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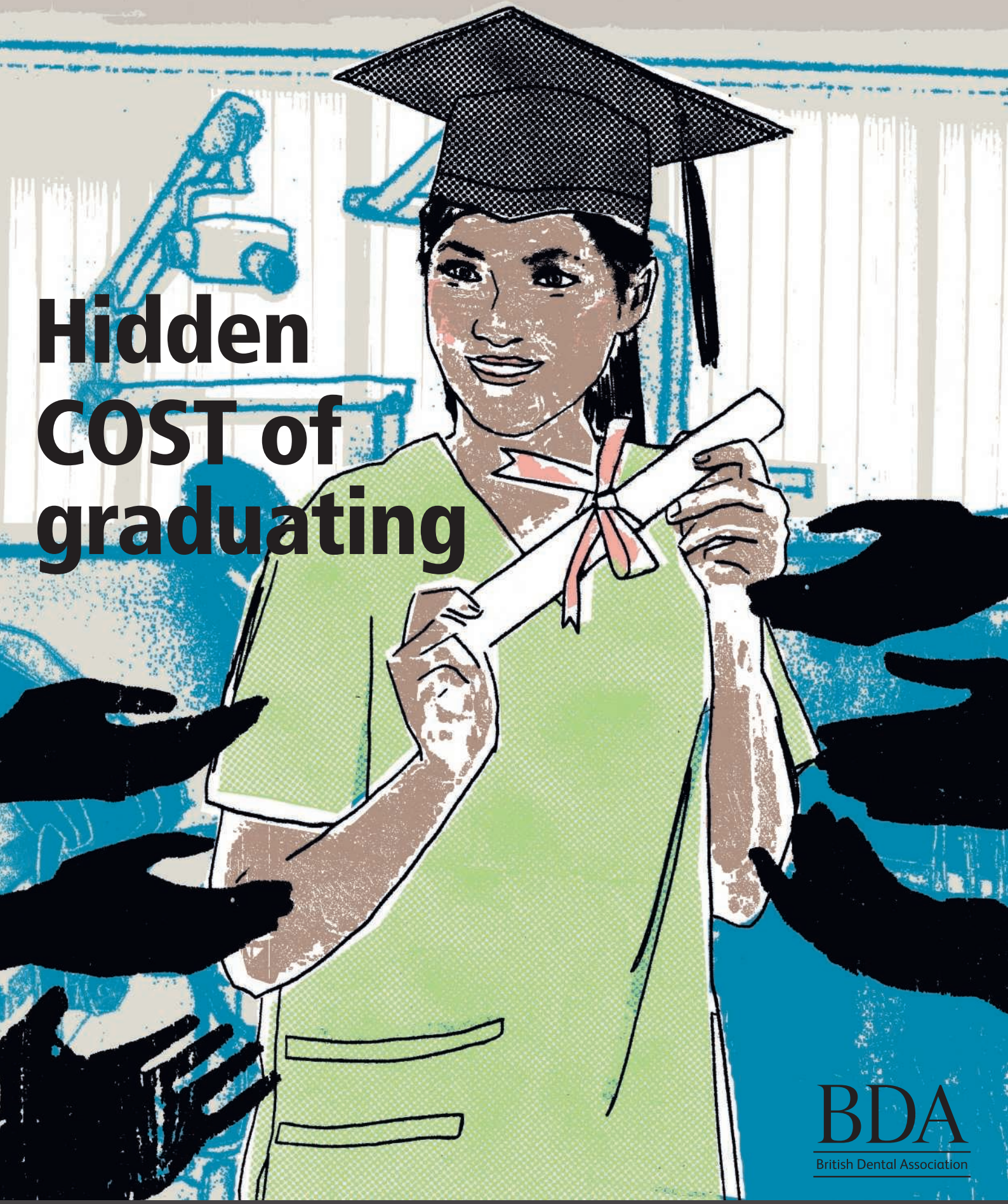

Hidden COST of graduating

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the British Dental Association's official magazine for students

SPRING 2017

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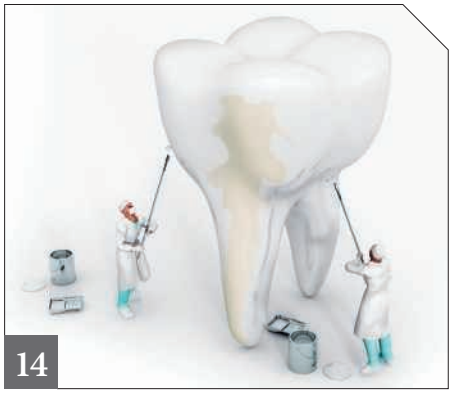
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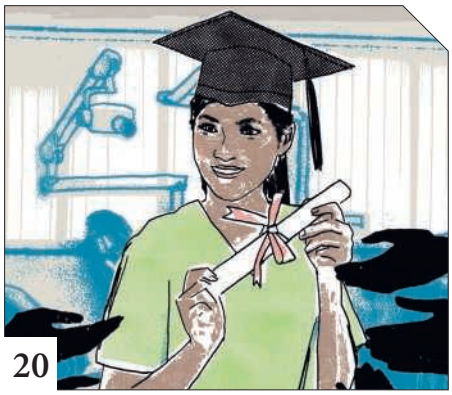
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UPFRONT

PROFESSIONAL

PORTFOLIO NEWS

CLINICAL INSIGHT

Cover image: Danny Allison **Editor** David Westgarth **Editor-in-Chief** Stephen Hancocks OBE **Art Editor** Melissa Cassem **Production Editor** Sandra Murrell **Team Leader** Felicity Agyemang **Publisher** James Sleigh **European Team Leader – Academic Journals** Andy May **Production Controller** Natalie Smith. Published three times a year for the **British Dental Association** by: **Springer Nature**, The Campus, 4 Crinan Street, London N1 9XW. Tel: 020 7843 4724. To contact the editorial office: **British Dental Association**, 64 Wimpole Street, London W1G 8YS. Tel: 020 7935 0875. E-mail: bdjstudent@bda.org. Web: www.bdjstudent.co.uk. ***BDJ Student*** is the student and first year graduate journal of the **British Dental Association**. ISSN 2056-4805 EISSN 2056-4813.

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EDITORIAL

David Westgarth, Editor, *BDJ Student*

Anish Patel, Student editor, *BDJ Student*


THE HIDDEN COSTS OF GRADUATING FROM DENTAL SCHOOL

Hello and welcome to the spring issue!

Isn't it lovely to leave a layer off now the clocks – and the weather – have turned?!

It's become clear that the political work we do here at the BDA is of great importance to you. I can tell you firsthand how hard the policy team work behind the scenes to get the very best deal for you now, and to ensure that future dentists coming through the system aren't behind the eight-ball before they reach practice.


UNPREPARED

One thing I've discovered students often don't fully understand is the basic minimum financial investment it takes just to be a dentist. For that reason, this issue's cover feature will look at the hidden cost of graduating. Believe me, it's never too early to start planning.

That's also a message Dentists' Provident want to tell you. Accidents do happen, and if you have a family to look after, they are in a position to help you help them.

We're also looking forward to welcoming you at our annual Conference and Exhibition in Manchester at the end of May. I promise it doesn't always rain there, and what's more student members can get in for free. The programme is packed with lectures and presentations designed to aid your learning, so if you do make the trip be sure to pop by and say hello.

By the time the next issues comes out, many of you will have sat your final exams. I – and everyone at the BDA – would like to wish you the very best of luck with those, and for the future.

David Westgarth ■

Hello everyone and welcome to the Spring edition of the *BDJ Student*. As always, the magazine is packed with insightful content and valuable nuggets of information!

After two years as student editor, my role has now come to an end. It's gone super quick! I still distinctly remember reading the Summer 2015 edition of the magazine one evening and finding that applications for a new student editor were open with Bex Stockton coming to the end of her term.

I've always enjoyed reading and writing, and after talking to a few friends about the idea, I thought I'd try and apply.

Fast forwards to today and it's been brilliant. The whole experience has been both valuable and enjoyable as I've been able to gain a wider perspective of dental journalism I wasn't able to appreciate before.

Personally, it's been something refreshing and different to the regular realms of dental school. It's also been beneficial in serving to broaden my perspective of dentistry beyond clinical dentistry. The role has offered me some great opportunities; enabling me to attend conferences, careers and study days, meet a host of great people and develop a new set of skills. As I come to the end of 4th year, and 5th year being busier, it's all quite timely.


PREPARING FOR YOUR FIRST PAEDIATRIC PATIENTS

I hope the content of the magazine has been provided for an enjoyable and informative read over the past 2 years, and that my editorials haven't been too boring!

I would highly recommend becoming involved with something like this if anyone reading this is considering it for the future. I'd also like to wish David and the new student editor all the best moving forwards.

All the best with summer exams. Enjoy the summer break afterwards and good luck with everything moving forwards!

Anish Patel ■

UK GRADUATES FAILING TO LAND GRAD-LEVEL JOBS AFTER UNI

Research among 2,000 UK adults has revealed that the country's university system is failing both students and businesses.

Over a quarter (26%) of university graduates in Britain regret the time and money they spent on their degree – equating to 5.6 million people across the country. With the average UK graduate entering the working world with £44,000 worth of university debt, new research has unveiled that large proportions of the country's graduates have been let down by their university education.

Based on a nationally representative survey of 2,000 UK adults, the study found that 28% of British graduates believe their university education was 'outdated', which has resulted in a mass struggle to secure suitable jobs. More than two fifths (41%) of degree holders have had to take an entry-level job below graduate level once they left university – this figure rises to 51% among graduates aged under 34.

Almost half (45%) of graduates – the equivalent of 9.7 million people – praised the role of internships in their professional life, saying that work placements have proven more valuable to them in their career than their university degree. Furthermore, 35% of graduates revealed that they have had to pay to do further qualifications to get the skills they need to pursue their desired job despite having gone through a university education.

One of the main areas for concern was in the lack of knowledge and understanding surrounding the UK's in-demand technology jobs. When presented with a list of the country's most sought after roles in the tech industry – including data scientist, social media manager, app developer and cyber security specialist – a massive 48% of graduates said they do not know what these jobs entail or how they would secure one. The concerning findings comes as 93% of firms in the UK's rapidly-growing tech sector say that a shortage of skilled workers is holding their business back.

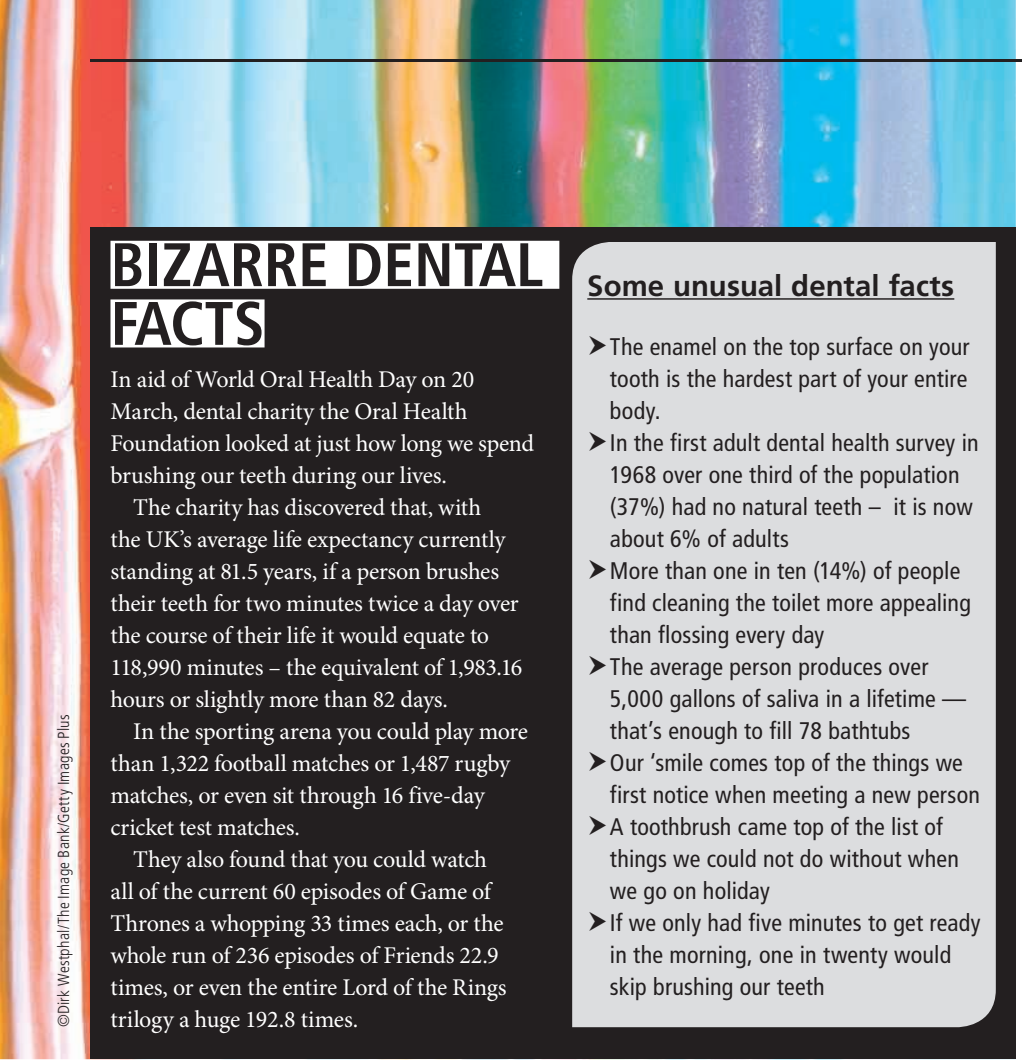
The research also uncovered some that 30% of UK degree holders think the country's departure from the European Union will be good for their job prospects. The graduates pinpointed less competition from overseas professionals as a result of Brexit as a positive influence on the job market.

Aaron Wilson, Managing Director of Intern Tech who commissioned the research said: 'The research has illustrated that universities are failing to equip graduates with the skills and experience they need in the professional world. Consequently, a huge number of degree holders in the UK are left regretting the debt they have been burdened with from university as they are still forced to take jobs below graduate-level or have to complete further qualifications to get ahead. Meanwhile, the country's innovative high-growth companies are being held back by an inability to find the skilled workers they need – clearly something must be done.

'In the Spring Budget the Government signalled its intent to address the skills gap through T-level qualifications and additional funding for STEM subjects. However, today's survey underpins the immense value of internships, which must be encouraged – they provide young people with vital insight and experience into the jobs and industries they wish to work in. With university education criticised for being outdated, it is essential that students and graduates are encouraged to get hands-on work experience, in turn enabling companies to find potential employees with the culture, attitude and core skills they require.'

Key figures

- 41% of degree holders have had to take an entry-level job below graduate level once they left university, rising to 51% among 18-34 year olds
- 26% of all university graduates in the UK regret the time and money they spent on their university education – equating to 5.6 million people across the country
- The average graduate today leaves university with £44,000 of debt
- 48% of UK grads do not know how to secure some of the country's most sought after jobs within the tech and marketing industries
- The findings come as 93% of UK tech firms say that a shortage of skilled workers is holding their business back
- Over 6 million graduates (28%) deem their degree courses outdated in relation to the present-day job market
- A massive 45% – 9.7 million graduates – say internships and work placements have been more valuable to them than degrees in their professional life
- Over a third (35%) of university graduates have had to pay to do further qualifications to get the skills they need to pursue their desired job
- 30% of UK degree holders think Brexit will be good for their job prospects.



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BIZARRE DENTAL FACTS

In aid of World Oral Health Day on 20 March, dental charity the Oral Health Foundation looked at just how long we spend brushing our teeth during our lives.

The charity has discovered that, with the UK's average life expectancy currently standing at 81.5 years, if a person brushes their teeth for two minutes twice a day over the course of their life it would equate to 118,990 minutes – the equivalent of 1,983.16 hours or slightly more than 82 days.

In the sporting arena you could play more than 1,322 football matches or 1,487 rugby matches, or even sit through 16 five-day cricket test matches.

They also found that you could watch all of the current 60 episodes of Game of Thrones a whopping 33 times each, or the whole run of 236 episodes of Friends 22.9 times, or even the entire Lord of the Rings trilogy a huge 192.8 times.

Some unusual dental facts

- The enamel on the top surface on your tooth is the hardest part of your entire body.
- In the first adult dental health survey in 1968 over one third of the population (37%) had no natural teeth – it is now about 6% of adults
- More than one in ten (14%) of people find cleaning the toilet more appealing than flossing every day
- The average person produces over 5,000 gallons of saliva in a lifetime — that's enough to fill 78 bathtubs
- Our 'smile comes top of the things we first notice when meeting a new person
- A toothbrush came top of the list of things we could not do without when we go on holiday
- If we only had five minutes to get ready in the morning, one in twenty would skip brushing our teeth

Developing future leaders of dentistry

On 8 July 2017 we will once again be offering leadership training for your Dentsoc Presidents and Vice's. The Student Presidents Meeting gives these new leaders a basic grounding in leadership skills to help them run your Dentsoc effectively. It is also a chance for your presidents to meet up with dental schools from across the UK and get tips on how others run their dental societies.

Student Presidents will also get a chance to meet Peter Ward, BDA Chief Executive and Paul Blaylock, Chair of the BDA Student Committee.

To make sure that everyone can attend, overnight accommodation, travel and expenses are provided, so if you are thinking of running for the position of Dentsoc President or Vice in your upcoming elections, make sure you save the date!

Find out more at www.bda.org/studentpresidents

Revision resources

Exam time is looming, so to help with your revision, we have developed some helpful revision packs. These cover a range of subjects including restorative dentistry, endodontics and minor oral surgery and include:

- Medline search articles
- Cochrane reviews
- Clinical guidelines
- Policy documents
- Recent *BDJ articles*
- Links to relevant eJournal articles.

Go to **www.bda.org/student-library to find out more.**

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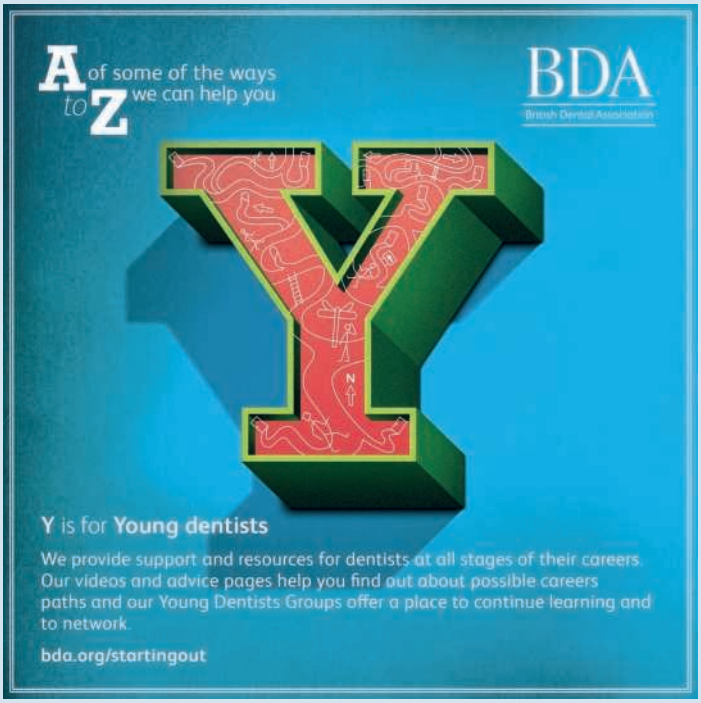
B – This year's British Dental Conference and Exhibition takes place 25-27 May in Manchester. Did you know student members can attend for free? There's a packed programme designed to develop and aid your clinical knowledge. Oh, and there are a few social events too, so register now before it's too late!

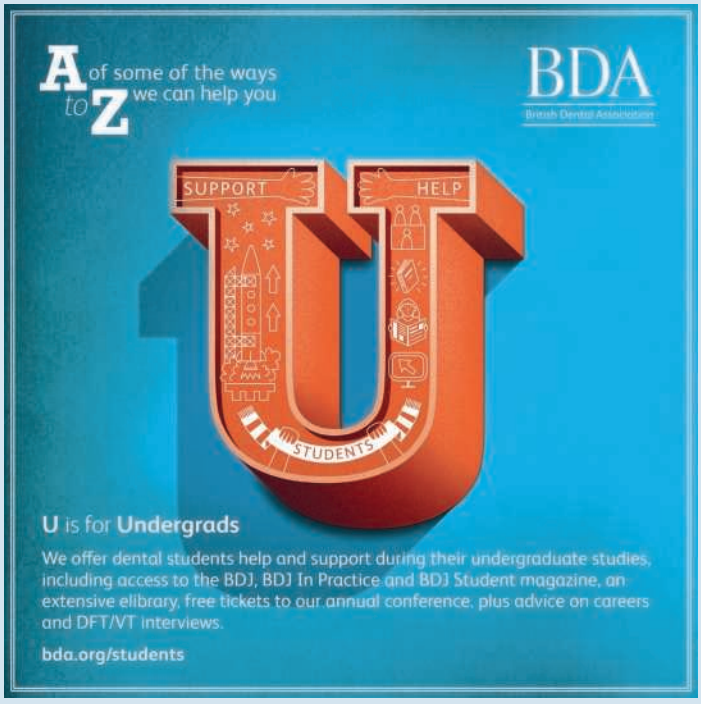
D – In March the European Parliament has voted in favour of a gradual phase down in dental amalgam. The move has ended months of speculation over whether the dental filling material faced an outright ban by 2022 – an outcome the BDA has lobbied against vigorously.



