Alarm raised over oral health of elderly Brits

RCS predicts sharp rise of dental conditions in over 65-year-olds

By DTI

LONDON, UK: Oral healthcare in older people needs drastic improvement, leading dentists in the UK have said, as almost one in five Brits over the age of 65 are currently suffering from an urgent dental condition. According to a new report published by the Royal College of Surgeons (RCS), at least 1.8 million of over ten million in this age group live with dental pain, oral sepsis or extensive caries in untreated teeth.

Conditions could become even worse in 20 years, when it is estimated that almost one in two will have severe dental conditions, the report also predicts. While adult oral health has seen significant improvement over the last 40 years, according to the RCS, too little is currently being done to help older people to maintain their oral health.

It asserted that government, health services, local authorities, care providers and regulators have to step up their efforts to improve access to dental services for older people.

"As well as causing pain and making it difficult to speak, eat and take medication, poor oral health is linked to conditions in older people such as malnutrition and aspiration pneumonia," commented Prof. Michael Escudier, Dean of the Faculty of Dental Surgery at the RCS. "We need to work together to ensure improvements in oral healthcare for older people." In addition to improving access to oral healthcare for the elderly, the RCS recommended oral health training of key health professionals in acute and community care settings, such as nurses, junior doctors, pharmacists and geriatricians. It also suggested that social care providers should train their staff about oral health issues and ensure that oral health is covered by those services in their initial health assessments.

Further measures should include the development of policies for hospitals to minimise denture loss and increased efforts to monitor and measure older people’s oral health, the RCS added. “Dental health needs to be viewed as part of older people’s overall health, with health professionals and social care providers being trained to recognise and deal with problems,” Escudier said.

The RCS estimates that almost one in two people over 65 will have severe dental conditions in 2040.

Ten thousand NHS places announced for Wales

By DTI

CARDIFF, UK: Up to 30,000 new NHS dental posts are planned to be created in Wales, the national government announced on Tuesday. As part of the investment, over £675 million will be given to the Cardiff and Vale University and Aneurin Bevan University health boards, it also said.

Overall, the Welsh government has pledged to spend an additional £1.3 million in this regard. In a press release, Health Secretary Vaughan Gething said that the effort is aimed at developing new and improved NHS dental services across Wales, particularly in places with higher needs and neglected areas, such as specialist paediatric dental services.

"The investment in specialist paediatric dentistry will help improve NHS dental treatment and care for those children who are affected by dental disease," he said.

In addition to increased spending, the government said it plans to introduce a clinically led dental e-referral management system and fund courses and training for people who intend to work as dental care professionals.

According to national statistics, Wales falls significantly short of dentists per capita among all of the home nations. While it welcomed the investment, the British Dental Association said it is insufficient, as millions are taken away from dentistry each year owing to tough contract targets.

"This money represents just a quarter of what’s been taken out of the system each year. Creative accounting does not constitute new investment. The best thing the Welsh Government could do is commit to ensure all money set aside for dentistry is actually spent on improving the oral health of children and adults in Wales," said Katrina Clarke, Chair of the BDA Wales General Dental Practice Committee.
Collaboration meets creativity

British Society of Paediatric Dentistry invites to 2017 conference in Manchester

MANCHESTER UK: Collaboration between clinicians, healthcare officials and researchers will be the theme of this year’s annual conference of the British Society of Paediatric Dentistry in Manchester, the organiser has said. At the event, a number of renowned speakers from all over the country will present scientific developments resulting from trials or inter-hospital collaborations they are involved in.

Treatment of children with complex needs for which collaboration is essential will be particularly in focus of the conference. A wide range of scientific developments will be provided by speakers from all over the country. The three-day conference, which will be held at the Lowry Arts Centre in Salford Keys in Manchester, takes place from 19–22 September.

“It’s the first time in 20 years that the BSPD conference has come back to Manchester and, as an organising committee, we plan to showcase both a great city and some very exciting creative collaborations,” said BSPD president Claire Stevens. “What we hope is that all our delegates will experience the buzz of being in Manchester and hearing first class science as well as getting to know all our colleagues. As we leave, we will take away new knowledge and ideas to implement in our practices.”

The theme of this year’s annual conference is Collaboration meets creativity.

Other highlights include a session with the Chief Dental Officers from Scotland, Wales and England, Margie Taylor, Colette Bridgman and Sara Hurley, who will look at oral health initiatives across the home nations.

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“It’s the first time in 20 years that the BSPD conference has come back to Manchester and, as an organising committee, we plan to showcase both a great city and some very exciting creative collaborations,” said BSPD president Claire Stevens. “What we hope is that all our delegates will experience the buzz of being in Manchester and hearing first class speakers but at the same time, they leave feeling refreshed and relaxed by the well-being activities that we have lined up.”

More information about the event is available online at www.bspdconference.org. For the first time, delegates will have access to a new mobile application, which provides easy-to-find information about the conference and the programme. Health and well-being activities for delegates will also be offered during the three congress days.
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The General Dental Council (GDC) has strongly advised dental professionals in the UK not to buy products from sources that are not compliant with existing standards and regulations. The warning comes after a dentist from North West England was suspended recently for repeatedly having bought counterfeit dental handpieces online.

According to the UK regulator, the 32-year-old purchased risky equipment on an internet auction website at least three times. It was seized earlier this year during inspections by the Medicines and Healthcare products Regulatory Agency (MHRA) at his practice in Preston in Lancashire. After his hearing in July, he will not be able to practise dentistry for three months, the GDC said.

"This case shows the importance of dentists and dental care professionals adhering to the standards around compliant dental equipment," Jonathan Green, GDC Director of Fitness to Practise, commented. "Non-compliant equipment endangers the health of both the patient and those using it and it is vital that all items meet safety requirements."

"As set out in our Standards for Dental Professionals, all members of the dental team must understand and follow the law and regulations in this important area, which go to the heart of patient protection. They must always put patients' interests first," he added.

According to MHRA, which regulates all medical devices in the UK, over 10,000 individual pieces of non-compliant or counterfeit dental equipment are seized in operations in this important area. It is estimated that use them," Head of Enforcement, police in the UK arrested a record 3,000 persons are still under observation by authorities nationwide.

South Yorkshire Police Assistant Chief Constable David Hartley said, "If you have any concerns around any suspicious activity, I would encourage you to please call the dental Anti-Terrorist hotline on 0800 798 7321."

Critical equipment is easily available on websites like eBay and Google.

Dental students charged with terrorist offences

LONDON, UK: Local newspapers are reporting that a dental student from Plymouth will have to stand trial for terrorist offences in London this month. The individual, Abdurahman Kaabar, originally of Uppermoor in Sheffield, is accused of three offences of possessing records of a kind likely to be useful to a person committing or preparing an act of terrorism and four offences of disseminating terrorist publications.

It is understood that the 22-year-old is a South Yorkshire Police after an investigation by the North East Counter Terrorism Unit (NECTU). Kaabar has been remanded in custody and will appear before the Old Bailey in September. He pleaded not guilty to the charges, according to court documents.

It is unknown whether the arrest is connected to the arrest in June of another dental student from Sheffield, who was charged for the early attack planning of a terrorist attack and will stand trial in November. The 24-year-old, who is originally from Huddersfield in West Yorkshire, was arrested in his flat after the NECTU was tipped off about suspicious behaviour. He is accused of having engaged in the preparation of and having possessed material that could be useful in preparing an act of terrorism.

