary contacts or cantilever bridges in implant-supported prostheses. Good oral hygiene on the patient’s part is mandatory, however, the position and design of prostheses that are difficult to manage may limit the effectiveness of mechanical cleaning. Once the underlying reason has been determined and recurrence is prevented, laser therapy can help to treat peri-implantitis.

The TwinLight® peri-implantitis treatment

A new laser treatment called TwinLight® from Fotona is proving to be one of the most effective methods for fighting peri-implantitis, successfully meeting the objectives of controlling infection by surface decontamination and halting the disease’s progression. TwinLight® is a minimally invasive technique combining dentistry’s two gold-standard laser wavelengths (Er:YAG and Nd:YAG) in a synergistic process designed to improve peri-implantitis treatment success rates and shorten healing time.

With TwinLight®, the Er:YAG laser is used in a non-surgical procedure to remove microbial contamination and halting the infection by surface decontamination with Er:YAG in LP mode (Fig. 1). The bactericidal effect of Er:YAG against lipopolysaccharides, and the implant surface is completely cleaned without chemicals. The subsequent Nd:YAG treatment step promotes faster healing by bacterial reduction and biostimulation of the bone tissue. The same principles apply also with more severe treatments that require surgical therapy.

The TwinLight® procedure

The TwinLight® procedure is performed according to the following five steps:

- **Step 1**: Removal of the soft-granulation tissue with Er:YAG in LP mode (Fig. 1).
- **Step 2**: Removal of the bacterial biofilm on the implant surfaces with Er:YAG in MSP mode (Fig. 2).
- **Step 3**: Ablation of the infected bone with Er:YAG in QSP mode (Fig. 3).
- **Step 4**: Bacterial reduction in the bone tissue with Nd:YAG in MSP mode (Fig. 4).
- **Step 5**: Biostimulation with Nd:YAG in VLP mode (Fig. 5).

Fig. 1: Removal of the soft-granulation tissue with Er:YAG in LP mode. – Fig. 2: Removal of the bacterial biofilm on the implant surfaces with Er:YAG in MSP mode. – Fig. 3: Ablation of the infected bone with Er:YAG in QSP mode. – Fig. 4: Bacterial reduction in the bone tissue with Nd:YAG in MSP mode. – Fig. 5: Biostimulation with Nd:YAG in VLP mode.

For treatment of peri-implant mucositis, only step 2 is performed. Because the Er:YAG wavelength is used with an optimal modality, there is no danger of thermal damage to the highly fragile surrounding bone and no significant alterations of the implant surface, as is frequently the case with other lasers.³ The effect of the laser energy on the implant surface is dependent on the amount of energy density, power and pulse duration. The parameters should be chosen cautiously—lowering the settings may make the procedure slower but safer for re-osseointegration. Non-surgical use of Er:YAG is also possible if the problem is not extensive.

Clinical Case

In the accompanying clinical case, a removable prosthetic with two ball attachments was planned. Due to the patient’s request, the implants were immediately loaded, which most probably is the reason for the resorption.
seen around the implant on the right lower jaw (Fig. 5). The site was directly accessed to clean the granulation tissue and disinfect the implant surface with Er:YAG laser, while bacterial reduction and biostimulation were executed with Nd:YAG laser (Fig. 6). The defect was augmented with synthetic bone substitute.

After three years of follow up with very good healing (Fig. 7), the patient demanded a fixed prosthesis, which was delivered with an additional placement of implants in both jaws. X-rays taken 5 years after the peri-implantitis treatment can be seen in Fig. 8. Two more implants were placed distally when the patient could afford more treatments after one year.

There are a number of advantages of using lasers in this type of case. One of them is that there is no mechanical, chemical or any other means of trauma while removing the granulation tissue around the implant—neither to the implant nor to the bone tissue. In addition to being safe, both wavelengths are known to promote healing by bacterial reduction and biostimulation of the tissue. Shorter pulses are used on the surface of the implant to avoid thermal effects, but with lower energies, so as to not have a too high peak power and thereby damage the surface. With short pulses and higher peak power (higher energy), we can create bleeding spots on the bone to improve healing of the augmentation material.

The penetration of Nd:YAG through bone helps the achievement of bacterial reduction and biostimulation. Care should be taken to avoid contacting the implant surface with Nd:YAG because the absorption in titanium is high and could cause a rise in temperature. It is also important to use a fast, sweeping motion with high suction to avoid heat accumulation on one spot. Too much bleeding would block the penetration of the Nd:YAG laser. Nd:YAG can also be used on the incision line, vestibular, the oral side of the surgical site and extraorally after suturing, and every second day for faster and better healing, with less pain and swelling.

**Editorial note**. A list of references is available from the publisher.

This article was originally published in laser 1/2015 (Oemus Media).

Dr Ilay Maden is the co-director of Seesaw Dental Education Independent Dental Laser Courses, a UK-based affiliate of the Aachen Dental Laser Center in Germany. He can be contacted at ilaymaden@gmail.com.
EQUIA Forte takes the proven EQUIA approach to the next level. No need for conditioning or bonding with its built-in universal adhesive technology and outstanding wettability. EQUIA Forte is extremely tolerant and bonds equally well to all surfaces even in the deepest of lesions. With EQUIA Forte Coat acting like a lustre coating, you save on polishing time and achieve excellent aesthetics in no time.