Y – In reality, you're already young dentists. You just don't have the piece of paper they do. We work for you, and through our resources, our portfolio and our knowledge, we guide you through your first steps into the profession.

O – Did you know that within a decade leading experts predict that the Human Papillomavirus (HPV) will overtake tobacco use and alcohol as the leading risk factor for oral cancer? Carly Billing and Anisha Gupta talk to us about why it's important to talk about it with patients – now.

J – Securing a job once you've graduated is one of the biggest concerns for all dental students. It's never too early to think about what you want to be and where you want to be once you've finished university, so check out www.bdjjobs.com for a comprehensive guide on how to make the transition.



U – With access to the BDJ, BDJ In Practice and a library stocked with thousands of helpful and insightful books to get you through your studies, there are a number of ways in which we help you.

King's College London first in Europe for dentistry

Dentistry at King's College London has again been ranked first in the UK, and has risen to first place in Europe, in the 2017 QS World University Rankings.

The QS rankings highlight the world's top universities across 42 popular subject areas. Institutions are assessed on academic reputation, citations to publications and employer reputation to give an overall score.

King's Dental Institute scored 88.8 overall, with 84.3 for academic reputation and 93.5 for citations per paper. The Dental Institute has retained their position of fourth in the world.

Interim Executive Dean Professor Mark Woolford said: 'Rising to first in Europe in the global rankings reaffirms our position as a world-class institution and reflects the dedication, commitment and innovation of our academic and professional staff, our students, and our alumni.'

The QS World University Rankings by Subject has been published annually since 2011.

POLICY

HOW WE'RE WORKING FOR YOU

An overview of key issues facing dental students today and tomorrow

Capita/National Performers List

This year, hundreds of FDs in England faced months of delays in their application to be added to the National Performers List, which is needed to work in the NHS in England. The backlog led NHS England to use emergency powers to prevent FDs needing to halt work in December 2016. Other dentists have also faced months waiting for their application to be processed and have been left unable to work on NHS patients as a result. The BDA is campaigning for affected dentists to receive compensation for their loss of earnings. The chaos has raised questions about whether Capita, the company contracted by NHS England to manage performers list applications, is up to the job and MPs have tabled a parliamentary motion asking the government to consider terminating the contract. Former dental students becoming FDs this year are advised to submit their applications promptly and to keep copies of their applications and all relevant documents. We have had instances of documents being lost and dentists having to re-submit them on a number of occasions.

Student finance reform in Wales

The Welsh Government has proposed significant reforms to the funding available to Welsh domiciled students. The changes will see the current tuition fee loan subsidy scrapped and a new universal level of maintenance support divided between grants and loans dependent on household income. The BDA has called for the maintenance support available to meet the cost of living for students and to recognise the extended lengths of dental students' terms.

DFT interview timing

COPDEND has recently considered moving the assessment date for DFT from November to the summer after BDS results. The BDA has as yet not seen any formal outline of the reasoning behind this proposal and gathered feedback earlier this year on the issue. The majority of students were not in favour of such a change. COPDEND has agreed to consult on the issue and confirmed that no such change will take place for the round of applications for 2018 places.

Contract reform in England

For the last year, 72 practices across England have been trialling a prototype of a reformed contract for general dental practice. It is widely acknowledged that the existing contract, in place since 2006, has failed. The prototypes are testing a contract that combines an activity target and patient number target to pay practices. At this stage it's too early to tell whether this will prove to be a sustainable model for general practice in the long term. However, there are a group of prototype practices who had been involved with previous pilots that are really struggling to meet their targets and face losing substantial sums of money. The BDA is participating in the contract reform process to ensure that it delivers a contract that pays dentists fairly for delivering prevention-focused oral health care.

Indemnity

Changes to the way compensation for personal injury claims is calculated, announced by the Government in February, are likely to cause a spike in the costs of indemnity for dentists. The adjustment to the compensation formula could lead to a significant increase in the size of compensation payments paid in medical and dental negligence cases, leading to significant new costs for the NHS and other providers of medical and dental care. The BDA has warned that this could lead part-time and older, more experienced dentists deciding that it is not financially worthwhile to continue to practice. The Association has written to the Department of Health to call for extra support with these increased costs and has asked the pay review body for NHS dentists to consider these additional expenses in upcoming decisions on pay.

Stress

Work-related stress is regularly raised as a top priority for dentists. 96.6 per cent of respondents to a survey of BDA members said they felt addressing stress was moderately or very important and there were similar levels of concern about stress in a survey of BDA student members as well. The BDA is currently conducting a UK-wide research project on stress; investigating the perceptions and attitudes towards mental health issues in the profession, the risk factors of stress and burnout, the current provision and support for dentists who are experiencing difficulties and what other strategies might be helpful in supporting our members.

HE bill/tuition fees

Universities in England are set to be allowed to increase tuition fees to £9,250 from September 2017, as part of a wider shake-up of higher education proposed by the Government. The reforms will see universities allowed to increase tuition fees year-on-year dependent on how they are ranked in a new 'teaching excellence framework'. The National Union of Students (NUS) has opposed the proposals and called on final-year students to boycott the National Student Survey (NSS) – the scores from which will play a role in determining how much each university can increase fees by. The House of Lords has also provided opposition to the plans and passed numerous amendments to the Higher Education and Research Bill aimed at halting a number of the reforms.

Amalgam

In March, the European Parliament voted in favour of a gradual phase down of dental amalgam use. This ended speculation that it could face an outright ban by 2022 – an outcome the BDA has lobbied against vigorously. The vote means that dentists will continue to have the full range of filling materials at their disposal to enable them to address the individual needs of each patient. In some patient groups the use of amalgam is considered to be less frequently necessary, in accordance with the general principle of minimising intervention. The European Parliament decision seeks to bring EU laws in line with the requirements of the Minamata Treaty, an international agreement on the use of mercury.

General Dental Council

The BDA has surveyed its members to inform its response to the GDC's long-awaited consultation on improving dental regulation, which was launched in January. The association will also scrutinise Shifting the balance: a better, fairer system of dental regulation to see if the GDC's plans are likely to achieve regulation that's better for patients and fairer for dental professionals, as the regulator purports. The BDA believes that the current model of regulation is outdated, cumbersome and inefficient, a view that has recently been acknowledged by Bill Moyes, the Chair of the GDC.

NATIONAL AWARD LAUNCHED

The British Society of Dental Hygiene and Therapy (BSDHT) and Henry Schein are joining forces to launch a brand new national award.

This award will recognise the personal achievements of a new graduate of either dental hygiene or both dental hygiene and therapy.

> 'The winner of this award will have performed a broad range of clinical skills to an excellent standard.'

The winner of the award, to be presented at the BSDHT Oral Health Conference in Harrogate in November, will have demonstrated exceptionally high standards throughout their studies and have gone 'above and beyond' in furthering the profile of the profession.

President of the BSDHT, Helen Minnery, said of the new award: 'This is an incredibly exciting opportunity for a newly qualified professional to receive the recognition that they deserve for many challenging years of study.

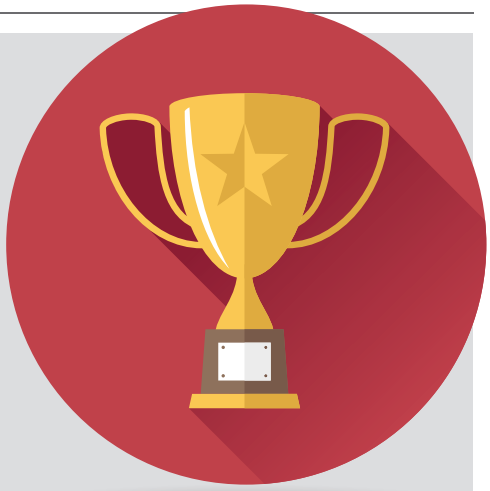
'The winner of this award will have performed a broad range of clinical skills to an excellent standard and actively recognised where and how they can improve throughout their years of study.

'Importantly, they will also have demonstrated a high standard of patient care, considering individual patient needs before, during and after the treatment while also creating a safe, clean and patient friendly environment.

'The winning student will also present evidence of a positive attitude to their future in our profession with an ongoing and effective plan for continuing personal and professional development throughout their career.

'Every year there are hundreds of amazing students who graduate into our fantastic profession and we are delighted to offer this opportunity to recognise those who are the future of BSDHT.'

For many years, BSDHT has sponsored a prize for each dental hygiene and therapy school in the United Kingdom to be awarded to their choice of student who they believe has excelled in their studies.



Through BSDHT's new collaboration with Henry Schein, to further enhance and recognise these efforts, one winner from each school will now be considered for the overall 'Student of the Year' award.

The overall winner will be presented with their prize on the main stage at the BSDHT Oral Health Conference in Harrogate in November in front of peers and colleagues. The prize will include travel, accommodation, entrance into the BSDHT OHC and the spectacular 'Student of the Year' trophy.

DENTAL STUDENTS WORK WITH VETERANS TO IMPROVE ORAL HEALTH AWARENESS FOR JOBSEEKERS

Dental students from Plymouth University Peninsula School of Dentistry (PUPSD) have worked with veterans' Community Interest Company Active Plus to help raise awareness of oral health and dental care for job seekers in a project which is believed to be the first of its kind.

Active Plus uses the skills, experience and expertise of injured military veterans to deliver unique programmes within local communities that build confidence, motivation and self-belief, unlocking the potential of civilian participants, all of whom are from vulnerable or potentially vulnerable groups. Active Plus provided the introduction to the job centre programme in Plymouth, and their veterans worked with the students to help them deliver their project.

The students were able to start their project by speaking to clients of the Active Plus employment course about oral health. This showed the students the general level of oral health-related knowledge among their target group, and what worried them about dentistry.

They discovered that accessing an NHS dentist is the biggest issue – whether because of cost, transport, fear or other reasons. They also learned that the target group would appreciate general tips about oral hygiene, as there were many misconceptions about what should and should not be done.

The group then created a drop-in session at a local job centre to target this client group – the Oral Health Awareness Event. The event included three stalls focussing on: general information about oral hygiene; information about the impact of diet on teeth, and; how to access care from an NHS dentist.

The stalls were interactive and included elements such as brushing and flossing demonstrations, bags of sugar indicating how much is in common food and drinks and the opportunity to for job seekers to ask questions. Each attendee also received a goodie bag.

The project is part of the Inter Professional Engagement programme which sees dental students undertake a number of projects in the community designed to raise oral health awareness and to improve access to dental care. The programme is delivered by the Community Engagement Team at the Peninsula Dental Social Enterprise.

This was the first time that Active Plus has hosted a dental student IPE. Tim Cocks from the organisation commented: 'The students did a superb job at getting the message across to their target audience. We hope too that they learned from our clients and veterans, all of whom brought unique experience and expertise to the project and who demonstrated the resilience they have developed in order to rebuild their lives after injury on service.'

Tim added: 'The actual delivery of the event was delivered in a very professional way and the students managed to engage with many of the Job Centre Plus clients who do not usually stay long in that environment. The attitude and enthusiasm from the students was exceptional and I would have no hesitation in recommending any organisation to work with them in the future.'

Reena Patel, who led the project from Peninsula Dental Social Enterprise, added: 'Without the support of our host organisations we could not run such an effective IPE programme for our dental students, so our thanks go to Active Plus for supporting this project. It was valuable to our students not just to find out and address oral health issues for job seekers, but also to work with Active Plus and its clients to interact with people who have overcome immense obstacles.'

FOCUS ON FINAL YEARS

Job hunting on the horizon?

If you are moving into your final year in the autumn and starting to think about Dental Foundation Training (DFT) and Vocational Training recruitment, you will be pleased to hear that we have a useful support package to help you prepare:

- *Getting your first job guide* – the essential guide to securing your first job
- Interview skills lecture – touring all UK dental schools
- DFT interview skills workshop – to polish up your interview technique

Find out more and see an overview of both recruitment processes at **www.bda.org/recruitmentprocess**

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NEC BIRMINGHAM

LET'S TALK ABOUT SEX

In the interest of openness, we're going to be talking about oral sex, fellatio, anilingus and cunnilingus. If this isn't for you, carry on. If you're interested, read on…

It's not easy to talk about sex. It's always been one of life's great taboos. In order to feel comfortable doing so, you often need to build up a rapport with the other person or persons in the conversation to make sure you know where their boundaries lie. You may figure this out over the course of an evening, it may be longer.

Unfortunately dental professionals aren't afforded that luxury. You may see a patient for 10 minutes every six months. That's 20 minutes in an entire year. When you put it like that, there's an awful lot of onus on the patient – and you – to make every minute count.

'Think about it. Condoms are routinely given out free in clinics and GP surgeries, but have you ever seen a dental dam in the sexual health aisle at the pharmacist?'

Part of that process involves checking every patient for signs of oral cancer. You can tell them what you're doing if you want – you don't necessarily have to. It may alarm them un-necessarily. But these days dental professionals, and particularly dental care professionals, are expected to discuss lifestyle habits with the patient to assess whether they are at high risk of diseases such as oropharyngeal (throat) cancer or not. It's easy asking them whether they drink, whether they smoke and what their diet is like, but it's not easy to ask them about what experts believe will be the leading cause of oral cancer within the next decade; oral sex.

Step forward 4th year dental students Anisha Gupta and Carly Billing from King's College London. When they heard about the Fellatio Modification Project at the launch of Science Gallery London's 'Mouthy' season, they wanted to find out more and get involved.

'Through Science Gallery London we were introduced to Kuang-Yi Ku, the dentist and designer behind the Fellatio Modification Project, an art project looking at the biological role of the mouth in oral sex', Carly explained. 'Besides the intriguing subject, both Anisha and I felt that we as dentists are in the best position to have some input on oral devices, be it for sexual enhancement or in our case for protection.

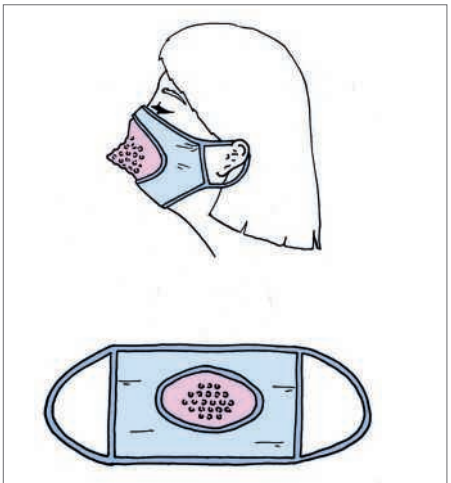
'Everyone is aware that condoms are great for protection during intercourse, but I don't think you could say they particularly work when it comes to oral sex. You can get dental dams, but they're pretty hard to come by.'

And it was this scenario that got them thinking. 'As a bisexual woman, I know how difficult it can be finding sexual health advice and protective products that are effective and pleasurable', Anisha added. 'Sexual health messages are very much targeted at heterosexual people. Consistent advice on safe oral sex practices for people of all sexualities is hard to come by. Many friends and colleagues told me they didn't know where to acquire dental dams, let alone how to use them. I thought there would be a way to develop the dental dam from a dentistry point of view to see if they could be made more accessible and intuitive.'

Whilst some sexual health organisations recommend the use of dental dams for cunnilingus and anilingus, there is still a lack of advice on how to use them safely, effectively and in a way that is pleasurable to both giver and receiver. Indeed as Anisha mentioned, many people do not know where and how to access medical grade dental dams, and are unsure on how to use them.

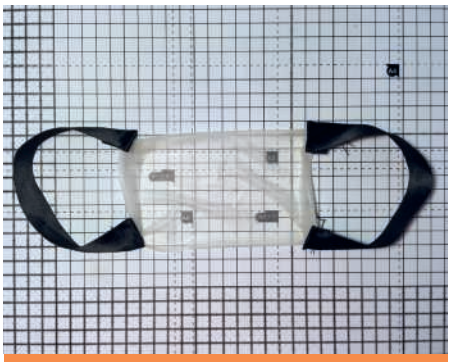
Think about it. Condoms are routinely given out free in clinics and GP surgeries, but have you ever seen a dental dam in the sexual health aisle at the pharmacist? The lack of availability leaves many people resorting to DIY-ing their own dams by cutting up condoms. This itself is time consuming and fiddly, and increases the risk of damaging the condom and thus compromising its effectiveness as a barrier.

'The purpose of this project is to conceptualise and design a prototype for a

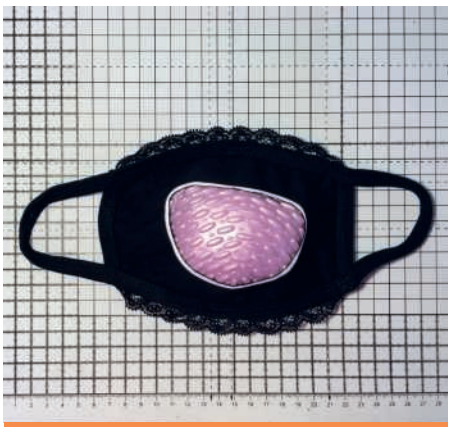


The market isn't flooded with dental dams

The dam in the making



The prototype



The finished article

single-use, disposable wearable device that utilises a dental dam-like barrier in a hands-free, comfortable and convenient manner, to provide an attractive, intuitive and safe sexual device', Anisha said. 'Existing technologies, drawn on for inspiration include textured latex male condoms, facial masks and retractor-dams used in dental surgery. Ideas of femininity including the *femme* and *lipstick lesbian* visual identities are also considered for the aesthetic of the final product. It takes the Fellatio Modification Project on a step from pleasure and adds in practicality too.'

While Anisha and Carly are comfortable discussing this, it's not unreasonable to think every student – or fully fledged dentist for that matter – would feel the same.

'It's this barrier we're trying to break down', Carly explained. 'Figures from the Oral Health Foundation on oral cancers are terrifying. HPV will overtake smoking and alcohol as the main risk factor for the disease within a decade, and given oral and anal sex are two ways of transmitting HPV, we really should be talking more about sexual lifestyles.'

An interesting idea indeed, but would a dentist nearing retirement age be as willing to discuss it with a newly qualified dentist?

'I would hope so!' Anisha said. 'From our point of view we're going to be the next generation of dentists actually identifying and referring patients on if we see something unusual. We're the ones who will need to be open and have these conversations with patients, and the sooner we realise that the better.'

Carly added: 'There are definitely some cultural barriers out there that stops people talking about oral sex. Sex education in schools has been in the media recently, but again there is a lack of advice regarding safe oral sex. People either don't want to know or don't consider it a risky activity. Increasing prevalence of HPV-associated oral cancer means they need to.

'As dental professionals we have a fantastic opportunity to help prevent the disease. People do still find talking about their alcohol and smoking and dietary habits uncomfortable. They are personal things at the end of the day. It's our job to be able to identify the right opportunity, where appropriate, to discuss oral sex with a patient.'

Taking a step back from the clinical need to approach the subject with patients, the importance of being a confident communicator isn't lost on Carly and Anisha. The 'soft skill' may not be a priority when stacked against clinical skills, but they both realise without it this subject wouldn't get off the ground.

'Communication is vital in the practice', Carly said. 'Rather than sticking to the status quo, we want to challenge stereotypes and ideas. We know it's not an easy subject to discuss, but our involvement in the project has developed our communication skills a lot. From liaising with the designers to presenting the finished item, we're pretty confident about approaching the subject with patients.'

David Westgarth

Key facts about mouth cancer

- Latest figures show that in 2011, there were 6,767 people diagnosed with mouth cancer in the UK.
- That's 18 people every day – one person diagnosed every 77 minutes.
- Mouth cancer cases have increased by a third in the last decade…
- …and it is one of few cancers that experts predict will continue to increase in the coming years.
- Mouth cancer is ranked the 16th most common cancer in the UK.
- The lifetime risk of developing mouth cancer is 1 in 84 for men and 1 in 160 for women.
- Cancer of the tongue and oral cavity are the most common forms of mouth cancer, followed then by the throat. Lip, neck and other mouth cancers make up the rest of cases.