The arrests are the latest in a number of counterterrorism activities after the devastating terror attacks of recent months. However, they are not related to any recent incidents, like the Manchester Arena bombing or the Westminster Bridge attack in London, NECTU officials said. According to the Home Office, police in the UK arrested a record number of terrorist suspects last year and an estimated 3,000 persons are still under observation by authorities nationwide.

South Yorkshire Police Assistant Chief Constable David Hartley said, "If you have any concerns around any suspicious activity, I would encourage you to please call the dental Anti-Terrorist hotline on 0800 798 7321."

"Dental patients are entitled to expect quality care, including the standard of the instruments and devices used by dental professionals. It is vital that dentists and dental staff buy equipment from bona fide suppliers and avoid non-compliant or counterfeit devices. I urge all dental professionals to be cautious of seemingly cheap devices which may be unfit for purpose and potentially dangerous to patients and the staff that use them," Head of Enforcement at MHRA, Alastair Jeffrey, said.

Nurse from practice with largest recall suspended for life

LONDON, UK: A Nottingham dentist responsible for the largest recall of patients in NHS history has been suspended from practice indefinitely. The decision came after a hearing by the General Dental Council (GDC) in August after her initial suspension in 2016.

The nurse was accused of having put patients at risk by failing to ensure that an adequate standard of cross-infection control was maintained at the practice in which she worked in 2014. According to the GDC, she has not engaged with the regulatory body to remedy her failings and does not wish to practise as a dental nurse again.

I feel I have let myself down as a dental nurse as well as my patients, although I would never intentionally do anything to put their health at risk. We were a very busy practice and I often felt it was almost impossible to meet CQC [Care Quality Commission] standards at all times due to the amount of patients coming through the door," she stated in a letter sent to the GDC.

The nurse’s former employer was removed for reasons of misconduct owing to 55 allegations of failure to maintain basic standards of infection control or prescribe antibiotics without a thorough assessment of patients’ needs. As a result, more than 22,000 patients were offered a recall for blood tests owing to the risk of exposure to infection in 2014.

The dentist’s actions were revealed by a whistle-blower, who recorded some of the failings on video. The filmings showed that he did not change his gloves or surgical mask and wiped his hands on his trousers instead of washing them, among other gravely hazardous practices.
Controversy regarding Trump spills over into dental industry

BY DTI

SOUTH JORDAN, USA: CEO and founder of Ultradent Dr Dan Fischer has written an open letter calling on Americans to turn their backs on the Trump presidency. In response to Trump’s reaction to the tragic events in Charlottesville, Virginia, on August 12 and 13, the full-page letter in USA TODAY has now caused the already maxed-out political turmoil to spill over into the dental industry.

In his opening sentence, Fischer wrote: “As the founder and CEO of Ultradent Products, Inc., a proud American manufacturer that employs over 1,400 Americans and exports 65% of what we manufacture, I feel it is my duty and obligation to make my voice heard.”

Pointing to Ultradent’s core company values of “integrity, quality, care, innovation and hard work” as guiding his leadership of the company, Fischer felt compelled to voice his disapproval at what he describes as an “out of control” Trump, going as far to say “should I ever find myself in the presence of Donald Trump, I will literally turn my back to him.”

This heart-on-sleeve call to action from Fisher has not been met with open arms from all corners of dentistry, with some loyal Trump supporters who work in the industry suggesting via Facebook that Americans and dentists turn their backs on Ultradent products. This was however rebutted by individuals suggesting they triple their supplies to counter any revolt.

In the letter, now published on turnyourbacks.org, a site hosted by Fisher, he concludes by writing: “For those of you who support this person or who don’t feel comfortable that it is correct to ‘turn your back,’ you too are my fellow Americans, and I equally defend your right to freedom of speech. Do as your conscience dictates.”

Dr Dan Fischer
DTI introduces new international magazine on prevention

By DTI

MANCHESTER, UK/LEIPZIG, Germany: How can the importance of prevention be communicated to dentists and their patients, and how can dental practices become even more profitable through prophylaxis? A new publication, prevention—international magazine for oral health—provides information, products and business models for those practices interested in expanding their prophylaxis offerings. Dental Tribune International (DTI) has published the first edition in time for the FDI World Dental Congress in Madrid in Spain, and dental professionals can already read the magazine on the DTI website.

Oral science has advanced to such a degree that dentists have a good understanding of biofilm, caries and periodontal disease. Yet, while dentists have all the tools and knowledge necessary to prevent disease, interdisciplinary collaboration between preventative and restorative dentistry has only just begun, particularly regarding diagnosis and treatment. Communication with and motivation of the patient remain critical in achieving long-term health, while new devices and protocols have yet to enter prophylaxis-focused dental practices.

The editors of the new prevention magazine agree that preventative dentistry needs to become an integral part of every dental practice. They also agree that dentists should adopt a general health approach to caring for their patients, seeing them multiple times per year for prophylactic treatment and saliva or blood tests. Ideally, they should also refer patients to other medical doctors when necessary and themselves receive referrals from other doctors when their expertise is required. Dentists would then be considered medical practitioners specialising in oral health. This role shift would involve changing the patient’s view of dentistry and oral health through education, motivation and repetition.

Against this background, the prevention magazine adopts an interdisciplinary approach to oral health. The English-language publication covers a range of related topics, including oral hygiene and prophylaxis and new aspects in oral and general health. Prevention also presents the latest research on primary, secondary and tertiary prophylaxis. Owing to its interdisciplinary and educational focus, the magazine reinforces the relationship between dentistry and other medical disciplines.

Prevention also provides a new approach to magazine content and design. Unique lifestyle articles with full-page photograph galleries, inspirational interviews with key opinion leaders and advertorials are combined with case reports, event previews and reviews, and business and product news.

For the first edition of prevention, interview highlights include conversations with opinion leaders from the European Federation of Periodontology and the International Federation of Dental Hygienists. The publication will be distributed at all major international dental congresses and exhibitions. In addition, e-newsletters on prevention will be sent to prophylaxis-focused practices worldwide.

DTI would like to thank advertisers Curaden, EMS, Dentognostics and Andjana for supporting the first edition through advertising and the provision of unique content. From 2018, prevention will be published twice a year with a print run of 4,000 copies. An e-paper edition of the magazine is available free of charge via the DTI online print archive. Dental professionals can subscribe to the magazine via subscriptions@dental-tribune.com.

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A future path for entrepreneurial dentists

By Dr Mitesh Badiani, UK

It is easy to generalise, but I think that most people would agree that we live in changing—and challenging—times. While technology is moving on apace, pushing all aspects of work and life forward and changing the way that we do even the most ordinary of things, uncertainty lingers over the future of our government, economy and commerce, not to mention the foot-dragging negotiations of Brexit or the numerous and frightening affairs overseas. It is difficult to predict which way things will go, whether you look at them at a micro or a macro level.

Things are no different in dentistry. Disruption is afoot with the old, closed-door approach being slowly replaced by transparency and patient choice. New clinical indicators will increase the pressure to achieve higher quality and outcomes framework scores, and new regulations will ensure that the ‘rogue traders’ who occasionally blighted the name of the service—as they have so many others—can no longer gain a toe-hold, let alone a foot. All this change creates fertile ground for the entrepreneur, and yet they still face a perennial problem with financing their ambitions.

It is an unfortunate fact, but at the heart of any business is money. Whatever ethos drives a company, whether in the charitable sector, healthcare, public services, retail, or a brand within the FTSE 100, it can get nowhere without sustainable funding. This is a problem increasingly faced by dental practitioners, especially those looking to expand their business.

Ask around, and few dentists will say that they originally embarked upon their chosen career because they wished to go into business. There are far quicker and easier ways to do that. However, for those with a passion for the science, skills and service of dentistry, private practice offers the opportunity to take control and provides that invaluable commodity time. It might also mean specialising in one niche area, diversifying practice offerings or expansion through the creation of a portfolio of practices. Each of these options requires funding, but while traditional business loans can be accessible to the single practice owner, the entrepreneurial dentist with an eye on expansion will soon discover the necessity of looking elsewhere in order to finance their plans.

The pitfalls of independent dental practice portfolio growth

Developing a small portfolio of dental practices brings particular challenges when it comes to securing sufficient funding. Despite the fact that they are free from the restraints that often bind practices that are part of corporate chains, independent practices with multiple outlets face their own issues. Not only do they tend to be too big to sell when retirement beckons—because who can secure that kind of funding?—but it can be next to impossible to raise the finance for further growth or investment. If you cannot find the funds to run a practice well, there is no point in running one at all.

Finance as an isolated issue needs methodical research, backed up by a comprehensive action plan and supported by a wide-ranging business plan. However, while practice owners and managers may wish to spend significant time looking for and securing funding, the practices bring other demands, including profit and loss (P&L), existing financial management, compliance, and of course, the small matter of delivering outstanding patient care, which will always be first and foremost for any reputable dental practitioner.

That commitment to patient care will also require time spent on hiring a team who share your philosophy, and delivering a training package that ensures that every member of the team shares the same ethos when it comes to the delivery of clinical excellence.

All of this takes time, even before you have moved on to compliance, an area not to be neglected but which is incredibly time-consuming. Compliance is often cited as the number one concern for dentists. Time must be spent ensuring your practice meets the regulations and interpreting the guidelines to ensure your practice is fully compliant.

It should also go without saying that staying on top of both P&L and financial management is imperative to the continued suc-
cess of any business, dental prac-
tice or otherwise. Without a firm
grasp on your existing finances, you
cannot consider an expan-
sion, no matter how entrepre-
neural your spirit. Not only would
your search for funding become
exponentially more difficult, but in
the unlikely event that you did
gain financial backing you would
bring you less satisfaction means
that you can wave goodbye to your
last patient, confident that every-
things that should be done has
been done. Days off lose their
anxiety.

This new way of collaborating
has meant that I have the freedom
to pursue my own path while gain-
ing support in areas such as finan-
cial responsibility and compli-
ance. Dentists do not want to be
tied up in red tape, but they do
want the autonomy to decide what
is best for their patients and their
practice. The partnership group
model is the ideal compromise.

Dr Mitesh Badiani is a Regional Partner
at Dentex, as well as Clinical Lead at
Plymouth Dental Centre of Excellence and
Plymouth Dental Centre of Excellence,
with over 20 years of dental experience.

The difficult balancing act between clinical
excellence and corporate expansion

While it might not be the path that they originally expected to follow, for some dentists – includ-
ing myself – the non-clinical as-
pects of dentistry can hold as
much interest and satisfaction as
one-to-one patient care. There is
a certain pleasure in seeing a prac-
tice flourish and grow, and for
those with an entrepreneurial
bent it can lead to ideas of expan-
sion not just for the business op-
portunity, but for the challenges it
brings. But once again, there
comes the issue of funding.

After much time following the
traditional financing routes, I
came across Dentex, a UK partner-
ship group for the dental profes-
sion, which allowed me to follow
my interests without losing my
autonomy. At my practices, we
have always taken pride in the fact
that we are one of the few dental
practitioners outside of the large
cities able to deal with the major-
ity of our patient’s requirements
in-house, with no need for exter-

nal referrals. My wish was to main-
tain, and if possible expand, my
existing practices into a small
portfolio.

Aside from access to real-time
financials and the investment I re-
quired to facilitate my plans, Den-
tex’s partnership model has ena-
bled me to gain insights from a
cross-practice comparison of fi-
nancials, highlighting where I
could make savings, or further in-
vestments, without hampering
the services we have become
known for.

The centralisation of all other
elements of running the practices,
such as cash flow, advertising, P&L,
training, compliance, mainte-
nance, has also liberated funds
that would otherwise have been
wasted through duplication of ad-
imistration. And on a personal

note, I have been freed to spend
time pursuing my charitable in-
terests and mentoring.

Some of my colleagues who
are less focused on growing their
own portfolio of dental practices
have used the partnership model
to unshackle themselves from as-
pects of practice admin in order
to return to the clinical focus that
originally fuelled their passion for
dentistry, while others have taken
the opportunity to slip into semi-
retirement.

Work-life balance has always
been a difficulty for practice own-
ers. As any small business owner
will attest, ‘switching off’ at the
end of the day does not come eas-
ily when there is always something
to be done. Having the safety net
of being part of a wider group of
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Over the course of this series, the dentists group will explore ways to tackle a number of personal and professional challenges by providing advice and guidance to fictional character Dr Mo Lar. In this article, the fifth in the series, steps he should take now that he is married with a young family are considered.

Since the last article, Lar has undergone many changes in his personal life as well as marrying, he has become a proud father of a baby boy. As the main breadwinner of the family, Lar feels responsible for the financial welfare of his loved ones, prompting him to review his finances and level of protection. Between utilities, mortgage repayments, general expenses and the cost of raising a child—which is thought to amount to about £231,843 by the age of 18—there is a great deal that he must account for were anything to happen. As such, the best place to start would be critical illness.

Critical illness cover is intended to pay out a single tax-free lump sum in the event that the claimant is diagnosed with a serious illness or condition, such as cancer, multiple sclerosis, stroke or Parkinson’s disease. To ensure that he receives a payout, Lar would need to choose a policy that covers a wide range of potential illnesses, being careful to disclose all relevant details, such as existing health problems, age and lifestyle, to the insurer. Luckily, Lar is in good health, but if he did have a pre-existing illness, there would be a possibility that it would affect his claim. For that reason, it is always wise to seek guidance from a specialist adviser.

Saying that, taking the example of a well-known insurance company, over 95 per cent of critical illness claims were paid out in 2016, with just 5 per cent rejected owing to misrepresentation and not meeting the terms of the policy. Still, one can never be too careful. For a suitable payout, Lar would be advised to take out cover to the value of his mortgage, debts (for example, his student loan) and living expenses.

Then there is income protection. While it is necessary to prepare for the worst-case scenario, Lar must also give thought to everyday sickness or injury. According to the Health and Safety Executive, 30.4 million working days were lost owing to work-related illness or injury in 2015/16, averaging 16 days per person. It can happen and dentists are no exception. In fact, it is well known that dentists are at risk of developing musculoskeletal disorders and suffering from mental health disorders such as depression and anxiety, so it is crucial that Lar should cover himself against such eventualities—especially as he is a self-employed associate at a predominantly NHS practice.

Indeed, NHS sickness leave payments are restricted for dentists, so if Lar was to experience an accident or illness that forced him out of work temporarily and he was not covered, he would only be eligible for statutory sick pay. As the main breadwinner, £89.35 per week would not be sufficient to cover the food bill for his young family, let alone other financial commitments. However, as Lar is extremely risk-averse and prudent with his finances, it would be wise for him to take out a policy with the help of an independent financial adviser, such as those at moneydentists.