A silent killer

- More than 2,000 people lose their life to mouth cancer in the UK every year.
- There are more deaths from mouth cancer than there are through road traffic accidents.
- Mouth cancer also claims more lives per year than cervical and testicular cancer combined.

Survival rates

- Although the number of mouth cancer cases have increased steadily over the last decade, more people are being treated successfully and living for longer
- Early detection for mouth cancer results in a survival outcome of 90%….
- However, delayed diagnosis means survival rates plummet to as little as 50%

Facts and stats courtesy of Mouth Cancer Action Month, www.mouthcancer.org

THE HISTORY OF TOOTH WHITENING

An Interview with Professor Van Haywood. By **Joseph Greenwall-Cohen** BDS Year 4, University Of Manchester Dental School

Introduction

The desire to have white teeth is not a modern concept. The techniques available stems from years of research, clinical experience, exceptional individuals and perseverance. In this article the history of whitening techniques will be explored through an interview conducted with Professor Van Haywood.

Early years

IN 1500 B.C.E. an Egyptian medical manual, the Ebers Papyrus, described for teeth to be whitened for aesthetic purposes. It contained a recipe for a tooth dentifrice used for dental prophylaxis and improving aesthetics. The Ancient Chinese population also described a powder, containing ammonia which was also used for similar purposes.[1]

In the late 1800s bleaching and aesthetic dentistry were popular topic. Modern concepts of bleaching, gold and ceramic onlays to avoid removal of sound tooth tissue were common practice. From the middle of the 1800's to the early 1900s reputable dental journals had 40-60 articles on bleaching a year.[2]

Late 1800's

As early as 1848, non-vital tooth bleaching with chloride of lime was practiced.[3] Several other oxidizing agents such as aluminium chloride, chlorine gas, oxalic acid, pyrozone (ether peroxide), sodium peroxide, sodium hypophosphate and cyanide of potassium were used for non-vital bleaching. These were found to work on the organic part of the tooth. At the time bleaching agents were categorized based on which stains they were most effective at removing e.g. Iron stains were removed with oxalic acid.[2]

Intracoronal/internal bleaching

Techniques for bleaching non vital teeth have been around since the early 1800's. Earlier techniques involved placing the oxidizing agents described earlier, inside the pulp canal. The patients were then advised to keep the canal open and only close the canal with wax, cotton or paper during eating.[4]

The 'walking bleach' technique was introduced in 1961 by Spasser[5] for the bleaching of non-vital teeth. This involved sealing a mixture of sodium perborate and water into the pulp chamber between patients' visits. In 1963 and 1967 Nutting and Poe described modifications to the original technique. Unlike previous techniques they described using 35% hydrogen peroxide mixed with sodium perborate to improve the whitening efficacy and they also described sealing the GP prior to placement of the bleaching agents.[6,7]

The 'inside/outside' bleaching technique, was developed over thirty years later when it was described in 1997.[8] This technique involves leaving an unrestored access opening and the patient injecting 10% Carbamide Peroxide (CP) into the opening. A custom bleaching tray with 10% was simultaneously worn overnight to bleach the buccal aspect.

Professor Van Haywood has recommended that the safest technique for intracoronal bleaching is using the walking bleaching technique using 10% CP sealed in the chamber and continuing with a single tooth bleaching tray from the outside to complete the process.[9]

In-office bleaching

Although most early literature focused on bleaching non vital teeth, as early as 1868, vital teeth were also treated. The original bleaching agents used were oxalic acid10, pyrozone11 and hydrogen peroxide.[12] In 1918 Abbot described what continues to be used as the standard protocol for in office bleaching: using a high-intensity light that generates a rapid rise in the temperature of the hydrogen peroxide, accelerating the chemical bleaching process.[13]

Since 1918 much research has been undertaken with regards to in office bleaching especially by Dr Ronald Goldstein. Dr Goldstein has been described as the 'father of in-office bleaching in the current era' by many of the profession including Professor Van Haywood.

Home bleaching

The original technique for home bleaching was published by Haywood and Heymann in 1989. This was originally called Night Guard Vital Bleaching.[14]

The legality of tooth bleaching in the United Kingdom in 2016

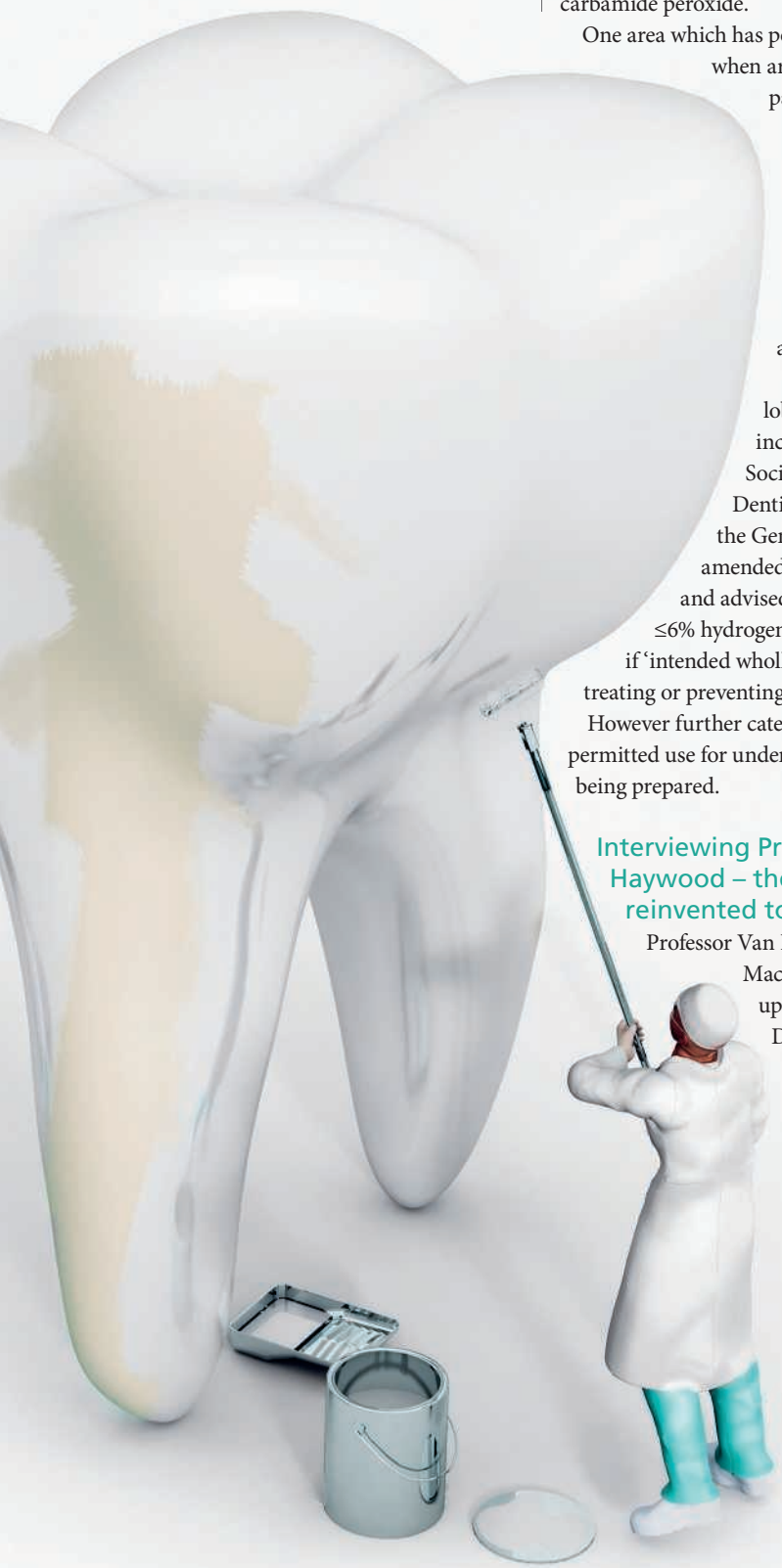
Following the United Kingdom's decision to leave the EU earlier this year, many questions stand on the stance the government will take with regards to tooth whitening. In 2008, the British Dental Bleaching Society (BDBS), which was founded by Dr Linda Greenwall and 5 other esteemed colleagues, began lobbying for change to the controversial Bleaching legislation (EU Directive 76/768/EEC concerning cosmetic products).

Prior to 2012, bleaching products were classified as 'cosmetic products' and could not contain more than 0.1% hydrogen peroxide.

On 31 October 2012, the UK and European legislation was amended to permit the use of hydrogen peroxide containing 0.1 to 6 percent for dental professional use only.[16] 3.34% Hydrogen peroxide is equivalent to 10% carbamide peroxide.

One area which has potential for change when article 50 is evoked, is paediatric dentistry. The EU directive which came into force on 31 October 2012 banned any products containing more than 0.1% being used on any persons under the age of 18.[16]

However after much lobbying by UK dentists, including the British Society of Paediatric Dentistry and the BDIA, the General Dental Council amended its guidance in 2014 and advised that products with ≤6% hydrogen peroxide can be used if 'intended wholly for the purpose of treating or preventing disease.'[17] However further categorisation of permitted use for under 18's is currently being prepared.



Interviewing Professor Van Haywood – the man who reinvented tooth whitening

Professor Van Haywood was born in Macon, Georgia and grew up in a small town called Dublin, Georgia. He studied dentistry at the Medical College of Georgia in 1974. After two years in North Carolina, Professor Haywood opened a private solo practice in Augusta, Georgia for seven years. Professor Haywood then returned to the University of North Carolina Dental School where he took up a position on the prosthodontic department and later on the operative department for ten years. Prior to 1989, Professor Haywood was concerned with aesthetic, conservative treatment modalities, 'I was researching a lot with regards to resin bonded fixed partial dentures, or Maryland bridges and porcelain veneers.'

Professor Haywood wrote the first paper on polishing porcelain veneers in the mouth 'showing that you could polish them as smooth as you could glaze them.'[15]

It was this earlier research which resulted in Professor Haywood travelling round North Carolina lecturing to study clubs. This was met with much scepticism 'everybody told me that I was going to lose my job if I went out talking to these little study clubs… because you need to work on your promotion and tenure.'

However Professor Haywood had a special inclination about this, 'I'm very much a man of prayer and I have prayer time every morning. Every time I'd pray about it in the morning, I just felt like Jesus was calling me, saying you need to go talk to those people, I've taken you this far in your life and I'll take care of you wherever you need to go.'

An example of a 0.035 inch soft, flexible vacuformed tray used for home. Take note: the image above is a scalloped design, however Professor Haywood uses a non-scalloped, no reservoir tray. Image courtesy of Dr Linda Greenwall

Interviewing Professor Van Haywood

One day after lecturing to a study club about porcelain veneers, Professor Haywood's inclination proved correct. One of the members said to Professor Haywood 'what you showed us was really nice [the porcelain veneers], but we don't do that, we just bleach peoples teeth. We make these little football mouthguards and put this material in it. The patient sleeps with it and in six weeks their teeth are white.'

Upon hearing this, Professor Haywood had a moment of realisation, 'this is why I was brought to this place, to be able to learn about this, so I can go out and do it.'

'They found out in other research that if people could change anything about their body they would want their smile to be most attractive'

Professor Haywood went back to the University of North Carolina and immediately began pursuing what he had learnt. 'The next patient, Dr Harold Heymann's. The patient was scheduled for porcelain veneers and so I shared with Dr Heymann what I had learned at the study club. We asked the patient if they would be willing to try that [bleaching] first. The patient consented and it worked well.' Both Professor Haywood and Dr Heymann took the pictures and wrote the article 'the editor of this international journal, saw what a revolutionary thing this was, so he published that article and it basically changed the world.'

Professor Haywood traced the origins of the technique to the late 1960's. An orthodontist in Fort Smith, Arkansas, Dr Bill Klusmeier, 'had a patient in an automobile accident. He needed to send the patient to the periodontist because the patient had damaged her gums. Dr Klusmeier wanted to stop the gums becoming infected so he took an oral antiseptic and put it in the orthodontic retainer. It turned out that when the patient got to the periodontist two weeks later, the teeth were white! He [Dr Bill Klusmeier] never published it, but he shared it at dental meetings and study clubs and it got passed to the people over the years.'

'Enamel is an incredible substance and you don't want to be quick to take it off', Professor Hayward said. 'For example when they cremate somebody, they have to grind their teeth, because the enamel doesn't burn up.

'So, because of whitening, the sacredness of enamel has come back to the world: it used to be sacred in the old days, then we got into full crowns, porcelain fused to metal and everybody was cutting a lot of teeth down. It was then shown that enamel is the best thing you can have in the mouth and everything else fails in 15-20 years.

'Bleaching has revolutionised dentistry, as we are able to do less on a tooth to get a better outcome. It has swung the pendulum back to more conservative, composite bonded restorations, dealing with occlusion and dentistry that keeps the mouth as untouched as possible.'

I asked Professor Hayward whether bleaching should be available on the NHS in the UK. He said: 'Research shows that people who have whiter teeth are thought to be more intelligent, more attractive, more fun to be around, sexier and have higher paid jobs.

'They found out in other research that if people could change anything about their body, whether it was their height, face or weight, they would change their face and on their face, they would want their smile to be most attractive.

'So dentists are in the profession that influences somebody's whole persona. When I bleach somebody's teeth, they start to smile, start to lose weight, quit smoking and eat better, healthier foods. We're really the gateway to the total body concept. So yes, I think it ought to be [the NHS] baseline.

'Also what we found was, when we were whitening a patient's teeth, all of a sudden they would see things in their mouth that they didn't notice before. So we found bleaching to be the gateway for lots of good dentistry, that patients need, but they don't perceive that need because they don't have any value to their teeth because they don't like the way they look.'

Professor Haywood continued: 'I think the joy of the 27 years is watching something that is so simple, safe and cost effective and seeing how it can change a patient's life: their jobs, their earning potential, how they interface with people, who they marry.

'Also the more I've gone through these 27 the more fascinated I've become by the different applications carbamide peroxide has. The urea [in CP] elevates the pH in the mouth, so you can't get tooth decay when you bleach. So for cancer patients and dry mouth patients, I use carbamide peroxide not as a bleaching material, but as caries control and the only bad side effect is that their teeth get white, which for most of them they are thrilled about.'

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Joseph Greenwall-Cohen

LIFE AFTER UNI

Even if you're about to celebrate completing your first year at dental school, it's never too early to start thinking about your future. There's no getting away from the importance of developing and honing your clinical skills, but having an idea of what you want to do once your five years at uni are up isn't a bad idea at all.

To help give you an idea of what you can expect once you've finished uni, we've produced this handy guide on jobs, pathways and some options available to you.

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Dental Foundation Training/ Vocational Training

Immediately after graduation, the majority of UK graduates complete Dental Foundation Training (DF1) or Vocational Training in Scotland (VT) in order to work in an NHS general dental practice. In the NHS, across the UK, Foundation Dentists (FDs) or Vocational Dental Practitioners (VDPs) spend a year in approved practices whilst undertaking training. DFT/VT can provide new graduates with a broad overview of career choices and a good understanding of the NHS system.

DFT/VT introduces new graduates to general practice and gives them a protected environment to work in for a year. Each FD/VDP has a trainer dentist in the same practice; in some practices, two dentists may share the role of the trainer. The trainer provides the FD/VDP with supervision and help whenever it is needed, as well as meeting with them for regular tutorials. The trainer takes responsibility for the acts and omissions of the FD/VDP in NHS terms, but the FD/VDP, as a registered dentist, will be liable for their conduct and for patient wellbeing.

During your DFT/VT year you will usually spend four days a week practising dentistry, and one on 'day release' at the study day course, plus regular in-practice tutorials with your DFT/VT trainer.

Another option is a Longitudinal DFT scheme. These provide the opportunity to combine working in primary dental care and secondary care. Effectively, participants combine the DFT/VT year and the dental core training year 1 through this programme. This may be done on a weekly, six-monthly or annual rotation.

You should receive information about the DFT/VT system either at the beginning of your final year or just before your university summer break, as the application process commences at the start of the autumn term. The information is provided by your dental school with involvement from the LETB/ postgraduate dental deanery. There may be information packs and/or a presentation to explain the system.

Dental Core Training

After Dental Foundation Training, additional training years are now referred to as 'Dental Core Training' (DCT) and are optional. Formally known as 'Senior House Officer' (SHO) positions, these posts are aimed at developing elements

CASE REPORT

Dentists' experience of looking for their first dental post

In 2014 the BDA conducted a survey to assess levels of recruitment among FDs/VDPs and understand their experiences of finding and looking for their first post after completing DFT.

Most participants were successful in obtaining their first post without much difficulty. Around nine out of ten dentists completing their vocational or foundation training in summer 2014 had found a post by the time of the survey. On average, they took around six weeks to find a post and made three applications for every interview they attended.

Those opting for a hospital post were more likely to be motivated by opportunities for career development and progression, compared with those who opted for a general practice post. By contrast, the latter were more likely to identify pay, flexible-working arrangements, patient mix and location as reasons for choosing their post.

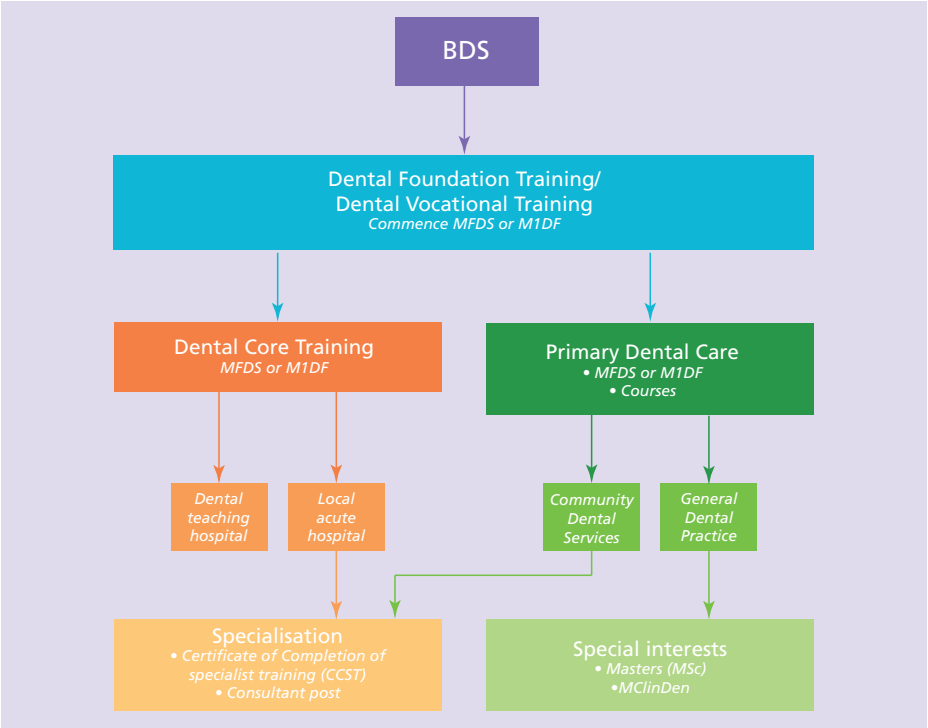
A minority (28%) of those who had found a post by the time of the survey said they had found it difficult to find a suitable role. They identified high levels of competition as the main difficulty they faced. In addition, around two-thirds alluded to a shortage of available posts, and six out of ten believed that there were too few posts available for those with limited experience or in their locality of choice.

We will continue to monitor the factors that influence employment prospects for new practitioners. In addition, further research is needed to better understand FDs'/VDPs' employment experience and early career choices.

Find out more about the survey results at: bda.org/studentfinance

You can find details on regional DFT/VT schemes by visiting the LETB/postgraduate deanery websites, details of which can be found on www.copdend.org.uk

We support you throughout the interview process with our Getting Your First Job guide, Interview Skills lecture series and intensive workshop. Go to www.bda.org/firstjob to find out more.



of settings. Some LETBs/deaneries also use schemes which alternate between a practice and hospital setting on a weekly or bi-weekly basis. The initial one-year DCT post is called DCT1. The approach to applications for DCT1 differs from area to area as places are limited and competition is increasing. Some will only invite applications from dentists who are in their DFT/VT year or have completed it. DCT1 places are advertised in the *BDJ* journal and online on the BDJ Jobs website at varying times. It remains important to check the LETB/deanery websites and the *BDJ* advertisements regularly throughout the summer, autumn and winter, to ensure that you are aware of any updated information. DCT recruitment might move to a centralised process within the next couple of years.