To make sure that no stone is left unturned, Lar would also be advised to enlist the services of a lawyer to compile a will, as it will ensure that his hard-earned money is inherited by his closest loved ones. In this instance, Lar wishes for his assets to go to his wife and that she should take on the role as trustee for their son’s inheritance until he turns 18. Any estate worth over £250,000 is automatically divided between the surviving spouse and children if there is no will to decree otherwise, so it is crucial that Lar should put his instructions in writing if he is to ensure his assets are divided as he wishes. With his life insurance taken into account, Lar’s estate is worth over £325,000, so he will also need to consider the impact of inheritance tax and the best way to maximise the benefit of available reliefs and exemptions.

You can take great comfort in knowing that your family will be taken care of financially in the event of illness or death. For peace of mind, follow in Lar’s steps and take out the right protection today.

Next part: Lar looks to becoming a principal
BRILLIANT EverGlow has fabulous gloss retention

An interview with Dr Monik Vasant, UK

When it comes to composite materials for restorative procedures, many dentists look for a product that can combine ease of use with aesthetically appealing results. To learn more about this topic, Dental Tribune spoke with Dr Monik Vasant, a leading cosmetic dentist based in Bloomsbury, about how he decides what composite materials to use and his experiences with COLTENE’s universal composite BRILLIANT EverGlow.

Dental Tribune: As someone working in the field of aesthetic dentistry, what do you look for when choosing composite materials for restorations?

Dr Monik Vasant: When deciding on composite materials, there are many factors that I consider. The first factor is its shading system, that is, is it based upon the classic VITA shade guide or is it a layering material? The next thing I look at is the handling of the material—I want something that is soft enough to manipulate easily without being so soft that it does not stay where I put it. The final thing I look for is the surface polishability of the material, as I want my work to last for a long time and retain its lustre.

How long have you been using BRILLIANT EverGlow, and for what indications?

I have been using COLTENE’s BRILLIANT EverGlow ever since it was launched a couple of years ago. I use it in many different situations where I want to use a VITA-shaded material. This includes Class V indications, post-orthodontic edge bonding, wear cases, veneers and posterior teeth.

How does a product like BRILLIANT EverGlow help you to achieve your goal of minimally invasive dentistry?

Its opacity means I can often use it in a single layer often without having to bevel the tooth, as it blocks out the margin really well, yet maintains a high enough level of translucency to still look natural. Its predictable shading system and fabulous gloss retention mean I can avoid using ceramics and keep my restorative work to a minimum while still achieving great aesthetics.

Thank you very much for the interview.

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Images are courtesy of Prof. Dr. Fábio Duarte da Costa Aznar

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European dental imaging equipment market in a state of change

By Sasha Stephanian & Jeffrey Wong, Canada

The market for dental imaging equipment in Europe is quite saturated and has not experienced any significant growth over the past several years. However, in recent years cone beam computed tomography (CBCT) scanners have increasingly begun incorporating 2-D capabilities into their systems, as well as offering a broad range of fields of view to provide greater flexibility. Clinical applications of CBCT systems include implant planning, root configuration, sinus augmentation, root-canal procedures and bony defect detection. As several of these applications are expected to increase in number, the demand and need for CBCT scanners will continue to grow considerably throughout Europe over the next decade.

Intraoral X-ray imaging device market in transition

Analogue technology is a thing of the past and while it is still declining, the transition away from these types of systems has already taken place, resulting in a more stable market situation. Companies now offer two digital alternatives: photostimulable phosphor (PSP) systems and digital sensors. Larger clinics with several rooms, especially those who only recently made the switch to digital technology, typically opt for PSP systems due to the affordability of PSP plates and the similarity in equipment handling compared to conventional analogue film. In countries such as France and Italy, which are largely dominated by smaller clinics with only a single examination room, dentists often opt to use digital sensors instead.

Although the split between PSP systems and digital sensors is quite even, the PSP market has shown strong signs of growth, particularly in countries that were traditionally dominated by sensors, such as Spain, and will continue to be one of the main drivers in a rather stagnating market for imaging equipment as a whole. Part of this trend can be attributed to the fact that the thickness and rigidity of sensors are a greater nuisance when it comes to patient comfort, as well as the frailness of these sensors compared to PSP scanners. Furthermore, digital sensors are much more expensive than PSP scanners, and include parts that are prone to wear, such as cords that can be easily damaged, which further argues the case to switch to PSP systems.

2-D extraoral X-ray imaging vs 3-D CBCT scanners

Extraoral X-ray imaging systems are predominantly used for viewing a patient’s teeth relative to his or her jaw and skull. They aid in monitoring impacted teeth, temporomandibular joint disorder, and possible tumours in and around the intraoral cavity. These specific uses of extraoral X-ray systems are limited to procedures performed by orthodontists, prosthodontists and oral surgeons, resulting in a relatively small market. Most professionals prefer working with a CBCT scanner, which has 3-D imaging capabilities and can perform at a much greater capacity than traditional 2-D extraoral imaging systems, but are limited by the high acquisition cost of these systems. Recently, however, not only have prices of CBCT scanners dropped significantly, but it is now standard for these systems to also incorporate both panoramic and cephalometric capabilities, resulting in so-called ‘combo-units’, which has resulted in a drastic change in the market. The popularity of these CBCT ‘combo-units’ has increased significantly in recent years and is expected to continue outpacing all other market segments in terms of growth.

Consequently, the outlook of the extraoral X-ray system market in Europe is negative. Already being a replacement market without much innovation, the demand for traditional 2-D systems is on the decline as consumers continue to opt for technologically superior CBCT scanners. Manufacturers have also recognised this, and as such have shifted their focus to capitalise on this trend, investing in producing combo 2-D and 3-D units with the option for future upgrades, greatly improving the marketability of these systems.

Analysis of the current situation of CBCT scanners

CBCT scanners are extremely efficient machines that are capable of performing a quick and non-invasive scan, resulting in a high level of patient comfort. It is also possible to instantly show the patient a 3-D image of their jaw and teeth structure, making it easier for dental professionals using these scanners to convince patients regarding necessary treatments. However, the biggest advantage of CBCT scanners is their low cost relative to traditional CT systems found in hospitals. While CBCT scanners are quite a bit more expensive than other dental imaging equipment, they are a much more affordable alternative for capturing 3-D images of a patient’s jaw compared to past methods.

In the European market, sales of CBCT systems have increased considerably, with growth rates surpassing that of nearly all other dental imaging devices. This will most likely continue to be the case throughout the next several years as the technology is constantly improving and prices are dropping. Although most units now offer a variety of field of views (FoVs), the most popular choice continues to be 8 cm x 8 cm, as this size is sufficient to capture the complete maxilla or mandible in one image. Anything above this size has a much more niche usage and typically comes at a greater cost, thus dentists opting to purchase a CBCT scanner are less likely to be persuaded by anything larger, as it is more of a luxury than a necessity. As such, all of the major competitors, including Carestream, Planmeca, Sirona, Danaher Group, Vatech, and Cefla Group, have multiple systems with this size already incorporated into their product line. Today, smaller FoV (sizes smaller than 8 x 8) scanners have essentially all been consolidated with medium FoV scanners, and large FoV scanners are extremely expensive and represent only a very minor percentage of the market.

Final thoughts

All in all, the market for dental imaging equipment in Europe is relatively static in terms of growth, but it is in a state of transition. Companies are continuously improving the technology in their products, and the stiff competition is placing intense pressures on prices. Consequently, a growing demand for CBCT scanners is countered by these falling prices, and in the end, the companies that will be the most successful are the ones who provide the greatest value with their products. The intraoral X-ray imaging sector has almost completely transitioned into a digital market, but is now split between digital sensors and PSP scanners. With new entrants in various segments of the market, the future of this market seems promising and exciting, with many new opportunities on the horizon.

Sasha Stephanian is a research analyst at Data Research and was the lead researcher for the 2016 European Dental Operatory Equipment and CAD/CAM Materials, U.S. Medical and Dental Imaging Equipment, 2017 European Robotics and Surgical Navigation, U.S. and European Dental Lasers, and European Dental Imaging Devices Market Report Suites. His current work includes the 2017 U.S. Soft Tissue Regeneration Market Report Suite. Jeffrey Wong is the strategic analyst manager at Data Research and has been heavily involved with the company’s dental division throughout his tenure. As a research analyst, he led several research projects on the global dental markets, including dental prosthetics, digital dentistry, CAD/CAM materials, dental implants, bone graft substrates, hygiene, dental imaging and dental lasers.
Apexification treatment with MTA REPAIR HP

By Dr Fábio Duarte da Costa Aznar, Brazil

A 28-year-old male patient presented to our practice with an asymptomatic clinical picture of chromatic alteration of tooth #11 (Fig. 1). He had a history of dental trauma during childhood. Clinical and radiographic examination found traces of pulp necrosis (Fig. 2), for which he was referred for endodontic treatment.

After the initial consultation with the patient, anaesthesia was given, followed by establishment of absolute isolation. Subsequently, coronary access was achieved and the presence of pulp necrosis confirmed. A crown-down disinfecting instrumentation was performed using 2.5% sodium hypochlorite as irrigation agent and odontometry by radiographic method (Fig. 3), owing to not being able to use a foramen locator under these anatomical conditions, as its accuracy may have been influenced.

A manual preparation technique (step-back) was performed, using third-generation K-Files (DENTSPLY Maillefer) and 2.5% sodium hypochlorite as irrigation agent for the purpose of widening the entire root canal system. At each instrument encounter, passive ultrasonic irrigation was performed with flat inserts (Fig. 4) in order to enhance the cleaning effect. Complementing the intra-channel decontamination process, two biweekly exchanges of UltraCal calcium hydroxide (Ultradent) were performed (Fig. 5), also with the purpose of analysing quality of cleaning through the radiopacity of the filling observed radiographically (Fig. 6).

After the removal of the intra-canal medication and drying, the apical plug was prepared with MTA REPAIR HP (Angelus; Fig. 7) and inserted through the direct technique using previously measured endodontic condensers (Fig. 8). The aim was to fill and subsequently seal the apical 4 mm (Fig. 9). After 24 h, a root canal filling was performed with Tagger’s hybrid thermomechanical technique using an MTA-based sealer (MTA-FILLAPEX, Angelus). Radiographically, ideal sealing of the entire root canal area was observed (Fig. 10). The patient showed no postoperative complications. A follow-up examination was conducted after six months, which revealed new bone formation in the apical region (Fig. 11).

Fig. 1: Clinical appearance of tooth #11. – Fig. 2: Initial radiographic appearance of tooth #11. – Fig. 3: Radiography for odontometrics. – Fig. 4: Supplementary cleaning process using ultrasonic irrigation. – Fig. 5: Intra-canal medication with calcium hydroxide. – Fig. 6: Radiographic appearance of the root canal filling with calcium hydroxide. – Fig. 7: Presentation of MTA REPAIR HP. – Fig. 8: Direct condensation of MTA REPAIR HP.

Dr Fábio Duarte da Costa Aznar works in applied dental sciences at the University of São Paulo in Brazil. He also coordinates a specialisation course in endodontics offered at various Brazilian universities. Aznar can be contacted at fabio@aznar.com.br.
Applying evidence-based practice in oral hygiene education

By Rachael England, UAE

I have worked as a dental hygienist for the last 11 years, since qualifying in the Royal Air Force in 2006, and have practised throughout the UK in a whole range of settings, military, NHS hospital and private practice. I have also served in dental units of humanitarian initiatives, such as a mobile clinic in Kenya. Currently, I am working in a private practice in Dubai and delighted to be a key opinion leader for Philips. Throughout that time, I have consistently recommended one brand to my patients and anyone else asking for help choosing an electric toothbrush. Clinically, I have seen an improvement in oral health when people begin using Philips Sonicare toothbrushes and most recently toothbrushes from the DiamondClean range.

Philips Sonicare has reinforced its commitment to patient and professional partnership by continually developing new products, which undergo rigorous testing and clinical trials to demonstrate their safety and efficacy. Philips is committed to improving the lives of three billion people a year by 2025, through its ongoing collaboration with scientific experts, research scientists and dental professionals.

The associations between oral and systemic health are being discovered year on year, including serious conditions such as diabetes, atherosclerosis, preterm or low birth weight babies, Alzheimer’s disease, chronic kidney disease and certain cancers. We know that gingival inflammation and periodontal disease are initiated by the complex microbial biofilm, and the destruction of the supporting tissue, including the periodontal ligament, bone and cementum, is mainly caused by the host-mediated innate and adaptive immune response. Periodontal disease is the most prevalent aliment affecting humankind globally, and severe periodontitis is responsible for the absolute majority of tooth loss and edentulosity in adults. Clinicians are thus constantly on the lookout for the most reliable and evidence-based aids to enable their patients to manage their oral health.

With the publishing of the latest research carried out by Philips in a special issue of the Journal of Clinical Dentistry, I can be sure that the advice I am giving patients is evidence based. High on the evidence pyramid are systematic reviews with meta-analyses, which provide reliable conclusions because they integrate all the relevant evidence. This meta-analysis comparing the effectiveness of manual versus high-frequency, high-amplitude sonic powered toothbrushes showed that plaque removal was increased by 20% and gingivitis was decreased by 10%, thus reducing the systemic inflammation and improving the patient’s oral and general health.

In order to encourage patients to swap from a manual to an electric toothbrush, I tell them it is like comparing riding a bicycle with a motorcycle: one is much more efficient and doing the work for them. This is confirmed by studies comparing gingivitis reduction using a Philips Sonicare DiamondClean versus a manual toothbrush. After just two weeks, the DiamondClean realised a 52% reduction in gingival bleeding compared with only 17% using a manual toothbrush. After four weeks, the Sonicare achieved a 57.4% reduction in gingival bleeding compared with 17.0% using a manual toothbrush. This is statistically significant differences in all metrics persisted until study completion at Week 6.

**Study 1**
Comparison of Gingivitis Reduction and Plaque Removal by Philips Sonicare DiamondClean and a Manual Toothbrush

**J Clin Dent 2017;28(Spec Iss A):A1-6.**

**Results - Percent reduction at Week 4**

<table>
<thead>
<tr>
<th>Products</th>
<th>Subjects</th>
<th>Design</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philips Sonicare DiamondClean vs. MTB</td>
<td>141</td>
<td>week 2 vs 4</td>
<td>Sonicare 95.1% MTB 81.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Gingivitis 25.5% Bleeding 19.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plaque 34.9%</td>
</tr>
</tbody>
</table>

**Key conclusion**

Twice daily brushing with Philips Sonicare DiamondClean is significantly better than using a manual toothbrush for reducing plaque and improving gingival inflammation and gingival bleeding within just two weeks, persisting to four weeks.