> 'Corporate bodies can offer wider opportunities for development and greater security, but may also be restrictive in terms of loss of control over decisions'

Postgraduate qualifications: MJDF and MFDS

From as early as your first year post-qualification, you may consider further qualifications to progress your career.

The MJDF (Membership of the Joint Dental Faculties) and the MFDS (Membership of the Faculty of Dental Surgery) are postgraduate diplomas which are undertaken as a first step on the career pathway for dentists. Achieving one of these diplomas verifies that you have gained the standard and level of experience expected after two years of full-time work. The syllabus for both exams is based on the Dental Foundation Training Curriculum, and a large part of the knowledge and experience necessary for the exam will therefore be acquired during vocational or dental foundation training.

DENTAL CORPORATES

Corporate bodies can offer wider opportunities for development and greater security, but may also be restrictive in terms of loss of control over decisions or more bureaucracy. It is a growing sector with opportunities across the UK. The 2014 Dentistry Market Report* stated that there were approximately 190 different dental corporates in the UK. This represents just under 2,000 practices and approaching 7,000 dentists, equivalent to 22.3% of all primary care dentists in the UK.

Working for a larger dental corporate

Working for a corporate can lead to a rewarding and interesting career, according to a small group of associates who have provided feedback on their experience to the BDA.

The larger corporates have expanded quickly and have in many ways worked hard to put good systems in place. According to associate feedback, working for a large corporate means that most of the administrative matters are taken care of for the dentist, so they can concentrate on the dentistry and on where they want to go with their careers.

What to consider before accepting a corporate role

However good the reputation of a corporate you are considering working for, check the individual practice you expect to be assigned to carefully. Some practices, even where run by the same corporate, are likely to be better than others. Make sure you are happy with the equipment, the staff and the manager. Try and speak to the other associates at the practice before making a decision.

Associates we spoke to all agreed that it was vital to check the associate contract provided carefully. Make sure you understand exactly what you are being asked to do. If there are any variations, make sure that is confirmed in writing. One member cited difficulties when a variation agreed orally at a local level was later disputed by their corporate principal.

There may be targets, including targets for private income, but targets are not exclusively the domain of the corporate dental practices. Targets will not suit all associates, but the feedback received from associates working in the larger corporates suggests they received support to help generate private income in appropriate circumstances. Our specialist advisors can give you advice on UDA targets.

Associates also told us the equipment and materials that were available to them were good, and that in their experience there was sufficient choice. However, it is important to enquire about materials, equipment and laboratory choice when exploring job opportunities.

Other considerations

Training opportunities in some of the large corporates have been described as plentiful and discounted, with CPD readily available. Associates who want to specialise may well find that it is easier in a corporate environment and that the corporate will present opportunities for referrals, but specific questions should be asked to establish the opportunities available. Offering flexibility to move to different practices might also increase the likelihood of such opportunities.

Whilst associates we spoke to told us that support is usually there when they need it, it became clear that in some instances there was a need to ask for it. The importance of nurturing relationships with the practice manager, area manager and clinical director were also stressed, for those times you may want to make yourself heard.

On the downside, if you are an associate at a corporate, you will not be working for a practice owner who may be looking for a successor to buy or become a partner in their practice. It may therefore be a little more difficult to get the experience you want to become a practice owner or to nurture opportunities for practice ownership. ■

Positives and negatives to working for a dental corporate

Positives:

- Corporate environment
- Gives confidence to patients
- Wider opportunities for development
- Competitive pay
- Potential for lower licence fees if the company buys in bulk
- Potential to work as a team to cover absences
- Clear governance structures in place
- Ability to see the company's financial accounts by purchasing them from Companies House.

Negatives:

- You have a contract with the company, not an individual
- The company could be driven by cost savings. This may place restrictions on the materials you use and the quality
- Financially, rather than people driven
- It may be badly managed from a corporate governance perspective
- No clear personal relationship with the business owners
- High staff turnover
- The company will have limited liabilities. If the company goes bust you may lose money owed to you.

From the horse's mouth…

In January's *BDJ In Practice*, we asked mydentist Clinical Services Director, Steve Williams, what it's like working for a corporate. Here's what he had to say:

What skills do you think differentiate successful dentists from less successful dentists?

Skills are obviously important but I think in many cases it is just as much about attitude. Patients want treatment that is pain free, works the first time and can trust the individual. Clinicians that are passionate, driven and want to develop are more likely to be successful. Skills and techniques can be learned and improved, attitude is what motivates those people to attain those skills.

What makes patients like their dentist?

I think people respond well to clinicians that are honest, and speak to them in language they understand and take the time to ensure the patient understands what is happening and that they are comfortable with what is involved in treatment. Communication is vital to the relationship between clinician and patient; such small things can make all the difference. Something as small as removing a surgical mask when greeting and speaking to a patient can make a clinician seem more approachable and open.

How much room for negotiation do dentists at mydentist have with the company?

There are standard contracts in place and these follow the BDA guidelines to ensure we protect self-employed status. Negotiations can sound very formal and at mydentist we encourage open dialogue with both the operations and clinical teams. There will be certain things that we will not allow, especially if this could breach any regulations, however usually the pros and cons will be discussed before coming to any final decisions. We are always looking for new ideas which is why we commit to an annual survey from all our clinicians.

What characteristics would encourage my dentist to pay higher rates to associates?

Rates of pay will depend on experience, but also the geographical location of the practice. This is something that should be discussed at an early stage as a higher rate may be payable in a more rural location if you are flexible on your location. We have also committed to paying any DDRB uplifts to our clinicians that achieve their contract during the year.

Read the full article with Steve in January's *BDJ In Practice*.

THE HIDDEN COSTS OF GRADUATING FROM DENTAL SCHOOL

By Rima Sadhia Hussain BDS

Picture this: a dental student, at a social gathering, is asked what they study. Cue the standard responses of 'you're going to be rich' or 'when do I get free treatment'. Sound familiar? It's only when you start talking about how the golden age of dentistry has passed, or how you're actually struggling to pay 9K a year, when you might actually get a thoughtful response.

So, as a recently qualified dental graduate, I wanted to make sure every dental student out there is clued up on the actual cost of graduating. Take it from me, everything adds up!

After finals – estimated cost: £200!

Graduation can be very exciting, especially if it's your first one. Graduation tickets, balls and after-parties can all start building up, and can easily total £100. Not to mention all the celebratory events and outfits required. Make sure you budget and avoid last minute purchases.

When you start your new job, it's highly likely you will have to move house. Remember you will need to put down a deposit in advance, as well as pay your first month's rent before your first pay cheque is even a glimmer on the horizon. And if public transport isn't an option to get to your practice, you will also need to arrange a car, insurance and fuel.

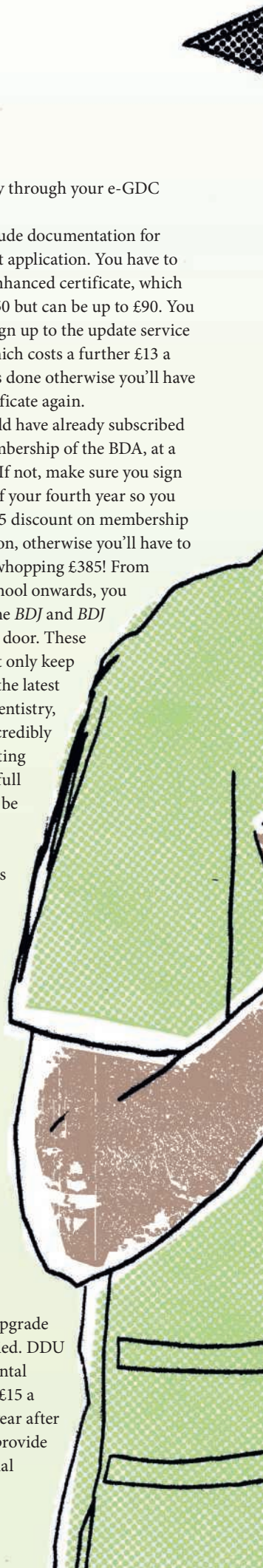
Before DFT – estimated cost: £1100!

One of the first large costs is the GDC registration fee - £519.19 (June) or £455.02 (July), due by the end of July, in the year that you graduate. This doesn't include the annual retention fee of £890, due by the end of December, also in your year of graduation. These must be paid in a lump sum, there is no option to pay monthly. Unfortunately, there's no way to get around these, and they must be paid on time. However, ensure you claim some of the fees back at the end of the tax year. Also make sure you have a direct debit set up (ideal) or alternatively pay through your e-GDC account.

Other costs include documentation for your performer list application. You have to purchase a DBS-enhanced certificate, which starts at around £50 but can be up to £90. You will also have to sign up to the update service within 19 days, which costs a further £13 a year. Ensure this is done otherwise you'll have to pay for the certificate again.

Ideally you would have already subscribed to the student membership of the BDA, at a cost of £28 a year. If not, make sure you sign up before March of your fourth year so you qualify for the £125 discount on membership fees after graduation, otherwise you'll have to pay the full fee, a whopping £385! From year 3 of dental school onwards, you receive copies of the *BDJ* and *BDJ In Practice* to your door. These magazines will not only keep you up to date on the latest developments in dentistry, but later on are incredibly useful for job-hunting as an associate. A full list of benefits can be found on the BDA website: www.bda.org/studentbenefits

Indemnity is essential, and I would advise purchasing more than one as the fees are low in your first year. DDU and Dental Protection are free as a student, and come with lots of benefits, such as free books with DDU and workshops with DP. Additionally, you automatically receive emails to upgrade once you've qualified. DDU charge £10 and Dental Protection charge £15 a year in your first year after graduation. Both provide 24 hour confidential



advice so make sure you use them whenever in doubt.

If you are thinking about postgraduate qualifications, fees for the MJDF/MFDS examinations in October are due before 21 August 2017. It's not cheap, so if you're thinking about this, make sure to plan your finances in advance – the first part is £522 and second is £660. The second tranche is paid post-VT, but that's not the end of your woes: after passing, you must pay £300 per year to continue using the initials (That's just under £100 per initial!).

Once the DFT contract begins on September 1 2017, you're legally prohibited from working anywhere else. So doing a summer job or tutoring before this date is a fantastic way to keep money flowing. I would advertise through your family network and online using tutorhunt.com.

First month of DFT: estimated cost: £500 - £2500

Ensure you have a source of income for your first few weeks. Unfortunately you won't get your first pay cheque until early October. Keep hold of lunch and travel receipts on your study days – your Training Programme Director will be able to tell you if you can claim these back. Additionally, find out how much of your practice budget is for new materials, and whether you can claim back uniform expenses. Tip: Just keep a big envelope of receipts at home. You never know what you can claim back at the end of the tax year.

Don't forget about loupes. If you haven't bought them, don't rush out and buy any old ones. Take time, get loads of opinions, try some on at the BDA Annual Conference or the BDIA Showcase, ask if they offer free trial periods, and if you can pay in instalments. Most companies have flexible payment plans, which makes the upfront cost less painful. You're looking to spend anywhere from £700-£2500 for good quality loupes.

There are loads of freebies from conferences. Again the BDA Annual Conference in May and the BDIA in October are both great for this, as well as to purchase new materials you might be interested in. Alternatively, sign up your practice to Oral B, Colgate and other leading brands for free samples. People really want to sell you their stuff so they're always looking to dish out samples. It's amazing what you can gain just by establishing some rapport with a sales rep.

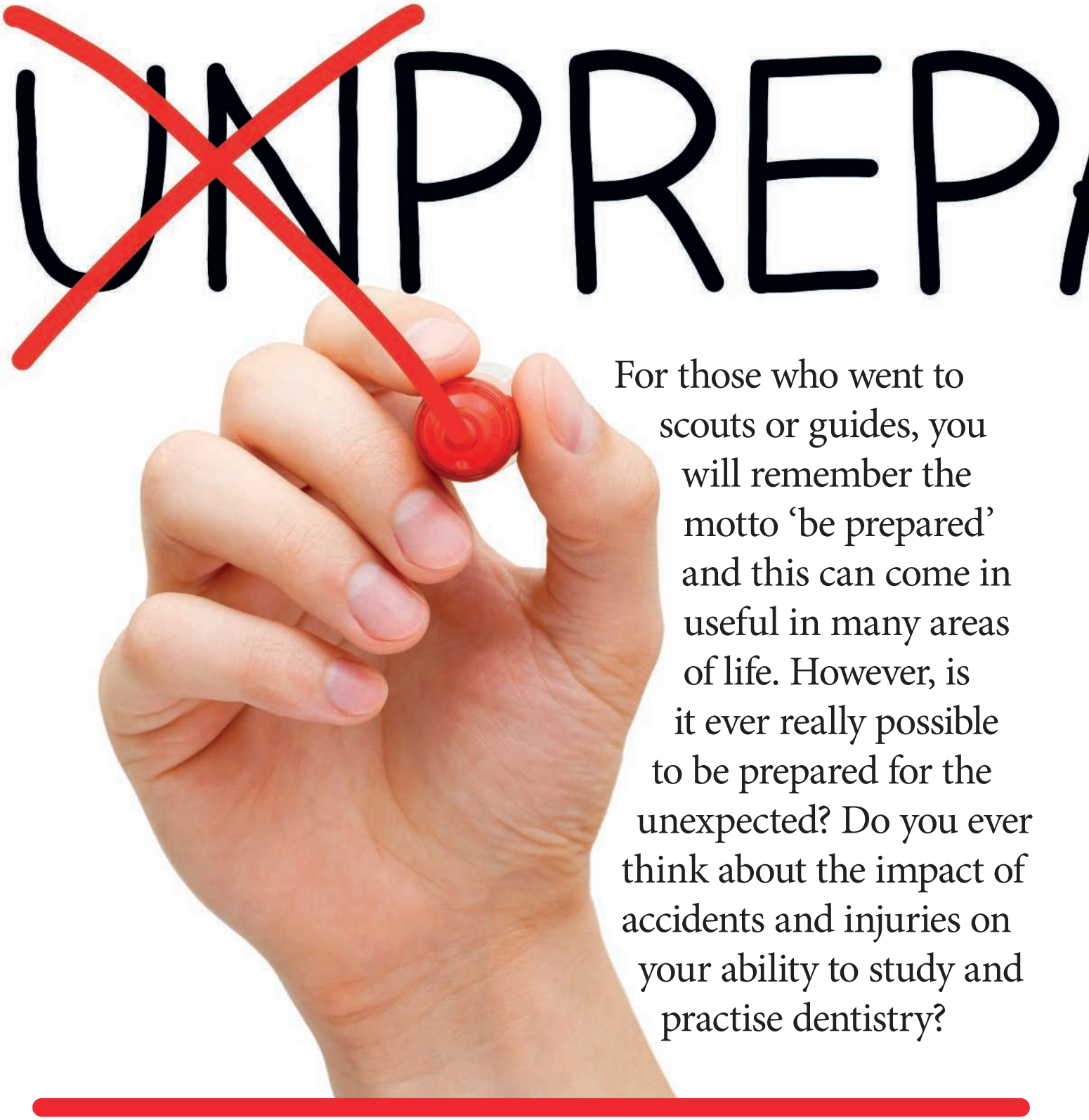
Overall estimated cost (not including rent, transport and living costs): £1700 - £4000!

DFT annual salary

The good news is that in October after graduation, you will finally get paid! There are small discrepancies in the DFT salaries across the four countries and is between £30-£31k. Once you have paid income tax, national insurance and (in England, Wales and NI) student loan repayments at 9%, you will receive just under £2,000 each month. If you also sign up to the NHS pension scheme (highly recommended), this will reduce to around £1,700. So, with this in mind it's well worth doing a budget planner before you start your DFT year.

Hopefully this helps, remember you've sacrificed a lot to get to where you are, so plan and budget early and enjoy your DFT year!

Rima Sadhia Hussain ■



For those who went to scouts or guides, you will remember the motto 'be prepared' and this can come in useful in many areas of life. However, is it ever really possible to be prepared for the unexpected? Do you ever think about the impact of accidents and injuries on your ability to study and practise dentistry?

BE PREPARED

Accidents at home, at uni, in clinics, while you are out or when you are playing sport, could all affect your ability to practise dentistry and may not be something you've considered before.

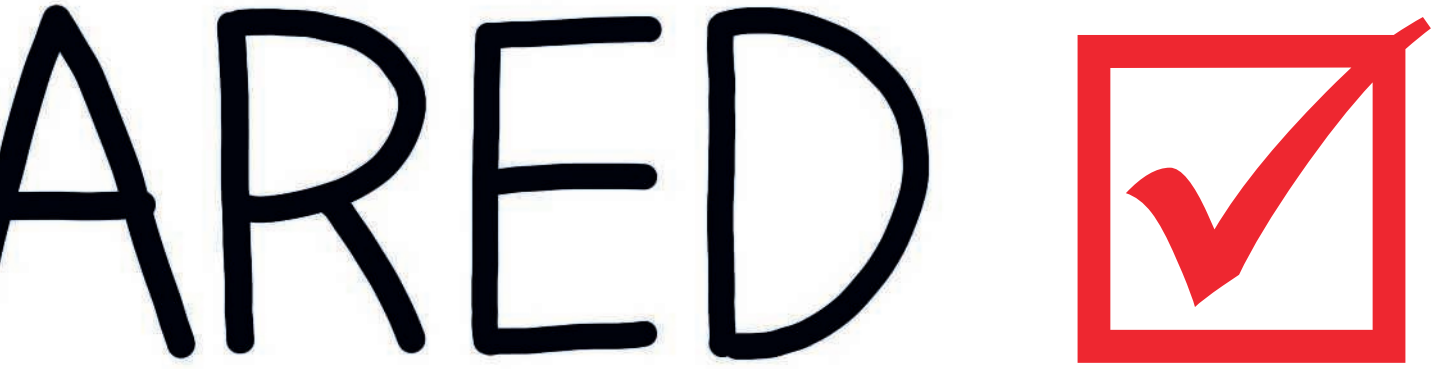
Everyday activities

As a dental student, you may already be more cautious than other students about undertaking potentially dangerous leisure and sporting activities, such as rock climbing, mountain biking, bungee jumping, parachuting, skiing and horse riding. You may also have decided not to participate at a more competitive level because of the risk of an injury, and the impact that could have on your everyday life, studying and future career.

You can be knowledgeable, experienced and more prepared for certain types of injuries like sporting ones, but have you ever thought about how even the most basic of household chores or everyday activities could also have an impact on your ability to study?

The facts

The Royal Society for the Prevention of Accidents (RoSPA), a UK charity that have been promoting accident prevention for



nearly 100 years, indicates that more than 14,000 people die due to an accident every year in the UK.[1] And while that is obviously the most severe outcome from an accident, there are still thousands of people every day that experience the impact of an unexpected incident.

Every year in the UK more than 6,000 people die in accidents in their homes and 2.7 million turn up at accident and emergency departments for help. More accidents happen at home than anywhere else, and the living room seems to be the most dangerous. Falls are also the most common type of accidents.[2]

For the last two years 14% of the claims we have paid to men have been paid for accidents. And in 2015 accident claims included nearly £44,000 for recreational and sports related activities, nearly £55,000 for accidents around the home and garden, over £115,000 for road traffic accidents and over £200,000 for various fractures.[3]

Accidents[4]

Accidents can vary from the more predictable sporting or traffic related incidents, to the totally unexpected trips, falls and entanglements, from the unusual through to those from perceived harmless pursuits. Whatever they are caused through they could force you to take time off sick.

A few examples of dentists' accidents:[5]

A student in her 4th year fell over while out and broke their wrist, this meant they had to have seven weeks off clinics and find the time to catch up. One young dentist, while working out at the gym, managed to fracture their left wrist and needed surgery followed by physiotherapy and this stopped them practising for three months. Another dentist managed to severely lacerate their left hand on Christmas day cooking dinner, so not only spoilt their Christmas with a long wait at A&E for several stitches but it also had them out of action until the first week of January.

Plus, as you can imagine, there are a number of cases of dentists having sporting accidents such as the dentist who was off work for four months with a fractured left foot and ruptured knee ligaments after a rock climbing accident, or the dentist who fractured their left ankle playing badminton.

'As a dental student, you may be more conscious than other professionals of the impact of accidents and injuries'

The impact of these injuries

As a dental student, you would find that you experience a loss of clinical skills in your time away from dental school. Also if you can't attend university for a short time you may get left behind, and if it's for even longer, such as a few months, then you may even have to drop down a year and retake.

Prevention

All accidents are generally unexpected but there are things you can do to minimise the chances and certainly if they do occur, minimise the impact on your lifestyle and degree.