**Study 2**
Comparison of Plaque and Gingivitis Reduction by Philips Sonicare FlexCare Platinum with Premium Plaque Control Brush Head and a Manual Toothbrush

**J Clin Dent 2017;28(Spec Iss A):A7-12.**

**Results - Percent reduction at Week 6**

<table>
<thead>
<tr>
<th>Products</th>
<th>Subjects</th>
<th>Design</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philips Sonicare FlexCare Platinum vs. MTB</td>
<td>143</td>
<td>week 2 vs 6</td>
<td>Sonicare 95.1% MTB 81.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gingivitis 45.79% Bleeding -0.71%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plaque 46.55%</td>
</tr>
</tbody>
</table>

**Key conclusion**

Twice daily brushing with Philips Sonicare FlexCare Platinum with Premium plaque control* brush head is significantly better than using a manual toothbrush for reducing plaque and improving gingival inflammation and gingival bleeding within just two weeks. Statistically significant differences in all metrics persisted until study completion at Week 6.

*Brush head formerly called AdaptiveClean

**Study 3**
The Effectiveness of Manual versus High-Frequency, High-Amplitude, Sonic-Powered Toothbrushes for Oral Health: A Meta-Analysis

**J Clin Dent 2017;28(Spec Iss A):A13-28.**

<table>
<thead>
<tr>
<th>Products</th>
<th>Subjects</th>
<th>Design</th>
<th>Results Percentage change after everyday use</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-frequency, high-amplitude power toothbrushes vs. MTB</td>
<td>1,870</td>
<td>4 weeks vs 3 months</td>
<td>20% more plaque removal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Randomized, controlled clinical trials</td>
<td>10% greater decrease in gingivitis</td>
</tr>
</tbody>
</table>

**Key conclusion**

Results of this comprehensive meta-analysis showed that high-frequency, high-amplitude, sonic-powered toothbrushes decrease plaque and gingivitis significantly more effectively than manual toothbrushes in everyday use, in studies lasting up to three months.
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**Study 4**
An Assessment of Gingivitis Reduction and Plaque Removal by Philips Sonicare DiamondClean with Premium Plaque Control Brush Head and Oral-B 7000 with CrossAction Brush Head

J Clin Dent 2017;28(Spec Iss A):A36-44.

**Results - Percent reduction at Week 6**

<table>
<thead>
<tr>
<th>Products</th>
<th>Subjects</th>
<th>Design</th>
<th>Results - Percent reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philips Sonicare DiamondClean vs. Oral-B 7000</td>
<td>Mean age 38.6</td>
<td>Randomized, parallel, single-blind</td>
<td>Gingivitis: 45.68% / Oral-B: 26.83%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bleeding: 75.81% / Oral-B: 58.76%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plaque: 37.58% / Oral-B: 20.70%</td>
</tr>
</tbody>
</table>

**Key conclusion**
Philips Sonicare DiamondClean with Premium plaque control* brush head is statistically superior to Oral-B 7000* with CrossAction** brush head and SmartGuide accessory in reducing gingival inflammation, gingival bleeding and surface plaque.

*Brush head formerly called AdaptiveClean

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**Study 5**
A Study to Assess the Effects of Philips Sonicare AirFloss Pro, when Used with Antimicrobial Rinse, on Gum Health and Plaque Removal

Starke M, Delaurenti M, Ward M, Souza S, Milleman KR, Milleman JL.

**Results - Percent reduction at Week 4**

<table>
<thead>
<tr>
<th>Products</th>
<th>Subjects</th>
<th>Design</th>
<th>Results - Percent reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philips Sonicare AirFloss Pro vs. MTB and string floss vs. MTB</td>
<td>Mean age 35.6</td>
<td>Randomized, parallel, single-blind</td>
<td>Gingivitis: 8.52% / MTB: 1.10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bleeding: 36.79% / MTB: 4.03%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plaque: 22.41% / MTB: 5.70%</td>
</tr>
</tbody>
</table>

**Key conclusion**
Daily use of Philips Sonicare AirFloss Pro with antimicrobial rinse as an adjunct to manual toothbrushing was shown to improve gum health and reduce plaque significantly better than manual toothbrushing alone. Moreover, a non-inferiority test showed AirFloss Pro to be similar to string floss in reducing plaque and gingivitis.

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43.68% and 26.83%, respectively, after six weeks.

Gingival bleeding indices are often used as a benchmark for dental hygienists in the course of periodontal therapy, encouraging patient compliance with treatment and better clinical results in a study, using a Sonicare DiamondClean for two weeks reduced gingival bleeding by 66.73%, compared with 49.38% using an Oral-B 7000, and for six weeks resulted in an impressive 71.51% reduction in gingival bleeding, compared with 28.75% for the Oral-B brush.

Eliminating plaque is critical to ensuring ongoing oral health. After two weeks of using a Philips Sonicare DiamondClean with a Premium plaque defense brush head, participants recorded a 58.68% reduction in plaque compared with just 18.28% using an Oral-B 7000 with CrossAction brush head. This trend continued after six weeks of use, with the Sonicare achieving a 37.58% reduction and Oral-B 20.70%.

6 I am sure all dental professionals will agree that gaining patient compliance regarding daily interdental cleaning is one of our greatest challenges. Patients cite difficulty flossing or interdental brushes that bend or break as the main barrier. The Philips Sonicare AirFloss Pro offers an effective and easy-to-use alternative. When filled with an antimicrobial rinse and used daily, it is as effective as flossing. In a study, after two weeks of use, floss achieved a 26.90% reduction in gingival bleeding, compared with 24.61% using an AirFloss Pro and BreathRx.

**Editorial note:** This article originally appeared in Dental Tribune Middle East & Africa No.4/2017. A list of references is available from the publisher.

**Conflict of interest:** Rachael England is a key opinion leader for Philips Middle East.

Rachael England is a dental hygienist and clinic manager in Dubai in the UAE.

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By DTI

MANCHESTER, UK: After the congress of the British Dental Association in May, the city of Manchester will see its second dental highlight this year when the British Orthodontic Conference opens for orthodontists and affiliated professionals on 14 September at the Central Convention Complex in the heart of the city. Being held for only the second time in one of the north’s most dynamic powerhouses during the last 30 years, it promises to be a conference to remember, according to conference chair Dr Richard Jones, who told Dental Tribune that the organisation is expecting over 1,000 delegates for the event.

“Our first conference in Manchester in 2013 was already one of the best-attended conferences we ever had, and with the Central Convention Centre, we also have a very modern and contemporary venue that proved very popular among the conference-goers four years ago,” he said. “Manchester itself is a great city. All the amenities and attractions are very central. The conference hotel, for example, is located right next to the congress venue and the nearby Gothic-inspired town hall will be a great backdrop for our social events.”

Social is indeed the key, according to Jones, who said: “We spent a lot on our social programme in 2016 in Brighton, and it was very well received. Therefore, we are continuing with that format this year.”

He also stated the conference will be offering something for everyone in the orthodontic team. In addition to the annual conference of the Orthodontic Technicians Association, which will run parallel to the main congress in the same venue, there will be full-day sessions for affiliated professionals including practice support staff, nurses and orthodontic therapists.

“We expect around a third of attendees to be non-orthodontists, so we are offering three days of parallel programmes and a whole day of lectures on important things like business development, management and other non-clinical skills,” Jones said.