The RoSPA provide information sheets to raise awareness of the most common accidents and what you can do to prevent them, such as in your home with leaflets on fire safety, electrical safety, heating and cooking; safety glass, safety with medicines and cleaners and DIY and garden safety. This may sound obvious, but these are the most common types of accidents for all of us not just the older generations.[5]

The RoSPA also have seasonal preventive tips relating specifically to spring, such as being more vigilant on the roads as people tend to get out and about more, and surprisingly gardening and DIY, as more injuries occur with them at this time of year.[6]

And if an accident does happen, the UK website 'First Aid for Life' suggests that good quality first aid training plays a crucial role in empowering us all in dealing with injuries, as it gives us not only the skills, but the confidence if an accident does happen. They state that 'Keeping calm, understanding how to recognise and prioritise life threatening injuries and knowing what to do in the first critical seconds can make the difference between life and death.' So it is important to keep updated.[7]

As a dental student, you may be more conscious than other professionals of the impact of accidents and injuries but with a little knowledge and sticking by that motto in the introduction could make all the difference…

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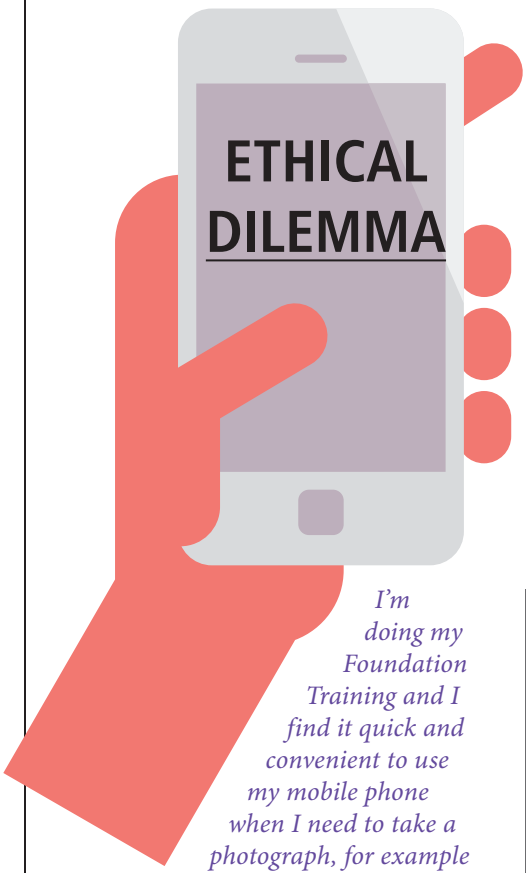
Dental Protection



Eric Easson, DDU dento-legal adviser, looks at the concerns around using mobile phones to take clinical photographs.

I'm doing my Foundation Training and I find it quick and convenient to use my mobile phone when I need to take a photograph, for example a suspicious lesion. All photographs are for training purposes only, taken with the patient's consent and deleted once I have discussed the case with my trainer.

I know that there can be risks associated with mobile technology but, these photos aid my training and I am extremely careful about security. However, should I continue to take clinical photographs on my mobile phone?

According to the GDC and the 1998 Data Protection Act, a photograph of a patient is confidential personal data, even if the patient cannot be recognised from that photograph. A personal computer, tablet or mobile device should never be used to capture and store patient data, even if that data is subsequently transferred to the patient record system and deleted from the personal device. To use a personal computer or device to process a patient's data is a breach of the Data Protection Act, and consequently, you can be fined or even face disciplinary action with the GDC and/or your employer.

The Data Protection Act states that all 'appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data'.[1] This means you must have appropriate security to prevent the personal data you hold being accidentally or deliberately compromised. Data is not secure on your personal mobile device, to which others may have access and which could easily be lost in the course of day-to-day living.

All practice computer systems should have an information security policy in place to protect patient data and a designated person to oversee data protection. Considerations include:

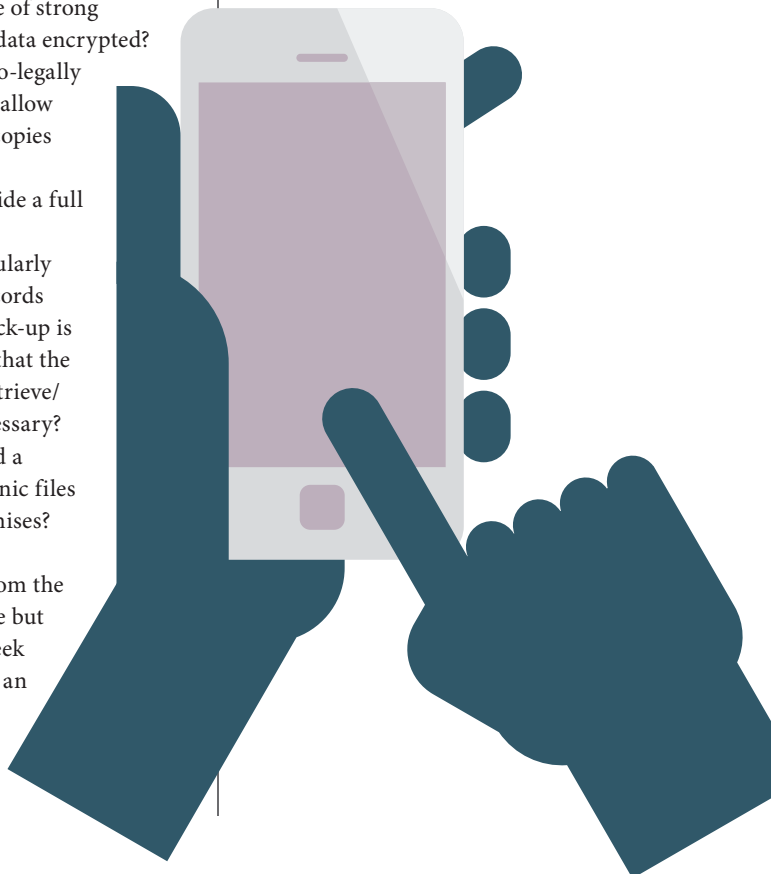
- Is the IT system adequately protected from unauthorised access e.g. is it protected with the use of strong passwords and is the data encrypted?
- Is the software medico-legally compliant e.g. does it allow you to produce hard copies of records?
- Does the system provide a full audit trail?
- Does the practice regularly back up electronic records and check that the back-up is working correctly so that the practice are able to retrieve/restore records if necessary?
- Does the practice hold a back-up of the electronic files in secure off-site premises?

The IT security tips from the ICO are a useful resource but the practice could also seek professional advice from an IT specialist.

The practice may have a data protection and patient record policy which you should familiarise yourself with and follow. If clinical photographs of patients are required, perhaps the practice could provide a dedicated clinical digital camera, which is used in the surgery, is kept secure at all times, and is used to promptly download the patient images onto to the patient record system, following which they are deleted from the camera's hard drive or memory card.

1. Information security (Principle 7) Information Commissioner's Office https://ico.org.uk/for-organisations/guide-to-data-protection/principle-7-security/

DDU dento-legal adviser Eric Easson ■



LIFE AS...

In our regular feature, we talk to students past and present about what it's like to spend a day in their shoes.

MAXILLOFACIAL ROTATION AT THE EASTMAN DENTAL HOSPITAL

In part two of their series, **Aleeza** and **Shivana** discuss maxillofacial surgery at the Eastman Dental Hospital

This rotation involves working with the maxillofacial team at the Eastman Dental Hospital – the consultant surgeon, the registrar and the clinical nurse specialist. This was a very hands on rotation as it provided us with further knowledge and skills that we are able to take on in our clinical careers.

The week consists of attending clinics and assisting in theatres, which are held at University College Hospital. The clinics include new patient assessment where we examine patients, arrange investigations, and plan further treatment required.

In pre-assessment clinic we carry out a thorough check of the patient to ensure that they are fit for their upcoming surgery. This included detailed medical and social history, a swab for MRSA, checking blood pressure, recording BMI, basic airway assessment, and arranging necessary blood tests. We also discuss the details of the procedure, the risks and the benefits and go through the pre-operative instructions.

Under the maxillofacial team majority of treatments carried out under general anesthesia include:

- Dento-alveolar treatment: extractions: impacted teeth, clearances, complex surgical cases, removal of cysts, incision and drainage of abscesses
- Temporomandibular joint: exploration under anaesthetic of TMJs, arthroscopy, and arthrocentesis
- Orthognathic surgery - to correct skeletal profile - including bimaxillary osteotomy.

On the day of surgery we speak to patients, confirm the consent form, and mark them as required. We then assist and even carry out surgery under supervision of the consultant and registrar. As the DCT, it is our duty to ensure the patients discharge documents have been prepared and their medications have been prescribed. Prior to leaving the hospital we have to ensure that the patients are fit and have been informed of the necessary post-operative instructions. In some cases, patients stay overnight, for instance following Bimaxillary osteotomy. These patients are reviewed by the team the following morning as well.

WHO CHECKLIST

The WHO Surgical Safety Checklist was designed to improve the safety of patients having surgical procedures. It is used at three clearly identified stages: prior to anaesthetic induction (Sign In), when the patient is on the operating table prior to the procedure starting (Time Out), and after the procedure before the patient leaves the operating theatre (Sign Out).

Then there are review clinics where patients return several weeks post-operatively and the outcomes of their surgery are assessed.

It has been a pleasure to work with such a supportive and caring team, who are eager to teach and guide us. We have both found the experience extremely exciting and have been able to develop our practical surgical skills, as well as our abilities to assess, diagnose and treatment plan.

Aleeza Cheema and Shivana Anand ■

DECIDING WHAT'S BEST FOR YOU

By **Sasha Pervin**

After graduating from Newcastle in 2014, I undertook a two year general professional trainee (GPT) post which gave insight into hospital dentistry and specialisation, alongside my foundation training in general practice. As the end of the position approached, I was undecided whether to continue a route in hospital dentistry or general practice.

Whilst staying in general practice appealed to me, I wanted to expand my comfort zone in oral surgery and understanding of complex medical histories; areas I feel competence is required to practice independently. Undertaking a GPT post had also given me an appreciation of multi-disciplinary care and different specialities. I had particularly enjoyed paediatric dentistry in both hospital and general practice and thought undertaking a maxillofacial post would give me further understanding of the care of paediatric patients that would aid transition into speciality training in paediatrics.

Admittedly, before applying for a maxillofacial post I had limited understanding of what the job entailed. Observing the role during numerous night and on-call day shifts demonstrated the huge variation between shifts, and the real commitment dental core trainees have to give to the job.

Watching colleagues in the role made me realise how much they had grown as practitioners, and I admired their decision to expand their skillset. It solidified that the learning curve must be steep; I was only one year junior and yet the difference between knowledge and skillset was apparent. I had no idea how long it was supposed to take before you felt confident in this job role, and if it would be something that I would ever feel comfortable with. Everyone tells you 'I don't know anyone that regrets doing this job' and although I could appreciate by doing it you would come out the other side a much developed practitioner, I expected to find it challenging.

Sasha Pervin ■

FIVE TOP TIPS FOR GETTING YOUR TAX FINANCES IN ORDER

Sophie Kwiatkowski, an accountant with PFM Dental Accountancy, suggests how to save time and avoid a financial mess

1 Keep up-to-date with bookkeeping

As a self-employed dentist, you will be responsible for keeping your income and expenses in order, so that you can prepare your accounts and tax return each year. It is a legal requirement to keep adequate records. If you submit a tax return with incorrect information, you face penalties – so accurate and regular bookkeeping is a good routine to get into. From an income aspect, you will receive a monthly pay schedule from your practice principal showing your monthly earnings as well as the deductions such as lab bills and superannuation. You will need to keep proof of any business expenditure. Records of other information for your tax return, such as bank interest, gift aid contributions or rental income will also be needed.

> ‘If you have to buy any dental materials or equipment such as loupes, these are also allowable expenses’

2 Think 35%

Saving money is difficult, especially when you know it’s going to the taxman! However, putting aside 30-35% of your income each month is a worthwhile habit to get into. This will mean when it comes to paying your tax bill in January and your payment on account in July, you won’t have to worry about finding the money – it will already be saved in a separate account.

3 Learn the tax system

When you have been in employment, your tax and National Insurance Contributions have been calculated for you and you haven’t had to be concerned with deadlines, payments and calculations. Becoming self-employed shifts the onus onto you. Tax returns are made up to 5 April each year and the payments are due the following 31 January and 31 July. The January payment is made up of the balance due for the previous year, as well as a payment on account as an advance towards the current tax year. The July payment is the second payment on account. The sooner after the 5 April you get your information to your accountant, the sooner you’ll know you tax liability, giving you more time to plan your finances.

4 Tax is going digital

As you may be aware, HMRC hopes to bring tax compliance fully online by 2020. The plan is for quarterly submissions to be introduced, as opposed to an annual tax return. It is sensible to assume that one aim of this change is that in due course tax will be payable quarterly. You may have heard about cloud-based accounting software such as Xero™ or Sage™ One. It is not necessary to use such software, you can do your bookkeeping on Microsoft Excel or Word or an analysis book. Your accountant will guide you through the changes required to go digital when the time arises.

5 Know the rules

HMRC has rules on expenses that can be claimed. To get the most out of your business, knowing what expenses are allowable and disallowable is a good place to start. The list is comprehensive so it is worth asking your accountant if you are unsure if a particular expense qualifies. Common expenses that can be claimed include the costs of courses/training (including travel and subsistence), professional subscription costs, mobile telephone expenses and protective and work clothing purchased. If you have to buy any dental materials or equipment, such as loupes, these are also allowable expenses. HMRC provides guidelines for self-employed sole traders in respect of certain expenses that can be claimed, such as use of your home as an office and laundry costs. HMRC also provides specific advice regarding motor expenses. Travel costs to and from your regular place of work are classed as private use and are not allowable for tax purposes.

From a financial point of view there are a number of ways you can manage your money to get the most out of it, such as utilising your ISA and pension contribution allowances each year.

Sophie Kwiatkowski ■

Sophie Kwiatkowski is an accountant with PFM Dental Accountancy which provides a chartered accountancy service exclusively for dentists. The PFM Dental group is one of the leading specialist providers to dentists within the UK. **www.pfmdental.co.uk**

BDJ OPEN

By **Stephen Hancocks** OBE, Editor-in-Chief of the *BDJ*, with contributions from **Ruth Doherty** and **Russell Hashemi**

BDJ Open is the online Open Access journal of the BDJ Portfolio of publications which began publishing papers in October 2015. As the new kid on the block it is rapidly proving itself to be a valuable addition to the BDJ reputation especially internationally as the Open Access element allows complete unrestricted viewing.

We are pleased to announce that we have recently appointed Dr Jonathan Lewney as a new Associate Editor (Science) to help us guide the progress of *BDJ Open*. Jonathan is a former student editor of *Launchpad*, the predecessor to *BDJ Student*.

One of the main benefits of *BDJ Open* to authors is the additional capacity it provides us to publish research papers across a wide range of oral health and basic science topics which are perhaps more specialised than might be selected for the *BDJ* itself. Here we look at summaries of three recent papers which help typify those available for you to view.

Acidic drinks revisited

Soft drinks, sports drinks, smoothies, fruit juices.... all in the news of late because of their high sugar content – a cause of both dental caries and obesity. But what about their acidity?

Dental erosion is tooth wear caused by a decrease in salivary pH. Acidic drinks, such as soft drinks and fruit juices, can lower intraoral pH levels, and with children consuming soft drinks at an increasingly younger age and in higher volumes, levels of dental erosion are rapidly increasing. Gastroesophageal reflux disease and voluntary regurgitation, due to conditions such as bulimia nervosa, are also factors which may be responsible for erosive tooth wear. Depending on the cause, erosion is found to develop in different sites around the teeth. For example, if people are in the habit of swishing drink around their teeth before swallowing, the wear is seen on the labial/buccal side of the teeth. This is different to those with gastro reflux as in these cases erosion is seen on the palatal tooth surfaces. However, the main factor determining where the erosion occurs is the saliva.

Saliva is the superhero which can protect teeth from erosive tooth wear by diluting and neutralising acids, and provide a film to reduce the effects of erosion. For example, sites poorly bathed in saliva are more likely to show erosion compared to those areas protected by saliva. In this paper, the authors used a special intraoral appliance to measure pH in different parts of the mouth to find out if there is a difference between the acidity levels of saliva at the mandible and the maxilla. The specially designed device allowed the team from the University of Otago in New Zealand to record both salivary pH and temperature of 14 participants continuously over a 24-hour period, excluding meal times and showers. The team found that there was no great difference in the pH between the mandible and the maxilla during the day. However, while the participants were asleep the pH at the mandible was much lower than the maxilla. This is in direct contrast to previous studies and the authors suggest that their special appliance, which more easily allows measurement over longer periods in particular during sleep, might be the reason behind the difference in findings. With more and more people consuming acidic drinks, studies such as this one will provide valuable information on erosive mechanisms to help both clinicians and researchers.

> 'Dental erosion is tooth wear caused by a decrease in salivary pH. Acidic drinks, such as soft drinks and fruit juices, can lower intraoral pH levels'

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Occupational hearing loss in dentists

The dental clinic can be a stressful environment for a multitude of factors: patients may arrive late leading to delays, dealing with complaints, equipment may not be working, not to mention having to constantly be aware of occupational hazards such as needle stick injuries which can lead to serious complications. But there is one additional element that is often not taken into account by dentists and that is the possibility of hearing loss as a result of the constant exposure to high frequency sounds, from high speed turbines, ultrasonic scalers and other sources like high velocity suction. In this study in *BDJ Open* Alabdulwahhab *et al.*[2] aimed to determine whether the persistent high frequency sounds produced by dental equipment could cause hearing decrement among Saudi dental practitioners.

> 'To decrease the risk of developing noise induced hearing loss dentists are encouraged to implement preventive measures'

The authors carried out a cross sectional study of 38 randomly selected Saudi dentists who had been practising dentistry for more than 5 years from various specialities and 38 individuals as a control group. The participants were subjected to four audiometric tests which included: an otoscopic examination, tympanometry (an examination used to test the condition of the middle ear and mobility of the eardrum and the conduction bones), pure tone audiometry and the distortion product otoacoustic emissions (DPOAE) test (to determine cochlear status, specifically hair cell function).

Their results revealed that 15.8% of the dentists and 2.6% of the control group had some hearing loss. No significant difference was found between the two groups in the pure tone audiometry test; however, qualitative analysis revealed a higher percentage of hearing loss among the dentists' group as compared with their control counterparts. Evidence suggests that noise from dental clinics can cause hearing problems, which had a greater effect on the left ear than the right; however, these problems are not severe in nature. To decrease the risk of developing noise induced hearing loss dentists are encouraged to implement preventive measures for noise reduction in areas such as: optimum maintenance of rotary equipment, reduction of the ambient noise level in the clinic and personal protection through the use of ear plugs. Dentists are also advised to undertake regular annual audiometry check-ups which can help to identify those who are showing the preliminary signs of hearing loss before they develop significant auditory impairments.

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Inequalities in children's oral health

Unacceptable inequalities in children's oral health have been in the spotlight recently and rightly so considering the rising levels of child hospital admissions for severe tooth decay in the UK. But what are the effects of socioeconomic disadvantages on oral health in adults? Are the inequalities carried from childhood into adulthood for those from more deprived areas? Estie Kruger and Marc Tennant[1] studied a large population in Australia to determine the relationship between socioeconomic disadvantage and trends in adults being hospitalised for oral-health-related conditions.

The team, based at The University of Western Australia, looked at the population over a ten-year period using data covering both private and public hospitals. They found higher rates of hospitalisation for those from the most disadvantaged groups compared to others and also determined that this trend did not change over the 10-year period of the study. The authors also investigated links to insurance status, costs and length of stay in hospital, and the specific conditions for which patients were admitted. The youngest and poorest were 2.6 times more likely to be admitted for 'dental caries' and over five times more likely to be admitted for 'pulp and periapical conditions' than the youngest least disadvantaged. Of course, these two are likely to be related as pulp conditions could result from infections in the tooth most often caused by untreated dental caries.

The results provide evidence that the most disadvantaged are suffering from a significant impact of inequality on their oral health. In light of this, the authors point out that public policy, which continues to focus on encouraging individuals to change behaviour, should take into account that those from deprived groups have restricted choices and this should 'no longer be ignored' in attempts to reduce inequalities.

Stephen Hancocks

BDJ IN PRACTICE UPDATE

By **David Westgarth**,
BDJ In Practice editor

BDJ In Practice is the BDA's membership magazine and covers a range of business-focused topics. The articles below featured in a recent issue of *BDJ In Practice*. While they are aimed at established dentists, they are also relevant to young dentists preparing for their future careers.

Who has your data?

With every advancement comes a new challenge, and technology's vast improvement has opened up a new challenge; identity theft.

In November's *BDJ In Practice*, one BDA member discussed how her practice's data had been stolen – and what she needed to do to get it back.

The article read: 'One Monday morning we tried to open up our machines and everything we tried to open requested a password. We had been the victims of a ransom virus and that the criminals wanted $3,000 to give us the password. They had also deleted and encrypted all of our hard drives and memory storage devices that were on the server including the external hard drive back up.

'What I found terrifying is that the virus wasn't a run-of-the-mill virus that can be picked up by the pre-loaded software or even sophisticated anti-virus packages, but a malware and these are often not detected. It was not detected by Norton or Kaspersky.

'We do not know how the infection happened, or when it happened. It is likely that someone opened an email attachment, or clicked on a false link on a webpage. I asked our software host if anyone else had been affected, and they said it was a growing problem. Some people had paid the ransom and received nothing. Some had paid and it had worked but they had been re-targeted a month later demanding more money. They informed me that some practices had lost all their data.' To read the full article turn to page 6 In November's *BDJ In Practice*.

That would be an acumen-ical matter

In January's *BDJ In Practice*, Dr Alun Rees looked at what the newly qualified dentist needs to consider from a business perspective. The article read:

'A newly qualified dentist emerges, like any fledgling, into a world that is full of challenges to their survival. What new graduates are missing, and always have been, is the understanding of the model, particularly the business model, into which they will be expected to fit, to contribute and from which they will make a living. Students are taught communication skills and the importance of gaining informed consent. Nobody has told them that in addition to explaining the positive outcomes and risks of treatment they will also have to justify to the patient their financial investment. They have no training in how they should handle objections based purely on price.

Frequently a new dentist who is coming to terms with applying clinical skills will delegate or abdicate dealing with the money issue. That is understandable in the early days, but for many it becomes a habit where they are happy to take payment but avoid examining from where the money comes. The consequence of this is an associate who does not understand the fundamentals of the business of dentistry.' To read the full article turn to page 14 in January's *BDJ In Practice*.

Digital learning

When I was at secondary school, due to its popularity, I often found myself in classes of 30 plus pupils. One of my lasting memories is how the teachers would often comment – pretty much every day – how difficult it was to teach such a large class, and how often I'd have to wait to have a question answered. Fast forward many, many years to today. Think about your class. Wouldn't it be great if a machine could answer your questions before they were even asked? In December's *BDJ In Practice*, Roland Felber from the Goethe University in Frankfurt spoke about this very eventuality.

'It's incredibly important to get the balance right when lecturing', Roland said. 'We faced a situation where the balance was too heavily weighted towards individual time with students, which can be a positive, but not in this situation. It reduces the time students can interact and learn from other students, and it takes away the time lecturers spend teaching.'

It was here the idea of digital-assisted learning was born. If Roland could find a machine that answered questions student may have and teach them along the way, it would make a significant difference for everyone concerned.

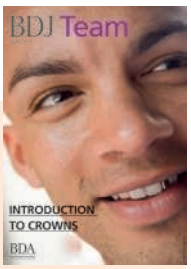
'For me it [prepCheck] was a game-changer', he said. 'Never before had I had the opportunity to use technology that would assist learning in this way. It's not a clunky system – it's a mobile unit so it can be brought chair side. You can use it in pre-clinic on a phantom head and on patient. This is quite unique.

To read the full article turn to page 16 in December's *BDJ In Practice*.

David Westgarth ■

BDJ TEAM UPDATE

By **Kate Quinlan**, *BDJ Team* editor



BDJ Team is aimed at dental care professionals (DCPs) and is published online only. In 2015, it will be published every month except August and December. To fulfil its goal of informing, educating and entertaining DCPs, BDJ Team provides one hour of verifiable continuing professional development (CPD) in each issue.

Is regulation hampering direct access?

In 2013 there was much excitement among dental care professionals (DCPs) when the General Dental Council (GDC) lifted its restrictions on dental hygienists and dental therapists seeing patients without being referred by a dentist. In this article, dental therapist Fiona Sandom says that 'the excitement was short lived as we slowly uncovered all the other rules and regulations that need to be observed, looked at and amended before direct access can become a reality'. Fiona takes a closer look at those issues and how things stand, four years on. http://www.nature.com/articles/bdjteam201731

Interview with Kirstie Moons, a DCP on the GDC Council

In March, *BDJ Team* editor Kate Quinlan interviewed Kirstie Moons at the headquarters of the GDC on Wimpole Street in London.


Kirstie Moons

BDJ Team: Were you pleased when GDC registration was introduced for dental nurses?

Kirstie: I've always been a big advocate of registration. I always thought that it was a good thing for the profession and that registration would take us forward.

We're nine years into registration now and people have accepted it; they get it and understand why the team is registered. Since registration has come in there's a much better understanding of the dental team. It used to be that there were dentists and DCPs and dentists were king. I'm not saying that dentists aren't still 'king', but there's a much greater understanding of the value of teams than when I originally came into the industry.

BDJ Team: Do you think the future is bright for the dental team?

A lot of people are afraid of change, but I think change is an opportunity. It is not something to be scared of. Dentistry has been through such a storm as an industry and there has to be a period of stability. Everyone is feeling battered by the various requirements. It's not just one single area within dentistry; they've all got their pressures. I think there is much more of a team ethos and that will continue to develop. The corporates are an interesting area as they have a large part of the market now and that continues to grow. We need to get more familiar with their models and how they work as a team.

One of the things I'm involved with in my Deanery job is a research project looking at skill-mix and dental teams, therapists in particular but also dental nurses, and we're looking at how dental therapists work in practice and the barriers and then doing some work with GDPs to educate them. Part of the reason dentists don't take therapists on is because they don't understand their roles and how a therapist might work for their practice.

With appropriate use of skill-mix a dental practice's profits and output can increase in less time... There are lots of things happening in dentistry and I do feel that 'spring is coming', for want of a better analogy.

Read the whole interview with Kirstie at http://www.nature.com/articles/bdjteam201742.

Dental care of cancer patients

In January 2017, dental hygienist Jocelyn Harding wrote in *BDJ Team* about how to care for cancer patients' teeth before, during and after treatment: 'If our mouths are the "window to the body",' said Jocelyn, 'it is important we treat the body holistically, not solely the area of cancer that is affected'.

The risks of the side effect of treatments need to be explained to patients, and although not all these can be avoided, they can be minimised by following advice that can be given by the dental team.

Xerostomia: Xerostomia or dry mouth affects mastication, speech and swallowing. Saliva contains the enzymes lipase and amylase for balancing the mouth and breakdown of lipids.

Infection: Oral mucositis is caused by the imbalance of the mouth allowing candida albicans to proliferate due to the weakened patient's immunity.

Burning, swelling or peeling of the tongue: This may be more common in patients who have been treated for a head and/or neck cancer. It is a nasty side effect as nerve endings can be damaged through treatment. Burning mouth can be a long term issue for the patient to manage. Hot and spicy foods will need to be avoided.

Change of taste: This may also be more common in patients who have been treated for a head and/or neck cancer. Due to destruction of the patient's taste buds this may or may not be a long term effect of treatment.

Read on: http://www.nature.com/articles/bdjteam20178.

Kate Quinlan

GUIDE TO REFERRING TO MAX FAX

By **Nikesh Raithatha**

Nikesh graduated from the University of Sheffield in 2014. He then went into foundation training in the London deanery

So, finally the light is near! Graduation is only months away and only one final hurdle of examinations remains. So, what comes after graduation, (and of course that three month summer holiday!)?

Well for most of you who are applying for foundation year training, prepare for one of the best years of your lives – sociable, fun and educational – and of course those juicy pay cheques at the end of the month!

But before all of that excitement comes, lets get back to those finals. Typical examination questions involve referring patients for emergency specialist treatment to the local oral and maxillofacial hospital. Even interview questions now have scenarios like 'an elderly patient with osteoporosis attends for a dental extraction, and mid-way she gets sudden pain and trismus. You suspect a mandibular fracture. What do you do?'

What do you do if this ever happens? Firstly touch wood it does not, but if it does, you need to know what information you need to provide the hospital team when making this urgent referral.

So before we get into this, why would you want to know what information is needed when providing the referral? Well apart from demonstrating full professionalism and impressing the maxillofacial team, a proper referral will save you the time and embarrassment performing another examination to check for missed findings. Oh, and the obvious addition to increased knowledge for those examinations and interviews we talked about.

The advice below describes my experiences sitting on both sides of the fence – referring to a maxillofacial unit, as well as a senior house officer receiving referrals.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Scenario

A 70 year old lady attends your practice with a facial swelling, marked trismus and pyrexia. You decide that the swelling is best drained under general anaesthetic and phone the on call house officer in your local maxillofacial unit. What information should you provide for a speedy and safe referral?

So what information can you expect to provide over the phone?

The basics: start with a full history:

- Where is the swelling? How large is it? Giving a size in cm is better than saying 'big'
- When did the swelling start?
- Is it growing larger or shrinking in size?
- Is there any associated dental pain? Describe it…
- Is there a causative tooth from where the swelling originated?
- Is the abscess spreading buccal, or lingual/ palatal?
- Is the patient immunocompromised or any other relevant medical history?
- Is the patient a smoker and/or heavy drinker?
- What is the patient's blood sugar? The patient may be an undiagnosed diabetic, and therefore every patient with an infection should have a recorded BM.

'Your foundation year will provide you with more experience than all the years in dental school combined.'

A more in depth examination:

- Is the originating tooth tender to percussion? What is its response to sensibility testing? Is it raised in its socket?
- Have you attempted drainage via incision/ via the root canal system or periodontium?
- Is there marked trismus? If so, how wide is the maximum mouth opening currently? (recording trismus is best achieved by measuring between the upper and lower incisal edges, rather than saying 'two fingers')
- What is the patient's current temperature? Pyrexia shows systemic spread
- Does the patient have any difficulty in breathing? Swallowing?
- Is the floor of the mouth raised? If so, is it raised bilaterally? This is a red flag for Ludwig's angina.
- Is the lower border of the mandible palpable?
- Is the overlying skin erythemateous?
- Is there any closing of the lower eyelid? Is this coupled with marked orbital proptosis/ pain on movements? This can represent the rare but serious orbital cellulitis, which usually originates from maxillary teeth, the infection spreading through the sinus into the inferior orbit via the inferior orbital fissue
- When is the last time the patient ate or drank? If you are referring the patient for incision and drainage under general anaesthetic, the patient cannot have had anything to eat or drink for the last six hours!
- What images have been carried out?

Once you provide this information, the on call house officer should instruct you to send the patient to the A&E department. The patient will see the A&E triage nurse upon arrival who will bleep and inform the on call maxillofacial house officer.

Your foundation year will provide you with more experience than all the years in dental school combined! Most importantly, you have the time to do things perfectly- so take your time, aim for perfection and never stop learning. Continuing to educate yourself after foundation year with hospital jobs and postgraduate training is a vital step to ensure you are practicing safely and to the best of your ability. The most part is to enjoy the journey and think positively.

Best of luck with those exams, and which ever career route you choose to go down after your foundation year.

Nikesh Raithatha

Career pathway

Dental graduates must have completed DFT/VT before entering medical school to undertake a shortened medical course. After this, trainees complete one year as a Pre-Registration House Officer (PRHO) prior to full registration with the GMC. At this stage, they enter a five year training programme in oral and maxillofacial surgery leading to a Certificate of Specialist Training (CST) issued by the GMC. Their names will also be placed on the specialist list held by the GMC and they will be eligible to apply for a consultant post.

Career pathway for a BDS graduate:

- DFT/VT
- DCT (formally DF2)
- Medical degree
- Pre-Registration House Officer
- GMC full registration
- Training programme – oral and maxfax (5 years)
- CST – specialist GMC list
- Apply for consultant post.

PREPARING FOR YOUR FIRST PAEDIATRIC PATIENTS

By **Jaspreet Virdee**

When you embark upon the clinical components of your dental school experience, the time will soon arrive for you step into the unknown and manage your own paediatric patients. After the first few years of puzzling over non-pharmacological behaviour management skills and revising preventative techniques for exams, you will be expected to put these into practice. This is a daunting and exciting time!

Paediatric patients are unlikely to be completely independent of their own health and this may be significantly dictated by the commitment of their guardian to prioritise oral wellbeing. As a young patient matures into an adult, lifestyle factors contributing to the development of caries, such as dietary habits, will undergo significant changes. It is challenging to predict the nature of these changes or how the dental attitude of the patient will alter as they become physically and intellectually capable of managing their own oral hygiene. Thus, even as an undergraduate dental professional, the psychological experience of attending the dentist and the preventative information that you provide to your paediatric patients will be significant factors contributing to their future attitudes towards the profession and oral health.

1 Before the patient arrives...

Ensure you give yourself plenty of time to set up your clinic and read through the case notes. Familiarise yourself with the patient's social and dental history, as these will allow you to develop an understanding of their caries risk and how acclimatised they are to dental appointments. If they have had extensive dental treatment but have recently missed the majority of their appointments, it may be safe to assume that you are dealing with a high caries risk patient with possible dental anxiety.

Radiographs of the early and mixed dentition can be difficult to interpret. Develop your confidence by looking at as many radiographs as you can whilst on the paediatric clinic. If past radiographs are available for your patient, study them beforehand as this will help support your

intraoral examination later on. They could even help you with your charting.

Familiarise yourself with the patient's medical history. Look up any drugs you are not sure of in the BNF, paying particular attention to those that may influence treatment. For example, if your patient is asthmatic, this may pose a contraindication to the safe application of fluoride varnish. Additionally, children with autism or learning difficulties may require a varied approach when delivering care.

Check the patient's age, considering their stage of dental development and what you would expect to identify during your examination. You can also use this time to consider topics of conversation and icebreakers that would be relevant to their age for example, what year they are in school or whether they support the local football team.

2 First impressions count!

Most children you encounter are anxious of the clinical environment and may be attending their first ever dental appointment. Hence, it is vital to establish the correct level of communication to the patient's aptitude. Parents may answer for the patient and make it challenging to obtain an accurate history. This is a common situation that I have encountered on the paediatric clinics and is particularly difficult when the patient and their parents are providing conflicting information.

Parents can be keen to be involved in the patient's care so balancing your time between the child and parent is tricky. Try to focus your attention on the patient themselves and consult the parents for information that you feel the patient is too young or unable to answer, for example, queries about the medical history. This will enable you to gain an accurate dental history whilst helping to gain the patient's confidence as you involve them in the appointment. It is then possible to assess the patient's caries risk status by assessing their oral hygiene and the status of their dentition. This may include their dental attendance, presence of carious teeth and the current toothbrushing regime.

Avoid using jargon or complicated language as this will confuse the patient and could increase anxiety. An informal approach to appointments can help put the young patient at ease and supports the development of a positive relationship between you and the child. Speaking to young children can come naturally to some people but for others, it can be an obstacle to overcome, particularly if your patient is quite defensive or reluctant to participate in their appointments. If you find yourself apprehensive of how to communicate with paediatric patients, observe your clinical tutor or fellow colleagues as this can help you identify useful phrases and develop your own style. Visual aids such as a giant toothbrush, are a fantastic way to support verbal explanations. Try to be yourself, ensure that your body language is welcoming and mostly importantly, remember to smile!

'It isn't uncommon for patients to openly tell you that they 'hate the dentist' and it can be challenging to build on this relationship'

3 Temper tantrums and non-pharmacological behavioural management

It is inevitable that you will encounter pre-cooperative patients during your training at dental school. Patients may refuse an intraoral examination, avoid sitting in the dental chair and can become quite distressed. This behaviour may be due to a history of extensive dental treatment which has instilled anxiety within the patient. It is not uncommon for patients to openly tell you that they 'hate the dentist' and it can be challenging to build on this relationship. Conversely, dental anxiety may originate from the parents, who may have had caries experience and multiple extractions in the past. During my appointments with paediatric patients, I have heard a range of dental 'horror stories' from parents about their past dental experience and this adversely impacts on the child's personal perception of the dentist. Additionally, children presenting with dental pain will commonly be distressed and apprehensive of the treatment required – this is usually due to the anticipation that dental treatment is going to cause pain.

In light of this, it is imperative to have a range of non-pharmacological behavioural management techniques available to manage distressed or very anxious children. The basic aspects of this include using a soft tone of voice, speaking slowly and remaining calm. I have found the tell-show-do method to be a successful option when trying to encourage a nervous child to undergo a procedure. It involves explaining the procedure to the patient, showing them the materials and instruments that you will use and then carrying the procedure out. For example, when doing fissure sealants, you could paint some material onto the patient's nail and use this to demonstrate how you will place the sealants. A modelling technique can also be suitable in certain situations and encompasses the child observing another patient, with their permission, undergoing a proposed treatment such as the application of fluoride varnish. Rewarding positive behaviour with stickers is a simple way to motivate and instil self-confidence in children.

Separation anxiety is an important concept to be aware of in very young children and involving parents can avoid this. Allowing the child to hold a parent's hand as they have fissure sealants placed is reassuring to the child and enables them some degree of control. A deep breathing technique to encourage relaxation is a simple but highly effective method in slightly older children that I found useful to utilise during administration of local anaesthetic. Ask the patient to breathe slowly through their nose whilst counting to five, and then breathe out through the mouth, again counting to five. Encourage them to keep repeating this until the procedure is over.

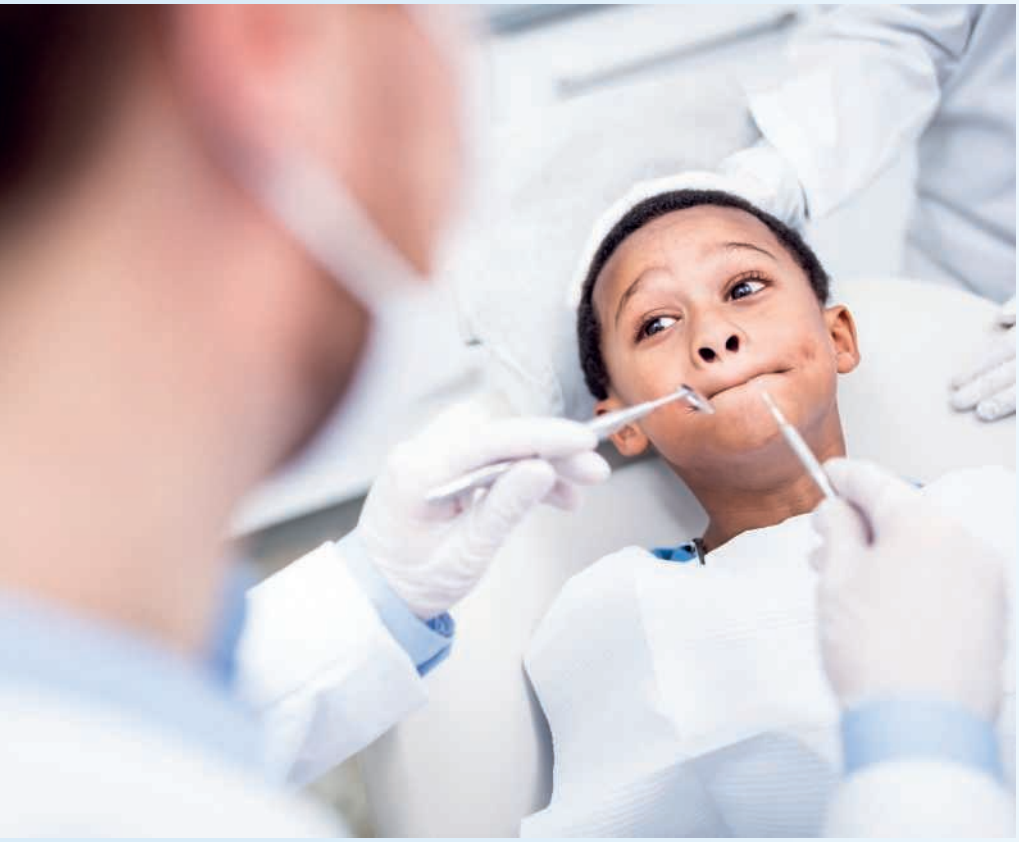
In patients with moderate or severe anxiety to dental treatment, you may need to consider the use of conscious sedation if non-pharmacological behaviour management techniques fail.

4 Dealing with difficult parents

During my first paediatric clinics, I encountered an interesting situation in which the parents refused to use fluoride toothpaste or have fluoride varnish applied to their young child's teeth. They explained that they make their own mouthwash and toothpaste at home and do not support the use of fluoride products. It was important to explain the possible future implications of the child not exposing any fluoride to their dentition and documenting this conversation in the case notes.