In addition to traditional topics in this year’s clinical programme, he said that there will be emphasis on recent developments, such as lingual orthodontics, which will be the focus of this year’s Northcroft memorial lecture. Also in the spotlight will be digitalisation, the pros and cons of which will be discussed in detail during a special session on the second day of the conference.

“There are some questions about some of the technologies in terms of how they actually enhance the patient experience,” he explained. “Some early adopters of digital technology argue that the new workflow eliminates impressions and speeds up the manufacturing of appliances, offering some advantage in the outcomes of treatment. There are other people on the spectrum however who argue that this trend is actually driven mainly by the manufacturers, as they are making a lot more money out of digitally designed appliances than of traditional appliances.”

“There isn’t a lot of research yet to support the assertion that digital technologies actually enhance the patient experience or improve results. That is why we have structured the session as a debate to have both sides of the story,” Jones added.

Plans are in the making to use the congress as a platform to raise awareness among the general public and dentists of the importance of retention. A nationwide campaign is scheduled to be launched in Manchester.

More information and news from this year’s conference are available at the official congress website, and www.dental-tribune.co.uk.
Technology, the ageing population, regulation: Pondering the future of orthodontics

By Chris Barrow, UK

One of my blogging heroes, Seth Godin, once commented “don’t write about what you know, write about what fascinates you”. Yet many of the writing assignments we are given request that we tackle the former and let the readers know how much we know about a given subject. At this year’s British Orthodontic Society conference, I will be speaking on marketing for the orthodontic practice, what works, what does not and how to get the best return on investment from your marketing. It would be simple enough to recreate that content here so that those unable to attend can obtain the knowledge—but I have the devil in me this morning, can I not wait to see what happens, cannot wait to see what happens, cannot wait to see what happens, cannot wait to see what happens, cannot wait to see what happens, cannot wait to see what happens.

1. I wonder for how much longer goodwill values will stay at their historically high level. The figures are astonishing and only an institutional investor speculating on a four-year turnaround or an insurance company looking to cross-sell products and services can really swallow the crazy multiples of earnings now quoted.

2. I wonder how many principals over the age of 50 are going to stick around for much longer. It is becoming more difficult to run a dental business and it takes more energy every year to stay connected with all that is happening in business and in the profession. The juxtaposition of an ageing population of owners and the aforementioned high goodwill values creates an environment in which now is a good time to go.

3. I wonder who is going to buy the practices left to sell. Are the institutions still prepared to speculate given the macro-economic situation in the UK? Are younger dentists (with or without family money) prepared to partake in a gold rush that is beginning to sound like history and not current affairs? It was the late Sir James Goldsmith who said, “if you can see a bandwagon, it’s too late to get on it”.

4. I wonder when the regulatory backlash will hit those general dental practitioners and specialists who have been flogging short-term orthodontics like hot cakes. There are early signs of patients whose expectations have been raised beyond the capacity of a system or a clinician to deliver—patients who are disappointed, savvy and motivated to litigate. Dentists should be cautioned by this environment or by those who are training them.

5. I wonder how many more systems will appear in the marketplace offering either “cheaper” or “quicker” as their unique selling proposition. To cite Godin again, the greatest danger in a race to the bottom is winning it. We have already seen the spectacular demise of some dental businesses offering orthodontics at deep discount (and I have been involved in belatedly rescuing others who followed the same fool’s gold).

6. I wonder for how much longer orthodontic associates will be able to make a decent living. As the profit margins on dental work erode and the number of dental care professionals increases, ever more downward pressure on associate remuneration is created. Is orthodontics still a viable career choice?

7. I wonder how technology will affect the delivery of dentistry in the future, as well as the patient experience and business systems. Digital dentistry has become a buzz phrase in recent years. As Apple prepares to launch iOS 11 and introduce ARKit (augmented reality built into iPhones and iPads), the worlds of e-commerce and social media are poised to undergo an augmented reality revolution that will be as culturally influential as the industrial, technology and information revolutions that heralded the last two centuries. Technology must affect the clinical delivery of orthodontics, as well as the patient experience.

8. I wonder what skill set will be required of the practice/business manager in the next five years. With the advent of responsibilities in financial analysis, branding, marketing, user experience, treatment coordination, governance, compliance, operations and human resources, will the future manager be of MBA standard?

9. I wonder how dental teams will develop in orthodontics. Will you still be able to hire telephonists, receptionists, nurses and administrative staff at relatively low wages, on the basis that support people are disposable and replaceable, or will you have to take a different view that people are an asset on your balance sheet and not an overhead on your profit and loss statement? Will the savvy principal realise that customer service is how you positively differentiate yourself from the corporate/retail competition and from price wars and that customer service requires a significant investment in your people?

10. Finally, I wonder what our patients will look like in five years. We live in an age in which not just augmented reality is about to change the landscape. Say hello to wearable technology, to fibretronics, to predictive (not preventative) health care. Our patients are already living an average of 25 years longer than their grandparents, a bonus 25 years in which they are exploring the world around them and their inner selves. That bonus period is going to extend. Some predict that there are individuals in our current generation of children who will live good lives until the age of 135. Dental health and appearance are a part of that extended lifespan and the profession will have to adapt and adopt new techniques.

Is it not all just fascinating? I cannot wait to see what happens, who the winners will be and what they do to win.

Chris Barrow is the founder of Coach Barrow consulting practice. An active consultant, a trainer and a coach to the UK dental profession, he regularly contributes to the dental press, social media and online. Chris Barrow can be contacted at coachbarrow@me.com.
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Early orthodontic treatment and oral health-related quality of life
Relationship confirmed by University of Sheffield’s School of Clinical Dentistry study

By DTI

SHEFFIELD, UK: In Western countries like the UK, between 10 and 20 per cent of adolescents undergo orthodontic measures in some form. A recent meta-analysis conducted by researchers at the University of Sheffield’s School of Clinical Dentistry has indicated that treatment in those younger years may have a measurable impact on a person’s oral health-related quality of life (OHRQoL). In their review, they found that levels of emotional and social well-being concerning OHRQoL improved moderately in patients who were treated orthodontically before they were 18 years old. The findings are relevant, because, until now, there has been little evidence that treatment actually improves OHRQoL.

The researchers included data from over a dozen studies reporting outcomes before and after orthodontic treatment that were conducted within the last ten years in countries like Australia, Brazil, Canada, China, Italy, the UK and the US. Of these, four were finally selected for using similar questionnaires to measure what young people thought about their teeth and how their dental appearance affected their life, before and after orthodontic treatment. All showed measurable and moderately large improvement in the areas of emotional and social well-being, according to the researchers.

“As practicing orthodontists we are constantly being told by our patients that they are pleased they had their teeth straightened and that they are no longer embarrassed to smile or to be photographed,” explained co-author Prof. Philip Benson, who is also Director of Research at the British Orthodontic Society. “We wanted to find all the research that has tried to measure this effect with young people.”

While the findings are a first step to establishing a platform for exploring this issue further, Benson admitted that the number of participants included in the studies was small and that higher-quality data is needed to substantiate the conclusions. A follow-up study investigating OHRQoL in the under-18 age group under the supervision of co-author and student Hanieh Javidi as part of her doctoral research project is underway at the School of Clinical Dentistry.

The study, titled “Does orthodontic treatment before the age of 18 years improve oral health-related quality of life? A systematic review and meta-analysis,” was published in the April issue of the American Journal of Orthodontics and Dentofacial Orthopedics.
My complete conversion

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

By Dr Asif Chatoo

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

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

My journey started with photography some years ago, but the process accelerated, and in recent years, everything has gone digital, including radiography, record-taking, treatment planning, and the manufacture of brackets and wires. Over the course of my digital conversion, I have tried several different systems, all of which have delivered important benefits. The system I have used most as I completed the digital circle over the last two years is suremile (OraMetrix). It is a treatment management system and among its benefits is that I am able to provide a highly customised service in a shorter space of time, saving on average six months of treatment time per patient.

I have had a digital scanner for some time, but this month I acquired an updated 3Shape TRIOS 3 scanner. It is extremely fast and allows my team to take completely accurate and detailed records of patients’ upper and lower arches. In the past, the process took half an hour, but now it is immediate. Adult patients are particularly grateful not to have impressions taken, and the orthodontic nurses are delighted to avoid this most trying aspect of record-taking. It was invariably messy. Being impression-free has brought more value to the team than going paperless.

It goes without saying that a key benefit of digital technology is the integration of the orthodontic processes and records. For instance, a scan of the patient’s teeth can be superimposed on a photograph, which I can in turn integrate with a grid. I can relate the tooth positions to facial planes and check that the dental midline is centrally located. I can show the patient his or her teeth and bite and I can provide him or her with a visual simulation of the difference that treatment will make. The patient can then ask questions. My vision for the finished result may not be the patient’s vision and being able to manipulate the outcome on screen means one can be absolutely sure the patient understands the treatment planning. The patient can influence the treatment if he or she wishes, and if he or she changes his or her mind towards the end, the technology allows for last-minute nuances. In order to convey how this approach differs from other treatments on offer, I compare it to the difference between an off-the-peg suit and going to a tailor in Savile Row. Many of the patients I treat at my practice are referred by leading dentists. Their expectations are high. Sometimes orthodontic treatment is just one part of an interdisciplinary treatment that in its entirety will cost in excess of £20,000. Patients expect perfection—in so far as it is possible in an ageing dentition—and they expect a high level of service. Suresmile allows me to deliver both. Rightly for a West End practice, many of the benefits of suresmile relate to communication and the care of patients with high expectations, but there are also personal benefits for the clinician.

In my case, there is one that surpasses all others. Bending wires at the end of treatment is almost always inevitable and it is an aspect I dread. Why am I so hung up on this? The reason is that, if one bends a wire on one tooth, one orthodontic journey continues and I suspect a few more digital revolutions await.

“The solution is the robotic wire bending that is central to suresmile.”

Dr Asif Chatoo is a London-based orthodontist and a leading provider of invisible lingual treatments. He can be contacted at info@londonlingualbraces.com.
Use of diode laser in the treatment of gingival enlargement during orthodontic treatment: Case report

Prof. Carlo Fornaini, Drs Aldo Oppici, Luigi Cella & Elisabetta Merigo, Italy

In recent decades, we have witnessed the substantial development and expansion of the use of fixed orthodontic appliances. While their application has many advantages, several problems related to the health of the soft tissue may sometimes appear during treatment. In fact, the use of fixed orthodontic appliances may provoke labial desquamation, erythema multiforme, gingivitis and gingival enlargement.

Gingival enlargement is a very common complication during orthodontic treatment, but fortunately, it seems to be transitory and generally resolves after orthodontic therapy, even if sometimes incompletely. Gingival overgrowth induced by orthodontic treatment shows a specific fibrous and thickened gingival appearance, different from fragilitic and marginal gingival redness common in allergic or inflammatory gingival lesions.

Several clinical studies suggest that orthodontic treatment may be associated with a decrease in periodontal health, causing a hypertrophic form of gingivitis. However, the actual pathogenesis of gingival enlargement is not yet completely understood, although probably involves increased production by fibroblasts of amorphous ground substance with a high level of glycosaminoglycans. Increases in mRNA expression of Type I collagen and upregulation of keratinocyte growth factor receptor could play an important role in excessive proliferation of epithelial cells and increased development of gingival enlargement, on the basis of some studies, in cases of poor oral hygiene status. However, there is no clear definition on its etiology, although it is probably associated with the inflammatory response induced by the corrosion of orthodontic appliances, particularly those of nickel. Linked to an inflammatory response considered a Type IV hypersensitivity and manifested as nickel-induced allergic contact stomatitis, even if its etiology has not yet clearly been defined.

The treatment of these conditions is surgical. Histological and histochemical studies have demonstrated that the removal of the gingival papilla can promote the formation of normal connective tissue. Because the classic intervention performed by sculpt has some disadvantages, mainly linked to the discomfort for the patient (e.g. anesthesia by injection and sutures), there has been great interest in the utilization of laser technology.

Case report

A 14-year-old female patient was referred to our department by the orthodontics unit because, at the end of fixed orthodontic treatment, she had developed gingival enlargement in the upper arch (Fig. 3), probably related to the fast closure of the spaces associated with very poor oral hygiene due to bleaching during toothbrushing. Just after the removal of the appliance, a topical anaesthetic (EMLA, AstraZeneca) was applied to the gingiva (Fig. 2) and a gingivectomy was performed using a diode laser (KD-2, Fotona) according to the technique of removal of the interdenatal papilla (Fig. 3). The parameters used were as follows: a wavelength of 808 nm, 3 W in continuous wave, a 320 μm fibre in contact mode. The intervention had a duration of 753 seconds, and the patient did not feel any pain (Fig. 4). After the intervention, the patient did not take any kind of pain medication, and the healing process was completed in five days (Fig. 5).

Discussion

The first laser appliance was built by Maiman in 1960, and some years later, it was successfully employed in medicine and in oral surgery with several advantages. It may provide excellent incision performance with sealing of small blood and lymphatic vessels, resulting in hemostasis and reduced postoperative edema. Furthermore, target tissues are disinfected as a result of local heating and production of an eschar layer, which results in a decreased amount of scarring owing to decreased post-operative tissue shrinkage, allowing one to avoid the use of sutures.

Diodes, the last generation of laser used in dentistry, have several advantages, such as reduced cost and size, and offer the operator the possibility to work both in continuous and chopped mode. Based on our experience, we can confirm that this technology may represent a new approach to the resolution of gingival enlargement during orthodontic treatment, with better comfort for the patient during and after surgery.

Editorial note: A list of references is available from the publisher. This article was originally published in the Ortho magazine No.2/2017
The Orthocaps Symposium is held every other year in Munich. The next event is planned on 1 and 2 December 2017. The venue will take place at the Kempinski Four Seasons Hotel. The two days will bring together Orthocaps system users from many countries from all over the world. The event will also feature a diverse programme with renowned speakers from France, Spain, Italy, the UK and Germany. The speakers will present current innovations concerning the proven Aligner system and its future prospects. The lecture series will be opened on Friday by Prof. Olivier Sorel of France. Sorel will talk about the importance of “Smile Design”. Dr Wajeeh Khan (Germany), the founder of the system, will highlight the advantages and possibilities of the new Orthocaps Hybrid Aligner treatment (HAT). Dr Sonil Kalia (UK) will present a very important aspect in any aligner approach, namely the basic bio-mechanical principles. Lastly, the two-day event will end with an outlook from the founder of the system on the future developments that are being researched to improve the Orthocaps System. All lectures will be held in English, an optional French translation will also be available for international participants. Please contact us for further information and registration.

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