Respect the fact that parents may not agree with your proposed treatment even if you believe it to be the most beneficial choice for the child. Circumstances may arise where

a child agrees to treatment but the parents may refuse it. In this situation, it is critical to explain the purpose, benefits, risks and alternatives to the proposed treatment to everybody involved so that appropriate consent can be received. The age and competence of the child must also be considered. This depends on the ability of the individual to understand the nature of a treatment, including alternatives and their consequences. Furthermore, the patient must be able to retain the information and use it to make a decision. If a child is under the age of 16 and they are not competent, consent to treatment can be obtained by someone with parental responsibility, as defined by the Children Act 1989. If a paediatric patient attends as an emergency, seek advice in regards to obtaining valid consent for treatment and always act in the best interest of the patient.



5 Safeguarding and consent

Although the majority of children grow up in a safe and loving environment, it is important to be aware that some children may suffer harm, which may or may not be intentional, by their parents or carers. It is the responsibility of every member of the dental team to recognise and act upon signs of abuse or neglect to protect children. The document 'Child Protection and the Dental Team' provides a comprehensive outline of safeguarding in the dental environment. Oro-facial trauma occurs in a significant number of children suffering from physical abuse - ensure that you are familiar with the safeguarding protocol in your dental clinic

Prior to your clinical sessions, review policies surrounding parental responsibility and the process of gaining valid consent for paediatric patients. Consent is a complicated process. A child under the age of 16 years can give valid consent if they are competent, a concept outlined by the 'Gillick judgement'.

6 Revise!

Clinical skills and treatment planning in paediatric dentistry are vast subjects; however the following points are a useful start. Learning eruption dates and sequences may be dull but are crucial requirements. I personally found charting the mixed dentition to be quite confusing, especially if anomalies exist. Periodontal screening through the use of BPE probing should be carried out from the age of 7 years old. To avoid inaccurate readings due to the presence of false pocketing, a simplified version of the BPE should be noted using the following index teeth; UR6, UR1, UL6, LL6, LL1, LR6. Ensure that only BPE codes of 0, 1 or 2 are used for patients aged 7-11 years old whilst the full range of BPE codes may be utilised in patients aged 12-17 years old.

A basic understanding of orthodontics is essential as this will enable you to carry out an early orthodontic assessment as soon as the patient enters the mixed dentition. This early monitoring can help you identify patients suitable for interceptive orthodontic treatment, which will reduce the risk of complex treatment to correct their malocclusion later in life. In addition to assessing the presence of a malocclusion, the presence and position of the permanent canines should be noted. Permanent canines should be palpable in the labial sulcus by the age of 10 years old. If an ectopic canine is suspected, an orthodontic referral should be made so that the appropriate management can be delivered. If a primary canine is to be extracted, the contralateral canine may also be extracted. This 'balancing' extraction is carried out to prevent centre line shifts and may also be used to allow spontaneous alignment of the permanent incisors.

Attention should be paid to the prognosis of the first permanent molars. Caries and 'molar-incisor hypomineralisation' may be indications for extraction of the first permanent molars. Before extraction, the stage of development of the second permanent molar must be considered – this is of particular importance in the lower arch. For optimal space closure, the ideal time to extract a lower first permanent molar is when the patient is approximately 9-10 years old. During this time, calcification of the bifurcation of the lower second permanent molar should be first evident radiographically. When a lower first permanent molar is extracted, you should consider extracting the opposing upper first permanent molar to prevent it overerupting – this is known as a 'compensating' extraction.

Regarding preventative techniques, it is helpful to read over the fluoride toothpaste and varnish concentrations recommended for specific age groups whilst revising how to write a prescription. The 'Delivering Better Oral Health: an evidence-based toolkit for prevention' is a useful reference and an essential read before your paediatric clinics.

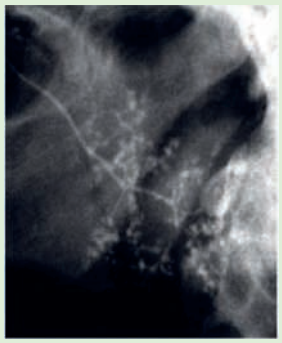
Treating young children can feel like an unnerving task especially if you consider that you might be the first contact they have with dental treatment. Moreover, their experiences with you can significantly influence their likelihood to return for treatment or develop into dental phobics as adults. Have confidence in what you do, and be positive.

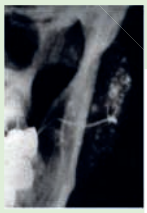
Jaspreet Virdee

Question 1

For each of the following questions regarding the figures below, choose the most appropriate option from the list to the right. You may use each option once, more than once or not at all.

1. *What is the diagnosis?*
2. *What type of radiography is this?*
3. *Which anatomical site is this X-ray showing?*
4. *What is the classic textbook description of this condition?*
5. *What other degenerative condition is this condition associated with?*





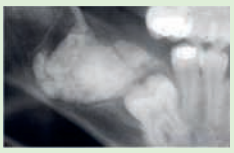
A. Salivary calculi
B. Adenoid cystic carcinoma
C. Pleomorphic adenoma
D. Sjögren syndrome
E. Sialography
F. Plain film
G. CT scanning
H. PET scanning
I. Parotid gland
J. Submandibular gland
K. Sublingual gland
L. Sunray
M. Snow storm
N. Tree in winter
O. Osteoarthritis
P. Rheumatoid arthritis
Q. Sero-negative arthritis

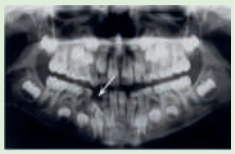
Question 2

For each of the following questions regarding the figures below, choose the most appropriate option from the list on the left. You may use each option once, more than once or not at all.

1. *What is the diagnosis for the top image?*
2. *What is the diagnosis for the bottom image?*

A. Odontogenic fibroma
B. Normal anatomy
C. Compound odontome
D. Complex odontome
E. Ameloblastoma
F. Ossifying fibroma





Question 3

Which of the following statements are correct?

A. A ranula is a mucous extravasation cyst of the sublingual gland
B. A ranula often occurs after removal of a blockage in the duct of a gland
C. A ranula that spreads into the submasseteric space is called a plunging ranula
D. Surgical removal of a ranula may damage the lingual nerve
E. Surgical removal of the ranula alone often results in recurrence so removal of the gland is often indicated

Pastest+

REVISION

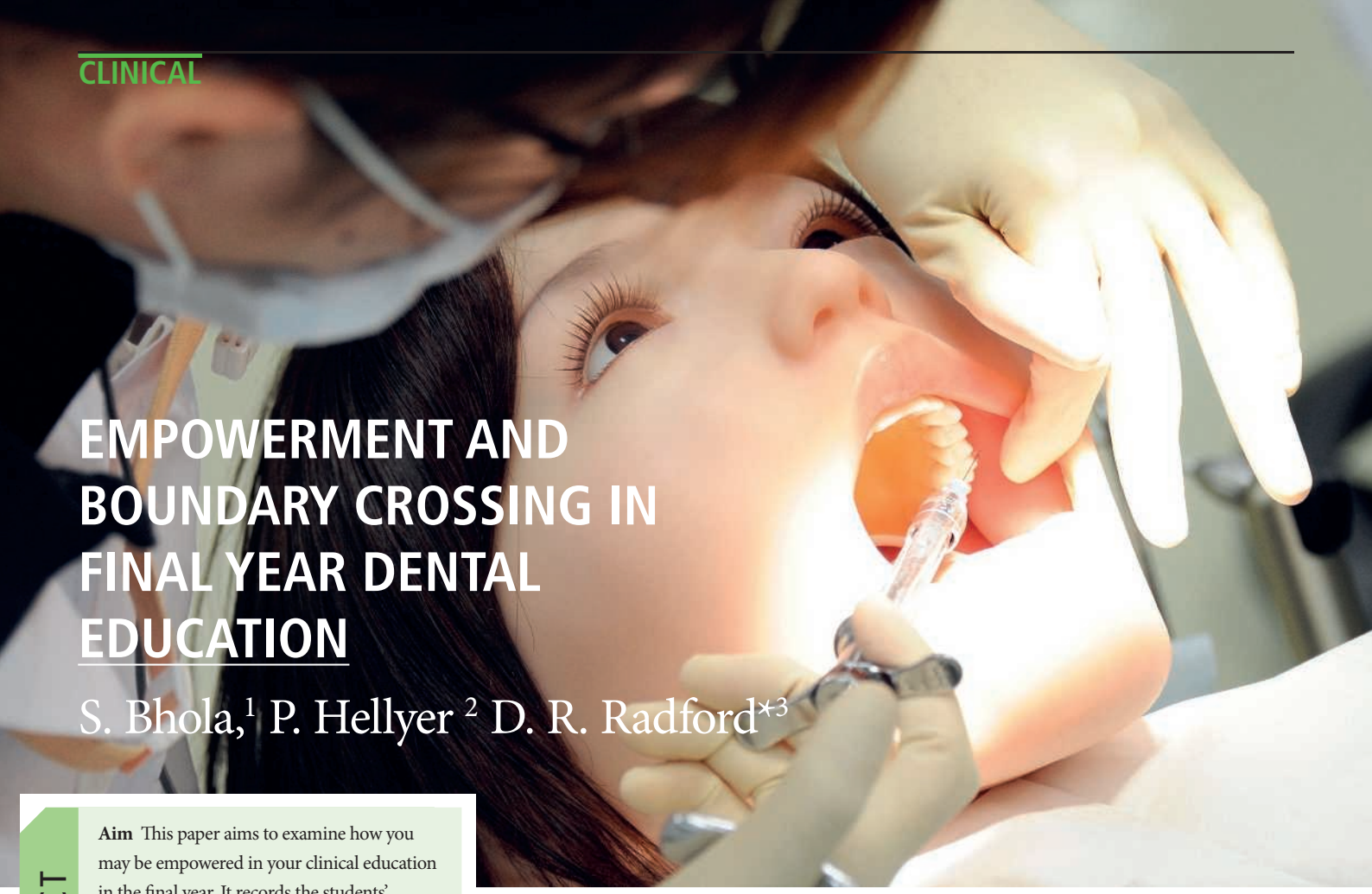
Test your knowledge with the following questions from **PasTest**

Answers are on page 44

Question 4

Which of the following could cause a crossbite?

A. Thumb-sucking habit
B. Skeletal discrepancy
C. Cleft lip and palate
D. Amelogenesis imperfecta
E. Osteogenesis imperfecta



EMPOWERMENT AND BOUNDARY CROSSING IN FINAL YEAR DENTAL EDUCATION

S. Bhola,[1] P. Hellyer [2] D. R. Radford*[3]

ABSTRACT

Aim This paper aims to examine how you may be empowered in your clinical education in the final year. It records the students' experiences going through this process on an outreach placement at the University of Portsmouth Dental Academy (UPDA). Using a quantitative and qualitative approach, aspects of the students' experiences of empowerment as autonomous practitioners ready to graduate as 'safe beginners', were audited. **Methods** The study was devised as part of the educational service evaluation of outreach education at the UPDA. A questionnaire was completed anonymously by the students in the last week of attendance just before graduation. **Results** A 91% response rate for the questionnaire was achieved. To the question about 'being given an opportunity to become an independent dentist', 83% of the respondents strongly agreed. Two themes with seven subthemes were identified from the free text responses. The two themes were 'self-actualisation: developing self-awareness and self-confidence' and 'delivery of care as a dentist'. **Conclusion** Within the limitations of this educational evaluation, students enjoyed the increase of autonomy they gained during the year-long placement and felt that the clinical teachers empowered, encouraged and supported them to develop as autonomous dental practitioners and as 'safe beginners', to deliver holistic care in the National Health Service. Many of the themes identified related to the concept of 'boundary crossing'.

INTRODUCTION

Empowerment has been defined as 'a social process of recognising, promoting and enhancing people's ability to meet their own needs, solve their own problems and mobilise the necessary resources in order to feel in control of their own lives'.[1] In medical education empowerment has been defined as 'the interpersonal process of providing resources, tools and environment to develop, build and increase the ability and effectiveness of others to set and reach goals for individual and social ends'.[2] One element of empowerment has been described as 'being valued' and education this has been subdivided into being 'valued as a learner'; 'a team member'; and 'a person'.[3] All three aspects have been identified in previous studies in dental outreach education.[4-6] However, as 'empowerment' and 'being valued' are amorphous concepts these feelings articulated by students and teaching staff in dentistry have not been specifically labelled as such.

As you are aware the General Dental Council (UK) (GDC) requires dental schools to qualify graduates as 'safe beginners'.[7] The GDC has defined a 'safe beginner' as an individual who is a rounded professional who, in addition to being a competent clinician, will have the range of professional skills required to begin working as part of a dental team and be well prepared for independent practice. They should be able to assess their own capabilities and limitations, to act within these boundaries and to know when to request support and advice.[7] Many of these competencies, for example: *'accurately assess their own*

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capabilities and limitations in the interest of high quality patient care and seek advice from supervisors or colleagues where appropriate' (Outcome 9.6, *Preparing for practice)*[7] *'educating patients and managing oral health care for patients at all stages in their life appropriately effectively and safely';* (Competency 6.1) [8] are more easily achieved but not necessarily exclusively, in an outreach/community setting rather than the traditional dental school.[5,9] All clinical teachers who are involved with final year undergraduate education, particularly those in outreach environments, have to be aware of their responsibilities to prepare students for independent practice.[10,-13] Part of that education has to be to empower the student to progress along their own journey to clinical autonomy within their scope of practice[14] and these are aspirational goals for your clinical teachers who are passionate in seeing you develop. Also as students develop in a new outreach environment to them, an element of boundary crossing is undertaken. One major boundary is that between being a final year dental student in dental school and as a foundation dentist in practice. However, you will have crossed many other boundaries, for example from school to university and to a lesser degree as you progress in your dental programme.

Outreach education has been embedded in UK undergraduate dental education[4,5,15-18] and internationally.[19-21] As such it is recognised as being able to give you, as dental students, an invaluable experience and expose you to a wide range of patients. Previous documentation from the GDC recommended a period of time in a primary care setting to extend the clinical environment that you could experience.[22] Our experiences over the last six years at the University of Portsmouth Dental Academy (UPDA) have been well documented [9,23-25] and through our longitudinal service evaluation of the teaching, the concept of belongingness has emerged.[6,26] Belongingness is defined as a 'deeply personal and contextually mediated experience in which a student becomes an essential and respected part of the dental educational environment where all are accepted and equally valued by each other and which allows each individual student to develop autonomy, self-reflection and self-actualisation as a clinician'. [26] Belongingness and empowerment are both engendered by the environment and the context in which the education is delivered [3,14,26] and are thus powerful factors in being able to engage the student body in their final year before qualification and undertaking paid employment within the NHS as dental foundation trainees.[10,11,13] It is thus part of the package of education that is necessary to empower the student which is the focus of this current study.

Final year students from King's College London Dental Institute (KCLDI) attend UPDA for 10 weeks on rotation. The aim of this audit was therefore to undertake a quantitative and qualitative examination into what aspects of their experience in outreach at UPDA[9,24, 27] has empowered their learning and development as autonomous practitioners.

'In medical education empowerment has been defined as 'the interpersonal process of providing resources, tools and environment to develop, build and increase the ability and effectiveness of others to set and reach goals for individual and social ends'

METHODS

The study was devised as part of the educational service evaluation of outreach experience at the UPDA. For the two most recent cohorts of students (2014-16) additional questions were asked specifically investigating the students' sense of how their experience of outreach at the UPDA had impacted on their ability to develop as rounded professionals to begin working as dentists in a dental team and be well prepared for independent practice. The questionnaire was sent and returned electronically and completed anonymously in their last week of attendance just before graduation. Consent was gained by the students completing the questionnaire and specifically agreeing that their data could be included. Anonymity was assured to the participants.

Questions asked were:

1. At UPDA I had the opportunity to become an independent dentist and was given the confidence to make my own autonomous clinical decisions. Strongly agree/Agree/Neutral/Disagree/Strongly disagree.
2. In comparison to clinics in London (KCLDI), was autonomy encouraged more at UPDA? Yes/No
3. In Portsmouth (UPDA) were you encouraged to develop at sense of 'I am becoming a complete dentist as a safe beginner'? Yes/No

Free text comments were requested to explain their answers. The quantitative data was handled with descriptive statistics and the qualitative data (free text responses) was analysed, coded, with subthemes and themes identified. Two authors (PH DRR) read through all the qualitative data independently and used thematic content analysis to identify themes.[28] Subsequently, they met to combine and refine their findings. These were then discussed at further meetings after which the raw data was re-read to ensure that all themes were identified or not misinterpreted.

RESULTS

The overall response rate was 143 participants from 157 who consented (91% response rate). To the three questions with regard to becoming an independent dentist as a safe beginner, 83% strongly agreed to the statement: At UPDA I had the opportunity to become an independent dentist and was given the confidence to make my own autonomous clinical decisions, (Fig 1), with 84% feeling this autonomy was encouraged more in the outreach setting (Fig. 2). To the final statement: In Portsmouth were you encouraged to develop a sense of 'I am becoming a complete dentist as a safe beginner'? 94% agreed to this statement (Fig.3).

From the qualitative analysis, two themes encompassing seven subthemes were identified for the students feeling that they were becoming independent dentists:

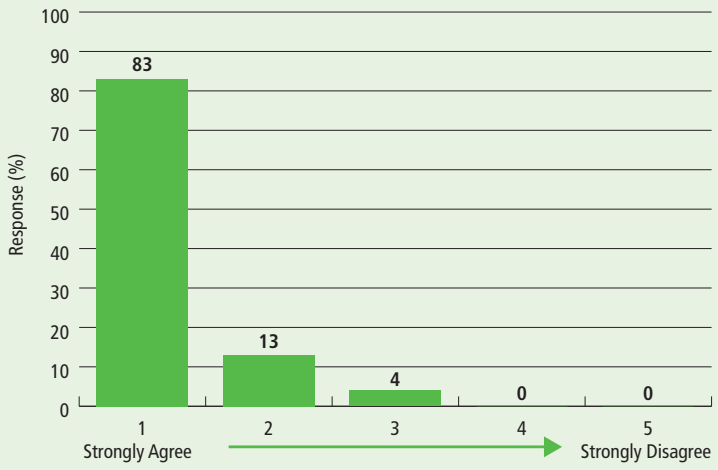

Fig. 1 Results of Question 1: At UPDA I had the opportunity to become an independent dentist and was given the confidence to make my own autonomous clinical decisions

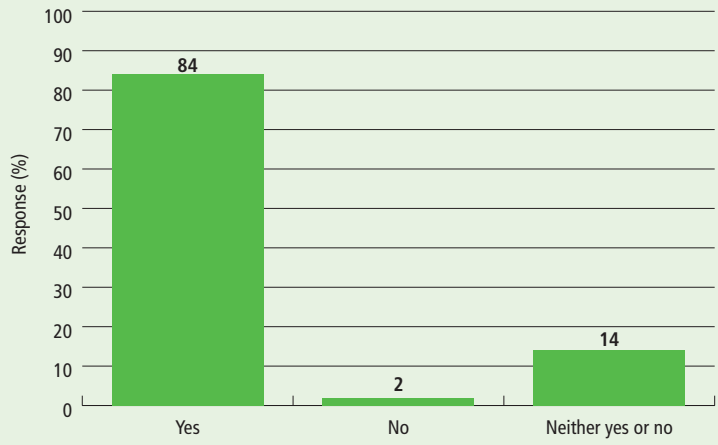

Fig. 2 Results of Question 2: In comparison to clinics in London (KCLDI), was autonomy encouraged more at UPDA?

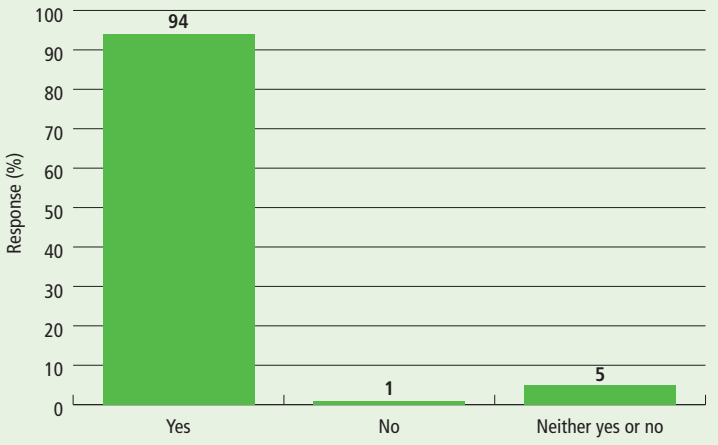

Fig. 3 Results of Question 3: In Portsmouth (UPDA) were you encouraged to develop a sense of 'I am becoming a complete dentist as a safe beginner'?

1. Self-actualisation: Developing self-awareness and self confidence
   a) Given the opportunity to make decisions
   b) Encouragement of self-assessment and self-reliance
   c) Given support
   d) Given respect and trust.

2. Delivery of care as a dentist
   a) Working independently (autonomy as safe beginner)
   b) Holistic care
   c) NHS Primary care.

Theme 1 Self-actualisation: developing self-awareness and self confidence

1a) Given the opportunity to make decisions

- *'Towards the end of the year Portsmouth tutors made an active effort to be less involved in decision making to allow us to do it ourselves. Tutors at UPDA trust us more to get on with what we are doing.'*
- *'All my clinical tutors were very keen on me making my own decisions as I progressed week by week at Portsmouth.'*
- *'I was encouraged to come up with my own treatment plans then discuss this with the tutor rather than the tutor telling me what to write down.'*

Commentary: this subtheme suggests that the clinical teachers encourage and provide the opportunities for the dental students to gain the confidence in progressing towards independent decision making during their outreach placement in the final year which is another element in boundary crossing.

1b) Encouragement to self-assessment and self-reliance

- *'We were asked 'what do you want to do?', 'what is your risk assessment?' and 'whether we're happy with our work?' We were able to be the judge of our own work and decisions at a UPDA.'*
- *'I was asked to judge my own work. I was able to critique my own work.'*
- *'I became less and less reliant on my clinical tutors.'*

Commentary: again this subtheme gives evidence that the clinical teachers are providing the opportunity for students to develop self-reliance, but from the

perspective of being a reflective, self-critical practitioner. This is in line with the outcomes required for registration of UK dental professionals who have successfully completed their training.[8]

1c) Given support

- *'In the same way, tutors were always there to give advice when needed and I never felt alone.'*
- *'Tutors generally having a stand back attitude, but willing to help if they were needed, encouraging me to develop skills.'*
- *'And then happy for us to call them only if needed. This showed the tutors confidence in us at all times and if the treatment was difficult for example a surgical extraction, they would frequently pop in to see if we needed any assistance and if not, happy to let us continue.'*

Commentary: the students reported perception on the subtheme of 'Given support' suggests that they still needed support and advice in care planning and provision of treatment in the primary care setting where there is no prior screening of patients that often occurs in dental schools.

1d) Given respect and trust

- *'I absolutely loved the confidence the tutors have in us as clinicians. They all respect the fact that we know our limitations but allow us to push ourselves to improve our clinical skills. Very different from dental school and much appreciated, this has contributed to my development in the final year from student to DFT enormously.'*
- *'I was in complete shock when Dr C referred to me as his colleague to my patient* [...] *then the other tutors started saying this! I think it can be hard to get patients to trust us and its a completely different feel here to London. The tutors trust your abilities and judgements. If I disagree, I am able to politely discuss with the tutor my reasoning where I would not feel confident in London doing this.'*
- *'Treated like real dentists with respect taught in a way where we had the confidence to make decisions and actually had fun in the process.'*
- *'It was a great feeling to feel like a real dentist being treated with respect.'*
- *'There were examples where tutors placed trust in us and our opinions and didn't feel the need to jump in at every stage of treatment.'*

Commentary: the philosophy appears to be of the clinical teachers encouraging the development of autonomy and self-reliance in their student colleagues. The students need to be given an appropriate level of respect and trust as they develop as 'safe beginners', again demonstrating preparation for boundary crossing.

Theme 2 Delivery of care as a dentist

2a) Working independently (autonomy as a safe beginner)

- *'Certainly by the end of the Portsmouth rotation we are working independently and running what we would like to do past our tutors (rather than asking if that's what we are supposed to be doing).'*
- *'I was asked to make my own decision with planning different stages of stabilisation and advanced care. This made me feel as though I was in charge of my own treatment plan and I was a responsible dentist.'*
- *'You were made aware that you are a lot more responsible for the nature of the care provided in Portsmouth compared to London, where you vicariously carry out the treatment for your clinical tutor. There is actually very little in the way of organising treatment provision in London, where there seems to be a much more prescriptive dynamic, insofar as the clinical tutor will decide on what is required and the student is tasked with providing it.'*
- *'I like being able to treatment plan and follow up patients, and gaining experience of community, emergency and routine appointments (sometimes all in the same day) is a more realistic experience.'*
- *'The role of 'dentist' was encouraged to be led by the students not the clinical tutor.'*
- *'However, I still don't feel as independent as I'd like but largely due to my lack of confidence.'*

Commentary: this theme clearly suggests that the students responded to the development that the clinical teachers were engendering in them, reporting that they did begin to feel independent (the majority of comments and Figures 2 and 3) towards the end of their outreach placement.

2b) Holistic care

- *'It was holistic patient care, which I am a big fan of.'*
- *'I was able to think in all domains of dentistry while maintaining a good rapport with patients.'*
- *'All patient care is delivered rather than breaking it down into specialities (I feel it was good to have learnt the basics within the specialties in dental school) but UPDA helps to place everything into context for general dental practice.'*
- *'Seeing a wide range of patient/ treatments each day. Holistic approach – treatment plans, community outreach,* [outreach to socially disadvantaged in the City from the UPDA] *treatment, working with HTS (sic hygiene/therapy students) and different nurses and tutors, reflective learning and independent practice.'*

Commentary: much of the care was focused on long term planning and a pragmatic holistic approach to the management for the patient as a whole, after discussion with the patient as to the diagnosis and treatment options, rather than focusing on certain items of treatment.

2c) NHS primary care

- *'We have been taught more of a sense of being a dentist in the real world of primary care from the use of the UDA and KPI systems [Units of Dental Activity and Key Performance Indicators, NHS dental contract] and working as part of a team.'*
- *'All the paperwork involved gave me a sense of what being a dentist will be like in practice – something we do not get in London.'*

Commentary: the impact of using a live UK NHS contact at the Academy appears to have educational benefits and has been discussed previously.[24]

DISCUSSION

Many of the concepts expressed in this study, particularly with regards to increasing confidence and developing as a complete dentist ready to begin vocational training as a 'safe beginner', have been reflected in other reports[29] and qualitative studies, most notably from Sheffield and Cardiff Dental Schools.[4,5] However, in the current study

these concepts have been contextualised into two major themes, that of 'self-actualisation' and the second 'delivery of care as a dentist'. Within the theme of 'self-actualisation' (that of the student developing self-awareness and self-confidence), two notions were expressed, 'that of feeling that they belonged and had a oneness with the staff of the UPDA' previously reported [6,26] and the second, they were given the opportunity to develop decision making skills, self-assessment and self-reliance. The second theme, of 'delivery of care as a dentist', encompassed the notions of them 'feeling able to develop, ready to qualify as a safe beginner' and an element of boundary crossing. An advantage of the pattern of educational delivery using a longitudinal curriculum, common in UK dental schools, is over a period of time both staff and more importantly students can reflect on their development:

'All my clinical tutors were keen on me making my own decisions as I progressed week by week.' (Subtheme 1a. Given the opportunity to make decisions).

'Certainly by the end of the Portsmouth rotation we are working independently and running what we would like to do past our tutors (rather than asking if that's what we are supposed to be doing)' (Subtheme 2a. Working independently).

These qualitative findings were supported by the responses to the questions: 'At UPDA I had the opportunity to become an independent dentist and was given the confidence to make my own autonomous clinical decisions,' of which 83% strongly agreed; question 2, 'In comparison to clinics in London (KCLDI), was autonomy encouraged more at UPDA?' 84% agreed; and question 3 'In Portsmouth (UPDA) were you encouraged to develop a sense of 'I am becoming a complete dentist as a safe beginner?' of which 94% agreed. These results do not reflect negatively on KCLDI, but rather more, that UPDA is successfully delivering the education that has been established by the published intended learning outcomes.[9]

Further, the clinical teachers have to have confidence in the student's clinical ability as well as their personal knowledge of their limitations. This is gained over the duration of the placement so that towards the end of the placement the students feel like 'real' dentists.

'I absolutely loved the confidence the tutors had in us as clinicians. They all respect the fact that we know our limitations but allow us to push ourselves to improve our clinical skills. Very different from dental school and much appreciated, this has contributed to my development in the final year from student to DFT enormously' (Subtheme 1d. Given respect and trust).

'It was a great feeling to feel like a real dentist being treated with respect' (Subtheme 1d. Given respect and trust).

Lastly, there has to be an environment where the students know that the clinical teachers are willing to help if difficulties are encountered.

'Tutors generally having a stand back attitude, but willing to help if they were needed, encouraging me to develop skills' (Subtheme 1c. Given support).

This is a different style of supervision from that which you will have experienced in your more junior years where, although students will be given more simple procedures, it is not always possible to predict the outcome, so tutors may well wish to intervene at an earlier stage. When the students attend outreach at the beginning of the final year as demonstrated in this study, there is an element of boundary crossing. Boundary crossing is a concept which may be relevant to understanding the students' reported perceptions in this study.[30] The role of an outreach placement can be conceived of as a bridge between initial more academic and later work environments and that of becoming 'more of a dentist'. Such boundary crossing may also partly explain the students' perception that they were being treated differently and empowered by outreach clinical teachers at UPDA compared to KCLDI. Outreach takes place in a new setting, in a new city, combined with working within an NHS contact that again is new to them.[24] Although the responsibility and conduct expected of students is articulated at induction to the placement, this new environment appears to prompt changes of attitude and expectations of themselves. Further, their comparisons are being made against a baseline coloured by their early interactions with the clinical teachers at KCLDI when they were appropriately being treated as new to the clinical environment. Being able to apply conceptual approaches in a new and contrasting situation is a cognitive process that characterises much expertise and professionalism.[31]

The philosophy of education at the UPDA is of continual mentorship with continuity offered by the clinical teachers. A rota of part-time clinical teachers allows a rich mix of approaches and experience to be available to the students.[32] However, underlying this is the clinical teacher's role to encourage and develop responsibility and your responsibility to try to understand what you should be doing on the clinic by preparation and planning. The continuity of mentorship within the placement and being given time and responsibility have been stated to be the antecedents of empowerment,[14] and with these in place, the student is more likely to be empowered. This encompasses notions of understanding; promotion of learning; responsibility; inclusion; being nurtured; making a difference; respect; justice; and having a voice.

'You were made aware that you are a lot more responsible for the nature of the care provided in Portsmouth compared to London, where you are vicariously carry out the treatment for your clinical tutor' (Subtheme 2a. Working independently [autonomy as a safe beginner]).

'We have been taught more of a sense of being a dentist in the real world of primary care from the use of the UDA and KPI systems' [Units of Dental Activity and Key Performance Indicators, NHS dental contact] *'and working as part of a team'* (Subtheme 2c. NHS primary care).

With regard to care planning and holistic care identified in Theme 2, this is an element of your care planning that will strengthen as you become more experienced having mastered the basic skills that you have gained since year 1. The provision of a clinical environment which is as close as possible to your future practice environment in terms of holistic patient care together with the administrative procedures inevitably associated with primary care, appears to encourage the concepts of autonomy. Students mentioned, for instance, the increased responsibility for 'the nature of the care' provided, 'all the paperwork involved gave me a sense of what being a dentist' and being able to carry out 'all domains of dentistry while maintaining a good rapport with patients'. Even at the start of their practicing lives, when further significant development and boundary crossing can be expected over the next five years, the clinical confidence and competence of the majority of students at UPDA appears to flourish in the environment provided. The description of 'safe beginners' may not do justice to their abilities or many of you as new graduates in our profession.

CONCLUSION

Empowerment is a powerful concept and has been well recognised in nursing educational literature. Within the limitations of this educational service evaluation, students enjoyed the increase of autonomy they gained during the year-long placement and felt that they were empowered to develop as autonomous dental practitioners as 'safe beginners', to deliver holistic care within the contractual obligations of the dental NHS contract. This was encouraged by the clinical teachers supporting them and giving them the space to make clinical decisions and develop self-assessment and self-reliance, and the students taking responisblity to fully immerse themselves in clinical dentistry.

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The authors would like to acknowledge all the staff and particularly our student colleagues at the University of Portsmouth Dental Academy in creating an environment that encourages empowerment and a focus on embracing the challenges of becoming a competent general dental practitioner.

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Glossary of terms

Belongingness in dental education: A 'deeply personal and contextually mediated experience in which a student becomes an essential and respected part of the dental educational environment where all are accepted and equally valued by each other and which allows each individual student to develop autonomy, self-reflection and self-actualisation as a clinician.'

Boundary crossing: Happens when the normal boundaries are crossed in some way, which may be beneficial to the individual. In the context of this paper it is both the physical nature of outreach and the move from student to dentist ready for qualification as a 'safe beginner'.

Empowerment in medical education: 'The interpersonal process of providing resources, tools and environment to develop, build and increase the ability and effectiveness of others to set and reach goals for individual and social ends.'

Holistic Dentistry: Is the consideration of the complete person, physically, psychologically, socially, and spiritually, in the management and prevention of oral disease.

Safe beginner: An individual who is a rounded professional who, in addition to being a competent clinician, will have the range of professional skills required to begin working as part of a dental team and be well prepared for independent practice. They should be able to assess their own capabilities and limitations, to act within these boundaries and to know when to request support and advice.

Self–actualisation: The achievement of one's full potential through creativity, independence, spontaneity, and a grasp of the real world.

REVISION

Answers for revision questions from PasTest

Questions are on page 37

Question 1

For each of the following questions regarding the figures below, choose the most appropriate option from the list to the right. You may use each option once, more than once or not at all.

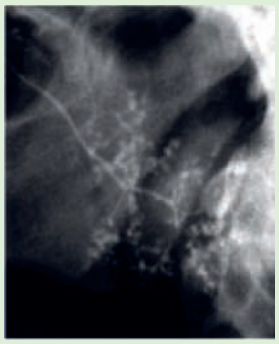
1 *What is the diagnosis?*

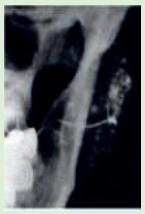
2 *What type of radiography is this?*

3 *Which anatomical site is this X-ray showing?*

4 *What is the classic textbook description of this condition?*

5 *What other degenerative condition is this condition associated with?*





A. Salivary calculi
B. Adenoid cystic carcinoma
C. Pleomorphic adenoma
D. Sjögren syndrome
E. Sialography
F. Plain film
G. CT scanning
H. PET scanning
I. Parotid gland
J. Submandibular gland
K. Sublingual gland
L. Sunray
M. Snow storm
N. Tree in winter
O. Osteoarthritis
P. Rheumatoid arthritis
Q. Sero-negative arthritis

ANSWER

1. D Sjögren syndrome

2. E Sialography

3. I Parotid gland

4. M Snow storm

5. P Rheumatoid arthritis

Sjögren syndrome is an autoimmune condition found mainly in middle-aged women. It causes dry mouth, dry eyes and dry genitals. There is increased root caries and problems with taste. The definitive diagnosis is with a labial gland biopsy deep to muscle. Sialography and the presence of autoantibodies may help to confirm the diagnosis but are not definitive. Treatment is with pilocarpine and saliva substitutes.

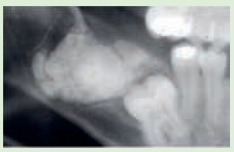
Question 2

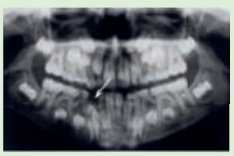
For each of the following questions regarding the figures below, choose the most appropriate option from the list on the left. You may use each option once, more than once or not at all.

1 *What is the diagnosis for the top image?*

2 *What is the diagnosis for the bottom image?*

A. Odontogenic fibroma
B. Normal anatomy
C. Compound odontome
D. Complex odontome
E. Ameloblastoma
F. Ossifying fibroma





ANSWER

1. D Complex odontome

2. C Compound odontome

Odontomes are found in two forms:

1. Complex

2. Compound

It is important to be able to spot the difference. They are a favourite in paedodontic vivas.

Question 3

Which of the following statements are correct?

A. A ranula is a mucous extravasation cyst of the sublingual gland
B. A ranula often occurs after removal of a blockage in the duct of a gland
C. A ranula that spreads into the submasseteric space is called a plunging ranula
D. Surgical removal of a ranula may damage the lingual nerve
E. Surgical removal of the ranula alone often results in recurrence so removal of the gland is often indicated

ANSWER

ADE

A ranula is a mucous extravasation cyst of the sublingual gland. When it extends through the mylohyoid muscle into the submental/submandibular space(s) it may appear as a neck swelling and is known as a plunging ranula.

Question 4

Which of the following could cause a crossbite?

A. Thumb-sucking habit
B. Skeletal discrepancy
C. Cleft lip and palate
D. Amelogenesis imperfecta
E. Osteogenesis imperfecta

ANSWER

ABC

Anything that may alter the normal relationship of maxillary to mandibular teeth may cause a crossbite, eg a skeletal discrepancy or a cleft palate. Prolonged thumb sucking may cause tilting of the teeth and narrowing of the maxillary arch, which can also result in a crossbite.

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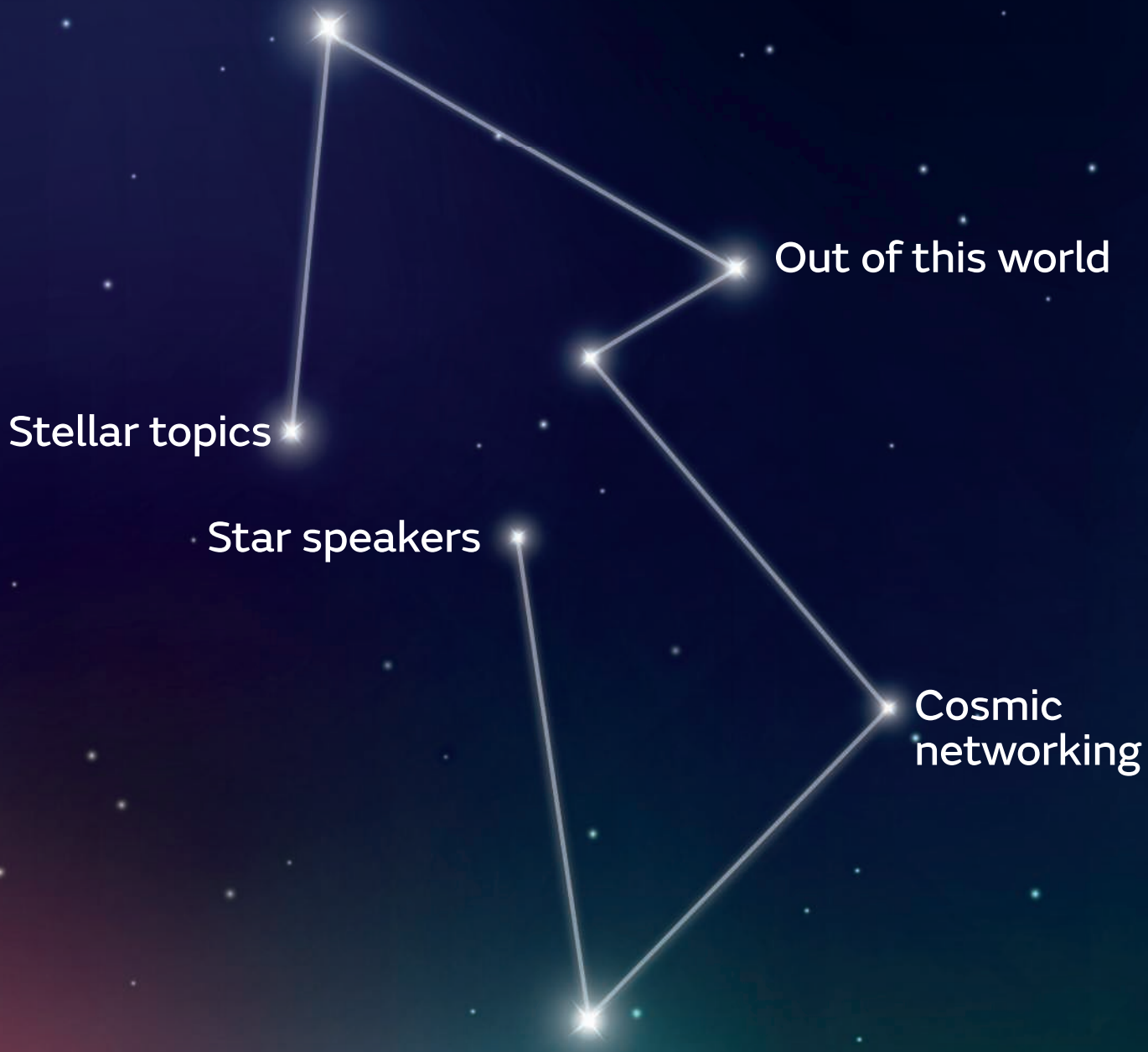

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